

*M. G. West.*

The  
Junior High Schools  
*of*  
Rochester, New York

1923

Rr  
373  
R676jj

ROCHESTER  
PUBLIC  
LIBRARY

—  
THE GIFT OF

Mrs.  
Nathaniel West

373  
R676

Rochester, N.Y. Board  
of education  
The Junior high  
schools of Rochester

1-720834

**Rochester**

**Public Library**



3 9077 00652112 7

1

STACKS

The  
Junior High Schools

*of*

Rochester, New York, *Board of*  
*Education.*

1923

Mrs. Nathaniel West  
9-29-42



373  
R676

## INTRODUCTION

The junior high school is designed to provide varied facilities and groupings primarily for purposes of general education as opposed to training for a specific trade or occupation. To presume to know what vocation a pupil of from twelve to fifteen or sixteen years of age should enter, and then narrowly to fit him for that vocation, would be unpardonable and un-American. The other extreme that is equally unpardonable and un-American is to assume that the printed page is the only pathway to an education for all boys and girls. The fallacy that equal educational opportunity means the same opportunity has all too long operated in our public school programs.

Practically from the beginning of the junior high school movement in Rochester all policies have been discussed, formulated, and recommended to the Board of Education by a Junior High School Council. This Council consists of the principals of the junior high schools and various other directing heads, both in the junior high schools and at the Central Office.

The report which follows was prepared by this Council. It is, accordingly, a composite and will lack that uniformity in style and method of presentation that a report prepared by a single person would naturally possess. Each member of the Council was responsible, in the beginning, for formulating a certain section of the report, and this section was then reviewed by the Council as a whole.

Too great credit cannot be given to the members of this Council, the Board of Education, and the teachers in our junior high schools, for whatever success has attended the junior high school movement in the city of Rochester. The members of the Council have set forth the conditions believed to be essential for success; the Board of Education has intelligently and generously met these conditions; and the teachers have shown an initiative, a grasp of the ultimately great ends to be realized, and a spirit of co-operation to which too great tribute cannot be paid.

This report is simply an attempt to tell the main facts concerning the development of the junior high school movement in the city of Rochester. It will have served its purpose if it makes clear the primary

1-720834

reason for the junior high school; discusses the organization in sufficient detail to show the nature and purpose of this organization; outlines the development of the various curriculums and courses of study; and indicates results that go to fulfill the hopes entertained for this new unit in the school organization of Rochester.

In these days when the financing of city school systems is such a pressing problem, it is to be expected that critically important questions will be asked concerning any change in school procedure that results in increased expenditures. It is hoped that this report will enable those who study it to pass an intelligent judgment upon the validity of the increased expenditures which the junior high school requires. We have accustomed ourselves to a relatively high per capita expenditure for the high school as compared with the elementary school. Any course, therefore, which brings the per capita cost for seventh and eighth grade pupils to the point where it is practically equal to that of the high school, will, very naturally and properly, be questioned. Many will find a satisfactory answer in the changed conditions which the junior high school affords. It guarantees to seventh and eighth grade boys and girls both men and women teachers. It, furthermore, guarantees that these teachers, both men and women, shall have a preparation for their work which is the full equivalent of the preparation required of teachers for the upper high school, on the ground that there is no period in the public school life of the pupil when the best prepared teacher is more critically important than during these early adolescent years from twelve to fifteen or sixteen. It provides in the only way consistent with economy, so far as Rochester is concerned, a range of facilities for emphasizing individual, as opposed to mass, education, which educational leaders today regard as essential. Others will require for their answer what they regard as more convincing evidence in the form of statistical data concerning promotions and the like. The attempt has been made to give a fair and full consideration to all these factors with the thought of presenting frankly the increased cost, on the one hand, and the returns on this increased investment, on the other.

HERBERT S. WEET,  
Superintendent of Schools

# TABLE OF CONTENTS

---

|  | PAGE |
|--|------|
| <b>Introduction</b> .....                                      | 1    |
| <b>Part I Origin and Growth of the Junior High School Plan</b> |      |
| The Primary Reason for the Junior High School:                 |      |
| Underlying Principles .....                                    | 11   |
| The Junior High School in the Country at Large .....           | 17   |
| The Junior High School in Rochester .....                      | 19   |
| General Reasons for Choice Made .....                          | 21   |
| The Designation "Junior High School" .....                     | 21   |
| General Principles of Organization:                            |      |
| General Principles of Organization in Rochester .....          | 22   |
| Teachers .....   | 23   |
| Administration and Supervision .....                           | 25   |
| Curriculums .....  | 26   |
| Attention to Individual Needs .....                            | 26   |
| <b>Part II Organization, Administration and Supervision</b>    |      |
| Organization:  |      |
| The Designation of Groups .....                                | 29   |
| Preliminary Intelligence Tests .....                           | 29   |
| Seventh Grade Transition Period .....                          | 30   |
| The Choice of a Curriculum .....                               | 30   |
| Pupils' Participation in Student Government .....              | 39   |
| Teaching Staff .....   | 42   |
| Requirements for Appointment .....                             | 43   |
| Salary Schedule .....  | 45   |



## Administration:

|                                      | PAGE |
|--------------------------------------|------|
| School Officers and Committees ..... | 45   |
| Special School Activities .....      | 50   |
| Directed Study .....                 | 56   |
| Socialized Recitation .....          | 60   |
| Guidance .....                       | 61   |
| Promotion by Subject .....           | 62   |
| Study Coach Classes .....            | 62   |

## Supervision:

|                               |    |
|-------------------------------|----|
| From Without the School ..... | 66 |
| From Within the School .....  | 68 |

**Part III Curriculums and Courses of Study**

## Development of Courses of Study:

|                            |    |
|----------------------------|----|
| Definition of Terms .....  | 71 |
| Details of Procedure ..... | 72 |

## Meeting Individual Differences:

|  |    |
|--|----|
| Varied Curriculums .....                       | 73 |
| Multiple-Curriculum Type of Organization ..... | 73 |
| The Time Schedule .....                        | 75 |

## Aims in the Several Subjects Common to all Curriculums:

|  |    |
|--|----|
| English, Mathematics, Civics, Geography, History, and<br>Science ..... | 81 |
|--|----|

## Distinctive Features in the Several Curriculums:

|   |    |
|---|----|
| Foreign Languages, Commercial, Technical, Household<br>Art, Industrial Arts ..... | 88 |
|---|----|

## Aims in the Special Subjects:

|   |     |
|---|-----|
| Art, Health, Music, Penmanship, Hand Work ..... | 101 |
| Time Schedule in the Special Subjects .....     | 105 |

## Extension of Junior High School Courses to Grammar Schools . 108



**Part IV Results**

## Educational Results:

|  |             |
|--|-------------|
| Changing Educational Outlook and Need of New Standards ..... | PAGE<br>111 |
| Purpose and Method of Study .....                            | 112         |
| Withdrawals and Failures in 9th Grade Subjects .....         | 113         |
| Comparative Tests in Algebra and Latin .....                 | 120         |
| Comparison of Marking Systems .....                          | 127         |
| Standard Tests .....   | 133         |
| Group Mental Tests .....                                     | 134         |

## Social Results:

|                    |     |
|--------------------|-----|
| Health .....       | 139 |
| Social-Civic ..... | 144 |

## Vocational Results:

|                  |     |
|------------------|-----|
| Commercial ..... | 152 |
| Industrial ..... | 155 |

## Holding Power:

|  |     |
|--|-----|
| Leaving School Early .....                               | 160 |
| Unfortunate Attitude Toward Education .....              | 161 |
| Conserving the Benefits of Elementary Education .....    | 161 |
| Carry-over from the 8th A grade to the 9th B grade ..... | 162 |
| Enrollment, Attendance, and Growth by Schools .....      | 164 |
| Promotion Percentages .....                              | 166 |
| Age-Grade .....  | 167 |
| Elimination .....  | 170 |
| Holding Power Beyond Legal Requirements .....            | 176 |
| Carry-over from Junior to Senior High School .....       | 178 |
| Nationalities .....                                      | 179 |

**Part V Costs**

## Current Expenditures:

|  |     |
|--|-----|
| The Building Program .....                             | 181 |
| Explanation of Expenditures .....                      | 182 |
| Explanation of Credits and Receipts .....              | 183 |
| Current Expenditures for the Junior High Schools ..... | 184 |
| Current Expenditures for the Senior High Schools ..... | 186 |
| Average Number of Pupils per Class .....               | 187 |
| Pupil Hour Costs .....                                 | 189 |

|   | PAGE |
|---|------|
| Capital Expenditures:                         |      |
| Building and Equipment Costs .....            | 190  |
| Washington Junior High School .....           | 190  |
| Jefferson Junior High School .....            | 191  |
| Madison Junior High School .....              | 193  |
| Monroe Junior High School .....               | 194  |
| Equipment, Madison Junior High School .....   | 196  |
| Floor Plans, Madison Junior High School ..... | 209  |

### APPENDIX

|  |        |
|--|--------|
| Evening Classes in the Junior High Schools ..... | 213    |
| Location of Junior High School Districts .....   | 215    |
| Forms and Blanks .....                           | 217    |
| Index .....                                      | 223    |
| Typical Schedule .....                           | Insert |

### TABLES

|       |    |  |     |
|-------|----|--|-----|
| Table | 1  | Study Coach Report, Washington Junior High School .....  | 64  |
| "     | 2  | Study Coach Report, Jefferson Junior High School .....   | 65  |
| "     | 3  | Classification of Teachers by Subjects .....   | 69  |
| "     | 4  | Time Schedule .....  | 76  |
| "     | 5  | Time Schedule .....  | 77  |
| "     | 6  | Withdrawal and Failure Percentages-Washington Junior<br>High School and East High School .....     | 114 |
| "     | 7  | Withdrawals and Failure Percentages-Jefferson Junior<br>High School and West High School .....     | 115 |
| "     | 8  | Summary of Withdrawals and Failures in Washington<br>Junior High School and East High School ..... | 116 |
| "     | 9  | Summary of Withdrawals and Failures in Jefferson<br>Junior High School and West High School .....  | 117 |
| "     | 10 | Test I Algebra Test Results (East High School) .....   | 121 |
| "     | 11 | Test I Algebra Test Results (Washington Junior High<br>School) .....                               | 122 |
| "     | 12 | Test I Algebra Test Results (West High School) .....   | 122 |

## TABLE OF CONTENTS

7

|       |    |   |             |
|-------|----|---|-------------|
| Table | 13 | Test I Algebra Test Results (Jefferson Junior High School).....               | PAGE<br>122 |
| "     | 14 | Test II Algebra Test Results (East High School).....                          | 123         |
| "     | 15 | Test II Algebra Test Results (Washington Junior High School).....             | 123         |
| "     | 16 | Test II Algebra Test Results (West High School).....                          | 123         |
| "     | 17 | Test II Algebra Test Results (Jefferson Junior High School).....              | 123         |
| "     | 18 | Test III Algebra Test Results (East High School).....                         | 125         |
| "     | 19 | Test III Algebra Test Results (Washington Junior High School).....            | 125         |
| "     | 20 | Test III Algebra Test Results (West High School).....                         | 125         |
| "     | 21 | Test III Algebra Test Results (Jefferson Junior High School).....             | 125         |
| "     | 22 | Results of Terman Intelligence Test.....                                      | 126         |
| "     | 23 | Results of Standardized Language Tests.....                                   | 127         |
| "     | 24 | Comparison of Marks Received in English.....                                  | 128         |
| "     | 25 | Comparison of Marks Received in Latin.....                                    | 129         |
| "     | 26 | Comparison of Marks Received in History.....                                  | 129         |
| "     | 27 | Comparison of Marks Received in Mathematics.....                              | 130         |
| "     | 28 | Comparison of Marks Received in Typewriting.....                              | 130         |
| "     | 29 | Comparison of Marks Received in Bookkeeping.....                              | 131         |
| "     | 30 | Comparison of Marks Received at East High School in English.....              | 132         |
| "     | 31 | Comparison of Marks Received at Washington Junior High School in English..... | 132         |
| "     | 32 | Median Mark in Various Subjects.....  | 133         |
| "     | 33 | Correlation between Ability Grouping and Graduation.....                      | 136         |
| "     | 34 | Enrollment and Withdrawal from the Commercial Course.....                     | 153         |
| "     | 35 | Destination of Commercial Graduates.....                                      | 154         |
| "     | 36 | Destination of Graduates of Homemaking Course.....                            | 156         |
| "     | 37 | Destination of Graduates of Industrial Course.....                            | 159         |
| "     | 38 | Per Cent of Grammar School Graduates going on to the 9th Grade.....           | 162         |
| "     | 39 | Enrollment.....   | 164         |



|       |  | PAGE |
|-------|--|------|
| Table | 40 Attendance by Grades . . . . .  | 164  |
| "     | 41 Attendance by Months . . . . .  | 164  |
| "     | 42 Attendance by Curriculums . . . . .   | 165  |
| "     | 43 Growth by Schools . . . . .   | 165  |
| "     | 44 Promotion Record of Junior High Schools . . . . .   | 166  |
| "     | 45 Report on Work Permits Issued . . . . .   | 170  |
| "     | 46 Elimination from the Junior High Schools since 1916 . . . . .                             | 170  |
| "     | 47 Elimination by Course, Cause and Age from Washing-<br>ton Junior High School . . . . .    | 171  |
| "     | 48 Elimination by Course, Cause and Age from the Jef-<br>ferson Junior High School . . . . . | 172  |
| "     | 49 Elimination by Course, Cause and Age from the<br>Madison Junior High School . . . . .     | 174  |
| "     | 50 Holding Power Beyond Legal Requirements . . . . .   | 177  |
| "     | 51 Carry-over from 9th A grade to Senior High School . . . . .                               | 178  |
| "     | 52 Nationalities . . . . .   | 179  |
| "     | 53 Junior High School Costs . . . . .  | 184  |
| "     | 54 Senior High School Costs . . . . .  | 185  |
| "     | 55 Average Salary per teacher . . . . .  | 186  |
| "     | 56 Average Number of Pupils Per Class . . . . .  | 188  |
| "     | 57 Pupil Hour Costs in Junior and Senior High Schools . . . . .                              | 189  |
| "     | 58 Enrollment in Evening Schools (Junior High Schools) . . . . .                             | 213  |

## CHARTS

|       |  |     |
|-------|--|-----|
| Chart | I Administration and Supervision . . . . .                             | 69  |
| "     | II Time Distribution in the Several Curriculums . . . . .              | 80  |
| "     | III Curriculum Choices . . . . .                                       | 100 |
| "     | IV Withdrawals and Failures . . . . .                                  | 118 |
| "     | V Percent Graduating by Upper, Middle, and Lower<br>Quartile . . . . . | 137 |
| "     | VI Growth by Schools . . . . .   | 165 |
| "     | VII Distribution by Ages . . . . .                                     | 167 |
| "     | VIII Over Age, Normal Age, and Under Age by Sex . . . . .              | 168 |
| "     | IX Age-Grade Study by Curriculums and Schools . . . . .                | 169 |
| "     | X Nationality Groups . . . . .   | 180 |
| "     | XI Location of Junior High Schools . . . . .                           | 216 |



## TABLE OF CONTENTS

9

## ILLUSTRATIONS

|                                    | PAGE |
|------------------------------------|------|
| Washington Junior High School..... | 10   |
| Madison Assembly.....              | 27   |
| Jefferson Junior High School.....  | 28   |
| Vocal Music .....                  | 50   |
| Orchestra .....                    | 51   |
| Band .....                         | 52   |
| Radio Club .....                   | 53   |
| First Aid Club.....                | 54   |
| Madison Junior High School .....   | 70   |
| General Science.....               | 87   |
| Typewriting .....                  | 93   |
| Millinery .....                    | 94   |
| Machine Shop.....                  | 95   |
| Free Hand Drawing .....            | 101  |
| Monroe Junior High School .....    | 110  |
| Gymnasium .....                    | 141  |
| Swimming Pool.....                 | 142  |
| Pageant.....                       | 147  |
| Courtesy Posters.....              | 148  |
| Old Folks' Party.....              | 149  |
| Mill Room.....                     | 155  |
| Cooking .....                      | 157  |
| Laundry .....                      | 158  |
| The Print Shop.....                | 187  |



Washington Junior High School

## PART I

---

### ORIGIN AND GROWTH OF THE JUNIOR HIGH SCHOOL PLAN

---

#### THE PRIMARY REASON FOR THE JUNIOR HIGH SCHOOL

**Underlying Principles.** The junior high school represents the most important and the most extensive departure from the former type of school organization that the Board of Education has made during the past ten years. The following propositions are designed to lead up to and to suggest the fundamental reason for this departure.

#### Proposition 1

**The Constitution of the State of New York provides that the state legislature "shall establish and maintain a system of free common schools wherein all the children of the state may be educated."**

The legislature has, accordingly, chosen its Board of Regents, which has, in turn, organized the State Department of Education for the express purpose of carrying out this provision of the Constitution. The state has passed compulsory education laws; prescribed a minimum range of subjects to be taught in the schools; fixed the qualifications of teachers and established state supported normal schools for the training of teachers; adopted a state wide salary schedule; and in other ways made it clearly manifest that the development and safeguarding of public education is primarily the concern of the state.



### Proposition 2

**The primary work of such a free public school system, supported by taxes levied upon all the people, is to guarantee the protection of the state against the hazards of ignorance by providing a working knowledge and control of certain essentials to citizenship and by developing a consciousness of the obligations of citizenship.**

This free public school system at first provided merely for common, or elementary, schools in which should be given those fundamental elements of education that are of such recognized importance to all concerned. The ability to read, write, and speak the English language, and to know and use intelligently the elementary processes of arithmetic, should be the common possession of all. This is one type of fundamental work which the elementary school must do. But it is also vitally important that the elementary school shall, to the limit of its power, develop in every pupil a sense of the importance of respecting those ideals and purposes to which this country is committed. These common ideals are nowhere better nor more convincingly stated than in the preamble to the Constitution of the United States—"To form a more perfect union, establish justice, insure domestic tranquillity, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity".

### Proposition 3

**But this free public school system must also concern itself with training for economic independence in the case of all boys and girls who remain in school beyond the time required for securing these common elements essential to citizenship.**

Among all the qualifications of the good citizen, none is more important than economic independence, or the ability of the individual to earn a livelihood for himself and for those dependent upon him. Trained and educated service for commerce and for industry is quite as essential



to the welfare of the community as is trained and educated service for the professions. The academy was a preparatory step in qualifying for economic independence, through the professions, those who were privileged to have the benefits of a college education. This pathway to economic independence has always been kept open and lighted by the secondary school. It is of absolutely vital importance that this provision shall continue. But it is not the highway which the majority of the high school boys and girls of to-day will ever travel. Has the public school no responsibility for lighting up these other highways of commerce and of industry, and of home life, when it is known at the outset that these are the highways which, through choice or necessity, will be traveled by the major part of these pupils who to-day continue their education beyond the elementary school?

This proposition is not to be interpreted as necessarily meaning that the public school shall provide all the education required in the way of fitting persons for these various lines of service, although the state colleges and universities of the West are supported by the states themselves for just this purpose. The proposition has been stated here in the belief that today no public school system, that extends beyond the elementary school, can be true to the fundamental purpose for which it was established and, at the same time, ignore the fact that by far the largest proportion of its product will earn their livelihood in the fields of commerce and industry.

### Proposition 4

**To-day provisions for a high school education are practically as compulsory upon every community in the state as are provisions for an elementary school education.**

So completely have the different communities of the state established high schools that the State Department of Education now interprets *common* schools to include both the elementary schools and the high schools. The present ruling of the State Department of Education is that every school district in the state shall be required either to provide high school education within its own district, or to make provisions elsewhere for those pupils within the district who may desire a high school education.

### Proposition 5

**The increased voluntary and compulsory attendance in the public high school has brought into this school a range of differing interests and abilities on the part of its pupils that was unknown to the high school even a quarter of a century ago; while the apprenticeship systems of the past have practically disappeared.**

The old time academy, from which the public high school has developed, was established chiefly for the purpose of preparing for college that comparatively small part of the pupils who aimed to enter the so-called learned professions. Aside from the few thus privileged to think of the college and the professions, the great body of the boys and girls went directly from the elementary school out into the community to prepare themselves to earn their livelihood through the apprenticeship system in industry; or through the equivalent of that system in business and commerce; or through home and agricultural pursuits. For these the public school had no further responsibility.

### Proposition 6

**There is to-day in American education great waste to the community and great injustice to the individual, which can be traced to the misdirected efforts of those who, without the special interests and abilities required, are crowding the high schools and the colleges with a view to entering professional life.**

For years now one of the greatest causes of concern in the whole educational system of the country, has been the large number of pupils who enter our high schools with a view to college and the professions, and who fail for no reason other than the lack of aptitude for this type of work, and who then and there end their educational career with all that the stinging sense of failure means to them and to the community. The intensity of the problem is greater to-day than ever before.

### Proposition 7

**The PRIMARY OBJECT of the junior high school is to prevent these misdirected efforts by making the most careful study possible of the special needs, interests and abilities of every pupil for the purpose of guiding him as helpfully and as intelligently as possible.**

The junior high school is essentially an attempt to recognize in a way consistent with economy, that as there are types of minds that have the special ability for, and interest in, the book learning and the abstract thinking required for the so-called learned professions, so there are types of minds that are neither interested in nor adapted to professional life; that the shop and the laboratory and other similar facilities, in addition to the text book, are essential to the best educational welfare of those of this latter type; and that both justice to the individual and consideration for the welfare of the community require that these facilities shall be provided in the educational program. The great fundamental purpose of the junior high school is to study and ascertain, so far as possible, whatever special interests and abilities any individual pupil may have and then to develop those abilities, in so far as that can be done in a way consistent with the demands of general education.

### Proposition 8

**For any community to provide extensive facilities in the industrial and household arts for the upper grades of the high school, without first ascertaining through the junior high school both the nature and the extent of these facilities, would be unjustifiable.**

It is doubtful if there is a city in this country of the size of Rochester, or larger, that has been as conservative as Rochester has been in providing for teaching the household and the industrial arts in the upper high schools. All things considered, this is the most expensive kind of work that any public school system can attempt. With the exception of the Rochester Shop School there are no provisions in the public high schools of Rochester



for boys and girls who are attempting to specialize in any particular vocation. However, there are courses at the East High School Annex for both boys and girls who wish to devote part of their time in high school to hand work. These two institutions have a total of but 355 pupils out of the total of 4506 pupils in the high schools of Rochester. The result is that the per capita cost of high school education in Rochester is relatively low as compared with the cost in most other cities. Rochester is proceeding in the belief that before making any extensive experiments in this direction it should ascertain, through the junior high school, both the nature and the extent of the demand for such facilities.

The significance of the last named proposition becomes apparent, when we take into consideration the fact that those who complete the junior high school may be roughly divided into five groups:

1. Those who will go on to the general and college preparatory courses of the upper high school.
2. Those who will go to the upper high school to prepare for a technical institution like the Massachusetts Institute of Technology.
3. Those who will continue their work along commercial lines in the upper high schools.
4. Those who have taken the practical arts courses in the junior high school and who will go out into industry, as producers or workers at the bench and in the laboratories and work shops of industry.
5. Those who will find their vocations in industry not as producers but as leaders and managers.

What legitimate demand there is upon the public school beyond the junior high school for those in class four is a very important and equally unsettled question. Experience goes pretty much to show that on the one hand these pupils will not remain in school beyond the period of the Compulsory Education Law and that on the other hand, if they are to become the skilled workmen which they desire to become they must actually begin their practical work in industry not far from their sixteenth birthday. At any rate the public schools of Rochester have not as yet provided for these opportunities beyond the junior high school, primarily



because of the uncertainties as to the kind of opportunities that the public school should provide.

The experience of Rochester with the junior high school is, however, rapidly demonstrating the need of additional opportunities in the public schools for those in class five. All that is offered now is found in the Rochester Shop School. This is in an old, abandoned elementary school building, capable of accommodating but one hundred seventy-five pupils. It is doing a remarkably effective piece of work. If the Board of Education were obliged to-day to answer the question, what is needed for the public school system of Rochester to round out its educational program, its answer would be, a school essentially on the order of the Rochester Shop School so centrally located as to be reasonably accessible to all in the city.

**The Junior High School in the Country at Large.** The School Review for November, 1922, contained an article by Mr. O. C. Pratt, the Superintendent of Schools of Spokane, Washington, which gave a general review of the development of the junior high school in this country. This review was based upon returns which Superintendent Pratt had received from sixty out of the sixty-eight cities in the United States having a population of one hundred thousand or more.

According to this review, the first junior high school was established in Columbus, Ohio, in 1909. The entire movement, therefore, is of comparatively recent growth. At the time of the inquiry made by Superintendent Pratt, twenty-six cities were definitely committed to the junior high school type of organization, and even in this brief time each had made considerable progress in re-organizing. Boston, for example, reported thirteen junior high schools; Cleveland reported that approximately three-fourths of the system was organized upon the junior high school basis; the returns from Columbus showed that the organization was practically city wide; Detroit reported that six had been built and five more authorized out of the total twenty-two required; the city of New York reported a total of thirty-nine such schools; while in Grand Rapids and Richmond the re-organization had been completely effected. Of the remaining thirty-four cities, twenty reported that the junior high school plan was under favorable consideration, and many of these expressed the belief that in the near future junior high schools would be established. Thus more than seventy per cent of the largest cities in the country have either established junior high schools, or are planning to do so. There

is a striking uniformity in the statements received from these cities, both as to the advantages and the disadvantages of the junior high school.

There is very common agreement, in substance, that the junior high school makes it practicable:

1. To provide a range of curriculums sufficiently broad and varied to meet the type needs of boys and girls of early adolescent years,
2. To insure an adequate number of pupils in order that classes may be organized according to ability to progress,
3. To promote by subject or subject group rather than by grades, and
4. To develop better insight into social needs and to insure better training for the meeting of those needs.

As a result there has been very general agreement that the junior high school is holding pupils in school far better than they had been held. In so far as this is true, it very naturally provides a more hopeful solution of the problem, caused by the heavy withdrawal of pupils from the upper grades, than can be provided through compulsory education laws and part time or continuation schools. This is not to argue that compulsory education laws and continuation schools are not necessary. It simply confirms a general impression that, perhaps, the largest factor involved in dropping out of school, in these upper grades, is what parents and pupils alike have interpreted as the failure of the school to provide the kind of school advantages that are required to meet the needs of those who are not going on into the college preparatory courses of the upper high school. For all to whom this does apply, compulsory education laws and continuation schools are, at best, simply a forced solution of the problem.

The disadvantages listed had to do with greater costs; lack of properly trained teachers to meet this new demand; and the dangers of premature specialization. There is, of course, no means of offsetting this first disadvantage. The wider range of facilities and the improved quality of instruction provided will inevitably cost more money. The second disadvantage is but temporary and has always been found to exist whenever any departure has been made from established procedure. The danger of premature specialization is a real danger and one against which specific precautions can and should be taken.



This review by Superintendent Pratt clearly indicates that the junior high school movement has progressed to the point, where it may fairly be regarded as an established unit of public school organization. Experience thus far has shown that it provides better conditions for solving the problems that have to do with the education of boys and girls from twelve to fifteen or sixteen years of age, than were provided under the usual plan of eight years of the grammar school and four years of the high school. It would, of course, be folly to claim that all these problems have been solved in these few years. All that can be claimed and all that ought to be desired is that a step is being taken in the right direction.

In a recent bulletin of the Bureau of Education in Washington a similar conclusion was reached as the result of a survey covering 575 cities having a population of 2,500 and over. Two paragraphs from this bulletin will be of interest at this point, viz: "The junior high school is far beyond the experimental stage, in so far as the value of such schools is concerned. In no case, so far as the records of this bureau show, has any real junior high school been considered a failure. The reports are all in favor of such schools. Many school superintendents who have organized one or two such schools are planning to organize more, and many of those who have not organized junior high schools are planning to do so at the earliest possible moment. Such schools can not be organized in a day. New buildings have to be erected or old ones remodeled. Instance after instance could be cited where superintendents are planning a building program to provide for junior high schools."

"In brief, the junior high school is here and it is here to stay. No one who has given the subject any thought would advocate a return to the traditional plan of organization. That the junior high school is as yet by no means a perfect school the most ardent advocates admit. There are still many problems to solve, but with the intensive study that is now being applied to the junior high school there can be no question regarding the solution of these problems."

**The Junior High School in Rochester.** In 1913 school authorities in Rochester faced a serious congestion in seven elementary schools in the same section of the city. This section had a larger percentage of the foreign-born than did any other section of equal area in the city. With but one exception these seven elementary schools were typical grammar schools, each consisting of a kindergarten and eight grades.



One solution of this problem was to build an addition to each of these seven elementary schools, thereby committing school authorities to a continuance of the existing type of school organization. The other was to build one central school to which the 7th and 8th grade pupils of these surrounding schools might be removed, thereby leaving the elementary school buildings available for the children of the kindergarten and the first six grades only. The latter solution was agreed upon.

The first junior high school in Rochester was opened in September, 1915. Primarily because of inability to forecast just what building facilities the development of this junior high school type of organization might require, it was decided to build an addition for shop work to one of the existing centrally located grammar schools, and to establish here the first junior high school. This grammar school was the largest in the city. It was comparatively new and possessed certain facilities required by the junior high school but not then regarded as essential to an elementary school of but six grades. A new site was, accordingly, selected and a new elementary school building erected for the kindergarten and the first six grades of this grammar school, thereby leaving the building and its addition available for the Washington Junior High School.

The Jefferson Junior High School was opened as a junior high school in September, 1920. It had been used during the preceding year to relieve congestion in the surrounding schools, but the equipment was not sufficiently complete at that time to warrant its organization as a junior high school. It was, therefore, simply a departmentalized school for 7th and 8th grade pupils. The plans for this school were drawn in accordance with such building needs as had been dictated by experience in the Washington Junior High School. The cost of the Jefferson Junior High School was \$736,994.30. Its working capacity is approximately fifteen hundred pupils. It should be mentioned, however, that the building is not complete for junior high school work in that it does not possess the required provisions for health education. The site at Edgerton Park was provided by the city authorities. At the time this building was erected the city planned to build adjacent to the school a recreation building suitably equipped with gymnasiums, plunges, and other essentials in this field, this building to be used by the school during the day and by the adults of the community at such times as the school was not in session. Unfortunately for the school this plan has not as yet been realized.

The first completely equipped building to be erected for junior high school purposes was the Madison Junior High School on Bronson Avenue, facing Wilson Park. The contract for this building was awarded in November, 1919, at a contract price of \$1,497,120.00. Its working capacity is for approximately two thousand pupils. It was opened in September, 1922, and now has in attendance over sixteen hundred pupils.

The contract for the Monroe Junior High School building was awarded in 1921, at a contract price of \$1,390,555.00. The plans used were essentially the same as those for the Madison Junior High School, and the capacity is the same. This school was opened in September, 1923, with a registration of approximately twelve hundred pupils.

**General Statement of Reasons for Choice Made.** It cannot be too strongly emphasized at the outset that in deciding upon this central school, as opposed to additions to existing buildings, school authorities were convinced that neither increased expense nor change in educational procedure was necessarily involved. These seven elementary schools had already grown so large that any increase in size through the building of additions, would require for effective work more administrative and supervisory assistance. If it seemed desirable then, or necessary later, to restrict the subjects of this central school to those that prevail in the upper grades of the grammar school and to teach them either under the departmental or single teacher plan, this could readily be done. Thus the salary schedule for teachers would not necessarily be affected. In certain ways economy might be effected, for a large number of upper grade pupils can usually be organized into grade groups in one central school more economically than is apt to be the case when they are distributed among a half dozen schools. Furthermore, the building units for the practical arts would be made multiples of the class room unit and so could be converted into class rooms where necessary. There was, therefore, nothing to be lost by this proposed departure. On the other hand, it appeared that great educational gains were possible through this solution. Favorable conditions would be established for making such changes in school procedure for these upper grades as experience might prove desirable. Not to open the way to take advantage of these opportunities seemed wholly unjustifiable.

**The Designation "Junior High School".** Perhaps a word is desirable at this point with reference to the considerations that led to the



designation of this new unit of school organization as "Junior High" rather than "Intermediate." The expression "Intermediate" would suggest to the community nothing that was desirable and much that was undesirable. Intermediate Schools were officially a part of the school organization in Rochester as provided for in the rules and regulations of the Board of Education. It was a name given to a school that consisted of a kindergarten and the first six grades. In the minds of those in the community, therefore, to whom "Intermediate" school had a meaning, questions would probably be provoked and prejudices established because of the very greatly increased expense of building, equipping and maintaining this new intermediate school. But there were others in the community to whom the intermediate school, as recognized by the Board of Education, meant little, but who had a more or less well defined notion concerning intermediate grades. They associated this expression with the 5th and 6th grades chiefly. Here again the designation "Intermediate" would be misleading. And finally, to those to whom "Intermediate" meant nothing in school terminology it would be equally meaningless, so far as its value in imparting any conception of this new unit of school organization was concerned. On the other hand, the objections to the name of "Junior High School" seemed to be of comparatively minor importance. It was accordingly selected.

---

## GENERAL PRINCIPLES OF ORGANIZATION

**General Principles of Organization in Rochester.** The organization of any school unit will naturally be determined largely by the work to be done through that unit. Generally speaking, the three factors that have guided the organization and development of the junior high school movement in Rochester have been as follows:

1. A desire to give to all those who are to go on into the specialized courses of the upper high school a more thorough grounding in the work preparatory to these courses, rather than to economize time by attempting earlier the specialized courses themselves.

2. A desire to work out, in accordance with the above principle, characteristic courses of study adapted to the needs and abilities of the pupils in this new unit of organization. In many respects this has been the most difficult problem of all. Had the junior high school here been regarded as simply an earlier beginning of the upper high school, the



transition would have been comparatively simple because the upper high school courses of study and text books could have been used. On the other hand, had the junior high school been regarded as essentially a departmentalizing of the work in the upper grades of the grammar schools, the transition would have been equally simple, for here again courses of study and text books were available.

3. A desire to avoid the dangers of premature specialization and thereby hold the junior high school unit true to the principles of general education, as opposed to training for some specific trade or occupation.

**Teachers.** It was agreed at the outset that, all things considered, the best type of teacher available for the greater part of this work in the junior high school would be the experienced upper grade teacher of demonstrated ability in the work of the grammar school. In any event the experienced teacher was regarded as necessary at the outset, and the choice lay between the experienced teacher of the upper grades in the grammar school and the experienced teacher of the high school. As yet no teachers had been trained for and experienced in the work of the junior high school. The experienced high school teacher would have a broader education and a more intensive knowledge of the subject matter to be taught than would the teacher in the grammar school, but would, on the other hand, lack a knowledge of the abilities and limitations of the greater part of these junior high school pupils. Furthermore, such a teacher would come to the junior high school from the relatively highly specialized atmosphere of the upper high school. School authorities, therefore, regarded as more hopeful the ability to supplement the deficiencies that would exist in the qualifications of upper grade teachers of the grammar school than those to be found in the experienced teachers of the upper high schools. (See General Teaching Requirements—page 43)

In September, 1914, one year before the Washington Junior High School was opened, a series of Saturday Morning Institutes was begun. To these institutes were admitted all experienced teachers of the grammar schools who were interested in attempting this work of the junior high school. These institutes were held each Saturday morning throughout the year.

The institutes were in charge of directing heads from the upper high schools and from the Central Office. For example, the groups in mathematics, in foreign language, and in science were in charge of the directing heads of these respective departments in one of the upper high schools.

The groups in social studies, English, and various forms of practical arts were in charge of directing heads from the Central Office. The work of these institutes was later taken over by the University of Rochester and has since formed a part of the regular extension courses of the University.

One object of these institutes was to begin the preparation of courses of study for the junior high school. The institutes seemed to afford favorable conditions for this important task. The head of the department in the upper high school was, naturally, familiar with the needs of pupils entering this school. The grade teachers who made up the institute group, on the other hand, were familiar with the problem from the grammar school viewpoint. Another purpose of these institutes was to afford an opportunity for subject matter review by these experienced grammar school teachers. A third purpose was to acquire in this way some additional knowledge of the capacity and adaptability of these applicants for junior high school teaching positions. When the time came for the selection of teachers the ratings given by the directing heads of the institution formed one factor in the choice. Other factors were training, length and quality of experience, and personality.

It is apparent that this procedure would have an important bearing not simply upon the desire to work out courses of study, secure a close working relation between the junior and senior high schools, and guard against dangers of premature specialization, but that it would also have an equally important bearing upon the training of teachers for this new field.

It may be said, in general, that the hopes entertained for this plan have been fully realized. One of the most important contributions of the junior high school movement in Rochester has been the extent to which it has stimulated a desire for growth on the part of experienced teachers, and has thereby proved of value in the solution of one of the most difficult problems that any public school system faces. At the present time teachers of academic subjects for the junior high school are required to have four units of training beyond the regular high school, which may be different from, but which are regarded as the full equivalent of the four years of college training required of the senior high school teacher. Two units of these are graduation from an approved normal school; a third unit consists of at least three years of successful teaching experience; and a fourth unit consists of one year's work of college grade, which may be done through extension courses, summer school courses, or Sabbatical



year privileges, while the teacher is engaged in the work of the junior high school.

**Administration and Supervision.** The desire to give to all pupils who are to go on into the specialized courses of the upper high school a more thorough grounding in the work preparatory to these courses, to work out specially adapted courses of study, to establish the closest possible working relation with the upper high school, and to avoid the dangers of over specialization have been reflected in the organization of the school itself, as well as in teacher selection and training. In each case the principal of the junior high school has been selected from the experienced grammar school principals of the system. Furthermore, a grammar school principal was selected as Director of Junior High School Grades for the city. Through the latter the attempt has been made not simply to foster a uniformity in aims among these junior high schools, but at the same time to carry into the 7th and 8th grades of the grammar schools such features of the new junior high school course of study as might be practicable, and thereby facilitate the transition to the junior high school as the movement is extended.

These high school departmental heads who have participated in the institutes for the working out of courses of study and the preparation of teachers have, from the beginning, held a close working relation to the junior high school itself. For the most part each has continuously taught a class in the junior high school, and has thereby gained first hand knowledge of junior high school conditions. The value of this is for the most part apparent. The head of the department of mathematics in the East High School, for example, has been the one to suggest the provisions for the course in general mathematics for those who are to go from the junior high school into the college preparatory courses of the upper high school. Each step was taken tentatively after conference with the Director of Junior High School Grades, teachers, and others. This departmental head has then taught an 8th grade in his subject in the junior high schools, with the teacher of the grade in attendance, thereby testing the proposed course and at the same time gaining valuable information with reference to the material required for the working out of the course. The same principle has been applied in the case of foreign language and general science.

There have been no departmental heads in the organization of the junior high school itself. In the Washington Junior High School, for



example, the vice-principal of the school is essentially a supervisory officer for the so-called academic lines of work in the school. There is also one person who has general administrative and supervisory powers in the practical arts work of the school. This provision has been made essentially for the purpose of avoiding that degree of specialization that is apt to accompany the organization of separate departments each under a departmental head.

**Curriculums.** The same degree of care that has been taken in the matter of administration and supervision to avoid specialization has characterized the development of the junior high school curriculums. From the first the aim has been to provide a range of curriculum sufficiently broad and varied to meet the type needs of early adolescent boys and girls.

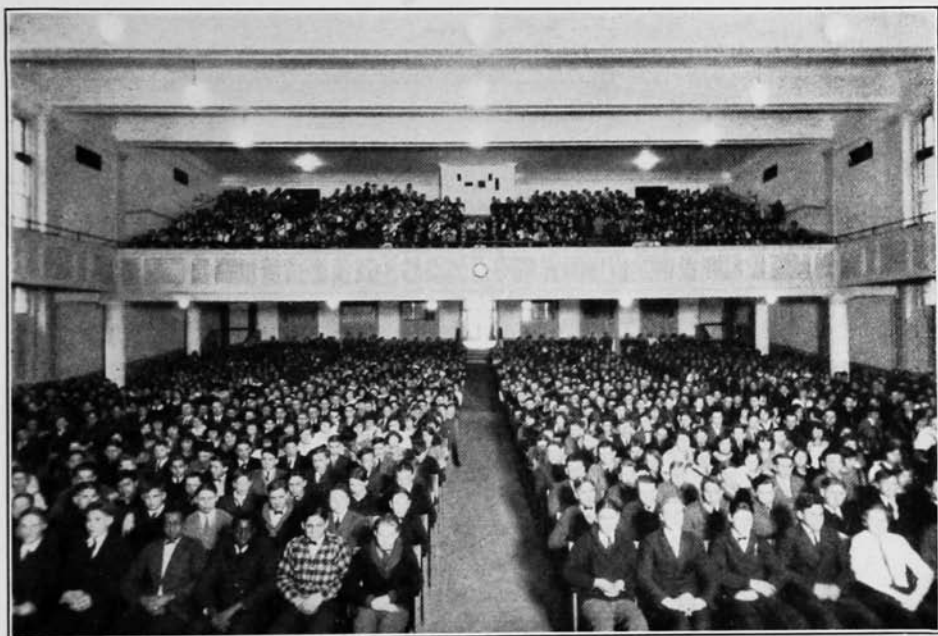
The following curriculums are open to junior high school pupils:

- The Foreign Language Curriculum
- The Technical Curriculum
- The Commercial Curriculum
- The Industrial Arts Curriculum
- The Household Arts Curriculum

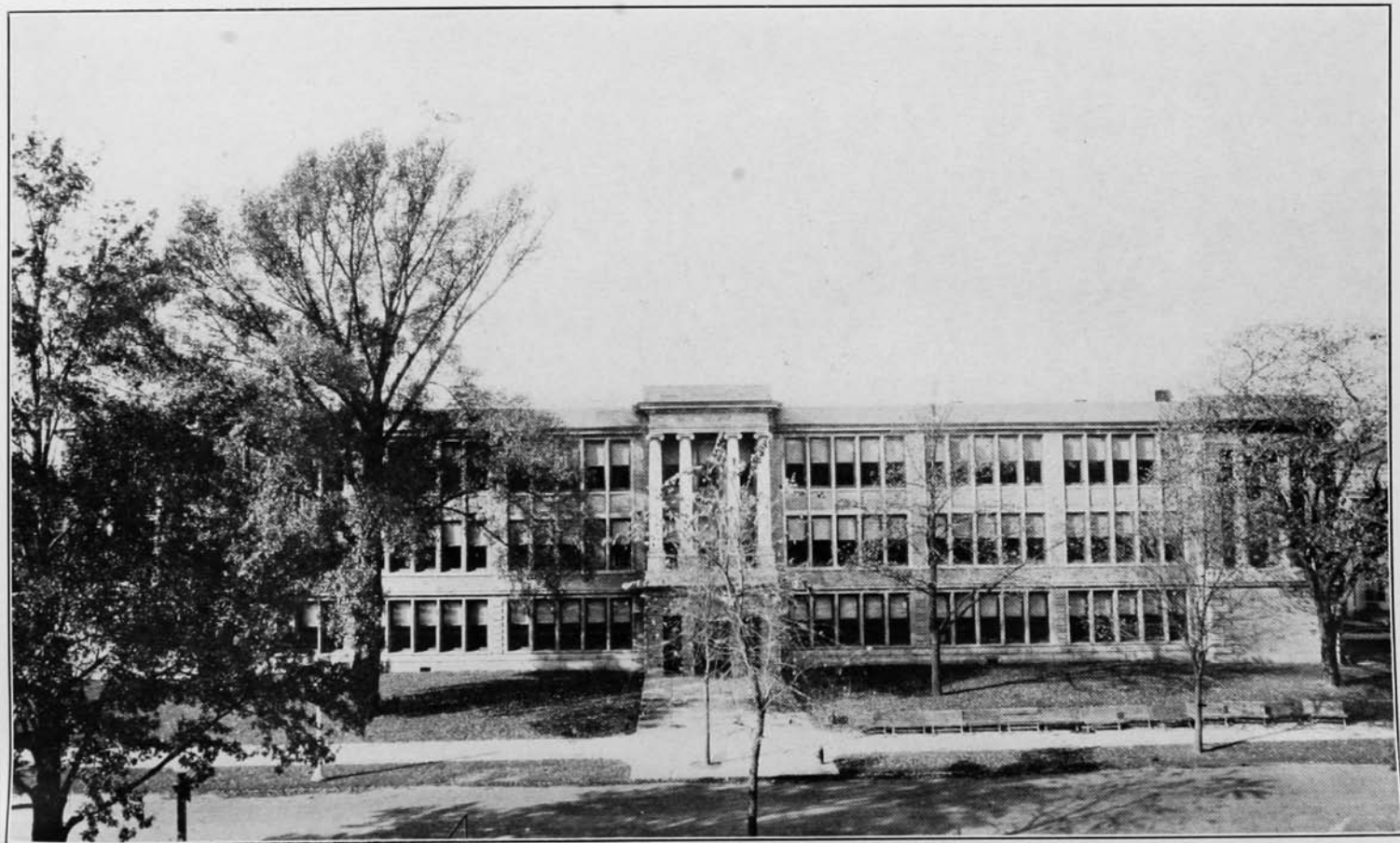
The wide variety of emphasis indicates that the school has recognized its responsibility for broader and more diversified training. A detailed discussion of these curriculums is given in a later section.

**Attention to Individual Needs.** Before pupils enter the junior high school they are given comprehensive ability tests. The results of these tests determine the groups in which they should be placed so that their chances for success may be most favorable. A trained nurse is in daily attendance in each junior high school to safeguard health. Trained dental hygienists come to the schools every year to cleanse teeth and advise as to their care. Nutrition classes for the undernourished, plenty of pure milk for all who desire it, and health and cleanliness campaigns are the means employed to round out a health program that will make physical fitness not merely possible but probable for the next generation. The first symptoms of failure in school work are treated seriously. Parents are notified, the administrators of the school are consulted, and together with the teacher remedial measures are devised. A modification of schedule, lightened home duties, or special help in a study coach group are often the means of preventing non-promotion and giving to pupils

a new courage and a new incentive in all their later school work. Pupils in need of advice or counsel find in the Girl's Adviser a sympathetic and helpful friend whose chief aim is to keep wholesome influences active between the home and school. In brief, from the time a pupil enters the junior high school, until he is graduated, his problems are the concern of the school. Probably no feature is more characteristic of the junior high schools in Rochester than this personal attention which is given to the welfare of the individual pupil.



Madison Assembly



Jefferson Junior High School



## PART II

---

### ORGANIZATION, ADMINISTRATION, SUPERVISION

---

#### ORGANIZATION

**The Designation of Groups.** The junior high schools of Rochester include the 7th, 8th, and 9th grades. The lower half of each grade is called the B grade, the upper half the A grade, i. e., 7th B, 7th A, 8th B, 8th A, 9th B, and 9th A; the entering class is the 7th B; the graduating class the 9th A.

**Preliminary Intelligence Tests.** Several weeks before the close of the semester a representative of the Child Study Laboratory gives a group intelligence test to the 6th A pupils of the schools which contribute to the junior high schools. The test scores of these pupils, combined with the score representing the teachers' judgment of their ability, form the basis for a classification into groups of relative ability when these pupils enter junior high school the following semester. At the end of a few weeks the junior high school teachers transfer to a different class such pupils as in their judgment would profit by being with a more rapid or slower group, and the grades go on practically intact for the remainder of the semester. The number of such transfers has been found to be very small.

---

NOTE—Organization, administration, and supervision in all the junior high schools follow in general a uniform plan, but certain minor deviations from this plan are naturally to be found in the different schools. As each school has been opened the needs of that school and of its community have determined the procedure. A treatment of these three topics, therefore, must necessarily be of a composite nature, dealing with the procedure followed in the junior high schools of the city as a whole rather than with that followed in each school.

**The Seventh Grade A Transition Period.** The 7th grade is essentially a period of adjustment, when the pupils become acquainted with the significance of the junior high school and the spirit of the new institution in which they find themselves. For the 7th grades an auditorium period is provided, apart from the rest of the school, to give greater opportunity for the discovery and development of various talents and to acquaint the pupils, through the varied programs, with the enterprises in which the school or community may be interested.

In this grade all of the pupils follow the same curriculum, and the work is regarded in the nature of a "try-out." The teachers are all conscious of the fact that at the end of the 7th A grade a choice must be made that is of vital importance to the pupil. They study carefully the mental abilities and manual dexterities of their pupils that they may counsel wisely with reference to the choice of a curriculum, which the pupil may follow through the 8th and 9th grades, or from which he may transfer at the end of the semester. The transition from the technical to the foreign language curriculum is more difficult than from the foreign language to the technical curriculum, because of the necessity of making up the amount of Latin or French which has been covered by the grade that the pupil is late in entering. The counseling is so carefully done, however, that the number desirous of making a change of course is so slight as not to present a very serious problem.

**The Choice of a Curriculum.** Five curriculums are offered,—the foreign language, technical, commercial, industrial arts for boys, and household arts for girls. The following persons assist in the selection of a curriculum: the pupil, the parent, the home room teacher, the hand-work teacher, the guidance teacher, and the counselors. The counselors are regular teachers who are allowed from one to three periods each week for visiting homes to consult with parents and pupils regarding the selection of a curriculum as well as concerning scholarship and discipline. The guidance teacher talks with each pupil at the close of the 7th A concerning the choice of a curriculum. The curriculum thus chosen is followed through the 8th and 9th grades, unless there is some reason for choosing another. In the 9th A grade the guidance teacher also assists the pupils in selecting the subjects in senior high school which will prepare them for college, or, for some future line of work that they may desire to enter.

The following blanks, each printed on a different colored paper, are used in the selection of a curriculum.

## Individual Information Blank

Junior High School, Rochester, N. Y.

Pupil's Record

Date.....

Pupil's name.....

(Family name)

(Given name)

Address..... Home room section.....

1. What work in your course have you enjoyed most?.....
2. What book work has been the easiest for you?.....
3. What book work has been the most difficult for you?.....
4. Of all the books you have read which two or three do you like best?.....

What magazine do you enjoy most?.....

5. What school activity have you liked best?.....
6. Do you plan to graduate from the Junior High School?.....
7. After graduation from J. H. S.—answer (a) or (b):.....
  - (a) What further school work do you plan to take?.....
  - (b) What occupation do you plan to enter?.....
8. What institution do you plan to enter after graduation from Senior High School?.....
9. When your school work is completed, what do you hope to do as your life work? Check your preference on the list, on the other side of sheet, in order of your choice—1st, 2nd, and 3rd. Any occupation not listed, if your choice, may be added to the list.



|                           |                             |                                  |
|---------------------------|-----------------------------|----------------------------------|
| Accountant                | Contractor and build-<br>er | Milliner                         |
| Actor:                    | Dentist                     | Minister                         |
| Legitimate                | Doctor                      | Missionary                       |
| Photo play                | Draftsman                   | Molder                           |
| Advertiser                | Dressmaker                  | Musician or music<br>teacher     |
| Agent:                    | Druggist                    | Naval officer                    |
| Book                      | Engineer:                   | Newspaper man                    |
| Financial                 | Building                    | Nurse                            |
| Insurance                 | Civil                       | Office clerk                     |
| Real estate, etc.         | Electrical                  | Optometrist                      |
| Agriculturist             | Locomotive                  | Painter                          |
| Architect                 | Mechanical                  | Physician                        |
| Army officer              | Mining                      | Plasterer                        |
| Artist                    | Sanitary                    | Patternmaker                     |
| Author                    | Stationary                  | Playground director              |
| Auto mechanic             | Structural                  | Plumber and steam fitter         |
| Aviator                   | Electrician                 | Pottery decorator                |
| Baker                     | Factory worker              | Poultry raiser                   |
| Banker                    | Florist                     | Printer                          |
| Barber                    | Forester                    | Railroad man—trolley or<br>steam |
| Blacksmith                | Glass worker                | Salesman:                        |
| Boiler maker              | Industrial Designer         | Retail                           |
| Bookbinder                | Textiles, carpets and       | Wholesale                        |
| Bookkeeper                | rugs, linoleums, wall       | Traveling                        |
| Brick layer               | paper, map making,          | Scientist                        |
| Broker                    | etc.                        | Sculptor                         |
| Cabinet maker             | Interior decorator          | Sheet metal worker               |
| Carpenter                 | Jeweler                     | Shoemaker                        |
| Cartoonist                | Lawyer                      | Social worker                    |
| Chauffeur                 | Librarian                   | Stenographer                     |
| Chemist                   | Lunch room manager          | Surveyor                         |
| Civil service             | Lithographer                | Tailor                           |
| Policeman                 | Machinist                   | Teacher                          |
| Fireman                   | Magazine illustrator        | Telegrapher                      |
| Letter carrier            | Manufacturer                | Telephone operator               |
| R. R. mail clerk,<br>etc. | Mason                       | Upholsterer                      |
| Commission mer-<br>chant  | Merchant                    | Wireless operator                |
|                           | Metal artist                | Watchmaker                       |
|                           | Mill operative              |                                  |

**Individual Information Blank**  
**Junior High School, Rochester, N. Y.**

### Parent's Record

Date.....

Pupil's name.....  
(Family name) (Given name)

Address.....

Parent's occupation.....

1. How much longer do you plan to send your child to school?.....  
he
2. Can she finish Junior High School?.....  
he
3. Is she going to Senior High School?.....  
he
4. For what occupation does she desire to prepare? .....  
him
5. What occupation do you desire to have her enter?.....  
Why?.....  
he
6. State any occupation in which she has been employed?.....  
his
7. Is her general health good?..... If not, why?.....  
he
8. Does she have at least 8 hours sleep regularly?.....  
If not, why?.....  
his
9. What are her outside activities:  
(a) Social.....  
(b) Athletic..... Hours per week.  
(c) Work ..... Hours per week.  
(d) Music ..... Hours per week.  
(e) Miscellaneous.....
10. Remarks.....

## Individual Information Blank

**Junior High School, Rochester, N. Y.**

**Home Room Teacher's Record**

Date.....

Pupil's name.....Address.....

(Family name)      (Given name)

Date of birth.....Nationality.....

1. Entered school.....19.....From.....

2. Entered grade.....Department.....

3. Excels in (specify the book or hand work).....

4. Finds most difficult.....

5. What, in your opinion, is the cause of the difficulty?.....

6. Has the pupil a sense of responsibility?.... Is the pupil ambitious?..

7. Pupil's limitations, if any: Physical.....

Mental.....General attitude.....

8. Results of interviews, if any, with parents.....

| 9.      ACEDMIC WORK    |        | POWER EXPRESSION AND CONDUCT                 |          |
|-------------------------|--------|--|----------|
|                         | Rating |  | Estimate |
| Mathematics.....        |        | Response.....                                |          |
| English.....            |        | Application.....                             |          |
| Grammar.....            |        | Memory.....                                  |          |
| Literature.....         |        | Reasoning.....                               |          |
| Spelling.....           |        | Initiative.....                              |          |
| Penmanship.....         |        | Oral expression.....                         |          |
| History and Civics..... |        | Self-reliance.....                           |          |
| Geography.....          |        | Self-control.....                            |          |
| Science.....            |        | Politeness.....                              |          |
| Foreign language.....   |        | Neatness.....                                |          |
|                         |        | Attitude toward student govern-<br>ment..... |          |

Note: A—excellent; B—above average; C—average; D—below average; E—failure.

10. Department elected.....Date (if first election).....

11. Why recommended for this department.....

12. Change in department, subsequent to first election: From.....  
department to.....department. Date.....

13. Reason for change.....

Form A

Teacher.



## Individual Information Blank

Junior High School, Rochester, N. Y.

**Hand Work Record** . . . Subject . . . . . Date . . . . .

Pupil's name . . . . . Section . . . . .

(Family name)

(Given name)

Estimate

- |   |  |
|---|--|
| 1. General ability in hand work . . . . .           |  |
| 2. Accuracy . . . . .                               |  |
| 3. Speed . . . . .                                  |  |
| 4. Ability . . Mechanical Drawing . . I. A. . . . . |  |
| Design—H. A. . . . .                                |  |
| 5. Art ability . . . . .                            |  |
| 6. Inventiveness . . . . .                          |  |
| 7. Interest in hand work . . . . .                  |  |
| 8. Any evidence of ability as leader . . . . .      |  |
| 9. Department recommended . . . . .                 |  |

(A—excellent; B—above average; C—average; D—below average;  
E—failure.

Teacher.

Remarks . . . . .

## Parents' Information Blank

\_\_\_\_\_ Junior High School

Rochester, New York

Please read explanations on the other side of this blank

.....192.....

### To Parents:

Each pupil who is promoted to the second year of the Junior High is expected to choose one of the following curriculums:

**Foreign Language:** In the Foreign Language curriculum the pupils take either French or Latin in addition to English, general mathematics, history, civics, and general science.

**Technical:** In the Technical curriculum the girls take approximately one period a day of homemaking and the boys take one period a day of shop work in addition to English, general mathematics, history, civics, and general science.

Upon completion of any one of the above curriculums a pupil may enter the senior high school and complete the work required for graduation in three years.

**Commercial:** In the Commercial curriculum the pupils take type-writing, first lessons in business, and bookkeeping, in addition to English, commercial mathematics, history, civics, and general science.

**Household-Industrial Arts:** The girls give one-half of the school day to homemaking courses. The remainder of the day is devoted to special basic courses in mathematics, design, English, history and civics, and general science. The boys give one-half of the school day to shop work. The remainder of the day is devoted to the special basic courses in mathematics, mechanical drawing, English, history and civics, and general science.

Pupils may elect this curriculum any time after they are fourteen years of age and have completed the 6th A grade. This curriculum

may be completed in two years, when a state vocational certificate is granted. A pupil taking this curriculum may receive a diploma from the school provided he has attended three years and has met the necessary requirements.

The correct choice of a curriculum means a saving of time and effort to the pupil, and parents are urged to give this matter their serious attention. Parents in doubt about the selection of curriculum for their children are invited to visit the school. If this is impossible, a school counselor will be glad to call and explain the various curriculums.

.....Principal.

I recommend the.....Curriculum, for.....  
(Name in full)

.....  
Home Room Teacher

I approve the.....Curriculum for.....

.....If you do not approve the curriculum suggested  
please indicate your choice on the line below.

.....  
Parent's Signature

## Parents' Information Blank (Reverse)

### Explanation of Terms

In French the aim of the course is to teach pupils to read easily and understand, without translation, simple French; also to broaden their outlook upon life by acquainting them with certain important facts about the history of France and of the French language and particularly with those events which have influenced our own history and the development of our own language.

Latin in the 8th and 9th years has two purposes; first to give pupils a course complete in itself in which especial emphasis is placed upon the Latin elements in English for the purpose of equipping pupils to use and understand the English language and to appreciate more fully the



### Parents' Information Blank, Continued

contributions of ancient civilization to our own; second, to furnish a solid foundation for the continued study of Latin in the senior high school.

General Science includes the study of common things all about us, such as rocks, soils, rivers, air, fire, water, heat, and light; stars and planets in their relation to our earth; trees, shrubs, flowers, birds, insect helpers and pests. This work also includes the study and discussion of the following topics: community sanitation including care of garbage and disposal of sewage; prevention and control of disease including personal and public hygiene; foods, food values, and food problems.

The General Mathematics course includes practical work in arithmetic, in geometry, in elementary algebra, and trigonometry. The work in these subjects as introduced into this course is based on the results of careful tests and experiments; and an attempt has been made to follow the lines of work suggested by the National Committee on Mathematical Requirements.

Commercial Arithmetic is outlined with special attention to the practice prevailing in business. It is intended to develop skill and accuracy in fundamental processes as well as ability to classify and understand data.

First Lessons in Business provides definite instruction in practice in business vocations, simple accounts, arithmetic, business forms, filing, ruling, hearing and executing orders. This work is intended to develop good business habits, and to create an interest in and lay the foundation for the bookkeeping of the 9th year.

Instruction in Shop Work, for boys, and Foods and Clothing, for girls, is required in all courses. In the foreign language and commercial courses the amount of time is two periods a week. In the technical courses the requirement is five periods a week; and in the industrial courses it is ten periods a week. The junior high schools are equipped to provide for the following work for boys: applied science, auto mechanics, cabinet making, drafting, electricity, pattern making, painting and decorating, printing, machine and sheet metal: for girls: foods, cooking, household science, clothing, dressmaking, millinery, and design.

## PUPILS' PARTICIPATION IN STUDENT GOVERNMENT

**The Home Room the Unit of Organization.** The school is organized into home room sections having teachers in charge who are the friends and counselors of the pupils. A 7th B home room group goes on practically intact through the 7th A; but the election of a curriculum at the end of the 7th A results in a splitting up of the group. As a rule the group has a different home room teacher each semester, rather than one teacher throughout the three years of the junior high school.

**Home Room Organization.** Early each semester there is an election of temporary officers who hold office for one month, during which time the pupils consider the fitness of these officers for their various positions. At the end of the month another election takes place when the temporary officers may be re-elected to serve the remainder of the semester, or more worthy ones selected. Each home room adopts a name and a motto and the members of the group strive to put into practice the ideas and ideals contained in the motto. Each home room has the following officers: president, vice-president, secretary, treasurer, two guides, and two deputies. There are the following committees: the lunch room committee, the park committee, locker room committee, milk period committee, and corridor committee.

**Sponsors of Officer Groups.** Teachers are selected by the principal to be sponsors for the groups of student officers. It is the duty of these sponsors to call their groups together from time to time, for the consideration of the regular and special duties which it is the business of these officers to perform, and to direct the groups in the consideration of matters of general school management. These student officers report back to their home rooms for discussion in class meetings such matters as may be of interest to the group concerned.

**The School Community.** The pupils of each junior high school are organized as a school community, having its president, vice-president,

secretary-treasurer, and such other officers as the needs of the school community seem to demand. This community—which is in reality a federation of home rooms having their own separate organizations—comes together as a whole for the purpose of hearing reports of and stimulating interest in projects of general importance. But it is in the home room organization of about thirty-five pupils that live discussion, under parliamentary rules, really crystallizes community opinion and lays the foundation for valuable civic training. As a rule the larger administrative policies of the school are not discussed; but equally vital topics of class spirit, individual and group co-operation, the care of buildings and grounds, the prevention of accidents, participation in community projects, the responsibilities of office-holding, the obligations of citizenship, and a score of others, occupy the pupils' attention and offer an outlet for adolescent initiative and resourcefulness.

The pupil who acts as school traffic officer or leads his class through a congested corridor, as well as every member of the class who submits to such direction, is learning a lesson in citizenship which will be of permanent value, and the pupil who escorts a visitor through the school, explaining to him its many and varied opportunities, is developing an attitude of mind which is bound to be a power in maintaining civic standards.

**The Assembly.** The assembly, while not always in charge of community officers, is always a community meeting. It is the great forum of the school in which vital contacts are made with the larger interests of civic, national, and international communities. It affords the one time in the life of the school when teachers and pupils stand shoulder to shoulder in facing responsibilities and interests that are common to all. Here, as in no other place, can the school find itself and come into a realization of its own importance and its own strength. Here the larger activities of the school are motivated and the great ideals of democracy stimulated and exemplified. In the main, assembly programs are furnished by the pupils themselves under the guidance of a member of the faculty. The material of the program usually is related to and intended to emphasize the larger interests of the school. Occasionally interesting speakers of prominence are invited to come in from outside to give messages of inspiration and help. The following copy of a program given in one of the junior high school assemblies is typical:



## Assembly Program

### Thanksgiving Day Program



- I. Opening Exercises
  - A. Star Spangled Banner
  - B. Salute to the Flag
- II. Announcements
- III. Greetings.....Hon. Clarence D. Van Zant,  
Mayor of the City of Rochester.
- IV. Talk, "Respect for Law" .....Judge William C. Kohlmetz
- V. Program.....Section C8A—1
  - A. The W. J. H. S. Thanksgiving Club.....Harold Kolko
  - B. Our Adopted Families.....Harriet Seils
  - C. Playlet, "Neighbors".....C8A—1
  - D. Dialogue.....C8A—1
- VI. Distribution of Thanksgiving Baskets.....  
Committees from Home Rooms
- VII. Thanksgiving Songs

**The Teaching Staff.** The junior high school teachers have for the most part been selected from the upper grades of the grammar schools. One year before Washington Junior High School was opened, a series of Saturday Morning Institutes was begun. Classes were organized in Latin, German, English, Elementary Science, and Mathematics. These institutes were for applicants for teaching positions in the Academic Course. Specially trained teachers were available for the Commercial, Household, and Industrial Arts Courses. Saturday Morning Institutes however, were organized and carried on through the year in these courses also, for the main purpose of outlining provisional courses of study.

Prior to the opening of the Jefferson Junior High School the University of Rochester offered courses in the organization, administration, and supervision of the junior high school, as well as courses dealing with the teaching of the various subjects. These courses were taken by those teachers who desired appointment as teachers in the Jefferson Junior High School. Upon the completion of the courses eligible lists were prepared and the teachers selected from these lists. The following factors were considered in securing the final rating; training, length of teaching experience, quality of service, personality, and rating in university extension courses.

For the Madison and Monroe Junior High Schools teachers were chosen from the upper grades of the city schools, from the high schools, and from outside the city, only those best qualified as to preparation, experience, and personality being selected.

**University Courses.** In the fall of 1919 the University of Rochester and the Department of Public Instruction co-operated in offering special courses to all teachers who desired to become familiar with the work of junior high schools and junior high school grades. These courses carried college credit and provided special instruction in methods in all the academic subjects taught in the grades. The response of the teachers was most gratifying. The majority of those teaching in the 7th and 8th grades availed themselves of the opportunity to get instruction in the best methods of presenting the particular subject in which they were interested. These courses proved extremely valuable in preparing teachers to do their work under the new type of organization. An ever increasing number of teachers are availing themselves of this privilege of taking extension courses, the cost of which has been shared by the Board of

Education. During the first semester of the year 1922-23, 439 teachers were enrolled in the various extension courses offered by the University of Rochester. In the second semester 312 teachers were enrolled.

**Increased Requirements for Teachers.** Success in the junior high school, like that in all other units of education, depends in large measure upon the teacher's personality, preparation, and skill. The selection of teachers, who understand the ideals and purposes of the junior high school movement and who are willing to devote themselves enthusiastically and wholeheartedly to the realization of these ideals, is an important consideration. Such teachers should be fully alive to the many possibilities of this most sensitive period in the pupil's development. They should have a strong personality, a supreme faith in boys and girls, and an optimism that will enable them to see hopeful possibilities.

These real teacher-leaders should be very human persons whose first consideration is for the boys and girls they are teaching. They should be companionable and able to work with pupils rather than for them, finding in this companionship a most potent means for directing thought, feeling and action. They should be well versed in modern methods and thoroughly familiar with the purpose of each curriculum and the particular aims of each course of study.

**General Requirements for Appointment.** No person shall be appointed to any teaching or supervisory position in the public schools of Rochester:

1. Who is not a citizen of the United States, or who has not made application for citizenship.
2. Who does not hold a license to teach in the State of New York.
3. Who has not filed with the Board of Examiners a health certificate signed by a duly licensed physician, certifying that the applicant has no physical defect or condition of health that will prevent the rendering of satisfactory service in the position concerned.
4. Whose name has not been placed upon the eligible list after all requirements of the Board of Examiners have been met.



**Additional Requirements for Appointment to Junior High School Positions:**

1. No person assigned to junior high school work after October 1, 1921, shall be eligible to appointment as a teacher of academic subjects who does not qualify under one of the two following sets of requirements:
  - a. For those who are not college graduates:
    - (1) The completion of a four year high school course and in addition thereto the completion of an approved normal school course of study of at least two years in length.
    - (2) At least three years of successful teaching experience.
    - (3) Thirty hours of college credit earned since graduation from normal school. Such part of this credit shall be definitely related to the teacher's work in the junior high schools of Rochester as the Superintendent of Schools may direct. Not more than five years after assignment to a junior high school position shall be allowed for the meeting of this requirement.
  - b. For those who are college graduates.
    - (1) Graduation from an approved college.
    - (2) At least two years of successful teaching experience.
    - (3) Not more than ten hours of college credit earned after assignment to the junior high school and definitely related to the teacher's problems in the junior high schools of Rochester. The amount and character of this advanced training shall be determined by the Superintendent of Schools in the light of the teacher's former experience and professional training. Not more than three years shall be allowed for meeting this requirement.
2. For teachers of other than academic subjects the minimum qualifications for appointment shall be the requirements of the New York State Department of Education for a permanent license to teach in the department concerned.

### Salary Schedule for Junior and Senior High School Teachers.

1. The annual salary rate shall be not less than \$1600.00.
2. The annual salary increment for class room teachers shall not be less than \$100.00 and the number of such increments not less than eight, provided that no increment shall advance any teacher beyond the normal maximum salary set for the position except by special action of the Board of Education.
3. The normal maximum salary of class room teachers shall be \$2400.00 and the upper maximum \$2800.00.
4. Teachers who are selected for these schools from regular grade positions in the Rochester schools, shall receive an initial salary of at least \$100.00 in excess of what they would otherwise receive.
5. The minimum salary of vice-principals, heads of departments or shops, advisers for girls, and others selected for special responsibility, shall be not less than the normal maximum salary set for class room teachers, the annual salary increment shall be not less than \$100.00 and the number of such increments, not less than eight.\*

---

## ADMINISTRATION

### School Officers and Committees

---

**Principal.** The principal is responsible to the Superintendent of Schools for the administration of his school, although he deals directly with the assistant superintendents, the superintendent of buildings, the secretary of the Board of Education, and the examiner of accounts concerning matters relating to their respective departments. Within the schools the various details of administration, such as schedules, programs, absence, discipline, etc., are handled by the principal, and his assistants.

**Secretary.** In general, the school secretary receives all moneys and keeps a record of all receipts and disbursements. She orders and

---

\*Note—The conditions vary so widely under which those are engaged who are selected for special responsibility in these schools, as to make impracticable a more specific schedule. In general, however, it is expected that the maximum for these positions, except that of vice-principal, will range from \$2,900.00 to \$3,600.00.

distributes all school supplies and is largely responsible for the preparation of the schedule.

**Stenographer.** The stenographer records the absences of teachers, the services of supply teachers, has charge of the salary blanks and the monthly, term, and yearly reports for the city, state, and federal governments. She issues school record certificates, applications for newsboy badges and does such stenographic work as may be required.

**Girls' Adviser.** The housing under one roof of upwards of two thousand boys and girls, ranging in age from twelve to eighteen years, presents many serious problems calling for the tactful, intelligent, and sympathetic efforts of a girls' adviser. The girls' adviser is concerned with everything that affects the mental, moral, and physical welfare of the girls. She is in close touch with the homes into which her work constantly takes her. Her duties may be outlined as follows:

1. Supervision of physical welfare—in co-operation with school nurse.
  - (a) Cleanliness.
  - (b) Personal hygiene.
  - (c) Medical attention.
2. Social Guidance.
  - (a) Personal friendships.
  - (b) Social activities in and out of school.
  - (c) Social courtesy.
  - (d) Proper dress.
3. Moral Guidance
  - (a) Corrective—Special discipline cases.
  - (b) Preventive—The establishment of ideals through group work, senior corps, and individual conferences.
4. Follow-up Work—Through the Big Sister and other organizations.

**Librarian.** The value of the library to a community cannot easily be measured. The use of books is one of the most profitable ways in which to spend leisure time. To develop a love for books and to give instruction in their right use are among the chief duties of the school today. If these duties are to be rightly performed a well equipped library in charge



of a thoroughly trained librarian would be the ideal for every school. The cost of doing this for each grammar school, however, is prohibitive; but the junior high school, housing as it does all the 7th, 8th and 9th grades of a large section of the city, makes it possible to provide in this central school both library and librarian at a small per capita cost.

The librarian endeavors to have the library used to its maximum capacity, helping teachers and pupils find required material for class assignments, preparing reading lists, teaching the use of the library, and stimulating the reading habit by suggesting recreational and inspirational books.

**Physician and Nurse.** All medical inspection in the schools is under the direction of the Health Bureau of the city. Physicians are assigned by the Bureau to the schools for definitely scheduled visits and for the annual inspection of all pupils. A school nurse is assigned to the school for full time work. Teachers refer to her all cases requiring examination or investigation. Cases needing medical treatment are referred to the proper authorities and are followed up to see that the necessary treatment is secured. The nurse assists in the yearly health inspection of all pupils and makes frequent calls at their homes.

**Number of Teaching Periods and Size of Classes.** The standard teacher assignment is twenty-five periods a week. This does not necessarily mean twenty-five recitations, since home room, auditorium, clubs, etc., make their demand and are accredited accordingly. In shop and similar activities the number of periods per week may be as high as thirty. The average class size is twenty-nine, based upon the number belonging. The shop classes and homemaking classes average seventeen each. Further data with reference to the average number of pupils per teacher will be found on page 188.

**Faculty Meetings.** A meeting of the teachers is held each week. A general discussion of all matters is encouraged to the end that teachers may feel that they have some real part in the administration of the school. Participation on the part of the teachers in all the activities of the school has brought about an esprit de corps that could have been obtained in no other way. The truly democratic spirit that has pervaded the whole organization has set the entire teaching force hard at work helping to solve school problems and backing school policies. Teamwork of the highest order has provided a means of working together for the realization of the highest ideals.

## THE JUNIOR HIGH SCHOOLS

The following program will indicate the general nature of faculty meetings apart from matters of administrative detail.

|         |   |          |   |
|---------|---|----------|---|
| Oct. 5  | General Survey of Supervised Study  | Feb. 15  | The Adolescent Mind<br>(a) Instinct and Habit<br>(b) The Will   |
| Oct. 19 | Supervised Study in Relation to History                                   | March 1  | Pedagogical Aspect of Adolescence<br>1. What the Junior High School Can Do and is Doing<br>(a) The Need<br>(b) The Application (Pedagogy) |
| Oct. 26 | Supervised Study in English   | March 8  | Value of Teachers' Self Rating<br>Use of Courtis Test   |
| Nov. 2  | Supervised Study in Mathematics   | March 15 | Present Method of Measuring Work  |
| Nov. 9  | School Aspects of Vocational Guidance                                     | March 22 | Projects in Household Arts  |
| Nov. 16 | The Chart and Vocational Guidance   | April 12 | The Project Method of Teaching  |
| Nov. 23 | J. H. S. Course of Study in Vocational Guidance<br>The Child and the Book | April 19 | Value of Projects in Their Application to History   |
| Dec. 7  | The Junior High School Teacher  | April 26 | Value of Projects in Teaching Mathematics   |
| Jan. 4  | Some Reasons for a Practical Arts Course in Junior High School            | May 3    | The Aim in Junior High Science  |
| Jan. 11 | Relation of Practical Arts to Industry                                    | May 10   | A Bird Lesson in Junior High Science  |
| Jan. 18 | Domestic Art, Its Place in Home and Society                               | May 17   | The Experiment in Junior High Science   |
| Jan. 25 | Domestic Science, Its Place in the Home and Society                       | May 24   | General Science from the Health Standpoint  |
| Feb. 1  | Adolescence: Physiological-Biological View Point                          | May 31   | Project Method in Junior High School Science  |
| Feb. 8  | Adolescence; Emotional Aspect<br>(a) Social Side<br>(b) Religious Side    |          |   |

In addition to attending the general faculty meetings the shop men meet every two weeks with the Supervisor of Practical Arts. The following program illustrates the professional study attempted by the shop teachers of one school.

|  |  |
|--|--|
| Nov. 1 Discipline  | Feb. 21 Lesson Plans and Job Sheets; are They Good Teaching Tools? |
| Nov. 15 Know Your School   | Mar. 7 Shop Atmosphere, Does It Help?                              |
| Nov. 29 The Instructor, His Duty to the Pupil                                    | Mar. 21 The Library as an Aid to Instruction                       |
| Dec. 13 The Instructor, His Duty to Himself                                      | April 4 How to Plan Visits to Industrial Plants                    |
| Jan. 10 The Note-book as an Aid to Instruction                                   | April 18 The Try-out Course, Its Objective and Plan                |
| Jan. 24 The Pupil's Record as Determined by Some Definite Standard of Efficiency | May 2 The Tool Crib  |
| Feb. 7 Job Analysis, as a Basis for Better Vocational Training                   | May 16 The Shops from the Viewpoint of the Principal               |
|  | May 16 Helpful Suggestion for Next Year                            |

**Committee of Junior and Senior High School Teachers.** Three teachers from the junior high school with three from the senior high school, to which that junior high school contributes, form a committee whose aim is to facilitate the transition of pupils from junior to senior high school. The members of the senior high school committee visit the junior high schools and see their future pupils at work. The members of the junior high school committee visit the senior high schools and see what their former pupils are doing. When the committee as a whole meets, the results of these visits are discussed. The senior high schools give personal attention to junior high school pupils promoted on trial and to other pupils in need of special attention.

**The Noon Hour.** Washington Junior has a lunch period of sixty-five minutes with several hundred pupils remaining for lunch. Madison Junior has a lunch period of the same length with over six hundred remaining for lunch. One half of this number goes to the gymnasium while the other half is in the lunch room. Jefferson Junior has experimented with lunch periods of ninety, sixty-five, forty-five, and forty minutes. At present three lunch periods of thirty minutes each are provided, about one-third of the pupils being at lunch while two-thirds are in their classrooms. Each school is provided with a lunch room where pupils may eat the lunch they bring from home, or may secure from the cafeteria for from fifteen to twenty-five cents a hot, nourishing lunch. After lunch the pupils are urged to go out of doors for a few minutes of exercise in the open air before the afternoon session. At Washington and Jefferson pupils may go to a supervised playground. Jefferson in addition, offers two supervised playrooms and the athletic field, where instructors direct play and supervise conduct.



### Special School Activities

**Dramatics.** Dramatics call for and tend to develop mental alertness, versatility and poise in a way that is not demanded by any other part of the curriculum. The work of the English course of study is distributed among the teachers in such a way that certain topics such as vocabulary building, dictionary work, and oral composition are in charge of one teacher who also teaches dramatics as part of her English work. This is called the course in Special English and Dramatics. The teacher of this branch is relieved of responsibility for such topics as formal grammar, written composition, literature, and spelling, in order that stress may be laid upon oral English. In her regular classes the dramatics teacher selects and prepares pupils to take part in auditorium programs which consist of tableaux, playlets, and pageants. She plans and directs the dramatic activities which are held outside of school hours, such as senior plays, school pageants, and programs for community gatherings. She is responsible for rehearsals after school hours, and she has charge of scenery, properties, costuming, etc., for the various productions.



Vocal Music

**Vocal Music.** Vocal music is conducted so as to give the pupils all the advantages of the traditional type of work, and in addition a more intensive work is possible in glee clubs and in special mixed choruses because of the large number from which those with musical talent can be selected. All students have vocal music from thirty to ninety minutes each week. Those having three thirty minute periods devote one of these periods to the study of music appreciation. Special groups that meet twice each week outside of regular hours include Boys' Glee Clubs, Girls' Glee Clubs and mixed chorus.

**The Boys' Glee Clubs.** These clubs are organized in each junior high school to give boys who have unusual vocal talent an opportunity to sing together in four parts, the unchanged voices taking the two upper parts and the changed voices the two lower parts. These clubs furnish music for school assemblies and for other community gatherings. Meetings are held twice a week, once during the noon hour and once after school.

**Girls' Glee Club.** The Girls' Glee Club consists of girls from any class in the school who have good voices and are able to read simple music. Meetings are held twice a week—once during the noon hour and once after school.



Orchestra

**Orchestra.** Orchestras, both senior and junior, are open to boys and girls of all grades. The instruments include violins, violas, cellos, double basses, flutes, oboes, clarinets, bassoons, coronets, trombones, French horns, tuba, drums and tympani. These instruments with the exception of violins are loaned to the children through the generosity of Mr. George Eastman, with no expense except a bonding fee. The children are divided into two groups forming beginning and advanced orchestras. Rehearsals are held twice a week, once during club period and once after school.



**Band.** The band is made up of boys from all grades. Their uniforms are the gift of Mr. William P. Barrows in memory of his father Mr. Howard A. Barrows who for several years was a member of the Board of Education. Complete instrumentation is used as follows: clarinets, flutes, oboes, saxophones, bassoons, cornets, horns, mellophones, trombones, baritones, tubas, drums and tympani. These instruments are furnished through the liberal provision of Mr. Eastman. A few boys own their instruments. Rehearsals are held twice a week, once during club time and once after school. Lessons are given free to all instrumental students on Saturdays at the Monroe Junior High School. Three years of instrumental training provides excellent preparation for the senior high school bands and orchestras or professional organizations after leaving school.



Instruction in instrumental music is given in the junior high schools by three instrumental teachers on full time and seventeen players from the Philharmonic Orchestra on part time. Instruction is given a few hours each week, (including five hours on Saturday). Auxiliary organizations in each school include string quartets, little symphony orchestras, brass ensembles and reed ensembles. Most of these auxiliary organizations rehearse outside of regular school hours. Piano instruction in classes is offered in all the junior high schools.

The following tabulation represents the number of pupils taking advantage of instrumental music instruction in the junior high schools:

|                    | Washington | Jefferson | Madison | Monroe |
|--------------------|------------|-----------|---------|--------|
| Senior Orchestra   | 45         | 30        | 35      | 68     |
| Junior Orchestra   | 50         | 25        | 79      |        |
| Band               | 44         | 41        | 51      | 94     |
| Band Club          | 40         | 37        |         |        |
| Orchestra Club     | 51         | 26        |         | 68     |
| Violin Classes     | 8          | 20        |         |        |
| Symphony Orchestra | 27         |           |         |        |
| Stringed Orchestra | 20         |           |         |        |



Radio Club

**Clubs.** One of the seven main objectives recognized by the Commission on the Re-organization of Secondary Education in its report issued in 1918, is the worthy use of leisure. For meeting this objective the junior high school provides one sixty minute period of leisure per week and requires that each pupil use this period in some worthy manner. The time taken for this is assigned usually to the third period of Wednesday, thus providing a pleasant break in the routine schedule and giving a breathing spell, or relaxation period, where most needed.

This leisure period is the club period, when practically the whole school is doing what it wants to do. The boy who is fond of radio meets with a group of other boys with whom radio is a hobby. The girl who is fond of doing embroidery work meets with others similarly inclined. When there are more pupils demanding a club than can be accommodated in one group, other clubs of the same kind are formed. Friends, or boon companions, who have been separated by the administrative grouping of the school may come together for an hour on the ground of a common interest.



First Aid Club

The club work is in charge of a committee of the faculty. At the beginning of the semester cards are distributed to the pupils, who, after the different clubs have been described to them by the home room teacher, indicate their first, second and third choice of clubs. The committee then determines the clubs that will be formed. Teachers selected as

leaders for the various clubs are chosen because of their particular interest in the line represented by the club activity. Thus the clubs represent the teachers' as well as the pupils' interests. The following are some of the clubs that have been formed:

|                          |                      |                      |                      |
|--------------------------|----------------------|----------------------|----------------------|
| Aeroplane                | Electrical           | Local History        | Santa Claus          |
| Art Needle               | Embroidery           | Laundry              | Senior Corps (Boys)  |
| Astronomy                | First Aid            | Life                 | Senior Corps (Girls) |
| Athletic Club (Boys)     | Folk Song and        | Metal                | Science              |
| Athletic Club (Girls)    | Dance                | Military             | Scrap Book           |
| Band                     | French               | Millinery            | Scoutcraft           |
| Basketry                 | Gift                 | Mythology            | Short Story          |
| Bird                     | Glee                 | Musical Appreciation | Screen               |
| Book                     | Handicraft           | Needle Craft         | Shorthand            |
| Book Lovers              | Hiking (Girls)       | New Invention        | Sketching            |
| Boy Scouts               | How it is Made       | Newspaper            | Social (Boys)        |
| Camera                   | Illustrators         | Operetta             | Spanish              |
| Camp Cookery             | Indoor Games         | Orchestra            | Story Telling        |
| Camp Craft Club          | Ingenuity            | Paper Weaving        | Study Club           |
| Campfire Girls           | Kipling              | Pencil Drawing       | Success Club         |
| Capital Club             | Kite                 | Pen Lettering        | Swimming             |
| Cartooning               | Knitting             | Penmanship           | Tatting              |
| Chemistry                | Know Your City       | Proficiency          | Tennis               |
| Crafts                   | Know Your Industries | Piano                | Travel               |
| Crocheting               | Landscape            | Pottery              | Up-To-Date           |
| Debating                 | Gardening            | Poultry              | Violin (Advanced)    |
| Dancing (Girls)          | Lend a Hand          | Public Speaking      | Violin (Beginners)   |
| Dickens                  | (Christmas Club)     | Radio                | Watch Your Speech    |
| Dramatics                | Linoleum Engraving   | Rag Rug              | Wild Animal          |
| Drawing and Illustration |                      | Reporters            | Wild Flower          |
|                          |                      |                      | Willing Workers      |

**Campaigns.** Campaigns or drives such as health, cleanliness, safety, thrift and courtesy are carried on as a part of the work done in the school activities period. Many helpful hints and suggestions are gleaned from the management of the drives and campaigns of the larger community outside of the school. Teams are chosen, slogans adopted, banners are displayed, speeches are made, and enthusiasm runs high. Here again the general school assembly makes possible the creation of



community sentiment which develops and ripens into a splendid expression of civic idealism.

**The School Paper.** One of the greatest factors for developing school spirit and enthusiasm in the junior high school is the school paper. It is a project in which the whole school becomes interested. Through its columns each department may find expression and inform the other departments of its aims and results. The English Department especially may profit by the school paper. The pupils are spurred on to greater effort in written composition if they know their writings may appear in the paper. The training which the editors, reporters, and business managers receive is valuable preparation for work on the high school or college paper. Occasionally latent journalistic talent is brought to light through the experience on the staff of the paper. The art classes design covers for the paper; the English Department furnishes its copy; the commercial department manages the subscription campaigns; the printing department does the printing. Thus an opportunity is afforded for genuine, motivated co-operation throughout the school. THE PATHFINDER of the Washington Junior High School is issued eight times a year, while THE JEFFERSONIAN of Jefferson Junior High School appears only at Thanksgiving, January, Easter, and June. Three faculty representatives, two from the English Department and one from the printing department, counsel with the pupils regarding the details of the paper. The first number of THE MADIGRAPH will appear in January, 1924. Plans are under way for a school paper at the Monroe Junior High School.

---

### Directed Study

One of the aims of the junior high school is to give specific training in the ability to study independently. To achieve this aim, directed study has been introduced. This term is used in preference to supervised study because it tends to emphasize the position of the teacher as the leader and director of the work rather than as the overseer. It stresses the idea that the teacher plays a vital part in the study process by directing rather than by acting as a mere on-looker.

The introduction of directed study has been made possible by reason of the longer junior high school day. This plan aims to do away with, or at least to reduce very materially, the home study

usually demanded in the 7th and 8th grades, to which there are many serious objections. Conscientious pupils have often been over-worked, careless or thoughtless pupils have handed in the work of others as their own, and parents have frequently given aid to their children, even to the point of doing the work for them. For these and other reasons it is generally conceded that in the case of pupils of junior high school age the school offers the most suitable environment for study.

Various plans have been devised for directed study. The one followed in Rochester provides for a sixty minute period divided into two parts, an oral and a silent period. The oral period includes the review of previous work and the discussion of the new material with instruction in how to study. The second division is the silent study period during which the work is prepared under the active direction of the teacher. This is not a rest period for the teacher. She works at her desk with the slower pupils, or moves quietly about the room giving special help, the need for which arises only after the pupil has applied himself to the preparation of the assignment. Obstacles which doubtless would seem to the pupil insurmountable, if studying at home alone, or surrounded by members of the family, are often removed by a word from the teacher. The teacher is careful to give only such help as is needed and only when it is needed. She must know her pupils and deal with each as his individuality requires. In the 9th grade one hour of home work each week is required in each of the major subjects, thus requiring in this way practically one hour a day of home study. The pupil must not get the idea that all study is to be confined to the school. The love of study, which the school should develop and foster, should carry over to the home and lead the pupil to desire to do something over and above what he can do in the school, no matter what ideal conditions for study may be provided. Furthermore, in its aim to bridge the gap between the elementary school and the high school, the junior high must take into consideration the fact that the senior high school necessarily requires much study to be done at home and that in college all study must be done outside the class. In fairness to the pupil he should not be asked to enter the senior high school a total stranger to tasks which must be performed independently of the teacher and the school.

To assist the teachers in the work of directed study, blanks have been provided for lesson plans in the various subjects. The following lesson plan in mathematics will be sufficient to suggest the use made of these blanks by junior high school teachers.

# Lesson Plan—Mathematics

Arithmetic—Algebra—Geometry

| DATE _____           |   | GRADE _____ | PERIOD _____ |
|----------------------|---|-------------|--------------|
| PROCEDURE            |   | CONTENT     |              |
| <b>Drill Period</b>  |   |             |              |
| <b>TIME</b>          |   |             |              |
|                      | <b>REVIEW</b>   |             |              |
| <b>ORAL PERIOD</b>   | <b>Development<br/>New Problem</b>                          |             |              |
|                      | <b>Assignment<br/>(Directions<br/>for<br/>Silent Study)</b> |             |              |
|                      |   |             |              |
| <b>TIME</b>          |   |             |              |
|                      | <b>General<br/>Assignment</b>                               |             |              |
| <b>SILENT PERIOD</b> |   |             |              |
|                      | <b>Extra<br/>Assignment</b>                                 |             |              |
| <b>REMARKS</b>       |   |             |              |



## Lesson Plan

### I. Value

1. Leads to careful organization of the day's lesson.
  - a. Preparation
  - b. Evaluation.
2. Helps the teacher to apply psychological principles.
3. Insures clear objectives for each lesson.
4. Results in the most efficient use of time.

### II. General Directions

1. Plan the work **daily** so that the plan may express your thinking with reference to the **next** lesson.
2. Make out each plan sheet so that it will be of the greatest value to you.
  - a. Use pencil if desired.
  - b. Write only necessary details.
3. Preserve your lesson plans.
  - a. For purposes of review.
  - b. For record of accomplishment.
  - c. For comparisons from term to term.

### III. Procedure in a Complete Lesson

1. Oral period (Indicate time allotted)
  - a. Review—The following are **types** of review work:
    - (1) Socialized discussion—reviewing work of preceding silent period.
    - (2) Drill necessary for fixing ideas.
    - (3) Oral and written tests.
    - (4) Recall and re-organization of ideas related to the new topic.
  - b. Development—The following are steps in the development of a new lesson.
    - (1) Recognition of the new problems following review of type 4.
    - (2) Explanation and illustration.
    - (3) Conclusion and application.
  - c. Assignment
    - (1) See that pupils have all required material.
    - (2) Give necessary "how to study" directions.
    - (3) State clearly and concisely the exact requirements of the assignment.

2. Silent Period (Indicate time allotted)

- a. General assignment— The general assignment includes the work that all pupils are expected to accomplish.
- b. Extra assignment— The extra assignment should be provided for pupils who can accomplish more than the average work assigned to the class.

N. B. Special assignments to individual pupils may be indicated on the plan by giving name of pupil and topic assigned.

**The Socialized Recitation.** Dr. John Greer Hibben, President of Princeton University says, "The recitation belongs to an age when books were few and schools were established to impart knowledge and to test the learner's absorption of facts. To recite is to cite once more, to tell again, to repeat. The present age has little use for this process. It wants men and women who think, not who repeat what they have learned. Exercise in thinking is not gained from recitations as they are conducted in schools. A teacher prepares a lesson for the purpose of teaching it. This is not what is needed at all. It is a person to stimulate, inspire, and direct the thought processes of children. The children have instinctive tendencies to inquire, to compare, to judge, to express. These processes make thinking."

Under this type of recitation far more exact and accurate preparation is required of the teacher. He must be able to stimulate the interest of the pupils, inspire them to do their best work, and direct their thought processes along the most profitable lines. Teaching which stimulates thought, feeling, and action is increasingly replacing in the recitation mere mechanical instruction and reproduction. The character of the work done in any school system is bound to be largely determined by the methods employed in study and recitation periods.

Student participation, therefore, forms an important part of the work of every class in the junior high schools. The pupils have a vital part in the recitation, and an effort is made to develop initiative and independence that will carry over into the life and work of these pupils after they leave school. Boys and girls are encouraged to think and to put their thoughts into words; they revise their conclusions in the light of class discussions; they learn to respect the opinions of others and to offer criticism kindly

and accept it graciously. Such a recitation calls forth the best efforts of the most resourceful instructor and develops the individuality of every pupil. It tends to train citizens who will be governed by deliberation, and thoughtful consideration in the solution of problems, rather than by mere impulse and personal prejudice.

**Guidance.** The establishment of class room work in guidance in the junior high school grades aims to do several things:

First, to safeguard the choice of a curriculum in the 7th grade. It may be questioned, whether pupils of this age are able to choose intelligently among the various courses. The purpose of the work in the 7th grade is to build a general background of occupational information, so that the pupil may be aroused to think about his future, but with an understanding of the value of an education and the need for training. A fair discussion of each course with its educational and vocational outlets gives the pupil a foundation on which to base his decision; but the continuance of guidance work in the 8th and 9th grades helps to foster the feeling that the choice of a curriculum is not necessarily final and that a cross-over may be effected without great difficulty.

Second, to study a number of occupations somewhat in detail so that pupils may have reliable information concerning them, including such points as the nature of the work, the qualifications required, the opportunities for advancement, the training necessary and schools where such training may be secured, as well as any disadvantages connected with the vocation.

Third, to help the pupil who is going on to higher institutions of learning to plan his high school course wisely by a study of the entrance requirements of typical schools; and to help the pupil who is going out into industry by simple lessons in economics and a discussion of the problems which he will meet in finding and keeping his job later on.

Fourth, to develop through the study of the lives of great men and women an appreciation of those qualities of success which contribute toward the attainment of a happy and serviceable life.

The time allowed for guidance is indicated below, more being given in the 7th A grade and the 9th grades than in the 8th, because of the



problems of planning for the future that are considered in the 7th and 9th grades.

For 7th B classes . . . . . one half-hour period a week.

“ 7th A “ . . . . . two half-hour periods a week

“ 8th B and A classes . . . one half-hour period a week.

“ 9th B and A classes . . . two half-hour periods a week.

**Promotion by Subject.** It is neither fair to the pupil nor defensible from the standpoint of costs to require a pupil, who has failed in one or two subjects, to repeat the work in those subjects in which he has done satisfactory work.

The junior high school allows a pupil who has failed in one or two of the major subjects to go on with the work of the advanced grade in all subjects except the one or two in which he has failed. This work is taken in the lower grade, or in a study coach class, where opportunity is given him to make up the work in which he has failed, and at the same time to keep up in the advanced work with the grade he has left, so that he may go on with it at the close of the semester, or possibly before the close.

The organization is such that pupils failing in three of the major subjects must repeat the work of the whole grade. As a rule, however, a pupil who fails in two subjects has done such poor work in all the classes that the repetition of all the work would be of profit to him. The senior high school makes special provision for such pupils as are promoted on trial and have not been able, by the close of the 9th A, to catch up with their grade in any particular subject.

**The Study Coach Classes.** The study coach classes are made up of those pupils who have failed of promotion in one or two major subjects, or whose work the term before merited only a “trial promotion.” They are excused while in the study coach class from subjects commonly regarded as “Special,” and are given the extra time thus provided for instruction in the subject in which they are weak.

It is expected that the teacher who is assigned to the duty of “study coach” in any department will be the strongest in that department, and will be chosen because of special fitness in experience and skill, and especially because that teacher is endowed with intelligent sympathy for

the pupil who finds that particular study difficult. In order that the study coach teacher may keep in touch with the work for which the retarded pupils are preparing, this teacher is expected to take not only the study coach class, but also a regular class one grade in advance of the study coach group.

Pupils showing a weakness in a subject may be transferred to the study coach class at any time and thus avoid non-promotion at the close of the term. That no serious stigma attaches to the study coach group is seen in the fact that frequently pupils who realize that their work is unsatisfactory voluntarily ask to be allowed to go into the study class. The sympathy of the teacher and the satisfaction that comes to pupils as they realize that they can do something with a subject that has hitherto been too difficult for them, makes them feel that the study coach class is a real blessing; while the natural desire to return to association with their fellows leads them to work to the utmost to be transferred from the study coach class. The ability to study, which some of the pupils learn for the first time in the study coach class, often leads them to remain in school and complete the course.

The study coach department of Washington Junior High School includes within its organization three types of classes: (1) classes for trial promotions and slow mentality groups from contributing schools; (2) classes for complete failures (7th grade); (3) classes for subject failures (7th, 8th and 9th grades.)

As fast as study coach pupils manifest their ability to resume the work of regular classes they are transferred from the study coach department, and their places in the organization are filled by pupils from the regular sections who are beginning to show failure tendencies. The student personnel of study coach classes is thus a changing one, and the work of the department is preventive as well as remedial.

In general, it may be said that from sixty to seventy per cent of the pupils attending study coach classes catch up with their work.

**Table 1**  
**Study Coach Report—January to June 1922**  
**Washington Junior High School**

| (1) Trial Promotion<br>and Slow Men-<br>tality Group | (2) Complete<br>Failure<br>Group | (3) Subject<br>Failure<br>Group | Total |
|--|----------------------------------|---------------------------------|-------|
| No. of entrants                                      | 84                               | 27                              | 126   |
| No. of losses  | 10                               | 5                               | 7     |
|  | 74                               | 22                              | 119   |
| Actual promo-<br>tions                               | 45                               | 15                              | 87    |
| Per cent Pro-<br>moted                               | 60.8%                            | 68.1%                           | 73.1% |
|  |                                  |                                 | 68.3% |

Total number in school January to June 1922 ..... 1584  
 Study Coach accommodated 237, or 15 per cent of entire school enrollment.

**Saving of Time for Repeating Pupils and  
Expense of Instruction**

|   | Hours of Repetition<br>saved per day |   | Days in<br>Term | Repetition<br>Saved |
|---|--------------------------------------|---|-----------------|---------------------|
| (1) Complete failures pre-<br>vented          | 45                                   | 6 | 102             | 27,540              |
| (2) Complete failures<br>made up              | 15                                   | 6 | 102             | 9,180               |
| (3) Subject failures made<br>up and prevented | 119                                  | 1 | 102             | 12,138              |
| Total hours                                   |                                      |   |                 | 48,858              |

Pupil cost per hour of instruction . . . \$.106

Saving in cost of instruction in one semester . . . . \$5,178.94



The study coach department at Jefferson Junior High offers to pupils of the 7th A, 8th B and A grades the opportunity of making up work in one or two subjects which they failed the previous term. No pupils are given the privilege of study coach work who have failed three major subjects.

The shops and the make-up classes are paralleled in such a way that as soon as the pupil shows that he has completed the make-up work, he returns to all classes and shops. He remains, however, in the same home room. Thus the teacher who does the study coach work instructs the same pupil in advanced work. This is of value, as the pupil does not lose his advance work while doing the make-up work, because the same teacher does both types of work.

**Table 2**  
**Study Coach Report—January, 1922 to June, 1922**  
**Jefferson Junior High School**

|   | 7th A | 8th B | 8th A | Total |
|---|-------|-------|-------|-------|
| Number of entrants                              | 39    | 36    | 30    | 105   |
| Losses and transfers                            | 7     | 7     | 3     | 17    |
|   | —     | —     | —     | —     |
|   | 32    | 29    | 27    | 88    |
| Promotions—trial and full—<br>at close of term. | 25    | 28    | 18    | 68    |
| Percentage of Promotion                         | 78.2% | 96.6% | 66.7% | 77.3% |

105 pupils were accommodated by the study coach organization or 8.3 per cent of the average number enrolled in the school for the term.

**Acceleration.** There will probably never be found any one hundred per cent solution to the problem of keeping each pupil moving along at the rate best adapted to his mentality, and to his nervous and physical make-up. The administrator must avoid the danger of keeping the pupil at tasks so easy for him that he will lose interest or develop slovenly habits of work. He must, at the same time, avoid the equally serious danger of moving a bright pupil along so fast as to prevent a thorough grounding in those subjects which are essential to good work later on.

The middle ground is just what the junior high school endeavors to find. The study coach organization aims to help the slow, apt-to-fail pupils, and to help any who have failed to regain lost ground.

But the bright pupils are the ones who, for the most part, have been neglected by our schools. There has been no provision for moving them faster than the pupils of average intelligence can go. It has been found possible, however, with the plan of grouping the pupils according to ability, to give the pupils in the first ability group the work of two terms in one. Pupils in this ability group can, as a rule, do as satisfactory work in the 8th grade as the pupils who have taken two terms for the 7th grade work.

Another plan of acceleration that has been successfully tried is that of taking a group of bright 7th B pupils in June and giving them sufficient 7th A work during a session of the summer school to warrant their promotion to the 8th B in September. Still a third plan is that of forming a study coach group of bright pupils and taking them over the work of two grades during the semester.

---

## SUPERVISION

### From Without the School

As was stated in an earlier section of this report the general policy pertaining to programs, curriculums and courses of study are formulated by the Junior High School Council and approved by the Board of Education. This council consists of the persons whose duties are described below.

**Superintendent.** The Superintendent of Schools exercises general supervision over all schools.

**Assistant Superintendent.** The Assistant Superintendent in charge of Industrial work in the schools exercises a general supervision of the shops, domestic art, and domestic science classes in the several junior high schools. The supervisors of drawing, domestic art, and domestic science assist him in this work.

**Director of Junior High School Grades.** The Director of Junior High School Grades has supervisory responsibility for all academic work in all the junior high schools. He counsels with the principal concerning the work of all the teachers and advises with reference to the selection of new teachers. By frequent, definitely scheduled visits and by institutes and conferences he aims to improve the instruction in all the junior high grades.

**Director of Business Education.** The Director of Business Education, who is the directing head of all the commercial work in the system, has general responsibility for the commercial programs in the junior high schools. He makes the recommendation for commercial teachers, supervises the instruction, plans the courses of study, recommends suitable text books and attends to all the special commercial equipment.

**Supervision of Ancient and Modern Languages.** The Head of the Department of Ancient Languages in the East High School and the Head of the Department of Modern Languages in the Senior High Schools exercise an oversight over the work of Latin and French respectively. They formulate plans whereby the content and method of teaching these subjects are adapted to the pupils of junior high school age and ability. These heads of departments in the senior high schools teach certain classes in French and Latin in one of the junior high schools.

**Supervision of Mathematics.** The Head of the Department of Mathematics in the East High School also supervises this work in the junior high schools. He teaches classes in one of the junior high schools and holds frequent conferences with the junior high school teachers. The method and content are thus adapted to the needs of junior high school pupils and the transition from junior to senior high school is thereby greatly facilitated.

**Supervision of General Science.** The Head of the Department of Science in West High School supervises the general science work in the junior high schools. Special courses of study for the 7th, 8th and 9th grades have been worked out by him, and through frequent conferences with the junior high science teachers, the method and content of the work are adapted to the needs of the pupils. The fact that a director teaches classes in both junior and senior high schools helps materially in bringing these two units of school organization closer together.

The Directors of Art, Health Education, Music, and Penmanship are all in touch with the instruction in the junior high schools, counseling with the special teachers as to method and content of the courses,



arranging special meetings for instruction, and providing for individual conferences at the director's office.

These several directors and supervisors work with the director of junior high school grades as consulting specialists in their different fields, in the endeavor to provide courses and methods adapted to the pupils of junior high school age.

## SUPERVISION

### From Within the School

**Principal.** The principal is charged with supervisory responsibility within his school. It is his duty to see that the various policies that have been decided upon for the junior high schools are carried out, and that the best possible conditions are provided for both teachers and pupils.

**Vice-Principal.** The major responsibility of the Vice-Principal is to supervise the academic work including directed study, study coach classes and lesson plans; to adjust the schedules of new pupils and to issue the transfers of pupils within the school and from school to school.

**Supervisor of Practical Arts.** The Supervisor of Practical Arts has the same relation to practical arts that the Vice-Principal has to academic subjects. His duties include: supervising instruction, equipment, stock, etc., in the industrial department; advising with shop instructors as to their lesson plans, job sheets, etc., assisting with cases of discipline, truancy and tardiness of industrial boys; providing by means of special meetings for the educational development or training in service of shop men; giving vocational guidance talks to individual boys; placing pupils in industry; meeting with and discussing problems with representatives of the trades.

**No Departmental Heads in the Junior High School.** The members of the Junior High Council, whose work has been described earlier in this section, render departmental heads in each school unnecessary and tend to produce more of that desirable type of uniformity throughout the junior high school system than would be the case were there a departmental head in each school.

The teachers of each major subject organize each semester and elect a chairman, who presides at the meetings of the group and confers with the principal of the school, or other official, on matters that are of interest to the group as a whole.

Table 3

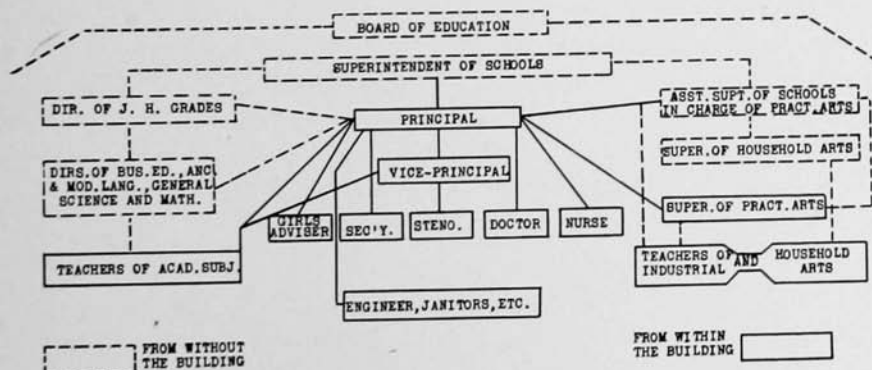
Classification of Junior High School Teachers by Subjects  
(Including Administrative Positions)

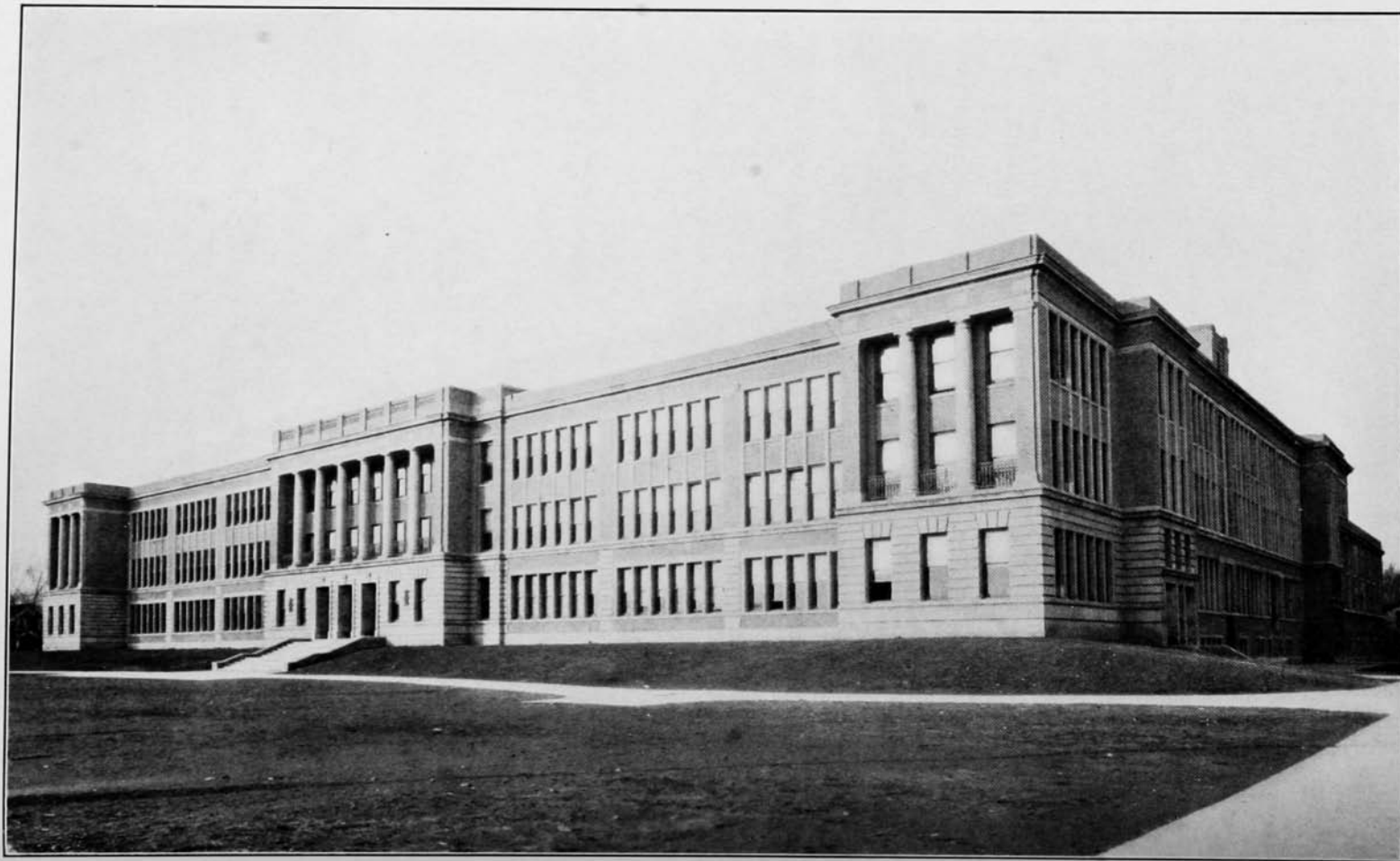
1923

|                                     | Washington | Jefferson | Madison | Monroe |
|-------------------------------------|------------|-----------|---------|--------|
| Principal .....                     | 1          | 1         | 1       | 1      |
| Vice-principal .....                | 1          |           |         |        |
| Supervisor Practical Arts .....     | 1          | 1         | 1       | 1      |
| Girls' Adviser .....                | 1          | 1         | 1       | 1      |
| Unassigned Teacher .....            | 1          | 1         | 1       | 1      |
| Health .....                        | 4          | 4         | 4       | 4      |
| English .....                       | 13         | 13        | 15      | 10     |
| Mathematics .....                   | 9          | 9         | 12      | 8      |
| Science .....                       | 6          | 5         | 7       | 5      |
| Guidance .....                      | 2          | 1         | 2       | 1      |
| Social Studies .....                | 9          | 8         | 9       | 8      |
| Drawing .....                       | 1          | 2         | 3       | 2      |
| Penmanship .....                    | 1          | 1         | 1       | 1      |
| Music .....                         | 3          | 2         | 2       | 2      |
| Library .....                       | 1          | 1         | 1       | 1      |
| Latin .....                         | 2          | 2         | 2       | 1      |
| French .....                        | 1          | 1         | 1       |        |
| Commercial .....                    | 6          | 4         | 5       | 2      |
| Domestic Art .....                  | 5          | 6         | 6       | 4      |
| Domestic Science .....              | 5          | 3         | 6       | 3      |
| Try Out Shop (Wood and Metal) ..... | 2          | 2         | 2       | 2      |
| Lithography .....                   |            |           | 1       |        |
| Mill (Cabinet Shop) .....           | 1          | 1         | 1       | 1      |
| Pattern Making .....                | 1          |           | 1       |        |
| Commercial Art .....                | 2          | 1         | 1       | 1      |
| Mechanical Drawing .....            | 3          | 3         | 2       | 2      |
| Printing .....                      | 1          | 1         | 1       | 1      |
| Electrical Shop .....               | 1          | 1         | 1       | 1      |
| Gas Engine .....                    | 1          | 1         | 1       | 1      |
| Machine .....                       | 1          | 1         | 1       | 1      |
| Sheet Metal .....                   | 1          | 1         | 1       | 1      |
| TOTAL .....                         | 87         | 78        | 93      | 66     |
| Part-Time Teachers .....            | 3          | 2         | 3       | 3      |
| Secretary .....                     | 1          | 1         | 1       | 1      |
| Stenographer .....                  | 1          | 1         | 1       | 1      |
| Accompanist .....                   | 1          | 2         | 2       | 1      |

CHART I

ADMINISTRATION AND SUPERVISION





**Madison Junior High School**



## PART III

---

### CURRICULUMS AND COURSES OF STUDY

---

#### DEVELOPMENT OF PROVISIONAL COURSES OF STUDY

**Definition of Terms.** (As used in this section.)

The PROGRAM OF STUDIES includes all the subjects offered in a given school.

The CURRICULUM refers to a group of subjects systematically arranged for any pupil or set of pupils.

The COURSE OF STUDY means the quantity, quality, and method of work in any given subject of instruction.

These distinctions in terminology are those recommended by the Committee on College Entrance Requirements.

**The Problem Briefly Stated.** It is generally agreed by those who have made an intensive study of the junior high school program that a thorough re-organization of courses of study is absolutely essential to the success of the new movement. It has, therefore, been necessary to work out curriculums and courses of study that meet the new demands and that are adapted to the characteristic work which differentiates the junior high school period from other periods of education. It has also been necessary to provide for modification of the subject matter as the junior high school movement develops and becomes more clearly understood.

**Some Fundamental Principles.** The courses of study in the several curriculums have been carefully worked out in order to insure continuous educational development on the part of each pupil; to make provision for acquiring a sufficient amount of knowledge that ought to

be common to all; to satisfy, to the extent that it is educationally possible and desirable, vital present needs as well as provide for the demands of the future as far as they can be foreseen; to give opportunity to discover by means of worthwhile material the interests, aptitudes, and capacities of the pupils; to suggest possibilities of study in higher institutions; in short, to provide educational opportunities which the pupil, his parents, and his teachers are convinced are most likely to be of profit to him. The subject-matter formerly taught during this period has been thoroughly revised and an attempt made to eliminate non-essentials. The time gained as the result of eliminations has made possible the introduction of new material considered by competent authorities absolutely essential to the pupil's best interest at this stage of his development.

In working out the various courses of study for Rochester's first junior high school such methods of arriving at educational objectives as comparison and summation of other courses of study, analysis of textbooks, the frequency plan, and other familiar methods were out of the question. The latest reports of national committees, data collected by means of community surveys that gave the actual community demands along both mercantile and industrial lines, and the results of class room experiments conducted by specialists in the several secondary fields directly related to courses given in the junior high school did, however, prove to be valuable aids in the work of outlining new courses of study for the several curriculums.

**Details of Procedure.** When the first junior high school was opened in September, 1915, a director was appointed to take charge of this work. The task of the director was to relate and to co-ordinate the academic work of the entire school regardless of the department in which it was given. The director was expected to take the initiative in formulating certain courses of study, to follow carefully the contributions made by the several senior high school departmental heads, working in the schools, and finally to edit and put into form the various courses included in the program of studies for the junior high school.

Tentative courses were outlined for limited periods of time and the work carefully tried out by the teachers in the several departments. Frequent conferences were held in order to give general suggestions and to get the personal reactions of the teachers on the practical working out of each course. In the light of these conferences, as well as of the actual results obtained in the class room, each unit of work was carefully

revised and the next unit assigned. Following this co-operative effort, provisional courses, in typewritten form, were issued to the teachers. These courses were again thoroughly revised, after being submitted to further class room tests, before any attempt was made to put them into printed form.

In the fall of 1918 these courses were issued in a pamphlet entitled "Provisional Courses of Study for Junior High Schools". Experimentation is still going on in all the courses, and plans are already under way for a thorough revision of this pamphlet, in the light of experience and of recent educational development along junior high school lines. Modifications in subject-matter, as well as in educational aims, will increase as the junior high school movement is better understood and the results of scientific investigations now being carried on are made available.

---

## MEETING INDIVIDUAL DIFFERENCES

**Varied Curriculums.** Under the eight-four plan all pupils were obliged to follow the courses outlined under one curriculum which had as its main purpose, especially in the upper grades, preparation for the senior high school. Under the junior high school plan provision has been made for meeting individual differences which become increasingly apparent as the pupils progress in their school life. Careful consideration has been given to the needs of those who must leave school early and better courses have been worked out for those who can continue their education through high school and on into college. All pupils follow the same general curriculum throughout the 7th grade, or first year in the junior high school. At the beginning of the 8th grade they are allowed to choose, according to the plan outlined in another section, one of the five curriculums offered.

**Multiple-Curriculum Type of Organization.** Aside from the single curriculum type of organization mentioned above, there are two general types, designated by Leonard V. Koos as the "multiple-curriculum" type and the "constants-with-variables" type. Programs of the former type, as the name suggests, offer several curriculums each designed to meet the needs of a particular group. Each curriculum contains certain fundamental subjects common to all the curriculums offered and certain subjects peculiar to the particular curriculum. Rochester has selected this type of organization and offers five curriculums.



**Foreign Language Curriculum.** In the Foreign Language Curriculum the pupils take either Latin or French in addition to the basic courses in English, mathematics, social studies, and general science.

**Technical Curriculum.** In the Technical Curriculum the girls take approximately one period a day of homemaking and the boys take approximately one period a day of shop work in addition to the basic courses in English, mathematics, social studies, and general science.

**Commercial Curriculum.** In the Commercial Curriculum the pupils take typewriting, first lessons in business, and bookkeeping, in addition to the basic courses in English, commercial mathematics, social studies, and general science.

**Household Arts Curriculum.** In the Household Arts Curriculum the girls give one-half of the school day to homemaking courses. The remaining portion of the day is devoted to special basic courses in mathematics, design, English, history and civics, and general science.

**Industrial Arts Curriculum.** In the Industrial Arts Curriculum the boys give one-half of the school day to shop work. The remaining portion of the day is devoted to special basic courses in mathematics, mechanical drawing, English, history and civics, and general science.

The reasons for selecting the multiple-curriculum type of organization may be summarized as follows:

1. It makes possible the home-room class organization which is an important part of the plan followed in Rochester. One feature of this plan provides for the passing of pupils from subject to subject by classes rather than as individuals.
2. It permits a more economical use of rooms, teachers, and equipment.
3. It makes the work of both the home room teacher and the teacher of guidance more effective.
4. It insures a more definite objective on the part of pupils.
5. It makes possible the organization of an industrial arts curriculum for boys and a household arts curriculum for girls that will meet the provisions of the Smith-Hughes law and still carry out junior high school ideals.

Those who object to this type of organization contend that it may fail to provide ample opportunity for exploration; that the pupil is not capable of deciding wisely, at so early an age, what he wants to do; that in spite of the opportunity to transfer from one curriculum to another this is seldom done; and that it is impossible to multiply curriculums sufficiently to recognize all the individual differences in abilities and interests to be found in the group of pupils enrolled in the 7th, 8th, and 9th grades. Rochester recognizes these objections and attempts to meet them, in some measure at least, in the following ways:

1. By providing a program of studies having an exceptionally large body of constants or basic subjects.
2. By having one general curriculum for all pupils in the first year of junior high school.
3. By making it possible to change from one curriculum to another with the smallest possible loss of time and with some definite gain no matter which curriculum is chosen.
4. By continuous courses in educational guidance throughout the 7th, 8th, and 9th grades.
5. By the introduction of elective club activities which provide for some of the variables suggested under other plans.

**The Time Schedule.** When the junior high school plan was first adopted in Rochester, the school day of six hours was divided into four periods of ninety minutes each. On days when school activities (assembly programs, student clubs, class meetings, and the like) took place, each period was shortened to provide the necessary time for these activities. The next step in the development of the junior high school day was to make four regular periods of eighty minutes each, with a definite short period of thirty-five minutes for school activities. This plan also failed to provide the necessary flexibility. The latest plan, the one now in use in all the junior high schools, divides the school day into six periods of sixty minutes each. It allows one period a week for assembly programs, one period for clubs, and one period for class meetings and faculty meetings. Shop and homemaking courses are still provided for on the ninety-minute period plan.

The following table indicates the distribution of subjects and the number of periods assigned to each subject in the several curriculums:

**Table 4**  
**Weekly Periods in the Several Subjects of the**  
**Different Curriculums**

| GRADES CURRICULUMS                              | 7-B<br>General | 7-A<br>General | 8B-8A<br>Foreign<br>Language | 9B-9A<br>Foreign<br>Language | 8B-8A<br>Tech. | 9B-9A<br>Tech. | 8B-8A<br>Com'l. | 9B-9A<br>Com'l. | 7-8-9<br>Indus.<br>and<br>*House |
|---|----------------|----------------|------------------------------|------------------------------|----------------|----------------|-----------------|-----------------|----------------------------------|
| English.....                                    | 6              | 6              | 6                            | 5                            | 6              | 6              | 6               | 5               | 3                                |
| Social Studies.....                             | 6              | 6              | 4                            | —                            | 4              | —              | 4               | —               | 2                                |
| Mathematics.....                                | 5              | 5              | 5                            | 5                            | 5              | 5              | —               | 3               | 3                                |
| Science.....                                    | 2              | 2              | 2                            | 4                            | 2              | 4              | 2               | 4               | 1                                |
| Health Education...                             | 1              | 1              | 1                            | 1                            | 1              | 1              | 1               | 1               | 1                                |
| Industrial and House-<br>hold Arts.....         | 3              | 3              | 3                            | 3                            | 6              | 6              | 3               | 3               | 14                               |
| Penmanship.....                                 | 1              | 1              | B-1½                         | —                            | —              | —              | 1               | 1               | —                                |
| Music.....                                      | 1              | 1              | 1½                           | 1                            | 1              | 1              | 1               | 1               | —                                |
| Drawing.....                                    | 1½             | 1              | B-1<br>A-1½                  | 2                            | —              | —              | —               | —               | —                                |
| Foreign Language...                             | —              | —              | 2½                           | 5                            | —              | —              | —               | —               | —                                |
| Typewriting.....                                | —              | —              | —                            | —                            | —              | —              | A-3½            | 3               | —                                |
| First Lessons in Busi-<br>ness and Mathematics— | —              | —              | —                            | —                            | —              | —              | 4½              | —               | —                                |
| Commercial Geogra-<br>phy.....                  | —              | —              | —                            | —                            | —              | —              | B-4             | —               | —                                |
| Commercial Occupa-<br>tion.....                 | —              | —              | —                            | —                            | —              | —              | A-½             | 1               | —                                |
| Bookkeeping.....                                | —              | —              | —                            | —                            | —              | —              | —               | 5               | —                                |
| Mechanical Drawing<br>or Design.....            | —              | —              | —                            | —                            | 1½             | 3              | —               | —               | 3                                |
| Guidance.....                                   | ½              | 1              | ½                            | 1                            | ½              | 1              | ½               | —               | —                                |
| School Activities....                           | 3              | 3              | 3                            | 3                            | 3              | 3              | 3               | 3               | 3                                |

\* Pupils may elect this curriculum any time after they are fourteen years of age and have completed the work of the 6th grade. A state certificate is given on the completion of a two years' course. A pupil following this curriculum may receive a certificate of graduation from the school provided he has attended three years and has met the necessary requirements.



Table 5

**Detailed Time Schedules Indicating Emphasis Placed on  
the Several Subjects Included under the Terms English,  
Mathematics, and Social Studies**

**I—English**

| Grades   | Subjects                            | Periods | Total<br>Minutes<br>Per week |
|--|-------------------------------------|---------|------------------------------|
| General Curriculum                               |                                     |         |                              |
|  | Composition and Spelling            | 3       | 180                          |
| 7B-7A  | Grammar                             | 1½      | 90                           |
|  | Literature                          | 1½      | 90                           |
| Foreign Language Curriculum                      |                                     |         |                              |
|  | Composition and Spelling            | 3       | 180                          |
| 8B-8A  | Grammar                             | 1½      | 90                           |
|  | Literature                          | 1½      | 90                           |
|  | Composition                         | 2       | 120                          |
| 9B-9A  | Grammar                             | 1       | 60                           |
|  | Literature                          | 2       | 120                          |
| Commercial and Technical Curriculums             |                                     |         |                              |
|  | Composition and Spelling            | 3       | 180                          |
| 8B-8A  | Grammar                             | 1½      | 90                           |
|  | Literature                          | 1½      | 90                           |
|  | Composition                         | 2       | 120                          |
| 9B-9A  | Grammar                             | 1       | 60                           |
|  | Literature                          | 2       | 120                          |
| *Household Arts and *Industrial Arts Curriculums |                                     |         |                              |
|  | Composition-Spelling-<br>Literature | 3       | 180                          |

\* Pupils may elect this curriculum any time after they are fourteen years of age and have completed at least the work of the 6th grade. The three periods devoted to English are subdivided according to the subject needs of the class, with the understanding that two half-periods or the equivalent be devoted to literature.

**Table 5—Continued****II—Mathematics**

| Grade  | Subject  | Periods | Total<br>Time<br>Per week |
|--|--|---------|---------------------------|
| <b>General Curriculum</b>                          |  |         |                           |
| 7B-7A  | General Mathematics  | 5       | 300                       |
| <b>Foreign Languages and Technical Curriculums</b> |  |         |                           |
| 8B   | Arithmetic and Geometry  | 5       | 300                       |
| 8A   | Arithmetic, Geometry,<br>and Algebra                             | 5       | 300                       |
| 9B-9A  | Algebra, Geometry, and<br>Trigonometry                           | 5       | 300                       |
| <b>Commercial Curriculum</b>                       |  |         |                           |
| 8B-8A  | First Lessons in Business<br>including Commercial<br>Mathematics | 4½      | 270                       |
| 9B-9A  | Commercial Mathemat-<br>ics                                      | 3       | 180                       |
| <b>*Household Arts Curriculum</b>                  |  |         |                           |
|  | Arithmetic including<br>Household Accounts                       | 3       | 180                       |
| <b>*Industrial Arts Curriculum</b>                 |  |         |                           |
|  | Shop Mathematics   | 3       | 180                       |

---

\*Pupils may elect this curriculum any time after they are fourteen years of age and have completed at least the work of the 6th grade. Pupils take work for which their previous schooling has prepared them.

Table 5—*Continued*

## III—\*Social Studies

| Grades  | Subjects                            | Periods | Total<br>Time<br>Per week |
|---|-------------------------------------|---------|---------------------------|
| General Curriculum                                      |                                     |         |                           |
| 7B  | Civics                              | 1       | 60                        |
|   | History                             | 3       | 180                       |
|   | Geography                           | 2       | 120                       |
| 7A  | Civics                              | 2       | 120                       |
|   | History                             | 3       | 180                       |
|   | Geography                           | 1       | 60                        |
| Foreign Language, Technical, and Commercial Curriculums |                                     |         |                           |
| 8B-8A   | Civics                              | 1       | 60                        |
|   | History                             | 3       | 180                       |
| 9B-9A   | **Guidance and Elementary Economics | 1       | 60                        |
| ***Household Arts and ***Industrial Arts Curriculums    |                                     |         |                           |
| 7B-7A-8B  | History                             | 2       | 120                       |
| 8A-9B-9A  | Civics and Elementary Economics     | 2       | 120                       |

In the following chart the variations in the shading of each horizontal bar, indicate the relative amount of time given to each subject in the different curriculums.

\*The study of current events definitely related to subjects taught is made a part of this work, not more than thirty minutes a week being devoted to such study.

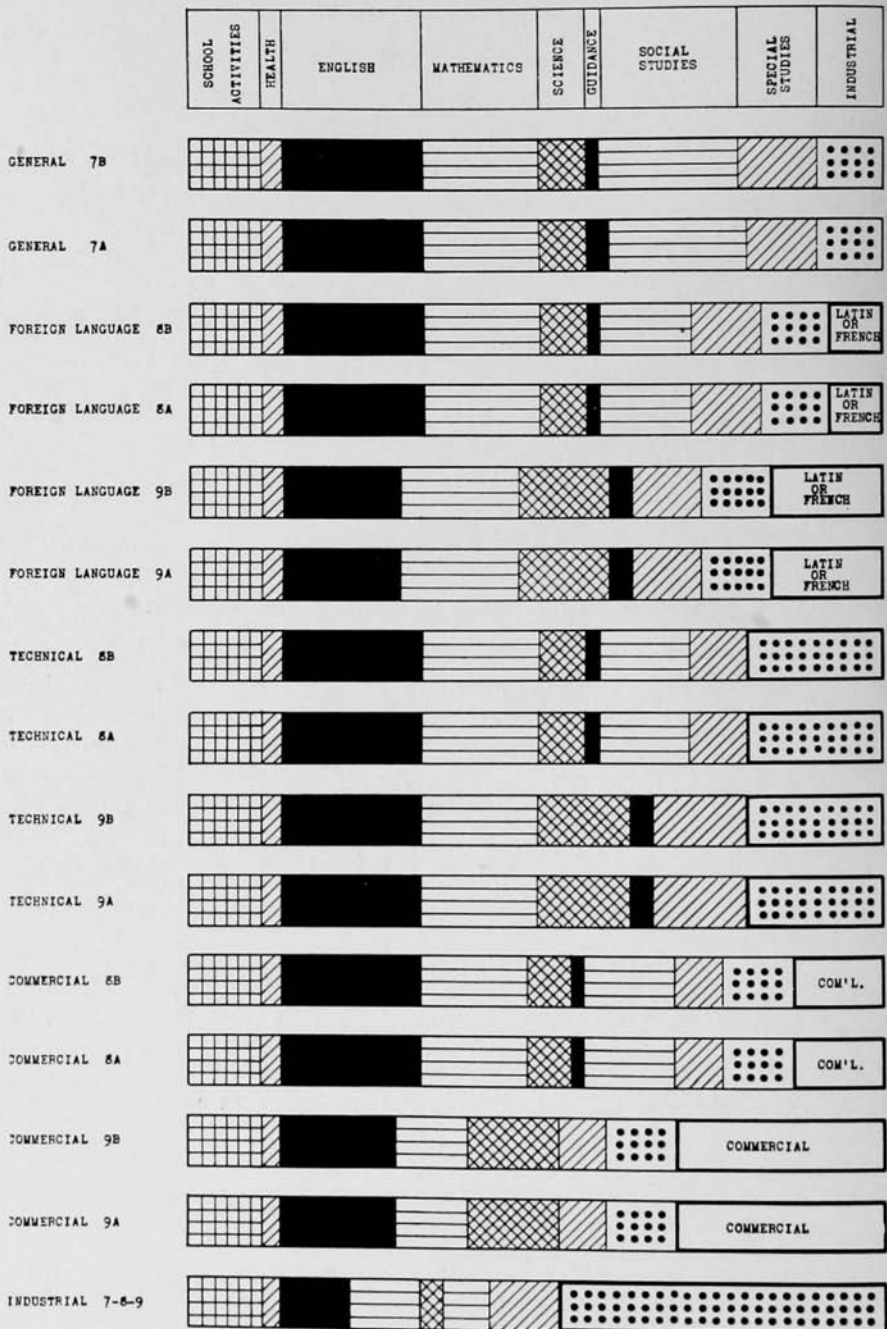
\*\*Not included in Commercial Curriculum.

\*\*\*Pupils may elect this curriculum any time after they are fourteen years of age and have completed the work of the 6th grade. Pupils take the particular unit of book work for which their previous schooling has prepared them



## CHART II

TIME DISTRIBUTION IN THE SEVERAL  
SUBJECTS OF THE DIFFERENT CURRICULUMS



SEE TABLE OF WEEKLY PERIODS IN THE SEVERAL SUBJECTS  
SCALE OF HOURS 0 ————— 5

## AIMS IN THE SEVERAL SUBJECTS THAT ARE COMMON TO ALL CURRICULUMS

**Oral and Written English.** The work outlined provides a course designed to develop ability to talk distinctly and in an interesting, convincing manner; to enable pupils to express themselves clearly and definitely whether in speech or in writing; and to help them write effective English unmarred by misspelled words or the common ungrammatical expressions. Since *teaching* a lesson in English merely points the way for the correct expression of particular ideas, the plan provides ample opportunity for that motivated drill which is so necessary to fix the correct form in the mind of the pupil and to give him confidence in his ability to select and to use that form.

Training in the use of the library is given as a part of the work in English. Collateral reading lists prepared by the librarian are posted in the library or sent to the class rooms. This makes it possible for study groups assigned by the teachers in the different departments to work out special problems and report to the whole class in regular periods.

Dramatic work directly related to the assembly programs of the school is also made a part of the course of study in English. This work offers a natural opportunity for emphasizing various school activities and furnishes a most practical incentive for realizing some of the junior high school ideals.

The work in composition, both oral and written, is made real to the pupils in a variety of ways, and is vitalized by relating it to everyday life in school and in the community.

**Literature.** The plan for the work in literature for the 7th and 8th grades is based on the belief that pupils in these grades should read a number of stories and grasp the one or two important ideas that the author intended to convey. No attempt is made to do intensive work in literature until the pupils reach the 9th grade. The stories assigned have been carefully selected and are intended to stimulate desirable enthusiasm, to reinforce good motives, and to give a delightful first-hand acquaintance with the writings of authors of recognized merit. Eager and appreciative reading of literature of this type will develop character and will lead to the formation of the invaluable habit of turning to good books for companionship in leisure hours.

In order to interest the pupils in reading as an enjoyable leisure occupation, home reading is encouraged and directed. Friendly discussions between pupil and teacher concerning outside reading are urged. A gradual tendency on the part of pupils to select worthwhile books and to cultivate the acquaintance of the best authors is made the test of successful teaching in this subject.

**Grammar.** When the pupils enter the junior high school they begin their formal work in this subject, as no technical grammar as such is taught in the elementary grades. The junior high school course recognizes the value of systematized knowledge obtained through the study of formal grammar, but stresses the importance of relating this work to the present language needs of the pupils. Topics, primarily important because of their use in teaching some foreign language, are left until the foreign language is taken up and the need and relation of the particular topic in reference to the new language becomes evident.

**Spelling.** The aim of the work in spelling is:

To develop a syllable sense that will enable the pupil to recognize elements readily and to divide words properly in written work.

To eliminate the slovenly pronunciation that leads to poor spelling by insisting on careful and exact enunciation and pronunciation.

To help pupils to detect and to remember elements of difficulty in words, and to associate these elements with corrective measures.

**Mathematics.** It is assumed that pupils who come to the junior high school from the elementary school have the ability to use the fundamental processes with a reasonable degree of accuracy and speed and are familiar with approved processes in common fractions and decimals. The task of the junior high school is to provide sufficient drill work to develop and to maintain the skill that is so essential if pupils are to be able to use these fundamental processes with facility in their problem work and as a part of their work in higher mathematics. In addition the junior high school teacher must endeavor to develop that number sense which gives the ability to understand and to state numerical relations. This is also the time to stimulate and to encourage a problem-solving attitude on the part of the pupil that will enable him to analyze correctly a given numerical situation, and to apply the appropriate arithmetical processes. In the general course in mathematics much of the old-time



subject matter in arithmetic, formerly taught in the 7th and 8th grades, has been eliminated and the time thus saved is now devoted to the development of fundamental concepts in geometry and algebra. The aims of this work may be summarized as follows:

1. To develop the careful observation of the most important geometric forms together with a certain appreciation of these forms.
2. To secure accuracy of oral description and explanation.
3. To emphasize clearness of *thinking* by a skillful use of analysis, comparison, classification, generalization, deduction, and verification.
4. To stimulate *self-activity* by suitable applications.
5. To create *perspective* by means of summaries and organic reviews.
6. To emphasize as fundamental tools, both in computation and in problem-solving, the formula, the graph, and the equation together with the underlying technique.

Pupils are given an opportunity to gain some degree of skill in the use of geometrical instruments. They are led to see the relation of objects all about them to the study of geometry and to desire reasons for geometrical processes. Accuracy and neatness are made essential requisites of this work.

Some of the conclusions drawn from the work already attempted may be expressed as follows:

1. Seventh grade pupils enjoy the introduction of the work in geometry.
2. Geometry can easily be correlated with arithmetic.
3. The earlier introduction of geometry makes possible an earlier use of algebra and trigonometry.
4. Geometric material, when properly presented, is more suited to the intellectual age and experience of these pupils than much of the customary arithmetical content.
5. Intuitive geometry is a necessary condition for a vitalized course in general mathematics.

Algebra is regarded as a short method of symbolizing numerical relations and processes; and, in order to give meaning to symbols before the actual study of algebra is attempted, geometry has been selected as furnishing an easy field for the application of these symbols. The entire plan provides for the introduction of algebraic symbols in a much more simple and concrete manner than is ordinarily attempted, thus leading naturally to the fundamental definitions, processes, and principles of the new subject.

The course in Commercial Arithmetic emphasizes work that will result in that higher degree of skill in arithmetical computation which must be attained by pupils who are to become successful workers along commercial lines. It is expected that the pupil will become habituated in the use of all processes that generally recur in the same form. Such habituation is absolutely essential in order to insure the degree of facility in the common arithmetical processes required by the average business man; and it can not be secured without definite, continuous, daily drill. Daily rapid work, both mental and written is, therefore, made a definite part of this course.

The work in Mathematics in the Industrial Arts and Household Arts Courses aims to furnish an opportunity to apply the fundamentals to various shop and homemaking needs. Problems given are directly related to the type of work in the department elected by each group of pupils.

**Civics.** The course in civics is designed to develop citizens who will be quite as conscious of their duties and obligations as of their rights. It provides for the development of fundamental ideas which are the basis of American institutions; and it seeks to emphasize the federal constitution as the great conception which has rendered possible our union of states and made us one of the truly great nations of the world. In the 7th grade B the elements of community welfare such as health, protection of life and property, recreation and the like are discussed. The active participation of the pupil in the affairs of his own school community and in those of the larger community of which he is a part is encouraged. In the 7th grade A the pupil is gradually led to see the relation of his own community to that of the county, the state, and the nation; to sense the meaning of organization and some of the possibilities of representative

government; to recognize some of the things that are being done for the people by the various units of their government and some of the things that the government expects from all its citizens. In the 8th grade A the historical setting of our institutions is emphasized and an effort is made to help the pupils realize some of the debt that they owe to the founders of our great nation, and to awaken in their minds an appreciation of the growth and development of our institutions. In the 8th grade A the meaning and use of the Constitution of the United States are emphasized, the activities of the national government are discussed, party organization and election machinery are explained, and an effort is made to interpret all these activities through everyday experiences of the pupil. In the 9th grade simple problems in elementary economics are discussed as a part of the work in vocational guidance.

As the pupil enters the junior high school he becomes a member of a real community and is given a share in the government of the school as a member of his class organization. Within necessary limitations he is just as much a citizen as he ever will be and is cultivating in this most practical way the habits and qualities of good citizenship. As has been suggested the work in community civics provides for linking up the school community with the local community in a way that vitalizes the whole course and makes the activities of city, state, and nation have real meaning to the pupils.

The entire plan aims to help the pupil understand his community, his dependence upon it, and his responsibility to it in a way that will result in a proper interest in and a right attitude toward government, as the supreme means by which all members of a community may co-operate for the common welfare. It also emphasizes the fact that the best kind of civics is training *in the habits of good citizenship*. It helps the pupils to realize that there is such a thing as just authority, and emphasizes the fact that he who expects to govern must first learn to obey. It creates a sense of social obligation that enables the learner to think, to feel, and to act, thus developing power that will later make him of real service in any community of which he is a part. Such work gives the teacher an opportunity to present high ideals without moralizing.

**Current Events.** As a part of the work in history and civics current events are utilized in a way that helps the pupil to interpret history now in the making and to see the relation of what is taking place in community,



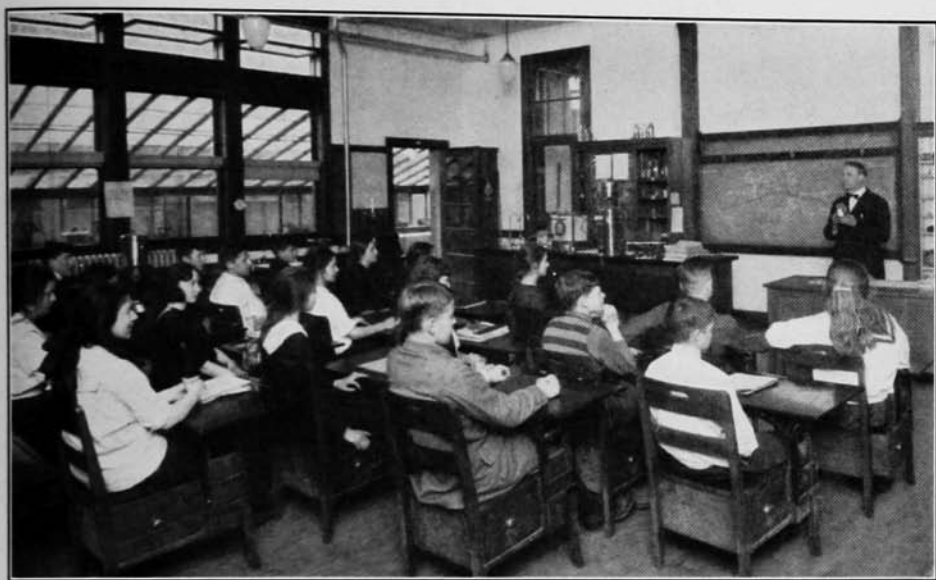
state, and nation, even in the great world itself, to what he is studying, thus making real every topic that he discusses. Pupils become familiar in this most practical way with the names and activities of those who represent them in the various units of government and so get essential training in utilizing such material as a basis for forming judgments with reference to the work of public officials. The relation of the press to the formation of public opinion and of public opinion to law-making is also carefully pointed out.

**Geography.** The work outlined in geography deals with people, places, and products. It emphasizes the dependence of people in all parts of the world upon each other. It points out the importance of the various methods of transportation by means of which products are carried from place to place, and people are enabled to carry on the work of the world and to co-operate for the common welfare of all concerned.

The object of this course is to equip the pupils with a fund of useful information that should prove of practical value in their future work whether they continue as pupils in school or go out as workers in the community. Much of the material formerly outlined under courses of study in geography has been given a place in the course in general science referred to in another paragraph.

**History.** A study of vital relations rather than the memorizing of particular facts is the keynote of this course. The work has been planned in units of instruction that afford desirable opportunity for the development of topics on the project problem plan. Chronological order is followed only so far as it may apply in the development of a particular topic or in the arrangement of topics. Eliminations that in no way lessen the value of vital topics in history have been made, and so from thirty to forty per cent of the time usually given to this subject can now be devoted to the definite study of civics as noted in a previous paragraph.

The aim of the study of history is to give the pupils a usable body of information, both for service and for pleasure; to assist them in their attempts to distinguish between logical and fallacious thinking; to help them meet problems and situations of a social nature with reasonable and justifiable solutions thus training them for acceptable and constructive service in the community.



General Science

**General Science.** The close relation between science and modern life affords an excellent opportunity to establish contacts which will inspire and develop permanent interests. The many and varied contacts of science with life make science instruction of special value in the realization of objectives set forth in the U. S. Bureau of Education Bulletin, "Cardinal Principles of Secondary Education", namely, health, worthy home membership, vocation, citizenship, the worthy use of leisure, and ethical character.

Some of the specific aims of the course in general science are:

1. To develop the pupil's power of observation so that he may be aware of his surroundings in a way that will enrich his experience.
2. To give the pupil an understanding of the common phenomena of his immediate environment and to stimulate him to more direct and purposeful activities.
3. To provide opportunity for practice in applying knowledge already acquired to the solution of new problems.
4. To correct misinterpretations of natural phenomena.

5. To give pupils some training in the use of the scientific method of solving problems.
6. To foster a belief and confidence in knowledge gained by the scientific method, to an extent that will affect conduct.
7. To prepare the pupil for later science work in senior high school. (The course may be offered as one science unit for college entrance.)

Throughout the course in general science the pupil's everyday experiences as they are related to his physical, mental, and moral development are made the basis of problems provided for his investigation and study. The content of the course is outlined so as to provide for continuous and progressive development along science lines throughout the entire junior high school period. Hygiene is strongly emphasized in all grades. The general method is based on the solution of problems the significance and value of which can be readily grasped by the pupil, problems which will lead to fruitful thinking on his part. These problems are chosen with the expectation that their solution will afford opportunity for the organization of material acquired by observation, by experimentation, and by reading.

Especially designed and well-equipped rooms are provided for the science work, making it possible for all pupils to gain first-hand knowledge of common materials and apparatus, and to secure a certain amount of hand training in manipulation.

---

## DISTINCTIVE FEATURES IN THE SEVERAL CURRICULUMS

**The Foreign Language Curriculum.** This curriculum is intended to furnish the preparation for senior high school and for college. Formerly this was the only type of work offered to boys and girls in the 7th and 8th grades and in the senior high school. Pupils electing this curriculum take Latin or French in addition to the regular work usually given in the 8th grade.

The plan now in operation in all the junior high schools provides a better foundation for the study of the language selected, because it gives pupils a longer time to assimilate fundamental facts, and so assures a better preparation for the work of succeeding years.



**Latin.** In constructing a Latin course for the junior high school, the aim has not been to push the traditional high school course in Latin into the lower grades and thus merely to begin the study of Latin along traditional lines one year earlier. The new unfettered junior high school organization has created an exceptional opportunity for re-organizing the course in beginning Latin, with the determining object of making every element of the course perform the largest possible direct service to the pupil. Emphasis upon this "practical" aspect has not involved the denial or the sacrifice of higher disciplinary or cultural values. On the contrary it has compelled a much more careful analysis of those values, a more rational attempt to determine the methods and material requisite to their realization, and far more systematic and persistent efforts to insure their attainment.

In developing this course an effort has been made first of all to meet the demands imposed by the acceptance of the ideal just described. At the same time the work of the 8th and 9th grades of the junior high school course in Latin has been so planned that the ground necessary to enable pupils to begin Caesar has been covered and a better foundation for continued work in Latin has been laid.

This program involves, first, the definite determination of the objectives that may be legitimately ascribed to the study of Latin; second, the selection and organization of the content and method of the curriculum for the purpose of creating the conditions most favorable to the attainment of these objectives; and, third, consciousness on the part of teachers and pupils of what these objectives are and of the relationship of each part of the day's lesson to the realization of these aims.

Accordingly the term "objectives" is used, instead of "values," in defining the aims of Latin instruction in the junior high school, to express the fact that in the case of each objective assumed to be valid the particular content, and the particular method, have been selected which would provide favorable conditions for the progressive realization of that objective.

In constructing a Latin course which should embody the objectives outlined in the Report of the New York State Committee on the Junior High School Syllabus in Latin, full consideration has been given to the problem of motivating the work from the pupil's point of view. The interest of the pupils is an indispensable means to the ends proposed.

Progressive development of power over the Latin language is the indispensable medium for the attainment of the objectives referred to above.

A full discussion of the objectives in the course in Latin and of the method employed in teaching the subject can not be included here. For information on these problems the reader is referred to the textbooks in Latin that have been prepared for use in the Junior High Schools of Rochester and to the Report of the New York State Committee on the Junior High School Syllabus in Latin.

**French.** At present French is the modern language offered at the beginning of the 8th grade. Oral and aural drill play a very important part in the work of teaching French to beginners. No attempt is made to produce fluent conversationalists in the foreign tongue in the short time allotted to this work, but the plan aims to give the pupils a basis upon which they can build confidently and readily if they decide to carry on the study of this language in later grades. As a reading knowledge is more important to the average pupil than a speaking knowledge, an effort is made to teach the pupil to read easily and without constant thumbing of the dictionary and the grammar.

Not the least of the aims is to trace the relationship of English to French, and to indicate in outline form the tremendous influence that the French language has had upon the growth and development of English. The facts of grammar are compared and correlated as they are taught, and the old dictum of Goethe is emphasized that "He who does not know another language knows not his own."

Aside from general values that French has in common with other subjects in the curriculum, in preparing the pupils for senior high school and for work in college later on, the specific aims of modern language instruction in the junior high school may be stated as follows:

1. To give the pupils the beginning of a practical working knowledge of French for reading, speaking, and writing the language. For this purpose the work is extremely practical; and, from the first days of the course, the pupil begins to express himself in simple French on the commonest subjects of everyday life.
2. To acquaint the pupils with fundamental facts of French and English history as a background for teaching the essentials of the history of the French language.



3. To study the principles of grammar and the roots which appear in both languages, thus impressing the pupil with the close relationship between English and French and so teaching him to understand better and appreciate more fully his own language.
4. To arouse his interest in French and France by a survey of the geographical position of the country, its area and its population, and to emphasize the cultural and commercial relations of the two nations, so that his interest in the subject will not cease when he leaves the class room.
5. To use the study of the language as an introduction to the study of French civilization and culture, with the purpose of enlarging and broadening the pupil's outlook as a future citizen of our republic, thus laying the foundation for an understanding of a kindred nation which should promote international concord and peace.

**Commercial Curriculum.** Before the opening of the first junior high school, the Director of Business Education in co-operation with a committee on commercial and industrial education of the Rochester Chamber of Commerce conducted a city-wide survey which included over thirteen hundred junior and senior commercial workers. The results of this survey indicated that there should be a curriculum in the junior high schools which would meet the needs of boys and girls who might be unable to remain in school and yet would desire to enter some part of the commercial field open to junior commercial workers.

The commercial curriculum which was finally decided upon for the junior high school aims primarily to lay the best possible foundation for more advanced training in the upper high school. No particular emphasis is placed on positions open to junior high school pupils at various stages of their progress, as every effort is made to encourage them to continue their education. Those who can not go on to senior high school, however, are recommended for positions which will utilize the definite training the school has been able to give them. It is made clear to such pupils that they are not fitted for the same type of commercial work that is open to the graduates of secondary schools.

Business includes all kinds of occupations from the hand type, which has to do with the operation of office machines, up to the executive type.



Any boy or girl who has even average ability may find something to do in business that will be well worth doing. Whether he is trained for the lower or the higher types of commercial service will depend, first, on his mental ability, and second, on the length of time he can devote to such training. Every commercial pupil is given definite instruction, or vocational guidance, regarding the great variety of employments that are open to him.

At the beginning of the 8th grade the junior high school offers, in the commercial curriculum, the business courses indicated below in addition to the basic courses previously mentioned. Toward the close of the 8th year some idea concerning the work of the next year is given to the pupils in an attempt to interest them in returning to school and continuing their education. The articulation maintained between the work of the different years is an important factor in the retention of pupils.

**First Lessons in Business.** First Lessons in Business is a course that has been organized with the age, ability, and needs of the pupils, as suggested above, constantly kept in mind. This course attempts to develop correct business habits. It teaches something of business forms, namely, ruling, filing, ledger forms and other work related to occupations open to boys and girls. Considerable time is spent on rapid calculation and the fundamentals in business arithmetic. In outlining the details of this course representative business practice in the community has been followed.

**Commercial Geography.** In Commercial Geography no attempt is made to go into detailed study of world geography of an advanced character, as such a study is provided for in the senior high school course in this subject. Important cities, rivers, and transportation routes are studied; and, in brief, a general foundation is laid for the more difficult problem-type of commercial geography that is offered in the senior high schools. A good knowledge of place geography is of incalculable value to boys and girls in business positions.

**Typewriting.** Typewriting is begun during the second term of the 8th year. Daily practice is given, as it has been found that in typewriting this is absolutely essential to the success of the work wherever it is taught. Pupils of this age seem to adapt themselves readily to the subject. They become very much interested in the work and are able to concentrate to a much larger degree than has been supposed possible. Habits of neatness, accuracy, and concentration are developed and



Typewriting

the practice given in the control of the mind over the hand results in the development of a desirable and worthwhile co-ordination. The typewriter holds a certain fascination for pupils, and for many it becomes a real challenge to accomplishment. One of the advantages of offering this subject in the junior high school is its strictly commercial nature. The pupil feels that he is getting a real business education, and this feeling tends to keep him in school as well as to prevent an insistent demand for the more difficult subjects of bookkeeping and shorthand.

From the foregoing statement it will be clear that the Rochester plan for 8th grade pupils is no mere bringing down of senior high school subjects into this grade.

In the 9th year, typewriting and commercial mathematics are continued. First Lessons in Business of the 8th year is now displaced by bookkeeping. Some of the paper work of bookkeeping, such as the making and use of checks, receipts, invoices, notes and drafts is taught during the course in First Lessons in Business. Thus time is available during the 9th year for the teaching of business practice and business principles, in addition to the regular work in formal bookkeeping. In other words, an attempt is being made to teach business through bookkeeping. Class discussions in this subject afford an excellent opportunity for the teacher to get the pupils to think and to analyze in a most practical way.

1-720831



The commercial program in general has the approval of the National Educational Association Commission on the Re-organization of Secondary Education.

**Technical Curriculum.** The technical curriculum provides four and one-half periods a week in the 8th grade and six periods in the 9th grade in shop work and homemaking courses. In addition to this, two periods in the 8th grade and three periods in the 9th grade are given to mechanical drawing, or freehand drawing and design. This curriculum has the following outlets:

It may lead to study in the senior high school preparatory to an engineering or scientific college.

It may prepare for further study in senior high school in the practical arts curriculum.

It may lead to a senior vocational or unit trade course.

The technical curriculum offers greater general educational opportunities than is possible in the industrial arts curriculum. For boys it opens possibilities of leadership in the field of industry, provided they avail themselves of further study in senior high school, even though they cannot go on to college. In this curriculum the study of a foreign language is delayed until the senior high school is reached. With a few minor exceptions in English the remainder of the curriculum is identical with the foreign language curriculum.



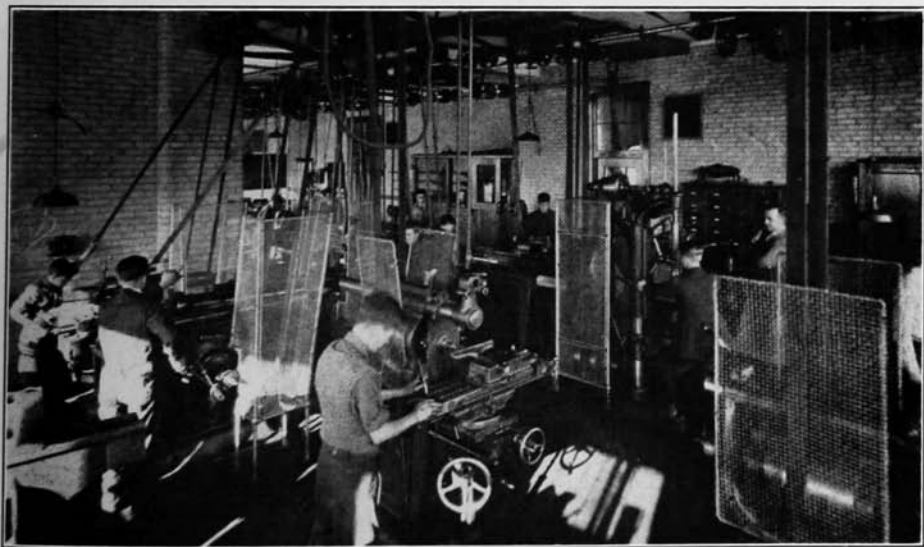
Millinery



**Household Arts Curriculum.** This curriculum is so planned that it meets the requirements of the state and federal statutes governing vocational education for girls. Under the provisions of these statutes financial aid is granted to the city to help maintain these unit trade courses. In accordance with these statutes girls who have completed the 6th grade, and have passed their fourteenth birthday, may elect this curriculum as soon as they enter the junior high school, or they may elect it at the end of any semester when they have met the age requirement.

Girls electing this curriculum devote fifteen clock hours a week to homemaking courses which provide some training in the needle trades. General information relating to materials used and processes followed is considered of primary importance in this training. Reasons for the method used in hand processes, together with the underlying principles in construction, are emphasized throughout each course. While such work takes precedence over mere manipulative skill, hand-training is not neglected. This type of work has more to offer than mere technique.

Pupils taking this curriculum are segregated in subjects related to homemaking or trade training courses as required by law, but they have instruction in common with the other pupils of the school in the so-called unrelated subjects, English, social studies, general science, and physical training.



Machine Shop

**Industrial Arts Curriculum.** Like the household arts curriculum this curriculum is planned so that it meets the requirements of state and federal statutes governing vocational education for boys. In accordance with the requirements noted above, boys may elect this curriculum when they are fourteen years of age. Fifteen clock hours a week in some one of the shops is a requirement for this type of work.

This curriculum prepares for apprenticeship in one of several skilled trades. For boys, it anticipates ultimate entry into the industries of the city as craftsmen. Reasons for mechanical processes together with underlying principles in construction are considered an important part of this work. While hand-training is not neglected manual skill is not the sole aim of unit trade courses. Shop work has far more to offer than mere technique.

Since modern industry is a matter of production, actual production methods are employed in the shop work. For example, the boys in the woodworking shops make school furniture actually used in the schools. The equipment in the school shops is the same as that which would be found in a modern factory. Boys taking this curriculum are segregated in subjects taken in the shops as a part of their trade training; but they have instruction in common with the other pupils in the school in such subjects as English, social studies, general science, and physical training.

Rochester has no technical high school where unit trade courses are offered. The junior high school organization provides in each of four sections of the city opportunities for vocational training superior, in many ways, to those available in cities where trade schools have been established. That the trade training provided for boys, who elect the industrial curriculum, is of distinct value in helping them to choose a life career, is evidenced by the fact that nearly all who have graduated from this department of the school have engaged in pursuits for which the school provides training.

Statistics given in another section make it clear that many boys find an added incentive to remain in school because of the opportunities offered by the industrial arts curriculum.

All pupils in the junior high school except those who come under the special provisions of state and federal statutes follow the same curriculum throughout their first year, that is, through the 7th grade. Choice of a curriculum is made at the beginning of the 8th grade when the pupils have

been in the junior high school for a year and have had time to learn something about the opportunities offered.

The selection of a curriculum is made only after careful consideration of the future needs of each pupil by parent, pupil, and teacher. The choice is further safeguarded by the work of guidance teachers and school counselors as outlined in the second section of this report. The following summary will give some idea of the goal the pupil should have in mind when selecting a particular curriculum.

### FOREIGN LANGUAGE CURRICULUM AND TECHNICAL CURRICULUM

#### Foreign Language Curriculum

English  
Mathematics  
Social Studies  
Science

French or Latin

#### Technical Curriculum

English                      Social Studies  
Mathematics              Science

Drafting  
Elementary Machine Shop  
Cabinet Making  
Pattern Making  
Printing

The Foreign Language Curriculum leads to that line of work in the senior high school which prepares for college those who have in mind such vocations as the following:

|            |                            |
|------------|----------------------------|
| Doctor     | Minister                   |
| Druggist   | Missionary                 |
| Journalist | Musician                   |
| Lawyer     | Physical Training Director |
| Librarian  | Teacher                    |

Either the Foreign Language Curriculum or the Technical Curriculum leads to that line of work in the senior high school which prepares for college those who have in mind such vocations as the following:

|                        |                     |
|------------------------|---------------------|
| Architect              | Factory Foreman     |
| Chemist                | Forester            |
| Contractor and Builder | Nurse               |
| Dentist                | Optometrist         |
| Draftsman or Designer  | Surveyor            |
| Engineer               | Teacher (Technical) |



The above list of vocations is merely suggestive. The choice of a curriculum will be vitally affected by individual capacities and by the outlook for future school opportunities. If the pupil is quite sure of remaining in school and yet is in some doubt as to which of the above curriculums to select, it will probably be better for him to choose the foreign language curriculum. Varying college entrance requirements will have to be carefully considered in making a final choice when entering senior high school.

The Technical Curriculum also leads to that line of academic and shop work in the senior high school which prepares pupils for entry into the industries of the city and gives more complete preparation for industrial occupations than is possible in the junior high school industrial course.

### COMMERCIAL CURRICULUM

|                |                           |
|----------------|---------------------------|
| English        | First Lessons in Business |
| Mathematics    | Typewriting               |
| Social Studies | Bookkeeping               |
| Science        | Commercial Geography      |

The Commercial Curriculum leads to the Senior High School Commercial Course which prepares for college those students who have in mind such vocations as the following:

|            |                      |
|------------|----------------------|
| Accountant | Merchant             |
| Advertiser | Retail Sales Person  |
| Agent      | Secretary            |
| Banker     | Stenographer         |
| Bookkeeper | Teacher (Commercial) |
| Broker     |                      |

The Commercial Curriculum also leads to such occupations as:

|               |               |                  |            |
|---------------|---------------|------------------|------------|
| Billing Clerk | File Clerk    | Ledger Clerk     | Mail Clerk |
| Cashier       | General Clerk | Machine Operator | Messenger  |

Retail Store Service:

|                           |                      |
|---------------------------|----------------------|
| Stock Girl                | Shipping Clerk       |
| Check Girl                | Stock Clerk          |
| Junior Sales Girl         | Switchboard Operator |
| Buyer and Assistant Buyer | Typist               |

## INDUSTRIAL CURRICULUM

### Book Work—Half Day

|         |             |                |         |
|---------|-------------|----------------|---------|
| English | Mathematics | Social Studies | Science |
|---------|-------------|----------------|---------|

### Shop Work—Half Day

Boys select one of the following shops:

|                |                         |                |             |
|----------------|-------------------------|----------------|-------------|
| Cabinet Making | Electricity             | Machine Shop   | Print Shop  |
| Drafting       | Gas Engine              | Pattern Making | Sheet Metal |
|                | Painting and Decorating |                |             |

Girls take work in the following homemaking courses:

|         |                   |           |          |
|---------|-------------------|-----------|----------|
| Cooking | Dressmaking       | Millinery | Textiles |
| Design  | Household Science | Sewing    |          |

The Industrial Curriculum leads to the Rochester Shop School and to the 9th year in the senior high school.

These trade courses of the Industrial Curriculum lead to the following occupations:

|                    |             |                   |               |
|--------------------|-------------|-------------------|---------------|
| Auto Mechanic      | Chauffeur   | Factory Worker    | Painter       |
| Cabinet Maker      | Draftsman   | Machinist         | Pattern Maker |
| Carpenter          | Electrician | Mill Operative    | Printer       |
| Sheet Metal Worker | Sign Writer | Wireless Operator |               |

The homemaking courses of the Industrial Curriculum lead to the following occupations:

|            |                   |          |
|------------|-------------------|----------|
| Dressmaker | Lunch Room Worker | Milliner |
|------------|-------------------|----------|

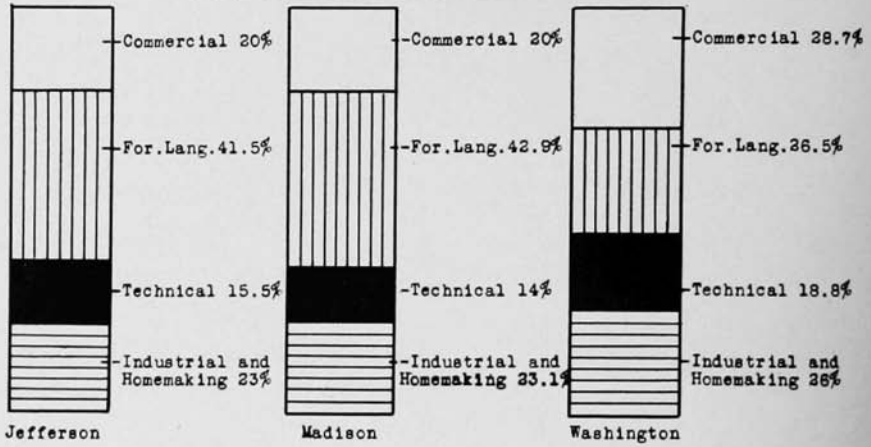
This course fits girls for homemaking duties.

The following chart gives a graphic representation of the distribution of pupils by curriculums.

### CURRICULUM CHOICES

As the students in the seventh grade follow the same general curriculum they are not included in this study.

#### SCHOOLS BY CURRICULUMS -- PERCENTAGE BASIS



#### BOYS AND GIRLS BY CURRICULUMS

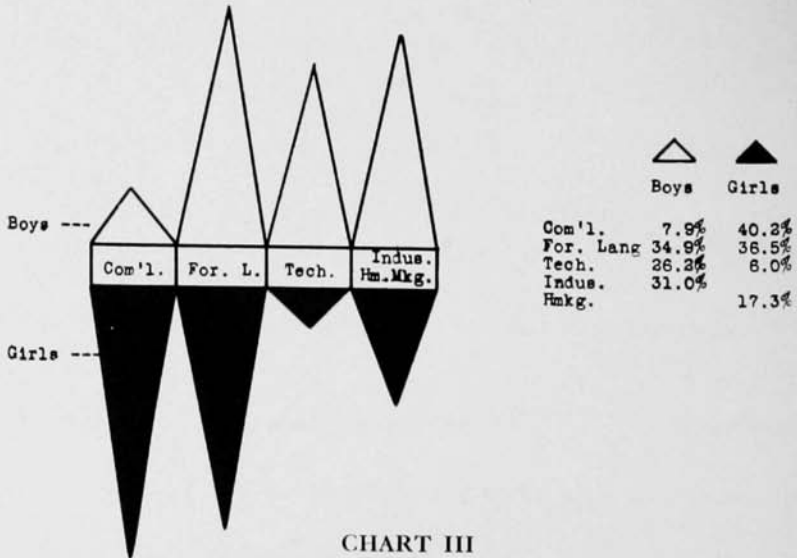


CHART III



## AIMS OF THE SPECIAL SUBJECTS

**Art Education.** The aim of art education in the junior high school is to equip the pupil with a knowledge of certain governing principles that will acquaint him with standards by means of which he may estimate



Free Hand Drawing

the beauty or artistic merit of his surroundings. The course is planned to add to the knowledge acquired in the lower grades and thereby to give to the pupil a clearer understanding and finer appreciation of art in its relation to his own life. Pupils are also led to see the importance of a knowledge of drawing and of color in relation to industry. For example, they are helped to sense the fact that drawings are in constant use by manufacturers, builders, architects, machinists, and others; and finally to realize that the best painters, tailors, dressmakers, milliners, etc., combine a knowledge of form and color with their trades. All this helps the pupils to understand the relation of the training which comes through art education to whatever work they may undertake. Consequently strong emphasis is placed on industrial, commercial, and household arts problems; for in solving these problems the pupils acquire dexterity of hand and accuracy of eye which develop the power of perception, of

concentration, and of self-reliance. They are also taught economy of time and of the use of materials.

**Health Education.** Since the Federal Bureau of Education adopted the comparatively recent health plank as a fundamental part of the educational program for secondary schools, there has been a sincere effort made by state legislators and public school officials to develop an effective health education program for the pupils attending the public schools.

In the junior high schools the aim in health education is to awaken the interest of the pupils in a hygienic program that will serve as a basis for the development of right health habits, a sound body, strong moral fiber, happiness, and increased efficiency for life's work. The development of right health habits is accomplished through instruction in hygiene, namely, intelligent care of the body; through daily morning health inspection; through a daily nutrition period; and through frequent school health campaigns, plays, and pageants.

The following activities play a large part in assisting pupils to approximate physical fitness or a sound body;

A physical examination once a year with a strong appeal for corrective treatment when needed.

Daily class room setting-up drills.

Gymnastic exercise including marching tactics, maze running, and vigorous free arm, trunk, and leg movement.

Physical ability tests.

Swimming contests.

Through participation in the highly organized group game work, the folk dancing, and the athletic contests as provided in the gymnastic drills and the after-school recreation program, boys and girls have many opportunities to act in situations that are physically wholesome, mentally stimulating and satisfying, and socially desirable. Furthermore, through participation in supervised games and athletics each pupil has an opportunity to exercise the emotions which control conduct to such a large extent; and under the direction of the teacher, to develop such moral qualities as fair play, self-control, loyalty, honesty, and appreciation of the rights of others. In this most practical way health education plays a very important part in the development of a true spirit of democracy and the formation of good citizenship habits.



**Music.** The junior high school organization brings together into one school so many pupils of nearly the same age that it provides much more favorable conditions than the grammar school for the development of such special groups as glee clubs, orchestras, quartets, and bands. The pupil is now ready to understand musical form and the finer points in interpretation. Such work affords additional opportunity to develop co-operation. Music also has a large part to play in developing and training the pupil's emotions along right lines.

The junior high school training in music is extensive rather than intensive. As most pupils eventually will be listeners rather than performers, considerable attention is given to the hearing of good music with intelligent direction and criticism. Suitable voice training is provided to fit the pupil to take a helpful part in church, Sunday School, lodge, or community chorus. He has also the opportunity of learning to play an instrument in band or orchestra. The music organizations of the school not only provide music at school assembly programs but contribute to public entertainment in various other community gatherings.

**Penmanship.** The aim in the teaching of penmanship in the junior high school is the development of a legible, clear-cut, rapid, handwriting by every pupil. The demand for better writing is growing stronger every day; and greater interest is being manifested in this work by teachers, pupils, and parents than ever before. Aside from the actual task of writing, great emphasis is placed upon maintaining a healthful posture of the body, freedom of movement in the execution of the letter forms, and sufficient speed to meet the requirements of daily written work.

**Hand Work for all Boys.** This instruction furnishes experience in the use of materials of differing qualities and provides a wide variety of hand-training. The junior high schools have been equipped with typical shops representing various industries of the city. A condensed list of this equipment is given in Part V.

There are two try-out shops. One is a general utility shop with a limited equipment for woodworking, sheet metal, concrete, and electricity. Boys entering the 7th B grade in the junior high school receive instruction in this shop. For boys in the 7th A grade an elementary machine shop equipped with light metalworking machines is provided. To boys who are about to make a choice of curriculum, these two 7th grade try-out shops offer a means of familiarizing them with hand processes in wood, metal, and other materials. The experience thus gained helps pupils to understand the opportunities offered in the technical, or the industrial



curriculum, and so enables them to choose wisely when they elect a curriculum at the beginning of the 8th grade. The types of shops for 8th and 9th grade boys cover the woodworking, metal, and electrical trades, as well as graphic, and commercial art.

In woodworking there is a mill room, operating under modern methods, and a pattern-making shop. In connection with the pattern-making shop at the Madison Junior High School there is a foundry which is used chiefly for older pupils. An advanced machine shop with a full equipment and a sheet metal shop complete the provision for the metal trades. The demand for instruction in electricity has led to the establishment of shops equipped for electrical testing as well as for construction. The demands of the industrial arts classes have usually been so great that the two last mentioned shops have not been available for pupils from other departments. The graphic arts are represented in part by a print shop in each of the schools. In the Madison Junior High School a lithographing shop, equipped by the Local Branch of the National Association of Employing Lithographers, has been opened. Each school is well equipped for instruction in commercial art, painting, and decorating. Mechanical drawing is closely correlated with all shop work for boys.

For a commercial or foreign language pupil shop work both widens the boy's knowledge of material and tools, and provides training for skill of hand. For the pupil selecting a technical course, shop experiences are a part of the necessary preparation for industrial leadership. For boys taking industrial courses the purpose of instruction in the shops is immediately vocational.

**Hand Work for Girls.** Local statistics show that most women do not remain in industrial, or commercial pursuits, much beyond an average age of twenty-six. Their sphere is properly, and in general ultimately, the home. Cooking, sewing, dressmaking, millinery, laundry work, and household science are, therefore, offered in the junior high school with a view to preparing girls to enter upon the duties of homemakers. Seventh grade homemaking courses furnish experiences in the handling of materials, give a knowledge of hand processes, and afford opportunities that help the girls when they are called upon to choose a curriculum at the beginning of the 8th grade.

As is the case with the boys, so the girls in the foreign language and commercial curriculum give less time to hand work than do the pupils in technical and industrial courses. A detailed statement of the time distribution by subjects in the homemaking courses follows:

### Time Schedule for Shop Work and Drawing in the Various Curriculums

| Curriculum                   | Shop Work |     |     | Drawing     |             |     |
|------------------------------|-----------|-----|-----|-------------|-------------|-----|
|                              | 7th       | 8th | 9th | 7th         | 8th         | 9th |
| Foreign Language             | 3         | 3   | 3   | B-1½<br>A-1 | B-1<br>A-1½ | 2   |
| Commercial                   | 3         | 3   | 3   | B-1½<br>A-1 | 0           | 0   |
| Technical                    | 3         | 4½  | 6   | B-1½<br>A-1 | 2           | 3   |
| Industrial or Household Arts | *15       | 15  | 15  | 2           | 2           | 2   |

#### Household Arts

##### General 7thB—7thA

|    |   |  |                    |
|----|---|--|--------------------|
| 7B | 1 | 90-minute period per week for 20 weeks | Textiles, Clothing |
|    | 1 | 90-minute period per week for 20 weeks | Household Science  |
| 7A | 1 | 90-minute period per week for 20 weeks | Laundry            |
|    | 1 | 90-minute period per week for 20 weeks | Clothing           |

#### Commercial and Foreign Language

##### 8thB—8thA—9thB—9thA

|    |   |   |  |
|----|---|---|--|
| 8B | 1 | 90-minute period per week for 20 weeks  | Foods  |
|    | 1 | 90-minute period per week for 20 weeks  | Clothing, Millinery—<br>(Millinery not more than 10 weeks) |
| 8A | 1 | 90-minute period per week for 20 weeks  | Foods  |
|    | 1 | 90-minute period per week for 20 weeks  | Clothing, Millinery—<br>(Millinery not more than 10 weeks) |
| 9B | 1 | 90-minute period per week for 20 weeks  | Elementary Nutrition                                       |
|    | 1 | 90-minute period per week for 20 weeks  | Home Nursing   |
| 9A | 2 | 90-minute periods per week for 20 weeks | Clothing and clothing budgets                              |

\*The law allows one hour to be taken from this time for assemblies.

**Technical**

| 8thB—8thA . . . . . 270 minutes |   | 9thB—9thA . . . . . 360 minutes |   |
|---------------------------------|---|---------------------------------|---|
| 8B                              | 1 90-minute period per week for 20 weeks  |                                 | Clothing  |
|                                 | 1 90-minute period per week for 20 weeks  |                                 | Laundry   |
|                                 | 1 90-minute period per week for 20 weeks  |                                 | Household Science   |
| 8A                              | 1 90-minute period per week for 20 weeks  |                                 | Textiles and clothing                                       |
|                                 | 1 90-minute period per week for 20 weeks  |                                 | Millinery   |
|                                 | 1 90-minute period per week for 20 weeks  |                                 | Foods   |
| 9B                              | 1 90-minute period per week for 20 weeks  |                                 | Clothing  |
|                                 | 1 90-minute period per week for 20 weeks  |                                 | Foods, menu, and serving                                    |
|                                 | 1 90-minute period per week for 20 weeks  |                                 | Home nursing and child care                                 |
|                                 | 1 90-minute period per week for 20 weeks  |                                 | Advance millinery   |
| 9A                              | 2 90-minute periods per week for 20 weeks |                                 | Clothing  |
|                                 | 1 90-minute period per week for 20 weeks  |                                 | Foods   |
|                                 | 1 90-minute period per week for 20 weeks  |                                 | (Household management—Budgets and their relation to income) |

**Vocational Classes**

|    |   |   |
|----|---|---|
| 7B | 4 90-minute periods per week for 20 weeks | Clothing  |
|    | 3 90-minute periods per week for 20 weeks | Textiles  |
|    | 1 90-minute period per week for 20 weeks  | Household Science—<br>(1 period theory, 2 periods food) |
|    | 1 90-minute period per week for 20 weeks  | Elementary nutrition                                    |
|    | 1 90-minute period per week for 20 weeks  | Laundry   |
| 7A | 4 90-minute periods per week for 20 weeks | Textiles and clothing                                   |
|    | 1 90-minute period per week for 20 weeks  | Millinery   |
|    | 1 90-minute period per week for 20 weeks  | Laundry   |
|    | 3 90-minute periods per week for 20 weeks | Food—preservation and serving                           |
|    | 1 90-minute period per week for 20 weeks  | Home nursing  |



|    |   |   |  |
|----|---|---|--|
| 8B | 4 | 90-minute periods per week for 20 weeks | (Garment making, darning, patching, clothing budgets)  |
|    | 1 | 90-minute period per week for 20 weeks  | Millinery  |
|    | 1 | 90-minute period per week for 20 weeks  | Textiles   |
|    | 1 | 90-minute period per week for 20 weeks  | Laundry  |
|    | 3 | 90-minute periods per week for 20 weeks | (Marketing, meal preparation, serving, food preservation)  |
| 8A | 5 | 90-minute periods per week for 20 weeks | Clothing (garment making, children's play clothing, remodeling and dry cleaning, patching and darning) |
|    | 1 | 90-minute period per week for 20 weeks  | Millinery  |
|    | 3 | 90-minute periods per week for 20 weeks | Foods (meal preparation, serving, food study, food accounts)   |
|    | 1 | 90-minute period per week for 20 weeks  | Laundry  |
| 9B | 4 | 90-minute periods per week for 20 weeks | Clothing (garment making, mending and darning, remodeling, school and community needs)                 |
|    | 2 | 90-minute periods per week for 20 weeks | Advanced millinery   |
|    | 1 | 90-minute period per week for 20 weeks  | Household management   |
|    | 2 | 90-minute periods per week for 20 weeks | Foods (preparation and serving, diets in relation to health, diets for the sick)                       |
|    | 1 | 90-minute period per week for 20 weeks  | Marketing.   |
| 9A | 4 | 90-minute periods per week for 20 weeks | Clothing (graduating dress, remodeling, clothing budgets).   |

---

|   |   |                                  |
|---|---|----------------------------------|
| 1 | 90-minute period per week for 20 weeks  | Textiles.                        |
| 1 | 90-minute period per week for 20 weeks  | Household management, budgets.   |
| 3 | 90-minute periods per week for 20 weeks | Foods (menu making and serving,) |
| 1 | 90-minute period per week for 20 weeks  | Marketing.                       |

---

### EXTENSION OF JUNIOR HIGH SCHOOL COURSES TO GRAMMAR SCHOOLS

**Adapting Courses to Grammar School Needs.** One problem faced by school authorities was how best to give to the grammar schools some of the benefits of the junior high school course of study, in so far as that was possible without junior high school equipment, and to anticipate the time when other districts would have junior high school buildings, thus lessening the danger of a too abrupt change from the 8-4 to the 6-3-3 plan of school organization as adopted in Rochester.

The course of study in history and civics worked out for the Washington Junior High School was the first one to be adapted to the needs of the upper grades of the city system not included in the junior high school plan. The results of this adaptation were so successful that the Board of Education adopted the following resolution on September 13, 1918:

Whereas, the \*Washington Junior High School, during its three years of work, has contributed much to our course of study because of the particularly favorable conditions under which the school has worked, and

Whereas, the application to the upper grades of our grammar schools of such features of the junior high school, as are practicable under grammar school conditions, will not only be to the advantage of the grammar schools but will greatly facilitate the later transition to the full junior high school type of organization; therefore be it

---

\*Since the above resolution was passed three additional junior high schools have been opened; the Jefferson, the Madison, and the Monroe.

Resolved, That the 7th, 8th and 9th grades of our public schools be designated as Junior High School Grades and that the Junior High School courses of study be adopted for use in these grades to the extent that in the judgment of the Superintendent of Schools such adoption is practicable.

The results that have followed the introduction of these courses into the upper grades of the grammar schools have fully justified the changes made. Heads of departments in both senior high schools have reported a gradual growth toward a higher standard as well as a more desirable uniformity in the work done by the classes that come to the senior high schools from all parts of the city.

**Departmental Work in the Seventh and Eighth Grades.** Previous to this resolution of the Board of Education, creating junior high school grades, several of the principals had become convinced that departmental work in the 7th and 8th grades was a desirable type of organization. Up to September, 1918 seven schools had adopted this type of organization.

At the present time there are ten grammar schools with 7th and 8th grades outside of junior high school districts. All except one of these schools have adopted the departmental plan. Of the four new schools that have recently been taken into the city by annexation of territory, two have adopted the departmental plan, one is in the Madison Junior High District and the other is too small to make such a plan feasible.

This plan makes it possible for teachers of the same subject to gather in groups and discuss their work. Limiting the teaching to particular subjects also makes it possible for each teacher to become more proficient in the subject assigned. She is thus able to get a broader and more complete view of the full course of study in so far as the particular subject she is teaching is concerned and is, therefore, better able to relate the work of the 7th and 8th grades to the work that is to follow. The general adoption of the departmental plan, together with the introduction of new courses of study, has greatly facilitated the transition from the regular grade organization to the junior high school type of organization. This change is now being made without difficulty as new junior high school buildings are completed.





**Monroe Junior High School**

## PART IV

---

### RESULTS

---

#### EDUCATIONAL RESULTS

**The Changing Educational Outlook.** The measurement of the educational results realized in our rapidly developing junior high schools is not an easy task. This is due to a variety of causes. A number of transforming influences have greatly modified the educational background of a decade ago. Among these may be mentioned:

1. A re-statement of aims and values in terms of definite ideals, activities, and life interests.
2. A corresponding re-organization of the subject-matter of all school subjects.
3. A re-adjustment of time schedules and of class room methods.

It cannot be denied that school people are trying very earnestly to outline secondary school objectives clearly and definitely and to relate the subject-matter of each course to these objectives. At the same time, "in most instances we have gone little further than to suggest through illustration the nature and types of the reorganized content. It will be necessary in the next place to state, so far as is possible, these new materials for secondary school instruction in terms of workable units, quantitative and qualitative, and later some sequence of topics. It is axiomatic that unless secondary school teachers are trained to interpret and to present intelligently these new materials to pupils it will be futile to outline a new body of subject-matter."\* Until prevailing school room practice is brought into closer harmony with the newer ideals, educational measurement will be a field of uncertainty and controversy.

**The Need of New Standards.** Every progressive teacher knows that, eventually, new standards will have to be developed in each school subject. Comprehensive tests will be evolved which will give due attention not merely to information, but also to more elusive factors—such as attitudes, habits, ideals, and powers.

---

\* J. A. Clement, December, 1922, Educational Administration and Supervision.

Hence, school results can no longer be measured by the exclusive use of the customary standards such as are represented by the syllabi and examinations prepared by the Regents Board, the College Entrance Examination Board, and Standard Tests in Specialized Subjects. Such standards will continue to serve an excellent purpose as points of departure, or as provisional bases for comparison. They will often discourage reckless or aimless experimentation by reminding the teacher that a good school should never substitute mere novelties for sound achievements. For years the traditional tests may be expected, very properly and naturally, to exert a real influence in every class room. Nevertheless they should not be permitted to dominate courses, to influence methods unduly, and to govern the educational outlook of the school.

Similar considerations apply to comparisons of junior high school "results" with those of the senior high schools. In view of the unavoidable educational differences that mark these two types of institutions, it is obviously unfair to both to carry comparisons very far. Statistical investigations may "prove" much or little, according to the point of view adopted at the outset. If the emphasis is put primarily on scholarship, characteristic conclusions are likely to follow. If, on the other hand, due attention is also given to the social-civic policy of each school, and to the vocational opportunities offered, a very different evaluation is sure to result. It is clear, therefore, that the educational investigator faces a very real dilemma. He must either use conventional and, therefore, imperfect tools of measurement, or he must create new tests and thus lose a familiar, objective basis for comparison. No attempt has been made in Rochester to ignore this vexing problem. The educational statistics appearing in this section should be read in the light of the above remarks. They were collected without preconceived theories and they do not pretend to convey final messages.

**Purpose of this Study.** The purpose of this study was to secure reliable data as to the progress of the junior high schools in some of the academic lines of school work. No standard results exist at present for junior high schools. It was thought best, therefore, to measure the efficiency of junior high school methods, in typical school subjects, by means of a comparison with the achievements of the senior high schools. This procedure seemed justifiable also because there has been very close co-operation between the junior and senior high schools. In a number of academic subjects there has been in fact a completely unified approach in both types of schools. Although the upper high schools still operate



under a different time schedule and are unable to duplicate in all respects the class room procedure in the junior high schools, there is a sufficient agreement between the two types of schools to make worth while a comparative study such as is presented in these pages.

**Method of the Study.** In the preparation of the accompanying statistical material these sources of information were used:

1. The semester reports of the junior and senior high schools, for the past three years, in all 9th year subjects.
2. A number of comparative tests in Latin and Mathematics.
3. The complete record of each Washington Junior High School graduate at East High School, compared with his corresponding record at the junior high school.

**Reasons for Comparisons Made.** In this study each junior high school was studied with reference to the corresponding achievement in one of the senior high schools. This was done because each of the two junior high schools concerned sends its graduates to the particular senior high school mentioned and because of this fact particularly close relationships have been established between the two groups of schools. It so happens that each of the senior high schools up to the present time has had 9th year classes which did not receive their preparation in a junior high school. In other words, the senior high schools and the junior high schools have both had 9th year classes taught respectively by the methods prevailing in each type of school. Hence a comparison was made of the withdrawals and failures occurring in all the 9th year academic and commercial subjects in each senior high school and its affiliated junior high school.

**Comparative Study of Ninth Year Withdrawals and Failures.** The following tables represent a comparative study of subject withdrawals and failures at the senior high schools and the affiliated junior high schools. The subjects considered are those in which comparable courses of study exist in the two types of schools.

Table 6

### Comparative Statistics of 9th Year Withdrawals and Failures in Junior and Senior High Schools

Let: N=number enrolled; W=number of withdrawals;  
F=number of failures.

#### Washington Junior High School 9B (I-1)

|                   | English |    |     | Latin |     |      | Algebra |     |     | Commercial* |     |     |
|-------------------|---------|----|-----|-------|-----|------|---------|-----|-----|-------------|-----|-----|
|                   | N       | W  | F   | N     | W   | F    | N       | W   | F   | N           | W   | F   |
| Jan. '21.....     | 163     | 4  | 4   | 41    | 0   | 3    | 87      | 2   | 14  | 252         | 8   | 6   |
| June '21.....     | 177     | 7  | 11  | 58    | 2   | 7    | 110     | 2   | 17  | 223         | 11  | 22  |
| Jan. '22.....     | 205     | 6  | 6   | 46    | 3   | 5    | 121     | 3   | 29  | 274         | 10  | 7   |
| June '22.....     | 228     | 7  | 23  | 54    | 0   | 4    | 86      | 1   | 9   | 304         | 20  | 47  |
| Jan. '23.....     | 221     | 9  | 10  | 57    | 1   | 11   | 124     | 8   | 24  | 209         | 6   | 19  |
| June '23.....     | 257     | 17 | 14  | 36    | 2   | 5    | 177     | 15  | 35  | 284         | 6   | 34  |
| TOTAL.....        | 1251    | 50 | 68  | 292   | 8   | 35   | 705     | 31  | 128 | 1546        | 61  | 135 |
| Per cent of total |         | 4. | 5.7 |       | 2.7 | 12.3 |         | 4.4 | 19. |             | 3.9 | 9.1 |

#### East High School I-1

|                   | English |     |     | Latin |     |      | Algebra |      |      | Commercial* |      |      |
|-------------------|---------|-----|-----|-------|-----|------|---------|------|------|-------------|------|------|
|                   | N       | W   | F   | N     | W   | F    | N       | W    | F    | N           | W    | F    |
| Jan. '21.....     | 370     | 23  | 34  | 298   | 18  | 78   | 312     | 21   | 45   | 424         | 38   | 43   |
| June '21.....     | 277     | 43  | 20  | 205   | 30  | 33   | 231     | 38   | 41   | 331         | 54   | 44   |
| Jan. '22.....     | 369     | 26  | 20  | 242   | 24  | 52   | 338     | 22   | 45   | 440         | 52   | 68   |
| June '22.....     | 346     | 33  | 39  | 227   | 37  | 41   | 322     | 36   | 43   | 358         | 45   | 39   |
| Jan. '23.....     | 447     | 22  | 45  | 328   | 56  | 64   | 430     | 61   | 73   | 384         | 35   | 49   |
| June '23.....     | 331     | 36  | 37  | 256   | 40  | 46   | 328     | 51   | 52   | 327         | 59   | 59   |
| TOTAL.....        | 2140    | 183 | 195 | 1556  | 205 | 314  | 1961    | 229  | 299  | 2264        | 283  | 302  |
| Per cent of total |         | 8.6 | 10. |       | 13. | 23.2 |         | 11.7 | 17.3 |             | 12.5 | 15.2 |

#### Washington Junior High School 9A (I-2)

|                   | English |     |     | Latin |     |     | Algebra |     |      | Commercial* |    |     |
|-------------------|---------|-----|-----|-------|-----|-----|---------|-----|------|-------------|----|-----|
|                   | N       | W   | F   | N     | W   | F   | N       | W   | F    | N           | W  | F   |
| Jan. '21.....     | 127     | 1   | 3   | 33    | 0   | 3   | 55      | 2   | 2    | 201         | 3  | 28  |
| June '21.....     | 168     | 3   | 4   | 33    | 2   | 1   | 75      | 2   | 11   | 249         | 2  | 13  |
| Jan. '22.....     | 156     | 6   | 7   | 47    | 1   | 9   | 86      | 1   | 15   | 192         | 5  | 15  |
| June '22.....     | 196     | 3   | 4   | 36    | 3   | 1   | 81      | 1   | 11   | 262         | 2  | 21  |
| Jan. '23.....     | 197     | 3   | 5   | 47    | 0   | 1   | 108     | 2   | 9    | 259         | 0  | 35  |
| June '23.....     | 262     | 7   | 2   | 47    | 1   | 1   | 169     | 7   | 20   | 240         | 1  | 7   |
| TOTAL.....        | 1106    | 23  | 25  | 243   | 7   | 16  | 574     | 15  | 68   | 1403        | 13 | 119 |
| Per cent of total |         | 2.1 | 2.3 |       | 2.9 | 6.8 |         | 2.6 | 12.2 |             | .9 | 8.6 |

\*Under "Commercial" in the above tabulations are included: Commercial Mathematics, Bookkeeping, and Typewriting. In the junior high schools the above subjects are taken as a whole, while in the senior high schools pupils may elect individual subjects of the first year Commercial Course.

## RESULTS

115

## East High School I-2

|                   | English  |     |     | Latin    |     |     | Algebra   |     |     | Commercial* |     |     |
|-------------------|----------|-----|-----|----------|-----|-----|-----------|-----|-----|-------------|-----|-----|
|                   | N        | W   | F   | N        | W   | F   | N         | W   | F   | N           | W   | F   |
| Jan. '21.....     | 182      | 9   | 20  | 139      | 12  | 33  | 218       | 14  | 52  | 208         | 14  | 33  |
| June '21.....     | 329      | 18  | 31  | 238      | 20  | 48  | 296       | 35  | 72  | 357         | 36  | 65  |
| Jan. '22.....     | 214      | 16  | 19  | 132      | 6   | 28  | 244       | 34  | 60  | 254         | 33  | 35  |
| June '22.....     | 363      | 28  | 24  | 218      | 19  | 47  | 376       | 52  | 84  | 363         | 43  | 55  |
| Jan. '23.....     | 252      | 10  | 26  | 212      | 22  | 56  | 343       | 37  | 100 | 250         | 22  | 27  |
| June '23.....     | 439      | 40  | 54  | 244      | 24  | 50  | 421       | 49  | 94  | 338         | 63  | 58  |
| TOTAL.....        | 1779     | 121 | 174 | 1183     | 103 | 262 | 1898      | 221 | 462 | 1760        | 211 | 273 |
| Per cent of total | 6.8 10.5 |     |     | 8.7 24.2 |     |     | 11.6 27.5 |     |     | 12. 17.6    |     |     |

**Table 7**  
**Jefferson Junior High School 9B (I-1)**

|                   | English |    |     | Latin    |   |    | Algebra  |    |    | Commercial* |    |     |
|-------------------|---------|----|-----|----------|---|----|----------|----|----|-------------|----|-----|
|                   | N       | W  | F   | N        | W | F  | N        | W  | F  | N           | W  | F   |
| Jan. '21.....     | 136     | 7  | 17  | 25       | 1 | 2  | 75       | 3  | 6  | 126         | 9  | 17  |
| June '21.....     | 104     | 7  | 16  | 23       | 1 | 4  | 99       | 6  | 9  | 69          | 6  | 13  |
| Jan. '22.....     | 155     | 4  | 18  | 56       | 2 | 3  | 119      | 5  | 17 | 101         | 0  | 24  |
| June '22.....     | 175     | 8  | 27  | 45       | 0 | 10 | 108      | 4  | 22 | 143         | 10 | 26  |
| Jan. '23.....     | 134     | 8  | 8   | 53       | 1 | 11 | 104      | 8  | 13 | 104         | 13 | 16  |
| June '23.....     | 180     | 7  | 24  | 62       | 1 | 15 | 114      | 1  | 15 | 135         | 12 | 14  |
| TOTAL.....        | 884     | 41 | 110 | 264      | 6 | 45 | 619      | 27 | 82 | 678         | 50 | 110 |
| Per cent of total | 4.6 13. |    |     | 2.3 17.4 |   |    | 4.4 13.8 |    |    | 7.4 17.5    |    |     |

## West High School I-1

|                   | English         |    |     | Latin    |    |     | Algebra  |    |     | Commercial* |     |     |
|-------------------|-----------------|----|-----|----------|----|-----|----------|----|-----|-------------|-----|-----|
|                   | N               | W  | F   | N        | W  | F   | N        | W  | F   | N           | W   | F   |
| Jan. '21.....     | 285             | 13 | 43  | 239      | 13 | 81  | 248      | 10 | 57  | 358         | 33  | 75  |
| June '21.....     | 230             | 34 | 45  | 213      | 27 | 59  | 199      | 31 | 38  | 263         | 44  | 34  |
| Jan. '22.....     | 424             | 18 | 87  | 299      | 11 | 85  | 277      | 12 | 68  | 443         | 11  | 110 |
| June '22.....     | 258             | 25 | 50  | 213      | 28 | 63  | 211      | 17 | 38  | 315         | 42  | 46  |
| Jan. '23.....     | No I-1 classes  |    |     | 39       | 8  | 7   | 11       | 3  | 2   | 57          | 13  | 8   |
| June '23.....     | No I-1 Eng. Cl. |    |     |          |    |     |          |    |     |             |     |     |
| TOTAL.....        | 1197            | 90 | 225 | 1003     | 87 | 295 | 946      | 73 | 203 | 1436        | 143 | 273 |
| Per cent of total | 7.5 20.3        |    |     | 8.7 32.2 |    |     | 7.7 23.2 |    |     | 10. 21.1    |     |     |

\*Under "Commercial" in the above tabulations are included: Commercial Mathematics, Bookkeeping, and Typewriting. In the junior high schools the above subjects are taken as a whole, while in the senior high schools pupils may elect individual subjects of the first year Commercial Course.



## Jefferson Junior High School 9A (I-2)

|                   | English |    |    | Latin   |   |    | Algebra  |    |    | Commercial* |   |    |
|-------------------|---------|----|----|---------|---|----|----------|----|----|-------------|---|----|
|                   | N       | W  | F  | N       | W | F  | N        | W  | F  | N           | W | F  |
| Jan. '21.....     | 55      | 0  | 4  | 27      | 0 | 1  | 55       | 0  | 11 | 98          | 3 | 24 |
| June '21.....     | 122     | 14 | 4  | 26      | 0 | 2  | 81       | 6  | 8  | 83          | 5 | 27 |
| Jan. '22.....     | 98      | 0  | 2  | 14      | 0 | 1  | 43       | 0  | 6  | 72          | 0 | 8  |
| June '22.....     | 130     | 4  | 5  | 26      | 0 | 2  | 98       | 3  | 5  | 90          | 0 | 20 |
| Jan. '23.....     | 139     | 6  | 2  | 38      | 3 | 0  | 72       | 2  | 2  | 71          | 0 | 5  |
| June '23.....     | 146     | 3  | 11 | 42      | 0 | 9  | 70       | 1  | 12 | 93          | 0 | 9  |
| TOTAL.....        | 690     | 27 | 28 | 173     | 3 | 15 | 419      | 12 | 44 | 507         | 8 | 93 |
| Per cent of total | 3.9 4.2 |    |    | 1.7 8.8 |   |    | 2.9 10.8 |    |    | 1.6 18.6    |   |    |

## West High School I-2

|                   | English |    |     | Latin    |    |     | Algebra  |    |     | Commercial* |     |     |
|-------------------|---------|----|-----|----------|----|-----|----------|----|-----|-------------|-----|-----|
|                   | N       | W  | F   | N        | W  | F   | N        | W  | F   | N           | W   | F   |
| Jan. '21.....     | 208     | 16 | 35  | 157      | 9  | 50  | 211      | 16 | 46  | 243         | 25  | 56  |
| June '21.....     | 273     | 22 | 55  | 195      | 11 | 54  | 260      | 12 | 91  | 318         | 38  | 105 |
| Jan. '22.....     | 196     | 6  | 43  | 187      | 7  | 62  | 205      | 10 | 63  | 220         | 16  | 56  |
| June '22.....     | 366     | 21 | 50  | 247      | 31 | 41  | 264      | 13 | 60  | 382         | 29  | 43  |
| Jan. '23.....     | 215     | 21 | 25  | 159      | 16 | 33  | 203      | 17 | 41  | 226         | 31  | 61  |
| June '23.....     | 49      | 6  | 7   | 55       | 4  | 15  | 79       | 12 | 18  | 113         | 14  | 17  |
| TOTAL.....        | 1307    | 92 | 215 | 1000     | 78 | 255 | 1222     | 80 | 319 | 1502        | 153 | 338 |
| Per cent of total | 7. 7.6  |    |     | 7.8 27.6 |    |     | 6.5 27.9 |    |     | 10.2 25.    |     |     |

Table 8

Comparative Summary of Work in 9th Year East High School and at Washington Junior High School During the Six Semesters from September, 1920 to June, 1923.

|                    | Number Enrolled    |                 | Per Cent of Withdrawals |                 | Per Cent of Failures |                 |
|--------------------|--------------------|-----------------|-------------------------|-----------------|----------------------|-----------------|
|                    | W. J. H. S.<br>(a) | E. H. S.<br>(b) | W. J. H. S.<br>(c)      | E. H. S.<br>(d) | W. J. H. S.<br>(e)   | E. H. S.<br>(f) |
| English I-1.....   | 1251               | 2140            | 4.                      | 8.6             | 5.7                  | 10.             |
| English I-2.....   | 1106               | 1779            | 2.1                     | 6.8             | 2.3                  | 10.5            |
| Latin I-1.....     | 292                | 1556            | 2.7                     | 13.             | 12.3                 | 23.2            |
| Latin I-2.....     | 243                | 1183            | 2.9                     | 8.7             | 6.8                  | 24.2            |
| Algebra Term.....  | 705                | 1961            | 4.4                     | 11.7            | 19.                  | 17.3            |
| Algebra Final..... | 574                | 1898            | 2.6                     | 11.6            | 12.2                 | 27.5            |
| Com'l I-1.....     | 1546               | 2264            | 3.9                     | 12.5            | 9.1                  | 15.2            |
| Com'l I-2.....     | 1403               | 1760            | .9                      | 12.             | 8.6                  | 17.6            |

\*Under "Commercial" in the above tabulations are included: Commercial Mathematics, Bookkeeping, and Typewriting. In the junior high schools the above subjects are taken as a whole, while in the senior high schools pupils may elect individual subjects of the first year Commercial Course.

## RESULTS

117

|                    | Per Cent of Difference between W. J. H. and E. H. S. |                                      | Number of Pupils Corresponding to per cents in preceding Columns |          | Ratio of withdrawal Per Cents E. H. S. and W. J. H. S. Column (d) Divided by Column (c) | Ratio of Failure Per Cents E. H. S. and W. J. H. S. Column (f) Divided by Column (e) |
|--------------------|--|--------------------------------------|--|----------|---|--|
|                    | Withdr's Column (d) minus Column (c)                 | Failures Column (f) minus Column (e) | Withdr's   | Failures |   |  |
| English I-1.....   | 4.6  | 4.3                                  | 58   | 52       | 2.2   | 1.8  |
| English I-2.....   | 4.7  | 8.2                                  | 52   | 89       | 3.2   | 4.6  |
| Latin I-1.....     | 10.3   | 10.9                                 | 30   | 31       | 4.8   | 1.9  |
| Latin I-2.....     | 5.8  | 17.4                                 | 14   | 41       | 3.  | 3.6  |
| Algebra Term.....  | 7.3  | -1.7                                 | 51   | -12      | 2.6   | .9   |
| Algebra Final..... | 9.   | 15.3                                 | 52   | 86       | 4.5   | 2.2  |
| Com'l I-1.....     | 8.6  | 6.1                                  | 13   | 90       | 3.2   | 1.7  |
| Com'l I-2.....     | 1.1  | 9.                                   | 15   | 125      | 13.3  | 2.   |

Table 9

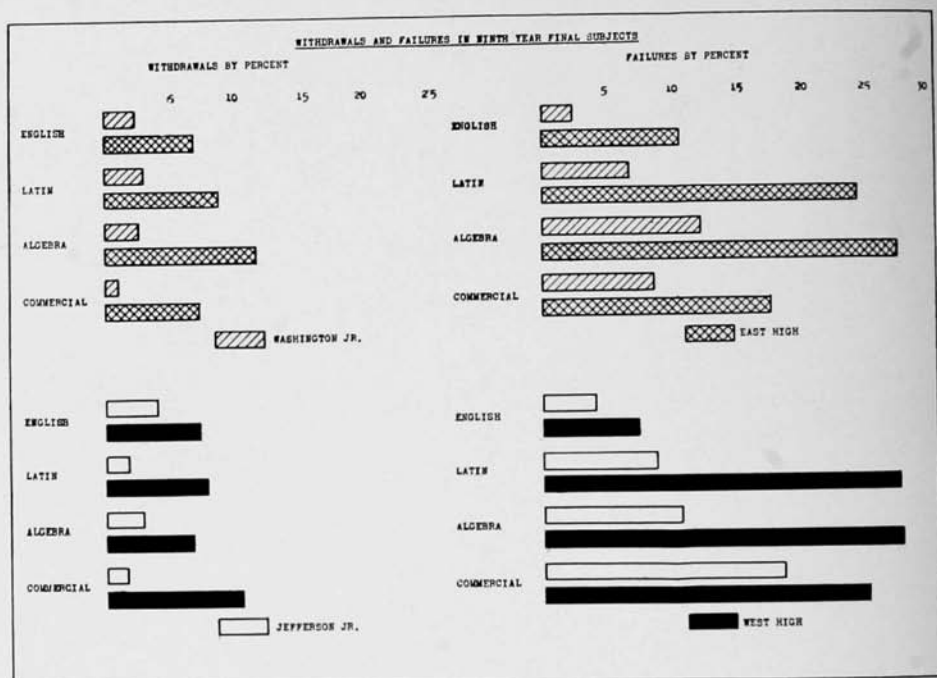
Comparative Summary of Work in 9th Year at West High School and at Jefferson Junior High School During the Six Semesters from September, 1920 to June, 1923.

|                    | Number Enrolled |              | Per Cent of Withdr'wls |              | Per Cent of Failures |              |
|--------------------|-----------------|--------------|------------------------|--------------|----------------------|--------------|
|                    | J. J. H. S. (a) | W. H. S. (b) | J. J. H. S. (c)        | W. H. S. (d) | J. J. H. S. (e)      | W. H. S. (f) |
| English I-1.....   | 884             | 1197         | 4.6                    | 7.5          | 13.                  | 20.3         |
| English I-2.....   | 690             | 1307         | 3.9                    | 7.           | 4.2                  | 7.6          |
| Latin I-1.....     | 264             | 1003         | 2.3                    | 8.7          | 17.4                 | 32.2         |
| Latin I-2.....     | 173             | 1000         | 1.7                    | 7.8          | 8.8                  | 27.6         |
| Algebra Term.....  | 619             | 946          | 4.4                    | 7.7          | 13.8                 | 23.2         |
| Algebra Final..... | 419             | 1222         | 2.9                    | 6.5          | 10.8                 | 27.9         |
| Com'l I-1.....     | 678             | 1436         | 7.4                    | 10.          | 17.5                 | 21.1         |
| Com'l I-2.....     | 507             | 1502         | 1.6                    | 10.2         | 18.6                 | 25.          |

|                    | Per Cent of Difference J. J. H. and W. H. S. |                                      | Number of Pupils corresponding to per cents in preceding columns |          | Ratio of Withdr. Per Cents W. H. S. and J. J. H. S. Column (d) Divided by Column (c) | Ratio of Failure Per Cents W. H. S. and J. J. H. S. Column (f) Divided by Column (e) |
|--------------------|--|--------------------------------------|--|----------|--|--|
|                    | Withdr's Column (d) minus Column (c)         | Failures Column (f) minus Column (e) | Withdr's   | Failures |  |  |
| English I-1.....   | 2.9  | 7.3                                  | 26   | 62       | 1.6  | 1.6  |
| English I-2.....   | 3.1  | 3.4                                  | 21   | 22       | 1.8  | 1.8  |
| Latin I-1.....     | 6.4  | 14.8                                 | 17   | 38       | 3.8  | 1.8  |
| Latin I-2.....     | 6.1  | 18.8                                 | 10   | 32       | 4.6  | 3.1  |
| Algebra Term.....  | 3.3  | 9.4                                  | 20   | 56       | 1.8  | 1.7  |
| Algebra Final..... | 3.6  | 17.1                                 | 15   | 70       | 2.2  | 2.6  |
| Com'l I-1.....     | 2.6  | 3.6                                  | 18   | 23       | 1.4  | 1.2  |
| Com'l I-2.....     | 8.6  | 6.4                                  | 44   | 32       | 6.4  | 1.3  |

The withdrawal and failure records for the ninth year final subjects are graphically illustrated in the following chart:

CHART IV



**Significance of Preceding Tables**—It is apparent that with but one exception the percentages of withdrawals and failures, for the subjects considered, are comparatively low in the junior high schools. This one exception is the record in First Semester Algebra at East High School. It appears, however, that the better record of the upper high school at this point is due entirely to the fact that a new experimental plan has been tried out at East High School during the past three years. This plan postpones some of the more difficult topics of the first semester to the second semester. Strictly speaking, the apparent discrepancy at this point, therefore, only confirms the uniform story contained in the other data of the table.

When the withdrawal and failure records of the Washington and Jefferson Junior High Schools are compared, noticeable differences exist.



## RESULTS

119

Data collected but not published in this report indicate that the differences are due to racial and environmental causes, together with the resulting difference in the mental levels of the pupils. These figures suggest the question whether the teachers of the upper high schools give lower marks than the teachers of the junior high schools. In Los Angeles, according to a report published in the *Journal of Education*, November 1920, that was found to be the case. From the data available thus far it appears that in Rochester the marks given in the upper high schools are but slightly lower than in the junior high schools. Hence the record of the junior high school, as embodied in the above tables, cannot be accounted for entirely by a possible difference in the marking systems. This is indicated by the results of the comparative tests in Algebra and Latin which were scored uniformly. (See Pages 120 and 126).

It may be interesting to compare at this point the corresponding figures of failures in the intermediate (or junior) and senior high schools of Detroit, during four consecutive semesters, as indicated in the tabulations below. These data may be found in the Eightieth Annual Report of the Detroit Public Schools, page 111.

### Failures in Detroit Intermediate or Junior High Schools

| Semester<br>Year | School Health |     | Languages |     | Exact Sciences |     | Social Sciences |     | Vocational |     | Fine Arts |     | Total |      |
|------------------|---------------|-----|-----------|-----|----------------|-----|-----------------|-----|------------|-----|-----------|-----|-------|------|
|                  | No.           | %   | No.       | %   | No.            | %   | No.             | %   | No.        | %   | No.       | %   | No.   | %    |
| 2nd. 1920-21     | 91            | 3.0 | 274       | 6.4 | 358            | 7.6 | 238             | 6.1 | 329        | 4.5 | 92        | 2.6 | 1382  | 5.18 |
| 1st. 1921-22     | 88            | 2.4 | 277       | 5.7 | 328            | 6.0 | 283             | 5.4 | 302        | 3.9 | 66        | 1.3 | 1344  | 4.24 |
| 2nd. 1921-22     | 130           | 2.8 | 266       | 4.1 | 389            | 4.1 | 365             | 3.8 | 318        | 2.7 | 184       | 1.8 | 1652  | 3.13 |
| 1st. 1922-23     | 502           | 5.9 | 318       | 4.6 | 503            | 4.8 | 327             | 2.9 | 396        | 3.3 | 118       | 1.4 | 2164  | 3.95 |

### Failures in Detroit Senior High Schools

| Semester<br>Year | School Health |     | Languages |      | Exact Sciences |      | Social Sciences |      | Vocational |      | Fine Arts |     | Total |      |
|------------------|---------------|-----|-----------|------|----------------|------|-----------------|------|------------|------|-----------|-----|-------|------|
|                  | No.           | %   | No.       | %    | No.            | %    | No.             | %    | No.        | %    | No.       | %   | No.   | %    |
| 2nd. 1920-21     | 567           | 6.3 | 2602      | 11.6 | 2686           | 15.6 | 800             | 8.8  | 1799       | 9.8  | 158       | 3.4 | 8612  | 10.7 |
| 1st. 1921-22     | 740           | 7.5 | 3229      | 11.3 | 3176           | 15.8 | 962             | 9.4  | 2078       | 9.8  | 203       | 3.4 | 10388 | 10.8 |
| 2nd. 1921-22     | 884           | 8.6 | 3484      | 12.5 | 3482           | 16.4 | 920             | 10.0 | 1895       | 9.6  | 283       | 5.0 | 10948 | 11.7 |
| 1st. 1922-23     | 842           | 7.9 | 3947      | 14.6 | 3856           | 18.1 | 989             | 11.0 | 2097       | 11.0 | 267       | 5.0 | 11998 | 13.1 |

**Comparative Tests in Algebra**—Three consecutive tests were given in the four schools concerned, during October and November, 1922. The answer papers of the pupils were marked uniformly by the teacher of each group. These ratings were then inspected and verified by two competent examiners not connected with the public schools.

The tests were taken by the pupils in all the second semester Algebra classes. In East High School these pupils had studied Algebra nearly five months, having also devoted about two months to a study of intuitive Geometry. The West High School classes had studied Algebra nearly eight months, while the junior high school classes had begun Algebra in the second semester of the 8th year, which represents a total of about ten months in Algebra. Obviously, the pupils examined differed greatly in their mathematical preparation. They were, however, of nearly the same chronological ages. It seemed a matter of interest to see just what response could be secured in the four schools concerned several months before the completion of the course in Algebra.

It should be distinctly understood that tests given under such dissimilar conditions do not indicate the ultimate record of each school in the subject considered, inasmuch as the pupils had not completed the prescribed work in any one of the schools mentioned. The tests may serve to indicate, however, the relative progress in academic work of pupils of the same chronological ages in the junior and senior high schools.

Test I was limited to elementary operations and processes. Test II was a speed test. Test III was a problem test. Great difficulty was experienced in selecting types of problems that should be of fairly general appeal and of suitable grade for a period of 40 minutes. In the upper high schools, the 9th year work in Algebra has of necessity been of a conventional type. The approach to the subject in the junior high schools is far more concrete; there is more motivation; more drill in the fundamentals; and constant attention is given to the newer features advocated by progressive thinkers in the field of mathematics. It should be understood that these tests do not adequately reflect the spirit of mathematical instruction in the junior high schools.

A description of each test is given in the following pages, together with the median results obtained in each class.

## RESULTS

121

**Test I—Fundamental Operations**

Time—40 minutes.

- |        |          |          |        |          |              |
|--------|----------|----------|--------|----------|--------------|
| 1. Add | Subtract | Multiply | Divide | Subtract |              |
| $+ 25$ | $- 20$   | $- 15$   | $- 50$ | $+ 70$   | (10 credits) |
| $- 10$ | $+ 5$    | $- 2$    | $- 2$  | $- 20$   |              |
| <hr/>  | <hr/>    | <hr/>    | <hr/>  | <hr/>    |              |
2. Add  $4a - 5b + 6c$  and  $2a + 7a - 3c$ . (6 credits)  
 Check, making  $a = 1, b = 2, c = 3$ . (4 credits)
3. From  $9x + 7y - 4z$  take  $7x - 4y + 2z$ . (6 credits)  
 Check, making  $x = 1, y = 2, z = 3$ . (4 credits)
4. Multiply 1)  $(-4x^2y)$  by  $(7x^3y^2)$ . (5 credits)  
 2)  $-8(-3x-5)$  (5 credits)
5. Multiply  $3x^2 - 4x + 2$  by  $2x - 3$ . (6 credits)  
 Check, making  $x = 2$ . (4 credits)
6. Divide 1)  $-20a^3b$  by  $-5a^2$ . (5 credits)  
 2)  $-4ab + 6ac$  by  $-2a$ . (5 credits)
7. Divide  $12x^2 - 2x - 24$  by  $4x - 6$ . (6 credits)  
 Check, making  $x = 2$ . (4 credits)
8. Simplify  $4(a-b) - 7(2a - 3b) + 6(3a - 4b)$ . (10 credits)
9. Solve  $10(x-1) - 6(2x-3) = 2(4x-6)$ . (7 credits)  
 Check your solution (3 credits)
10. 1) State the rules used in multiplying  $2w$  by  $3L$ . (5 credits)  
 2) Explain by diagram why  $2w \times 3L$  equals  $6Lw$ . (5 credits)

The results obtained in **Test I** are given in the following tables:**Table 10****Test I—East High School (5 months Group)**

| Class.....                        | I  | II | III | IV | V  | VI | VII | VIII | IX | X  | XI | XII | Total |
|-----------------------------------|----|----|-----|----|----|----|-----|------|----|----|----|-----|-------|
| Number in Class..                 | 30 | 30 | 30  | 12 | 31 | 31 | 29  | 25   | 22 | 18 | 26 | 22  | 306   |
| Median rating<br>(per cent) ..... | 66 | 66 | 70  | 70 | 69 | 70 | 56  | 58   | 85 | 62 | 78 | 75  | 70.5  |



Table 11

## Test I—Washington Junior High School (10 months in Algebra)

| Class                    | I    | II   | III | Total |
|--------------------------|------|------|-----|-------|
| Number in class.....     | 37   | 27   | 38  | 102   |
| Median rating (per cent) | 89.7 | 82.5 | 80  | 85    |

Table 12

## Test I—West High School (8 months in Algebra)

| Class                    | I  | II   | III  | IV | V  | VI   | VII  | VIII | Total |
|--------------------------|----|------|------|----|----|------|------|------|-------|
| Number in class.....     | 24 | 22   | 18   | 20 | 26 | 24   | 29   | 20   | 183   |
| Median rating (per cent) | 65 | 78.8 | 72.5 | 83 | 80 | 83.8 | 86.5 | 85   | 80.1  |

Table 13

## Test I—Jefferson Junior High School (10 months in Algebra)

| Class                    | I  | II   | III | Total |
|--------------------------|----|------|-----|-------|
| Number in class.....     | 30 | 23   | 16  | 69    |
| Median rating (per cent) | 90 | 90.8 | 95  | 91.6  |

## Test II—Speed Test (Equations)

(Note: This test was identical with the Rugg-Clark drill test on simple equations. Time, 5 minutes. Standard score, **third** trial, 12 right. The following scores are all based on the **third** trial in each class.)

|                            |                              |
|----------------------------|------------------------------|
| 1. $5-2x=13-4x$ .....      | 10. $-20-3c=7c+9$ .....      |
| 2. $7b-4+b=3b-10+2$ .....  | 11. $11x-7-4x=5x+8-19$ ..... |
| 3. $5c+3=-2$ .....         | 12. $9=4x+7$ .....           |
| 4. $4a+8=6a-5$ .....       | 13. $8-4a=12-6a$ .....       |
| 5. $2y-5+8y=11+7y+2$ ..... | 14. $9+x-6x=5x+3+21$ .....   |
| 6. $3=4x+9$ .....          | 15. $12b+3=-21$ .....        |
| 7. $10-y=3y+18$ .....      | 16. $21-4a=17+a$ .....       |
| 8. $13-5x+7=x+3-2x$ .....  | 17. $-2x-8+5x=+2x+7+5$ ..... |
| 9. $5b-7=8$ .....          | 18. $7x=-12-x$ .....         |

The results obtained in Test II are given in the following tables:

## RESULTS

123

**Table 14**  
**Test II—East High School—(5 months)**

| Class.....                          | I  | II  | III  | IV   | V    | VI   | VII | VIII | IX   | X   | XI   | XII | Total |
|-------------------------------------|----|-----|------|------|------|------|-----|------|------|-----|------|-----|-------|
| Number in class.....                | 26 | 29  | 29   | 14   | 27   | 30   | 23  | 24   | 22   | 18  | 23   | 24  | 289   |
| Median score<br>(Number right)..... | 9  | 8.5 | 10.2 | 11.2 | 10.9 | 12.5 | 8.9 | 7    | 12.6 | 5.6 | 13.3 | 8   | 9.9   |

**Table 15**  
**Test II—Washington Junior High School—(10 months)**

| Class                               | I   | II   | III  | Total |
|-------------------------------------|-----|------|------|-------|
| Number in class.....                | 32  | 26   | 36   | 94    |
| Median score<br>(Number right)..... | 8.6 | 11.9 | 12.6 | 10.9  |

**Table 16**  
**Test II—West High School—(8 months)**

| Class                               | I    | II   | III  | IV   | V    | VI   | VII  | VIII | Total |
|-------------------------------------|------|------|------|------|------|------|------|------|-------|
| Number in class.....                | 21   | 22   | 17   | 19   | 25   | 23   | 29   | 20   | 176   |
| Median score<br>(Number right)..... | 12.5 | 12.5 | 10.5 | 12.2 | 13.1 | 11.2 | 15.6 | 10.5 | 11.4  |

**Table 17**  
**Test II—Jefferson Junior High School—(10 months)**

| Class                               | I    | II   | III | Total |
|-------------------------------------|------|------|-----|-------|
| Number in class.....                | 30   | 22   | 16  | 68    |
| Median score<br>(Number right)..... | 14.7 | 15.3 | 15  | 15    |

**Test III—Problems**

(Note: Time, 40 minutes. Questions 1, 2, 3, 4, 10, receive 14 credits each; questions 5, 6, 7, 8, 9, receive 6 credits each. Division of 14 credits: 6 for correct formation of equation, 5 for correct solution of equation, 3 for correct check).

1. The sum of three numbers is 180. The second is to be 10 larger than the first, and the third is to be equal to the sum of the first two. Find the numbers.
2. A farmer used 900 feet of fence in enclosing a rectangular field. It was found that the length of the field exceeded three times the width by 10. What were the dimensions of the field?
3. Henry at present is twice as old as John. Five years ago the sum of their ages was 20. How old is each now?
4. A man had a collection of coins, consisting of quarters, dimes, and nickels. The value of the coins was \$1.90. There were twice as many nickels as quarters and the number of dimes was one more than the number of quarters. How many coins of each kind did he have?
5. One number is  $n$ . A second is  $c$  less than five times the first. What is the sum of the two numbers?
6. The width of a rectangle is  $w$ . The length is  $d$  feet more than the width. Find the area of the rectangle.
7. A contractor builds  $n$  houses at a cost of  $c$  dollars for each house. He sells each house at a profit of  $p$  dollars. What is the total selling price of all the houses?
8. A man walks 4 hours at the rate of  $r$  miles an hour, and 3 hours at the rate of  $d$  miles an hour. How far has he walked?
9. A man buys  $n$  apples at 2 cents a piece, and  $n$  plus 4 pears at 3 cents a piece. How much does he pay altogether for apples and pears?
10. A passenger train leaves Rochester at 9 A. M. for New York, going at the rate of 40 miles an hour. At 10 A.M. a freight train leaves New York for Rochester, going at the rate of 25 miles an hour. The distance between Rochester and New York is 365 miles. At what time will the two trains pass each other?



## RESULTS

125

The results obtained in Test III are given in the following tables:

**Table 18**  
**Test III—East High School—(5 months)**

| Class.....                       | I    | II | III | IV   | V    | VI   | VII  | VIII | IX   | X    | XI   | XII  | Total |
|----------------------------------|------|----|-----|------|------|------|------|------|------|------|------|------|-------|
| Number in class..                | 29   | 30 | 26  | 16   | 31   | 29   | 26   | 26   | 24   | 19   | 28   | 24   | 308   |
| Median rating<br>(per cent)..... | 72.5 | 43 | 75  | 67.5 | 65.6 | 90.5 | 62.5 | 55   | 86.4 | 64.2 | 83.3 | 71.2 | 70.4  |

**Table 19**  
**Test III—Washington Junior High School—(10 months)**

| Class                    | I    | II   | III  | Total |
|--------------------------|------|------|------|-------|
| Number in class.....     | 38   | 29   | 37   | 104   |
| Median rating (per cent) | 92.1 | 87.1 | 88.5 | 89.3  |

**Table 20**  
**Test III—West High School—(8 months)**

| Class                    | I    | II   | III  | IV | V    | VI   | VII  | VIII | Total |
|--------------------------|------|------|------|----|------|------|------|------|-------|
| Number in class.....     | 21   | 21   | 19   | 20 | 24   | 22   | 29   | 20   | 176   |
| Median rating (per cent) | 42.5 | 63.8 | 37.5 | 45 | 62.1 | 76.2 | 80.4 | 52.5 | 59.5  |

**Table 21**  
**Test III—Jefferson Junior High School—(8 months)**

| Class                    | I    | II   | III  | Total |
|--------------------------|------|------|------|-------|
| Number in class.....     | 31   | 21   | 15   | 67    |
| Median rating (per cent) | 87.5 | 81.2 | 87.5 | 86.4  |

**Significance of Comparative Tests in Algebra.** The median scores given in the preceding tables are significant as an indication of satisfactory mathematical achievement in the junior high schools. The tests show that the junior high school pupils have at least the ability of the corresponding upper high school pupils in elementary Algebra. Moreover, it should be remembered that the junior high school pupils have had considerable additional training in intuitive Geometry and some work in numerical Trigonometry. In other words, the course in general mathematics now given in the junior high schools not only secures satisfactory results in the

customary Algebra work, but it also introduces additional valuable features which cannot be attempted in the upper high schools because of limited time.

The tests should not be used, however, for a comparison of the algebraic work of the two upper high schools. It so happens that at present the two high schools differ somewhat in their 9th year Algebra programs. The same topics are covered during the year, but neither the sequence nor the distribution of emphasis is the same at any given time. Hence a real comparison would be possible only at the end of the school year. There is no indication that the two schools would differ essentially in their mathematical standards at the end of the 9th year course in Algebra.

**Comparative Tests in Latin and their Significance.** In June, 1922, a study was begun of the Latin work in the first year of East High School as compared with that in the two junior high schools. The following procedure was used in order to obtain a reliable basis for this comparison:

1. All pupils completing their 9th year work in Latin in East High School, Washington Junior High School, and Jefferson Junior High School, at that time, were given the Terman Intelligence Test. The results of this test were as follows:

**Table 22**  
**Results of Terman Intelligence Test**

| SCHOOL                     | CLASS                   | AVERAGE INTELLIGENCE |
|----------------------------|-------------------------|----------------------|
| East High School           | Class 1 (Group III)     | 142.44               |
| "                          | Class 2 (Group IV)      | 144.3                |
| "                          | Class 3 (Group V)       | 133.                 |
| "                          | Class 4 (Group III-V)   | 140.29               |
| "                          | Class 5 (Group I)       | 164.1                |
| "                          | Class 6 (Group II)      | 153.54               |
| "                          | Class 7 (Groups I & II) | 159.23               |
| "                          | Class 8 (Groups I-V)    | 148.5                |
| Jefferson Jr. High School  | Class 1                 | 145.25               |
| "                          | Class 2                 | 163.93               |
| "                          | Class 3                 | 152.43               |
| Washington Jr. High School | Class 1                 | 134.62               |

2. Pupils were then paired on the basis of these results. This means that a pupil receiving a score of 140 at East High School on the Terman Test was paired with a junior high school pupil having the same score.

In this way sixty-three pairs were chosen. Not all of these were considered in each subsequent test, owing to the absence of certain pupils.

3. All of the pupils were then given seven standardized language tests, as follows:

- Ullman-Kirby Latin Comprehension Test.
- Henmon Vocabulary Test.
- Henmon Sentence Test.
- Godsey Diagnostic Test in Prose Composition,  
Part I Sentences.
- Godsey Diagnostic Test in Prose Composition,  
Part II Rules.
- Pressey Test in Latin Syntax.
- Tyler-Pressey Test in Latin Verb-Forms.

The results of the language tests in the case of the paired pupils were as follows:

**Table 23**  
**Results of Standardized Language Tests**

| Name of Test         | No. Pairs | Average Score  |               |                      |
|----------------------|-----------|----------------|---------------|----------------------|
|                      |           | East H. School | Jr. H. School | Difference in Scores |
| Ullman-Kirby.....    | 60        | 12.82          | 13.62         | .80                  |
| Henmon Vocab.....    | 45        | 58.82          | 74.4          | 15.58                |
| Henmon Sentence..... | 44        | 16.63          | 28.64         | 12.01                |
| Godsey Sentence..... | 59        | 11.31          | 13.90         | 2.59                 |
| Godsey Rules.....    | 59        | 15.13          | 17.15         | 2.02                 |
| Pressey.....         | 63        | 10.56          | 13.60         | 3.04                 |
| Tyler-Pressey.....   | 60        | 14.69          | 16.98         | 2.29                 |

In all six language tests the junior high schools showed satisfactory scores. The plan of beginning Latin in the 8th grade would thus seem justifiable from the standpoint of measurable results.

**A Comparison of the Marking Systems of Washington Junior High School and East High School.** For the purpose of this study Washington Junior High School graduates only were considered since the data for Jefferson are too recent and too limited to be of statistical value.

The data for this study were collected as follows: The record of each Washington Junior High School graduate at both schools was carefully tabulated. All the marks received in English, Mathematics,



Latin, History, Bookkeeping, and Typewriting at both schools, were entered in parallel columns. Since all these marks were in the official literal form, it became necessary to transform these into numerical equivalents in order that a single numerical value might be found in each subject. Thus, "A" was replaced by 95, "B" by 80, "b" by 65, and "C" by 55. (This study was made when the old marking system was in vogue.)

Each mark received at East High School was then compared with the corresponding mark at Washington Junior High School. The result of each comparison was entered in a special column, according as the mark considered was found to be lower, or higher, or the same.

The following tables give the record of each class graduated from Washington Junior High School until January, 1922, in each of the subjects considered:

**Comparative Study of Marks Received at East High School by Pupils Graduated from Washington Junior High School, Jan. 1917—Jan. 1922.**

Key: Let L = number of pupils receiving **lower** mark at E. H. S. than at W. J. H. S.

H = number of pupils receiving **higher** mark at E. H. S. than at W. J. H. S.

S = number of pupils receiving **same** mark at E. H. S. as at W. J. H. S.

F = number of pupils receiving favorable (same or higher) mark at E. H. S.

T = total number of pupils considered.

% F = per cent of pupils receiving favorable mark.

**Table 24**

**English**

|  | L  | H  | S  | F   | T   | %F    |
|--|----|----|----|-----|-----|-------|
| January 1917.....  | 38 | 5  | 3  | 8   | 46  | 17    |
| June 1917.....   | 20 | 11 | 8  | 19  | 39  | 49    |
| January 1918.....  | 27 | 16 | 11 | 27  | 54  | 50    |
| June 1918.....   | 21 | 6  | 6  | 12  | 33  | 36    |
| January 1919.....  | 35 | 5  | 10 | 15  | 50  | 30    |
| June 1919.....   | 28 | 9  | 9  | 18  | 46  | 39    |
| January 1920.....  | 4  | 6  | 15 | 21  | 25  | 84    |
| June 1920.....   | 67 | 20 | 12 | 32  | 99  | 32    |
| January 1921.....  | 23 | 51 | 15 | 66  | 89  | 74    |
| June 1921.....   | 10 | 53 | 27 | 80  | 90  | 89    |
| January 1922.....  | 26 | 34 | 13 | 47  | 73  | 64    |
|  |    |    |    | 345 | 644 | 53.57 |
| For last five semesters only—Jan. 1920 to Jan. 1922..... |    |    |    | 246 | 376 | 65.42 |

## RESULTS

129

**Table 25**  
**Latin**

|   | L  | H  | S  | F   | T   | %F    |
|---|----|----|----|-----|-----|-------|
| January 1917  | 12 | 4  | 4  | 8   | 20  | 40    |
| June 1917   | 3  | 1  | 2  | 3   | 6   | 50    |
| January 1918  | 29 | 14 | 11 | 25  | 54  | 46    |
| June 1918   | 6  | 2  | 7  | 9   | 15  | 60    |
| January 1919  | 10 | 1  | 5  | 6   | 16  | 38    |
| June 1919   | 7  | 2  | 1  | 3   | 10  | 30    |
| January 1920  | 10 | 4  | 8  | 12  | 22  | 54    |
| June 1920   | 19 | 2  | 4  | 6   | 25  | 24    |
| January 1921  | 8  | 19 | 3  | 22  | 30  | 73    |
| June 1921   | 11 | 7  | 9  | 16  | 27  | 59    |
| January 1922  | 3  | 17 | 4  | 21  | 24  | 88    |
|   |    |    |    | 131 | 249 | 52.61 |
| For last five semesters only—Jan. 1920 to Jan. 1922 |    |    |    | 77  | 128 | 60.16 |

**Table 26**  
**History**

|   | L  | H  | S  | F   | T   | %F    |
|---|----|----|----|-----|-----|-------|
| January 1917  | 20 | 4  | 6  | 10  | 30  | 33    |
| June 1917   | 10 | 2  | 8  | 10  | 20  | 50    |
| January 1918  | 19 | 4  | 15 | 19  | 38  | 50    |
| June 1918   | 9  | 6  | 5  | 11  | 20  | 55    |
| January 1919  | 15 | 3  | 11 | 14  | 29  | 48    |
| June 1919   | 14 | 4  | 11 | 15  | 29  | 52    |
| January 1920  | 16 | 5  | 21 | 26  | 42  | 62    |
| June 1920   | 36 | 2  | 15 | 17  | 53  | 32    |
| January 1921  | 6  | 11 | 18 | 29  | 35  | 83    |
| June 1921   | 11 | 5  | 15 | 20  | 31  | 64    |
| January 1922  | 3  | 1  | 9  | 10  | 13  | 77    |
|   |    |    |    | 181 | 340 | 53.23 |
| For last five semesters only—Jan. 1920 to Jan. 1922 |    |    |    | 102 | 174 | 58.62 |

**Table 27**  
**Mathematics**

|  | L  | H  | S  | F   | T   | %F    |
|--|----|----|----|-----|-----|-------|
| January 1917.....  | 18 | 8  | 2  | 10  | 28  | 36    |
| June 1917.....   | 21 | 5  | 2  | 7   | 28  | 25    |
| January 1918.....  | 29 | 14 | 11 | 25  | 54  | 46    |
| June 1918.....   | 17 | 4  | 3  | 7   | 24  | 29    |
| January 1919.....  | 21 | 13 | 5  | 18  | 39  | 46    |
| June 1919.....   | 26 | 6  | 5  | 11  | 37  | 30    |
| January 1920.....  | 26 | 13 | 7  | 20  | 46  | 43    |
| June 1920.....   | 47 | 12 | 10 | 22  | 69  | 32    |
| January 1921.....  | 14 | 25 | 13 | 38  | 52  | 73    |
| June 1921.....   | 24 | 28 | 12 | 40  | 64  | 62    |
| January 1922.....  | 1  | 2  | 0  | 2   | 3   | 67    |
|  |    |    |    | 200 | 444 | 45.04 |
| For last five semesters only—Jan. 1920 to Jan. 1922..... |    |    |    | 122 | 234 | 52.13 |

**Table 28**  
**Typewriting**

|  | L  | H  | S | F  | T   | %F    |
|--|----|----|---|----|-----|-------|
| January 1917.....  | 3  | 2  | 4 | 6  | 9   | 67    |
| June 1917.....   | 3  | 2  | 1 | 3  | 6   | 50    |
| January 1918.....  | 6  | 0  | 1 | 1  | 7   | 14    |
| June 1918.....   | 5  | 1  | 1 | 2  | 7   | 29    |
| January 1919.....  | 4  | 4  | 3 | 7  | 11  | 64    |
| June 1919.....   | 4  | 5  | 2 | 7  | 11  | 64    |
| January 1920.....  | 2  | 19 | 1 | 20 | 22  | 91    |
| June 1920.....   | 13 | 10 | 4 | 14 | 27  | 52    |
| January 1921.....  | 15 | 9  | 4 | 13 | 28  | 46    |
| June 1921.....   | 10 | 8  | 5 | 13 | 23  | 56    |
| January 1922.....  | 0  | 0  | 0 | 0  | 0   | 0     |
|  |    |    |   | 86 | 151 | 56.95 |
| For last five semesters only—Jan. 1920 to Jan. 1922..... |    |    |   | 60 | 100 | 60.   |



## RESULTS

131

**Table 29**  
**Bookkeeping**

|   | L  | H  | S  | F  | T   | %F    |
|---|----|----|----|----|-----|-------|
| January 1917.....   | 7  | 3  | 8  | 11 | 18  | 61    |
| June 1917.....  | 4  | 3  | 1  | 4  | 8   | 50    |
| January 1918.....   | 3  | 2  | 2  | 4  | 7   | 57    |
| June 1918.....  | 5  | 0  | 3  | 3  | 8   | 38    |
| January 1919.....   | 10 | 0  | 2  | 2  | 12  | 17    |
| June 1919.....  | 2  | 3  | 6  | 9  | 11  | 82    |
| January 1920.....   | 13 | 4  | 5  | 9  | 22  | 41    |
| June 1920.....  | 21 | 5  | 5  | 10 | 31  | 32    |
| January 1921.....   | 5  | 18 | 12 | 30 | 35  | 86    |
| June 1921.....  | 19 | 0  | 4  | 4  | 23  | 17    |
| January 1922.....   | 0  | 0  | 0  | 0  | 0   | 0     |
|   |    |    |    | 86 | 175 | 49.14 |
| For last five semesters only Jan. 1920 to Jan. 1922. .... |    |    |    | 53 | 111 | 47.74 |

**Significance of Preceding Tables.** Very few studies have been made thus far which might serve as a reliable guide in the interpretation of these tables. Professor Thomas H. Briggs published some data obtained from a similar investigation in Los Angeles.\* A comparison was made of the average mark of the last two semesters in the intermediate schools with the marks given to the same pupils for the same subjects combined in the first two semesters in the high schools. It appeared that the high school marks were "decidedly the lower." Only 6 per cent of the pupils secured better marks in the high school than in the intermediate school, and 16 per cent did as well.

The figures secured in Rochester indicate that in nearly all departments more than 50 per cent of the Washington graduates received favorable marks at East High School. A striking uniformity of high marks prevails in English, Latin and Mathematics.

However, until a continuous and detailed study is available of the mental ages of all the junior and senior high school pupils, together with a survey of their economic and social backgrounds, a really scientific comparison of the scholarship records of the two types of schools will remain a difficult problem. Nevertheless, the objective studies made thus far in Rochester go far to justify the favorable verdict of the twenty-six cities referred to on page 17.

\*See *Journal of Educational Research*, November, 1920, pp. 690 to 692.

For the purpose of this study the marks mentioned above were arranged in frequency intervals. Thus, in English the marks of the eleven classes considered showed these frequencies:

**Table 30**  
**English—East High School**

|                   | 50 | 55 | 60 | 65  | 70 | 75 | 80  | 85 | 90 | 95 | 100 | Total |
|-------------------|----|----|----|-----|----|----|-----|----|----|----|-----|-------|
| January 1917..... |    | 4  | 1  | 9   | 10 | 9  | 11  | 1  |    |    |     | 45    |
| June 1917.....    |    | 1  | 1  | 10  | 4  | 3  | 17  |    |    | 3  |     | 39    |
| January 1918..... |    | 2  |    | 6   | 9  | 11 | 22  | 8  | 1  | 3  |     | 62    |
| June 1918.....    |    |    | 3  | 10  | 4  | 1  | 12  |    | 1  | 2  |     | 33    |
| January 1919..... |    | 4  |    | 16  | 7  | 2  | 15  | 2  | 2  | 1  |     | 49    |
| June 1919.....    |    | 1  |    | 10  | 8  | 6  | 15  | 3  |    | 3  |     | 46    |
| January 1920..... |    | 1  | 2  | 22  | 12 | 8  | 19  | 3  |    |    |     | 67    |
| June 1920.....    |    | 7  | 1  | 31  | 22 |    | 29  | 4  |    | 5  |     | 99    |
| January 1921..... |    | 10 | 1  | 22  | 17 |    | 24  | 8  |    | 5  |     | 87    |
| June 1921.....    |    | 12 |    | 44  |    |    | 31  |    |    | 5  |     | 92    |
| January 1922..... |    | 5  |    | 26  |    |    | 34  |    |    | 8  |     | 73    |
| Totals.....       |    | 47 | 9  | 206 | 93 | 40 | 229 | 29 | 4  | 35 |     | 692   |

Median: 74.5

**Table 31**  
**English—Washington Junior High School**

|                   | 50 | 55 | 60 | 65 | 70  | 75  | 80  | 85  | 90 | 95 | 100 | Total |
|-------------------|----|----|----|----|-----|-----|-----|-----|----|----|-----|-------|
| January 1917..... |    |    |    | 4  | 4   | 9   | 12  | 8   | 7  | 6  |     | 50    |
| June 1917.....    |    |    | 4  | 6  | 3   | 3   | 13  | 5   | 2  | 3  |     | 39    |
| January 1918..... |    |    | 1  | 7  | 8   | 10  | 18  | 6   | 4  | 8  |     | 62    |
| June 1918.....    |    | 1  | 3  | 2  | 5   | 2   | 6   | 6   | 2  | 6  |     | 33    |
| January 1919..... |    | 1  | 1  | 7  | 5   | 6   | 21  | 5   | 5  | 5  |     | 56    |
| June 1919.....    |    |    | 1  | 5  | 9   | 4   | 9   | 13  | 2  | 5  |     | 48    |
| January 1920..... |    |    |    | 7  | 8   | 8   | 29  | 7   | 8  | 3  |     | 70    |
| June 1920.....    |    |    | 2  | 7  | 16  | 19  | 21  | 15  | 8  | 10 |     | 98    |
| January 1921..... |    |    | 2  | 11 | 16  | 19  | 20  | 11  | 4  | 5  |     | 88    |
| June 1921.....    |    |    | 2  | 15 | 13  | 10  | 29  | 18  | 6  | 2  |     | 95    |
| January 1922..... |    |    | 1  | 10 | 17  | 19  | 20  | 9   | 7  | 2  |     | 85    |
| Totals.....       |    | 2  | 17 | 81 | 104 | 109 | 198 | 103 | 55 | 55 |     | 724   |

Median: 81.2

From these tables, the following median scores, in each of the subjects considered, were derived:

**Table 32**  
**Median Mark in Various Subjects**

|             | W. J. H. S. | E. H. S. |
|-------------|-------------|----------|
| English     | 81.2%       | 74.5%    |
| Latin       | 79.7        | 71.      |
| Mathematics | 80.3        | 72.3     |
| History     | 82.6        | 80.7     |
| Typewriting | 79.         | 81.8     |
| Bookkeeping | 82.8        | 80.1     |

There is, therefore, a somewhat lower trend in the upper high school marks. But whether these lower marks are due to the more advanced type of work demanded in each succeeding year of any school system, or to a different ideal in the two marking systems, must remain a matter of conjecture until other objective studies are available.

In the foregoing pages the most recent data available are tabulated relative to the comparative records of pupils, in academic and commercial subjects, in the junior and the affiliated senior high schools. These records are based, not on personal impressions, but on objective tests and reports. It has been pointed out that in the junior high schools withdrawals and failures are comparatively low in the 9th year and that pupils seem to retain facts and principles more firmly because of the longer training period provided in each subject. There are indications, in addition, that because of this longer training period the cultural aspect of each subject can be given more attention in the junior high school. In short, from the standpoint of interest and permanence of results the junior high school seems to justify the hopes and expectations of its advocates.

**Standard Tests.** Standard Tests have been given as one means of ascertaining comparative attainments and the quality of the work accomplished within the system. The following standardized achievement tests have been given in the Washington and Jefferson Junior High Schools:

|  |   |  |
|--|---|--|
| Given at<br>Washington Junior<br>High School | { | Starch Grammatical Scale A                         |
|  |   | Trabue Completion Test                             |
|  |   | Ayres Spelling Test                                |
|  |   | Kansas Silent Reading Test                         |
|  |   | Thorndike Reading Scale A-2<br>(Visual Vocabulary) |
|  |   | Thorndike Scale Alpha 2—Part II                    |



|   |  |
|---|--|
| Given at Washington<br>and Jefferson Junior<br>High Schools | { Judd-Courtis Arithmetic Test<br>Buckingham Arithmetic Test |
|---|--|

At the time the Judd-Courtis and the Buckingham Arithmetic Tests were given the median scores attained by the 7th and 8th grades in the junior high schools were in general, higher than the standard median scores. The same may be said with reference to the Starch Grammatical Scale and the Ayres Spelling Test.

The Trabue Language Completion Test was given but once in the Washington Junior High School. It showed a lower median score than the city median and was only slightly higher than the standard median. The Washington Junior High scores in the Kansas Silent Reading Test and the Thorndike Reading Scales were lower than either the city or standard medians. This was in a measure due to the fact that the pupil population of Washington Junior High School is 78% foreign. The school is therefore handicapped in those tests where ability in English is the basis of comparison.

**Group Tests as an Aid in Forming Ability Groups.** In an earlier section of this Report a brief description was given of the manner in which preliminary intelligence tests are used in organizing into ability groups all pupils entering the junior high school from the 6th A grades of the city. Since June, 1919, group tests (such as the Otis, Pinter, Chicago, and National) have been given.

Those most interested in the use of group intelligence tests for this purpose have realized that other factors, such as chronological age, health, previous training, and school accomplishment, have to be taken into consideration along with the test results. Any group test is of necessity a rough measure and, if used for individual placement of pupils, must be checked by other data, and should be accompanied by such a program as will permit of adjustments, as soon as it has been found that a pupil does not work well with the group. In determining the final rank for school classification the group test scores are combined with the teachers' estimates of pupils' ability—equal weight being given to both judgments—after the plan recommended by Dr. Truman Kelley of Stanford University. Chronological age is also taken into account in forming the suggested ability groups.

In all of this work group tests are used to get a comparative ranking of pupils in the same neighborhood. They are not used to get "mental ages" or "intelligence quotients". The reports sent to the schools give the results in terms of a percentile distribution of scores, so that the approximate percentile rank for any pupil, in comparison with other pupils of the same grade, may be easily estimated.

A study of the scores made during the four years the tests have been in use reveals the fact that, *for the same test*, the distribution of scores is practically the same from term to term, *for the same junior high school district*. For example, the median Otis scores for the Washington Junior High entering classes from January, 1919 to September, 1920, are 97, 89, 93, and 92. The range of scores for these groups and the quartile deviations show how similar is the distribution of scores. The Jefferson Junior High entering classes made scores very similar to those of the Washington Junior High School. In the Spring of 1919, the 6th A grades of all schools in the Monroe Junior High School District were given the Otis Group Test. The results were higher than those made by any of the entering classes in the Washington or Jefferson Junior High Schools from January 1919, to September, 1920. The median score for the Monroe district was 108. The 6th A pupils entering the Madison Junior High from contributing schools were tested and the results showed a median score of 116. The higher scores in the Madison and Monroe districts are in all probability due to the fact that the foreign element in both districts is not as pronounced as in the Washington and Jefferson Junior High Schools.

For the National Test, as for the Otis, the distribution of scores made by Washington and Jefferson Junior High pupils at the beginning of the 7th B grade is practically the same from term to term. The median score made by the Madison Junior High entering pupils is higher than the median scores made by five entering classes in Washington and Jefferson Junior High Schools—six months higher in terms of mental age equivalents. The National Test was given in January, 1921, just before the beginning of the second semester, to all pupils who were eligible to enter junior high school. Comparison of the scores made by pupils not entering junior high with those entering showed that those pupils who actually entered the Washington and Jefferson Junior High Schools in February, had, on the whole, very much higher scores than those who were eligible to attend, but did not enter. 963 pupils entered and 134 pupils did not enter. Only about 7% of the 134 not entering obtained high scores in the National Test, while 55%

of the 134 made scores in the lower quartile of the group of 963 reported entering.

In January, 1921, a study was made of the relation between the teachers' estimates of pupils' ability (of 6th A grade) and the National Test scores attained by these pupils. A high degree of correlation was found to exist. However, the teachers' selection of pupils whom they rated "below average" in ability agreed with the test results much more decidedly than did their selection of the "above average" pupils.

Two classes that were given Otis Group Tests at entrance to Washington Junior High have completed the three years of work. The first class entered January, 1919, and was graduated January, 1922; the second class entered September, 1919, and was graduated in June, 1922. A follow-up study was made of these two groups which showed the relation between their ranking in the Otis test and their successful performance of the junior high work as a whole. The study showed quite clearly that the percentage of withdrawals was practically twice as great among the pupils rated in the lower 20% as among those rated in the upper 20%. The fact that the older pupils as a rule made the lower scores helps to explain the small number who were graduated in the lower 20%. Many of the pupils in this lower group withdrew from school as soon as the law permitted. 70% of those who were rated in the upper 20% remained to graduate.

**Table 33**

**Correlation Between Ability Grouping and Graduation**

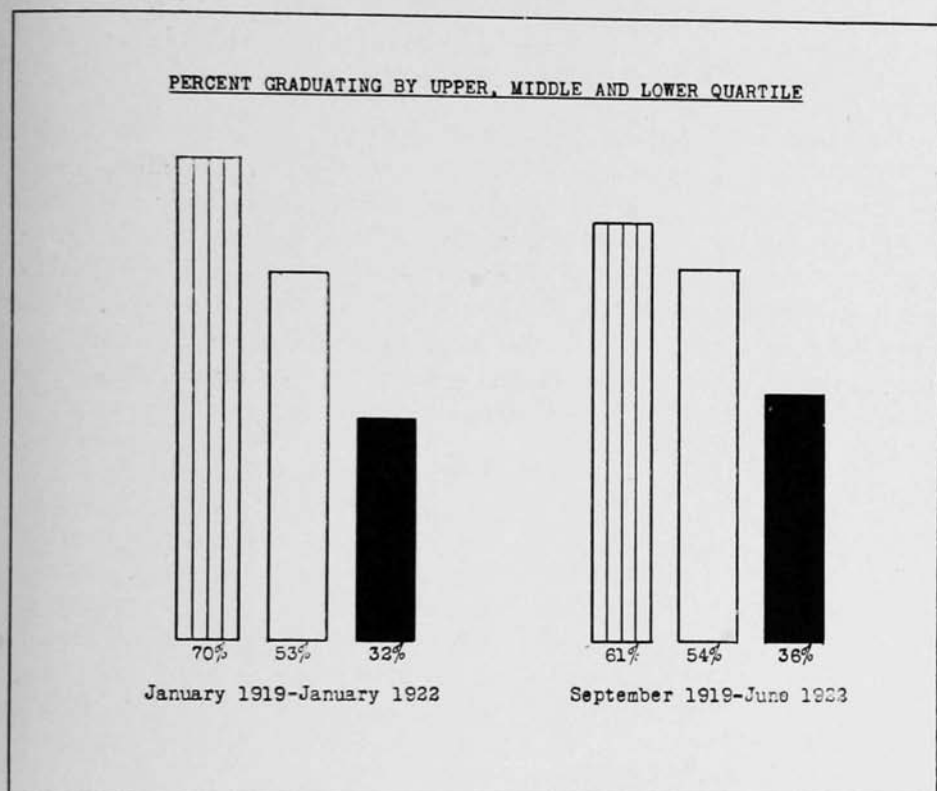
**Percentile Grouping:**

(By Otis Scores)

| January, 1919—January, 1922 |         |           | September, 1919—June, 1922 |         |             |
|-----------------------------|---------|-----------|----------------------------|---------|-------------|
|                             | Entered | Graduated | %                          | Entered | Graduated % |
| 1. Upper 20% . . .          | 56      | 39        | 70%                        | 70      | 43 61%      |
| 2. Middle 60% . . .         | 167     | 89        | 53%                        | 210     | 114 54%     |
| 3. Lower 20% . . .          | 56      | 18        | 32%                        | 70      | 25 36%      |
| Total                       | 279     | 146       | 52%                        | 350     | 182 52%     |



CHART V



The above table and chart indicate that 279 pupils entering Washington Junior High in January, 1919 were given the Otis Group Test. Of this number 146, or 52% were graduated in January, 1922. Of the 56 pupils ranked by the test in the upper 20%, 39 pupils or 70% were graduated. Of the 56 pupils ranked by the test in the lower 20%, only 18 or 32% were graduated. The second part of the table gives the same data for the class entering September, 1919. Again, 52% of the number entering were graduated at the end of the third year and again almost twice as many were graduated from those ranked by the test in the upper 20% as in the lower 20%. Practically the same per cent were graduated in each class from the middle 60% as selected by the Otis test, i. e., 53% the first year, 54% the second.

The results of this test were compared with the teachers' marks for the first four semesters in English, History, and Mathematics. A high

degree of correlation was found to exist. The best correlation was found between the test and the teachers' marks in History. All pupils rated by the test in the upper 20% received average marks of from 75% to 100% for the four terms' work in this subject.

At graduation the two classes were again given a group test to show the distribution of mental ages (Otis) by courses. The median *mental* ages for Language and Technical groups were practically the same for the two years. The median mental age for the Commercial group was a little lower than that of either the Foreign Language or Technical, while the median age for the Industrial and Household Arts course was the lowest in each case. On the other hand the median *chronological* age for the Household and Industrial group was higher than in the Language, Technical, or Commercial groups.

The one outstanding feature of the grouping system is that it facilitates instruction. It has brought into prominence groups of superior ability as well as those of inferior ability, that the work may be modified to meet the needs of the different groups. Pupils in the superior groups are capable of carrying a heavier schedule of work. In these groups are the pupils who usually continue in school, do good work, and are encouraged to go on to the senior high school, while those in the lower groups who have poor scholarship records are advised to take work in the Household or Industrial courses. The group tests have thus been of great value in the guidance work of the school.

There is no question but that the formation of ability groups would be extremely desirable at every stage of the pupils' educational advancement. There are, however, reasons for limiting this procedure because of administrative difficulties. The continuation of smaller and smaller ability groups would be a serious financial burden. It is doubtful whether any large school system can ever afford for this reason a refinement of grouping at all stages of the pupils' progress.

Nevertheless grouping is continued after the choice of definite courses at the beginning of the 8th year. Pupils are classified according to the scholarship record of the 7th grade, preserving, in so far as possible, the initial classification of the group tests. In this way an effort has been made to retain all that has been found valuable in group testing and at the same time to continue the plan, on the basis of class work, whenever the number of pupils in a subject makes possible such a division.

## SOCIAL RESULTS

**Health.** Former U. S. Commissioner of Education, Philander P. Claxton, stated that "No boy or girl has been rightly and completely educated who does not reach manhood or womanhood with a good physical development, with a good digestion, a good pair of lungs, a strong heart, a steady pulse, and nerves that do not quiver. Knowledge, ideals, principles, and even skill are of little value unless the man or woman possessing them has the power to make them effective in the active every day duties of life."

Measurable results of any system of health training are difficult to secure. It is possible, however, to state with accuracy the per cent of pupils who, starting under or over-weight, are brought to normal through health campaigns and contests. It is also possible to observe the increased attention on the part of the pupils to personal cleanliness as a result of cleanliness campaigns. On the other hand, it is impossible to state actual results of health training with any degree of accuracy, as results must in the nature of the work, be looked for long after the boys and girls pass from the immediate influence of the schools. It is with this in mind that school authorities today, more than ever before, feel the responsibility of providing health education that will result in sound and healthy bodies for the children under their care.

To meet this opportunity and responsibility, health teachers, formerly called physical education teachers, have been secured to direct the work in the junior high schools, so that the young people may have the advice of well-trained teachers in all matters pertaining to their physical well-being. Not only are these special health teachers concerned with the health of the pupils, but the science teachers also give attention to health and hygienic needs. Adolescent boys and girls are less willing to base their conduct upon precept than are those of a younger age. They have an inquiring mind and want to be shown, and it is in this connection that the work of the science teacher plays a large part in the hygienic and health training of the pupils. In the science laboratories, the pupils acquire first-hand information through health topics which probably influences their future health habits. Information gained by the scientific method serves to supply answers to their inquiring and sometimes troubled minds. There is a very close correlation between the work in the health education and in the science departments of the junior high schools.



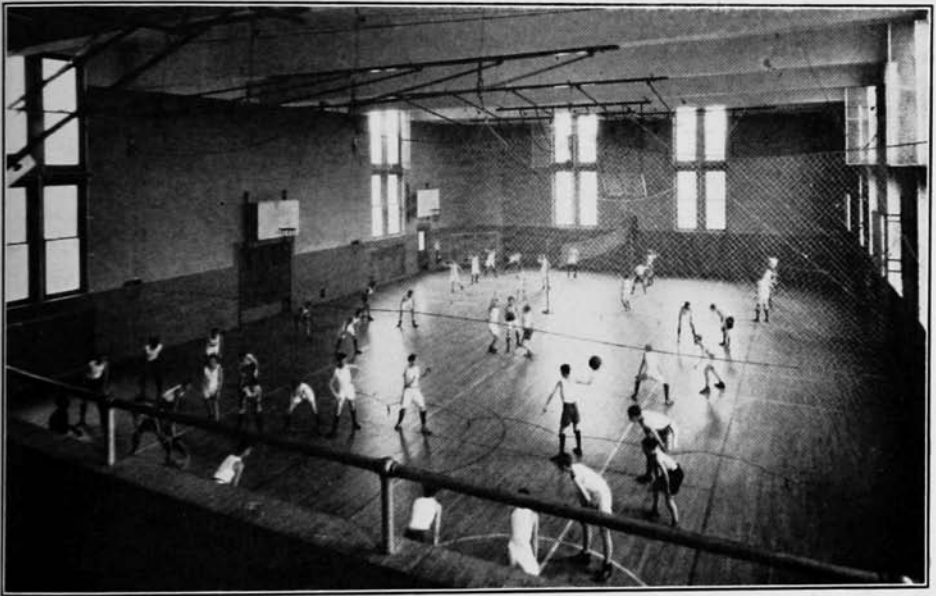
The regular class room teacher plays an important part in meeting the physical or health needs of the pupils by giving the class a daily morning health inspection, for cleanliness and for signs of possible contagious disease, and by urging the pupils to purchase milk and crackers at the mid-morning nutrition period. Provision is made to furnish needy cases with milk and crackers without cost to the pupils. During the nutrition time, rest periods are provided for pupils whose condition requires it. Four two-minute daily class room setting up or relaxation drills are required. During the drill, windows are opened, pupils rise from their seats and engage in arm stretching, trunk bending, and leg exercises.

The pupil in early adolescent years is in many respects a different individual from the child in the elementary school, and has little in common with the older students of the upper high schools. The junior high school plan of bringing together large numbers of pupils of this particular age makes possible the development of a program of games, athletics and recreation, especially adapted to the needs and interests of pupils in early adolescence.

This critical age demands an outlet for energy that perhaps no other age requires; hence, the importance of adequate equipment for health education, such as large, well equipped gymnasiums and sanitary swimming pools large enough to be significant to the pupils of twelve to fifteen or sixteen years of age. In addition there must be added a sufficient number of lockers, showers, etc., to accommodate the large classes so that a minimum amount of time will be required for dressing. Only by placing together large numbers of pupils of nearly the same age can extensive equipment of this sort be effectively used. Moreover, the cost of equipment such as this would be prohibitive, if it were to be duplicated in each grammar school. The junior high school plan, therefore, makes possible the installation, on an economical basis, of the equipment necessary for the building of a sound and healthy body, at this most important stage in the growth and development of the pupil.

America is just now developing a system of health education of its own. One of the fundamental principles upon which this system is being built is physical development through activity of the large muscle groups. This is done through participation in mass team play, games, athletics and rhythmical exercises, rather than through the use of such apparatus as leather horses, leather bucks, parallel bars, stall bars, chest weights,

and the like. In view of this fact, the equipment of the Madison and Monroe Junior High Schools does not include the above apparatus. This results in a considerable saving. The usual overhead running track which would cost several thousand dollars has also been omitted. Instead of this equipment, the boys' and the girls' gymnasiums are each sixty feet by ninety feet, thereby providing plenty of room to carry out an ideal physical or health program. Each gymnasium is equipped with two large nets which can be dropped from the girders to the floor, thus dividing the gymnasium into three spaces, each 30 feet by 60 feet.



Gymnasium

When an average group of seventy-five boys comes into the gymnasium, it is divided into three equal squads. Twenty-five boys are assigned to tumbling and stunt exercises in space No. 1; twenty-five to organized game work in space No. 2; and twenty-five to instruction on standard athletic events in space No. 3. All three phases of activity are going on simultaneously. At a given signal, each group shifts to some other space and participates in the activity assigned to that space. Three shifts are made during a gymnasium class period, and each boy passes through three different phases of activity; an arrangement which makes for an all around physical development.

In the divided gymnasium, three games of basketball may be played at the same time. This means that a large class can be accommodated in this popular and worth while game, without requiring seventy-five per cent of its members to remain inactive until their turn comes to play, as is necessary in smaller gymnasiums.

Through the above plan, the boys and girls are given the opportunity to develop qualities of leadership by actual leading, since each of the three groups is under the immediate leadership of one of its own members, while the instructor is able to give attention, as required, to any particular group. It is at once apparent that by following such a plan many more pupils can be handled adequately by a given force of instructors than by other plans.

At stated periods each week, the nets are raised and the whole gymnasium space is used for mass drills, games and athletics in which the whole class participates as a unit. While a class of seventy-five is taken as an average, it is probable that five years from now groups of ninety to one hundred will constitute a gymnasium class.



Swimming Pool



Second only in importance to the gymnastic work is the instruction in swimming, which is part of the regular health program, since swimming as an exercise for developing the body is unexcelled by any other form of physical exercise. Under the direction of trained men and women the pupils are taught various swimming strokes and how to care for themselves and others in an emergency. Rochester is a river and lake city and thousands of the children and parents enjoy boating and swimming—hence the importance of every pupil being able to swim. The swimming pool is supplied with water kept clean and sanitary by continuous recirculation, filtration, and sterilization. The showers play an important part in the school life of the pupil, placing the stamp of approval upon cleanliness. As a sanitary measure and to prevent any possible contamination, every pupil is required to take a shower and to pass an inspection before he enters the pool.

After-school activities make up a very important part of the health education program. The state law requirements cannot be fully met during school hours in our junior high school program. Boys and girls, therefore, are organized into after-school recreation clubs to complete the state requirement. Full use is made of the three spaces in the new junior high school gymnasium after school. The after-school activities start at 4:00 o'clock and continue until 5:30; thus each gymnasium is in use from 8:30 in the morning until 5:30 in the afternoon. This program provides in each school for supervised physical training activities for over one thousand boys and girls daily. During the school year, the pupils participate in such inter-school athletic contests as soccer football, indoor track meets, swimming meets, skating meets, baseball leagues, outdoor track meets, and other highly organized game contests. This after-school health program is supplemented by using the junior high school gymnasium for evening recreation centers for teachers and for adults.

Inter-school contests require a gymnasium 60 feet by 90 feet. Heretofore, there has been no school gymnasium in Rochester in which to hold inter-school basketball contests and allow the student body to witness the games. In former years the high school athletic council has had to rent at considerable expense the Armory, or the University of Rochester gymnasium, in which to stage their inter-school contests. These contests are now held for the most part in the junior high school gymnasiums and the rental money formerly expended by each school is saved and used in promoting the physical welfare of the pupils.

In a gymnasium not under the control of the school authorities, adequate supervision is extremely difficult. On the other hand, proper supervision of social assemblies of young people is of prime importance compared to which any saving of money is of small significance. With such supervision, the social and moral results of inter-school contests are very great. The large gymnasium makes these contests possible under the direct control of the school authorities. Hundreds of boys and girls become interested in games and athletics and are stimulated to train from month to month for various meets. The focusing of the interest of a club, or group, upon securing and maintaining school prestige and honor is a constructive, solidifying and socializing force, which tends strongly to develop the true spirit of democracy and good citizenship.

**Social Civic Results.** Character is too important to be left to chance development. The school must guarantee it as a part of the life equipment of every boy and girl. This guarantee must be supported by definitely planned activities designed to arouse and stimulate character qualities. Precept is not enough. Sympathy and loyalty cannot be taught. Citizenship and social attitudes must be matters of growth.

Fortunately the school community parallels the larger community of the city and state in many essential features and it is, therefore, possible to make school life not merely training for citizenship but citizenship itself. It is in the school that boys and girls may learn the joy of living together in mutual helpfulness, and experience the satisfaction that comes from working with the group for the good of the whole. It is probable that every subject of the curriculum contributes something to this social-civic point of view. It would be difficult to justify the retention in a well-balanced program of any course which did not. But nothing short of a direct attack on the problem of character building can relieve the school of its responsibility.

Scholarship results, which have already been discussed, may be measured with some degree of accuracy, but character results—qualities that make for good citizenship and for social welfare—are almost impossible to evaluate. The school can assign study tasks and check up on their accomplishment, but attitudes of mind and ideals of conduct are often matters of slow development and no one can be quite sure when they begin to grow or how deep-rooted they have become. On the other hand our inability to measure these qualities does not in the least weaken our confidence in the possibilities of development along these lines. The



important question is what definite activities are being provided in the junior high schools of Rochester to insure the exercise of those habits and attitudes, which have permanent value in social and civic life.

Several concrete illustrations follow. No attempt is made to claim that these activities are peculiar to Rochester or that they are in any sense unique. They are the natural outgrowth of normal school conditions and they merit attention solely because they are being consciously and deliberately utilized for the cultivation of character qualities.

**Care of the Park.** Jefferson Junior High School is located in Edgerton Park. Here also is the Public Library and Historical Museum. It is the park in which the city holds its annual Industrial Exposition and Horse Show. This brings thousands of visitors to Edgerton Park, and naturally every citizen of Rochester takes pride in having this park one of the most attractive in the city. From the standpoint of opportunity for the development of civic attitudes and conduct no school could be more ideally located. Such a location brings the boys and girls face to face with a real and vital situation. They witness the apparent indifference and carelessness of people who overrun the park on special occasions and without guidance the pupils might well be expected to follow this example.

For the express purpose, therefore, of making this real situation function in terms of future citizenship, the problem was turned over to the pupils themselves. They accepted the responsibility and after much deliberation adopted the following formulation of what they regarded as ideal conduct for citizens in the park. Is it too much to hope that these regulations which the pupils have accepted and to which they point with so much pride may mean that these boys and girls have embodied in their own lives higher and better civic ideals?

### "GUARDIANS OF THE PARK"

WE, the pupils of the Jefferson Junior High School, feeling a deep sense of appreciation for the privileges that we enjoy because of our connection with this school, and realizing the fact that much of the enjoyment which is ours is due to the location of our school in beautiful Edgerton Park, have drawn up the following set of rules to suggest to us the line of conduct that we should follow on each and every occasion that calls us into the Park.

WE believe that if we live up to these rules the park will be rendered more beautiful and that we ourselves will acquire a greater respect, not only for this piece of public property, but for all public property of the city, state, and nation.



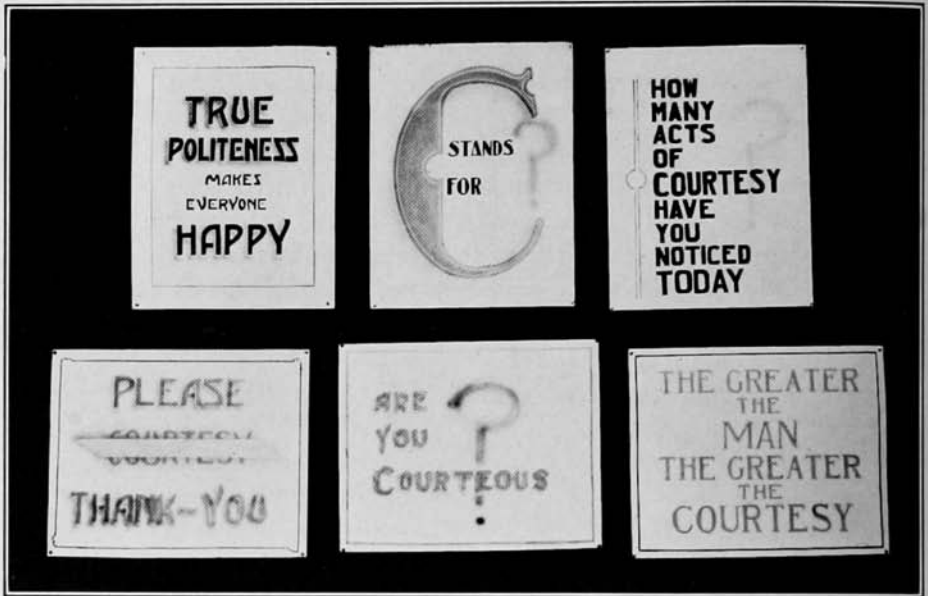
**WE WILL DO OUR BEST TO:**

1. Keep out of all buildings which we are not expected to enter, including the grand stand and paddock.
2. Keep the park buildings and sidewalks free from chalk marks.
3. Eat our lunches in the school rather than in the park buildings or grounds.
4. Keep the lawns and walks free from papers.
5. Refrain from annoying and feeding the animals.
6. Play ball and other games on the athletic field which has been assigned us for this purpose; not on the lawns.
7. Walk on the sidewalks, being careful not to destroy the grass along the edges of the walks.
8. Refrain from throwing anything into the drinking fountains in the park, as well as in the school.
9. Refrain from climbing upon any of the fences, nor will we climb any of the trees and buildings in the park.
10. Try to protect the park lights from damage.
11. Obey all signs in the park.
12. Prevent our bicycles and roller skates from damaging the lawns.
13. Protect the shrubbery in the park.
14. Keep from cutting corners, if that means getting on the lawn.
15. Refrain from walking on the horse stables and from throwing objects at people below.
16. Use the cans provided for papers and refuse.
17. Refrain from climbing any of the fire escapes in the park.
18. Remove broken glass from the pavements.
19. Refrain from throwing stones and other missiles in the park and streets.
20. Strive to be courteous to every one we meet in the park.
21. Co-operate with the park officers at all times.
22. Be ready to act as guides to visitors in the park.
23. Keep from injuring park benches and overturning or removing them.
24. Protect the birds.
25. Avail ourselves of the splendid opportunities in the park for the study of art and nature.
26. Strive at all times to observe Safety First rules.
27. Endeavor to teach the younger pupils to appreciate the park.
28. Tell others, who are not members of the Jefferson Junior High School, what we are trying to do and ask them to co-operate with us.
29. Maintain perfect order when on fire drill so that there will be less danger of accident and a good appearance made.
30. Ask anyone we may find doing anything which detracts from the appearance of the park to help us to keep the park beautiful.

**Interpreting a School to its Community.** On the day of the formal dedication of Madison Junior High School nearly 3000 patrons and interested citizens gathered to inspect the beautiful building and to assist in its opening. A number of speakers, including the Mayor, City Officials, the Superintendent of Schools, and the State Commissioner of Education were on the program. But nothing they said carried conviction to the hearts of that great audience as did the message from the boys and girls themselves through the medium of the pageant which was presented as a part of the opening exercises. When, in the closing moments, "Education" turned to the "Spirit of Madison Junior High School" with the words, "What deeds will be written in this new chapter depends on you, fair spirit. Rochester and I expect great things of Madison Junior High School", every ear listened for the reply. Without a moment's hesitation there came back in clear tones, "I accept your trust for the boys and girls of Madison Junior High School. They will prove their gratitude for these splendid opportunities by being loyal to all the true and lofty ideals for which the junior high school stands." It is no wonder that the people of that community went to their homes enthusiastic over their school. But the real significance of the occasion lies in the fact that the boys and girls themselves had been absorbing new ideals of social and civic responsibilities.



Pageant



Courtesy Posters

**A Courtesy Party.** Washington Junior High School was having a Courtesy Campaign. In every conceivable way the spirit of courtesy and the conventional courtesies were being emphasized. Courtesy slogans greeted one at every turn of the building. Compositions were written, plays were given, pictures were collected and everywhere was evidence of keen interest.

At Christmas time, as a culmination of the courtesy idea, the pupils, assisted by the teachers, invited one hundred aged people, who were alone and practically shut-in, to a courtesy party. Each home room had its mite-box for a sacrifice offering. The Kiwanis Club of the city contributed fifty dollars. The Knights of Columbus furnished automobiles. Various social and charitable associations assisted in locating the guests and explaining to each the significance of the invitation.

When the guests arrived committees of large boys from the school assisted in getting them into the building and in making them comfortable. A special program of music and dances was provided. Refreshments were served. Each old lady was presented with a box of candy and a dainty handkerchief. Each old gentleman was given a box of tobacco and a pipe. The pupils acted as hosts and hostesses. With one accord pupils and teachers voted to make it an annual affair.



Many pathetic incidents could be related in connection with this courtesy party. The fact, however, that for a single afternoon a comparatively few aged and friendless people were made happy is of minor importance. The significant thing is that 1700 boys and girls were unconsciously absorbing the very essence of courtesy as well as learning that true happiness comes from working with the group for the welfare of the whole.



Old Folks' Party

**Citizenship in the Making.** The conviction that education is not merely a matter of the intellect, but also a matter of conduct and attitudes, led the faculty and pupils of Washington Junior High School to adopt a Code of Honor which provides for the recognition and emphasis in the school community of certain habits and attitudes having permanent value in American citizenship.

Any pupil, from the lowest to the highest grade, may earn a term honor by conforming to the conditions of the Code of Honor given below. A first term honor is symbolized by an arm band bearing the letter "W". In successive terms the remaining initials of the school name, "Washington Junior High School," may be added until the complete "W. J. H. S." has

been earned. That the standard is reasonable and appealing is evidenced by the fact that 218 boys and girls out of a total of 1600 earned a "W" during the first term.

The pupils have selected as their slogan, "Act well your part; there all the honor lies." May we not believe that emphasis such as this must stimulate finer attitudes and better conduct in the generation which must soon be entrusted with the affairs of our city and state?

---

## WASHINGTON JUNIOR HIGH SCHOOL CODE OF HONOR

### Citizenship in the Making

#### I Scholarship

A satisfactory term rating in all subjects.

#### II Health

##### A. CLEANLINESS

A recommendation from the home room teacher is required.

##### B. VIGOR

A recommendation from the nurse is required.

#### III Civic Habits

##### A. ATTENDANCE

Not more than four half days of excused absence for the term.

##### Exceptions

1. Church holidays certified by the rabbi or the priest.
2. A prolonged absence caused by personal illness or serious family trouble if scholarship requirement is maintained.

##### B. PUNCTUALITY

Not more than four tardinesses each term for unavoidable cause.

## C. THRIFT

Candidates must present at least ten weekly deposit slips each term under the school banking system.

## Exceptions

1. A bank-book showing a similar number of deposits in an outside bank will be accepted.
2. Pupils who show excessive waste of materials may lose credit for thrift even though the banking requirement is met.
3. Pupils unable for economic reasons to meet the banking requirement may receive credit for thrift in care and use of school materials.

## D. SERVICE

A recommendation from the home room teacher for service willingly rendered is required.

## IV Participation in School Activities

- |                      |  |
|----------------------|--|
| A. ATHLETICS         | To receive credit a pupil must have participated actively in at least one of these school activities and receive a recommendation from the director. |
| B. ORCHESTRA OR BAND |  |
| C. ASSEMBLY PROGRAMS |  |
| D. PATHFINDER        |  |
| E. CLUBS             |  |

## V Character

- |                 |   |
|-----------------|---|
| A. SELF-CONTROL | Certified by all teachers with whom the pupil comes in contact. |
| B. RELIABILITY  |   |
| C. CO-OPERATION |   |
| D. COURTESY     |   |

It seems unnecessary to multiply illustrations. Many schools of the country could duplicate those cited and add to the list. These illustrations are given here to remind the reader of their existence and to emphasize the fact that a conscious and systematic effort is being made to utilize such activities for social and civic training. The extent to which these activities will affect the lives of the pupils depends on the interest and enthusiasm with which school authorities recognize the opportunity and sense the responsibility. School experiences are rich with possibilities for stimulating and developing character.



## VOCATIONAL RESULTS

**Commercial Curriculum Results.** A study has been made of the nine Commercial classes at the Washington Junior High School from September, 1918 to January, 1923. This study indicates that there have been certain very definite results secured in the Commercial Curriculum in the junior high school.

For those who go on to senior high school this course has furnished a foundation for the advanced work given in the higher school. It aims to fit young people for business positions—furnishing a background of general education that, together with the technical training received, enables graduates to win promotion to positions of responsibility.

This course has further aimed to fit those pupils who cannot go on to senior high school with a sufficient commercial training to enable them to take the easier clerical positions that are open to boys and girls of the age usually found in the junior high school.

Different types of business service require different kinds of training. The kind of position open to a pupil will depend to a certain extent upon his age. It is impossible, therefore, to offer to young pupils in the junior high school a complete, intensive, commercial course that is intended to train bookkeepers, stenographers, and salespeople. However, boys and girls who have but one or two years to spend in this type of school have just as much claim on public education as have those who can complete the entire course.

From the beginning the commercial teachers in the junior high schools have made special effort to encourage pupils to remain in school, to graduate and to continue their course in a senior high school. They have emphasized the great value of supplementing the elementary training received in the junior high school with the valuable training given in advanced commercial work in the higher school. These efforts to encourage pupils to remain in school have had very definite results, as may be seen in the tables below. It is comparatively easy to ascertain such facts as: the number of commercial pupils held in school throughout the 9th year of junior high school; the number who are carried over into senior high school; the number who drop out and take commercial positions. Such data tend to indicate how the course is functioning. But some of the larger results which follow from the personal efforts of the teacher are as difficult to measure as are the vital things in the health and character building programs.

The following table shows the result of a careful, individual, follow-up study of all the 9th year commercial pupils in the Washington Junior High School from September, 1918 to January, 1923. The Washington Junior High School was the first of the four Rochester junior high schools to be organized. Figures for this school are, therefore, the only ones available from which any valid conclusions might be drawn. They are presented here to show that the Commercial Curriculum is furnishing the type of instruction needed and in addition is exerting a very definite holding power. The fact that during 1918 and 1919 pupils with very little training were in demand for positions at unprecedented salaries should be taken into consideration when reviewing this data.

Table 34

ENROLLMENT AND WITHDRAWAL IN THE NINTH YEAR OF THE COMMERCIAL COURSE\* OF THE WASHINGTON JUNIOR HIGH SCHOOL BY SEMESTERS - SEPTEMBER 1918 TO JANUARY 1923

|                                  | SEPT. 1918<br>TO<br>JAN. 1919 | JAN. 1919<br>TO<br>JUNE 1919 | SEPT. 1919<br>TO<br>JAN. 1920 | JAN. 1920<br>TO<br>JUNE 1920 | SEPT. 1920<br>TO<br>JAN. 1921 | JAN. 1921<br>TO<br>JUNE 1921 | SEPT. 1921<br>TO<br>JAN. 1922 | JAN. 1922<br>TO<br>JUNE 1922 | SEPT. 1922<br>TO<br>JAN. 1923 |
|----------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
| NO. IN CLASS                     | 33                            | 36                           | 53                            | 78                           | 69                            | 87                           | 70                            | 95                           | 93                            |
| NO. WHO LEFT FOR COMMERCIAL WORK | 3                             | 2                            | 4                             | 3                            | 1                             | 2                            | 3                             | 6                            | 2                             |
| FACTORY WORK                     |                               |                              | 1                             |                              |                               |                              |                               |                              | 1                             |
| HOUSEWORK                        |                               |                              |                               |                              |                               | 2                            | 1                             |                              |                               |
| FAIRWORK                         |                               | 1                            | 1                             |                              |                               |                              |                               |                              |                               |
| NO POSITION                      |                               |                              |                               |                              | 2                             |                              |                               |                              |                               |
| MOVED OUT OF THE CITY            |                               |                              |                               |                              |                               | 1                            |                               |                              |                               |
| TOTAL WHO DROPPED OUT            | 3                             | 3                            | 6                             | 3                            | 3                             | 5                            | 4                             | 6                            | 3                             |

\*In this study a pupil registered in the commercial curriculum is counted but once regardless of the number of subjects he may be taking in this Curriculum.

Attention is called to the yearly increase in the number registering in this course. Three times as many were registered in 1922-23 as in 1918-19, which tends to indicate that the junior high school Commercial Curriculum is fulfilling a real need for pupils who for the most part will become wage earners upon completion of their course. Further evidence that pupils are interested and desirous of finishing the course is found in the fact that very few withdrew from this curriculum and then only in case of absolute necessity, when no further adjustment could be made by teacher or administrator. The majority of such pupils leaving because of necessity went into commercial work, thus making definite and immediate use of the training received in the short time they could devote to that training.

Those who remained to graduate and went on to senior high school are represented in the following tabulation of the record of nine semesters in the Washington Junior High School:

Table 35

DESTINATION OF COMMERCIAL GRADUATES OF THE WASHINGTON JUNIOR  
HIGH SCHOOL - SEPTEMBER 1918 TO JANUARY 1923

|  | SEPT. 1918<br>TO<br>JAN. 1919 | JAN. 1919<br>TO<br>JUNE 1919 | SEPT. 1919<br>TO<br>JAN. 1920 | JAN. 1920<br>TO<br>JUNE 1920 | SEPT. 1920<br>TO<br>JAN. 1921 | JAN. 1921<br>TO<br>JUNE 1921 | SEPT. 1921<br>TO<br>JAN. 1922 | JAN. 1922<br>TO<br>JUNE 1922 | SEPT. 1922<br>TO<br>JAN. 1923 |
|--|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
| NO. OF GRADUATES<br>ENTERING EAST<br>HIGH SCHOOL                         | 16                            | 8                            | 27                            | 29                           | 38                            | 34                           | 40                            | 44                           | 55                            |
| NO. TAKING<br>COMMERCIAL<br>POSITIONS                                    | 3                             | 13                           | 12                            | 14                           | 18                            | 27                           | 16                            | 18                           | 8                             |
| NO. TAKING<br>POSITIONS OTHER<br>THAN COMMERCIAL                         | 1                             | 6                            | 2                             | 6                            | 9                             | 18                           | 6                             | 9                            | 2                             |
| NUMBER IN<br>NO POSITION   |                               | 6                            |                               |                              |                               |                              |                               |                              |                               |
| NO. NOT<br>ACCOUNTED FOR<br>(In other schools<br>or no records<br>found) | 10                            |                              | 5                             | 25                           | 1                             | 2                            | 3                             | 14                           | 16                            |
| TOTAL GRADUATES<br>BY TERMS  | 30                            | 33                           | 46                            | 74                           | 66                            | 81                           | 65                            | 85                           | 81                            |
| % OF COMMERCIAL<br>GRADUATES ENTER-<br>ING EAST HIGH<br>SCHOOL           | 53%                           | 25%                          | 59%                           | 39%                          | 58%                           | 42%                          | 62%                           | 52%                          | 68%                           |
| % OF WITHDRAWALS<br>WHO ENTER<br>COMMERCIAL WORK                         | 75%                           | 58%                          | 86%                           | 70%                          | 67%                           | 60%                          | 73%                           | 66%                          | 80%                           |



As shown by this tabulation, the number of commercial graduates increased each year. The proportion of those graduating who have gone on to senior high school has also shown a very decided increase year by year. In the semester ending in January, 1923, 68% of the graduates of the Washington Junior High School went on to East High School. Available records show that nearly all of the Washington Junior High School Commercial pupils who enter East High School remain to graduate.

It is apparent from these facts that if a commercial pupil enters high school in all probability he will remain to graduate. It is quite clearly the task of the junior high school, therefore, to do everything possible to encourage commercial pupils to complete their work in the junior high school and to enter senior high school. The teachers in the commercial department have accepted this task as their own and their efforts are reflected in the results already obtained.



Mill Room

**Industrial Pupils in Industry.** A survey of pupils taking vocational and homemaking curriculums was made in order to ascertain to what extent the industrial courses have been determining factors in the choice of a vocation, and to ascertain to what extent the industrial training provided by the school has functioned in the employment in which graduates have

been engaged after leaving school. The State grants a special vocational diploma for the completion of a two-year vocational course, but restricts classes to pupils over fourteen years of age. In this survey were included vocational pupils who had been graduated by the junior high school, but who had not earned a vocational diploma because they had been excluded from vocational classes until they had met the age requirements. A tabulation of the results of this survey follows:

Table 36

**Girls Who Were Graduated from the Washington Junior High School, Having Had a Homemaking Course, and the Destination of Each After Graduation**

|                             | Continued in school | Working in the textile trades | Working in an allied trade | Working in a trade where skill of hand is necessary | Working in an occupation where hand-training does not function | Office work | Total |
|-----------------------------|---------------------|-------------------------------|----------------------------|---|--|-------------|-------|
| Cooking }<br>Dress-making } | 11                  | 10                            | 11                         | 10  | 17   | 6           | 65    |
| Per cent ...                | 17%                 | 16%                           | 17%                        | 15%   | 26%  | 9%          | 100%  |

**In the Homemaking Course:**

17% of the girls were held in school beyond the period which they had expected to devote to school.

16% are working in the textile trades.

17% are working in an allied trade.

15% are working in a trade where hand skill is necessary.

65% total engaged in work where the training received, functions.

The establishment of homemaking courses in the junior high school was an attempt, on the part of school authorities, to answer the demands for better homes through the development of more intelligent homemakers.



Cooking

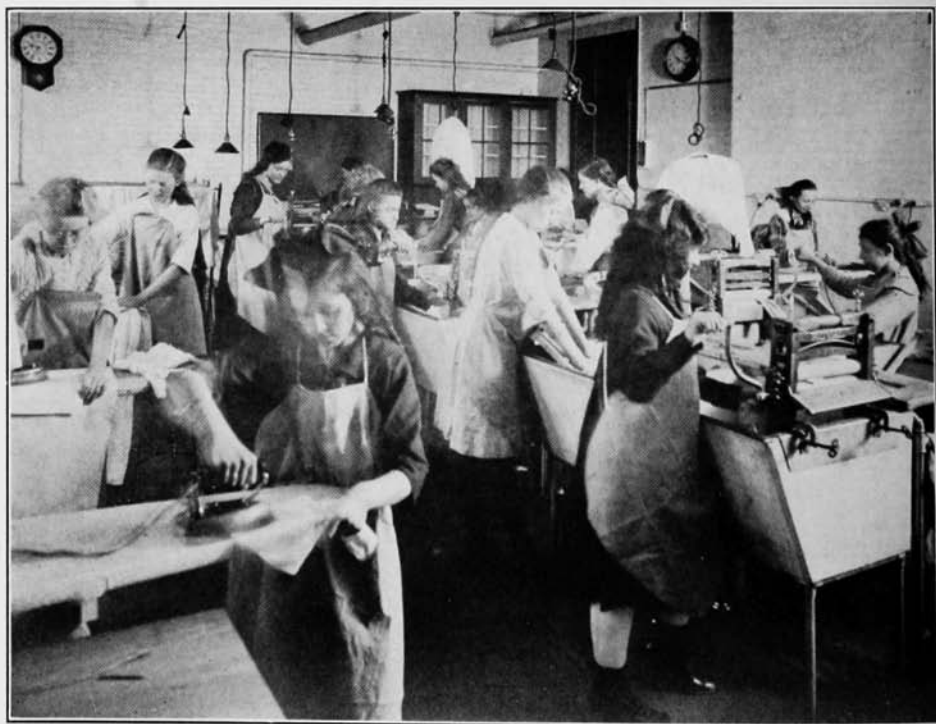
A course was designed to give intensive training, in the scientific management of the home, to those girls who planned to leave school before, or immediately upon, graduation from a junior high school. While this course in some cases gives direct vocational training to such girls as enter dress-making establishments, millinery shops or other industries closely allied to the work they have done in school, its main purpose is to train pupils to be more intelligent and efficient housewives. Statistics show that 80% of the women of this country are homemakers. While very few of the girls who have completed this work have as yet become responsible for the keeping of homes, the training which they have had cannot fail to help them.

At the present time there are in these courses in the junior high schools twenty-three girls who have entire charge of homes, and one hundred six who have most of the responsibility of the home. In the first group are those whose mothers are dead or not living with the father, and in the second group those whose mothers work in factories or stores. When we take into consideration the fact that a large percentage of these girls come



from homes where standards of living are not high, the training they are receiving in elementary dietetics, the preparation and care of foods, the making of garments and hats, the study of textiles, laundering, child care, home nursing, cleanliness, sanitation, economical management of home finances, and the general application of science to housekeeping, we must believe that these homes are better than would otherwise have been the case.

It is, however, too early to judge by any accurate scale of measurement the total results of the training given our girls in homemaking. Not until this group have had the full responsibility of their own homes can the value of their training be properly estimated. We can simply say that in our best judgment these pupils have been taught the things they ought to know and when the time comes to apply their knowledge, this training will function.



Laundry

Table 37

**Boys Who Were Graduated from the Washington Junior High School Having Had An Industrial Arts Course, and the Destination of Each After Graduation**

|                   | Continued in school | Working in the trade | Working in an allied trade | Working in a trade where skill of hand is necessary | Working in an occupation where hand-training does not function | Out of work | Total |
|-------------------|---------------------|----------------------|----------------------------|---|--|-------------|-------|
| Machine           | 7                   | 10                   | 2                          | 4   | 3  | 1           | 27    |
| Gas Engine        | 1                   | 14                   | 1                          | 6   | 3  | 1           | 26    |
| Printing          | 1                   | 9                    | 2                          | 4   | 1  |             | 17    |
| Pattern Making    | 1                   | 2                    | 3                          | 1   | 1  |             | 8     |
| Sheet Metal       | 1                   | 3                    | 3                          | 3   | 7  |             | 17    |
| Drafting          | 5                   | 1                    |                            | 1   | 2  |             | 9     |
| Commercial Art    | 6                   | 5                    | 2                          | 7   | 4  |             | 24    |
| Electricity       | 6                   | 14                   | 4                          | 14  | 9  |             | 47    |
| Mill              | 2                   | 1                    | 1                          | 2   |  |             | 6     |
| Total . . . . .   | 30                  | 59                   | 18                         | 42  | 30   | 2           | 181   |
| Per cent. . . . . | 16.8%               | 32.6%                | 10%                        | 23.2%   | 16.5%  | 1%          | 100%  |

In the case of the boys, a study of the data shows that:

17% were inspired to continue their education

32% are working in the trade

10% are working in an allied trade

23% are working in a trade requiring skill of hand

82% total engaged in work where the training received, functions

Since hand-training of one kind carries over into other manipulative processes the total of these percentages would indicate the extent to which the industrial courses function in the lives of the boys immediately after graduation.

Another interesting bit of information derived from the investigation concerns the extent to which these boys have found work during a time when the industries of the city were suffering from stagnation.

There has been noticeably more unemployment among our adult shop-trained workers than among those recent graduates from the trade training courses of the junior high school. All but two of the junior high graduates were employed at the time of the investigation. At this time, according to information furnished by the New York State Employment Bureau, there was 30% of unemployment among the workmen in Rochester. When this survey was made the Washington Junior High School had been in operation in Rochester only about seven years, and no large number of pupils had yet been graduated. On the basis of such meager data it would be unwise to generalize too widely. In general, however, we have evidence that the vocational courses have proved to be of real, practical value to the pupils in the jobs in which they find themselves during the first four or five years out of school.

---

### HOLDING POWER

**Leaving School Early.** Early withdrawal from school of so many of our boys and girls has long been a matter of serious concern. Without definite guidance and counsel, at a period of life when this is most needed, these boys and girls leave their teachers and schoolmates to become the floaters of society. They go from one job to another always hoping that something better will turn up. Eventually they become discouraged and discontented. In speaking of boys who leave school early Dr. Howard A. Burdge, in "A Study of Employed Boys", says, "These boys are like seedlings from the school nursery and should be transplanted to carefully selected and well prepared soil where, under expert direction and training, they can continue their education and development. At present, however, they are scattered by the winds of chance and dropped here and there, into one environment, then another, and another, almost without end, in the vain hope that they will finally fall into fertile soil, take root, and make good."

"Wanted to work", "financial", and "disliked school" are among the reasons given by these boys and girls for leaving school. In many cases these are not the real reasons, but rather excuses. Such studies as that made by Dr. Burdge and others prove that these pupils really leave school because there is in them, during these adolescent years, an impelling force which is creating for them a new vision of life and filling them with the desire to become independent and self-supporting. They probably do not recognize the real cause of this new desire. They only



know that they want to quit school, and they decide to give as plausible a reason as possible.

**Unfortunate Attitude Toward Education.** Furthermore, the studies of experts show that when these boys and girls leave school they do so with an actual distaste for education. Very few of them attend night school and many of them say frankly they have no desire for further schooling. All this is convincing evidence of an attitude toward public education that is most unfortunate. Compulsory education for such boys and girls is practically valueless unless the opportunities offered make a personal appeal and so awaken a new interest in education.

It is not strange that the deferred values of secondary education fail to appeal to young people of this type. They are seeking something that will bring them immediate return. Before they can be interested in any form of education they must be convinced that the completion of the courses offered will increase their earning capacity, will secure desired promotion, and will mean a better place in society.

These are the boys and girls who need the sane leadership, the sympathetic guidance, and the individual counseling offered in the junior high school. If it can be shown that the junior high school actually holds such boys and girls in school more effectively than has been possible under the old organization, then one of the strongest arguments for introducing this new unit into the educational system has been given. If the new type of school organization appeals to these boys and girls; if it interests them so that they remain in school for a longer period; if it gives them the kind of training that means worthwhile jobs suited to their mental and physical make-up; then it is a valuable addition to the public school system.

Statistics submitted as a part of this report seem to justify the conclusion that the junior high school has done much toward bringing about results of the character suggested above. Furthermore, those who come in contact with the boys and girls of the junior high schools of Rochester, feel that the testimony of satisfied pupils and of parents is convincing evidence that the junior high schools are meeting a real need. The varied curriculums, the helpfulness of guidance, the opportunity to prepare for some definite and desirable occupation, make an appeal to boys and girls who have formerly shown little interest in going to school. Not only do these pupils now desire to go to school, but their parents are willing to make almost any sacrifice necessary to this end.

**Conserving the Benefits of Elementary Education.** In the first six grades of the elementary school we cannot expect to do more than give the

child certain fundamentals which will start him on the road to good citizenship. The effectiveness of this early training will, to a large degree, depend upon the length of time the child thereafter remains in school and through ample practice develops desirable citizenship habits. Ninety-nine per cent of those who complete the 6th grade are under fifteen years of age and so must continue in school, whether a junior high school is provided or not. Once in the junior high school those boys and girls, who are overage, lose their sensitiveness because they find many others as large and as old as they are. Many of these pupils are led to remain in school from one to three years longer than they would otherwise have done, because of the special opportunities offered by the junior high school.

**Carry-Over from the 8th A Grade to the 9th B Grade.** Since the organization of the junior high school a higher percentage of pupils have continued in school beyond the 8th grade than under the old organization, as Table 38 will show.

**Table 38**  
**Percentage of Grammar School Graduates Entering High**  
**School and Carry-Over from 8th A to 9th B**  
**in the Junior High Schools**  
**By Junior High School Districts**

| Year        | Washington | Jefferson | Madison | Monroe | *    | Total %<br>Grammar<br>Schools | Total % Junior<br>High Schools |
|-------------|------------|-----------|---------|--------|------|-------------------------------|--------------------------------|
| 6-1913..... | 60.2       | Av. 58.7% | 71.4    | 69.9   | 66.2 | 70.6                          | 66.6                           |
| 1-1914..... | 51.1       |           | 77.3    | 72.6   | 75.2 | 67.1                          | 67.4                           |
| 6-1914..... | 65.        |           | 73.5    | 77.    | 67.6 | 66.                           | 69.4                           |
| 1-1915..... | 51.4       |           | 61.2    | 79.4   | 84.2 | 55.6                          | 66.7                           |
| 6-1915..... | 62.4       |           | 71.     | 71.    | 76.3 | 65.1                          | 68.5                           |
| 1-1916..... | 94.9†      | Av. 66.7% | 72.8    | 83.6   | 74.3 | 77.2                          | 77.3                           |
| 6-1916..... | 73.8       |           | 65.9    | 81.2   | 83.  | 71.4                          | 75.5                           |
| 1-1917..... | 97.        |           | 65.6    | 82.4   | 81.2 | 77.4                          | 77.5                           |
| 6-1917..... | 80.4       |           | 65.4    | 85.7   | 79.7 | 73.5                          | 76.6                           |
| 1-1918..... | 97.5       |           | 60.4    | 85.5   | 78.6 | 74.3                          | 75.5                           |
| 6-1918..... | 65.9       | Av. 81.0% | 58.     | 82.3   | 87.3 | 77.6                          | 77.6                           |
| 1-1919..... | 97.5       |           | 68.2    | 82.5   | 73.  | 67.1                          | 72.                            |
| 6-1919..... | 84.2       |           | 65.4    | 93.6   | 86.3 | 62.9                          | 81.8                           |
| 1-1920..... | 90.2       |           | 72.5†   | 84.3   | 84.1 | 81.2                          | 83.                            |
| 6-1920..... | 82.6       |           | 65.2    | 80.4   | 83.4 | 79.9                          | 81.2                           |
| 1-1921..... | 93.9       | Av. 88.8% | 90.9    | 90.2   | 81.3 | 77.9                          | 82.2                           |
| 6-1921..... | 80.7       |           | 67.     | 83.3   | 85.6 | 80.6                          | 83.                            |
| 1-1922..... | 98.8       |           | 94.8    | 92.2   | 88.7 | 87.2                          | 88.9                           |
| 6-1922..... | 82.9       |           | 76.2    | 93.6†  | 86.2 | 85.1                          | 87.7                           |
| 1-1923..... | 92.        |           | 96.1    | 92.    | 85.5 | 81.1                          | 84.5                           |
| 6-1923..... | 78.        | 82.4      | 82.     | 90.9†  | 83.3 | 83.3                          | 82.8                           |

\* This column represents the remaining grammar schools which have not as yet been included in any junior high school district.

† Opening of junior high schools indicated by dagger.



The elementary schools contributing to the Washington Junior High School sent, in the five terms preceding the opening of this school, from 51.1 per cent to 65 per cent of their graduates to the senior high school. The average was 58.7 per cent a semester. In the sixteen terms since the opening of the Washington Junior High School the average carry-over from the 8th to the 9th grade for a semester has been 86.3 per cent. This means a gain of 27.6 per cent in the holding power of the junior high over the holding power of the schools under former conditions. Expressing this in terms of pupils, it means that formerly 41 pupils out of every 100 who completed the 8th grade left school, but now only 14 in every 100 leave school; thus 27 more pupils out of every 100 are remaining in school for at least a year longer. This record, covering as it does the past seven years, is especially gratifying when one considers the attractive industrial opportunities offered to boys and girls during the period of the war.

A similar record is shown by the figures relating to the holding power of the Jefferson Junior High School. For the thirteen terms previous to the opening of the school the elementary schools of this district sent from 58 per cent to 77.3 per cent of the 8th grade graduates to senior high school, or an average of 66.7 per cent a semester. Since the opening of Jefferson Junior High School the average carry-over from the 8th to the 9th grade has been 81 per cent a semester. Thus in this district only 19 pupils out of every 100 leave school now, whereas an average of 33 pupils out of every 100 left school formerly. Surely the gain of even an additional year for 14 pupils out of every 100 is well worth while.

The Madison Junior High School has not been in operation long enough to give any extensive comparative data with reference to this section of the city. However, 93.6 per cent of the 8th grade graduates in this district entered the new Madison Junior School in September, 1922. This record is the highest in the history of this district, with but one exception, as reference to the preceding tabulation will show.

The opening of the Monroe Junior High School resulted in a slight increase in the number of pupils going on from the 8th to the 9th year. The Madison and Monroe districts have always maintained a comparatively high percentage in the number of grammar school graduates going on to high school. The significant fact is that in the Washington and Jefferson districts, which are so largely foreign in population, the increase in the carry-over from the 8th to the 9th year is so pronounced. Besides this the junior high schools have accepted from the grammar schools many boys and girls who were over-age and needed junior high school courses to keep them in school.

As a general rule the number of pupils going on from the 8th to the 9th year of the junior high school is larger in the middle of the year than



## THE JUNIOR HIGH SCHOOLS

at the end of the year. This is due to the fact that there is no interval between the semesters in January while during the long summer vacation many pupils go to work and fail to return to school in September.

The junior high school not only provides carefully selected opportunities as well as expert direction and training, as set forth in another section of this Report, but these figures would seem to indicate that it appeals to our boys and girls and so keeps them in school for a longer time than was possible under the former plan, thus making the work of the public schools just so much more effective.

In the following tabulations definite data are presented in regard to enrollment, attendance, and promotion in the Rochester junior high schools. These facts are practically self explanatory and are presented without comment.

**Table 39**  
**Enrollment by Grades—September, 1923**  
**(Number Belonging)**

| Grade           | Washington |     |      | Jefferson |     |      | Madison |     |      | Monroe |     |      | Grand Total |
|-----------------|------------|-----|------|-----------|-----|------|---------|-----|------|--------|-----|------|-------------|
|                 | B          | G   | T    | B         | G   | T    | B       | G   | T    | B      | G   | T    |             |
| Seventh B. .... | 20         |     | 20   | 147       | 124 | 271  | 173     | 133 | 306  | 154    | 134 | 288  | 885         |
| Seventh A. .... | 197        | 180 | 377  | 105       | 93  | 198  | 85      | 106 | 191  | 134    | 90  | 224  | 990         |
| Eighth B. ....  | 200        | 176 | 376  | 161       | 120 | 281  | 162     | 142 | 304  | 157    | 110 | 267  | 1228        |
| Eighth A. ....  | 140        | 119 | 259  | 97        | 71  | 168  | 104     | 85  | 189  | 88     | 89  | 177  | 793         |
| Ninth B. ....   | 166        | 165 | 331  | 119       | 94  | 213  | 151     | 120 | 271  | 102    | 111 | 213  | 1028        |
| Ninth A. ....   | 118        | 93  | 211  | 84        | 70  | 154  | 117     | 116 | 233  |        |     |      | 598         |
| Total. ....     | 841        | 733 | 1574 | 713       | 572 | 1285 | 792     | 702 | 1494 | 635    | 534 | 1169 | 5522        |

**Table 40**  
**Per Cent of Attendance by Grades**  
**Second Semester February, 1923—June, 1923**

| School           | 7th Year | 8th Year | 9th Year | All Grades |
|------------------|----------|----------|----------|------------|
| W. J. H. S. .... | 93.8%    | 94. %    | 95. %    | 94.2%      |
| J. J. H. S. .... | 91.3     | 91.6     | 92.2     | 91.6       |
| M. J. H. S. .... | 89.      | 92.5     | 92.7     | 91.6       |
| Average. ....    | 91.2     | 93.1     | 93.3     | 92.5       |

**Table 41**  
**Per Cent of Attendance by Months**  
**Second Semester February, 1923—June, 1923**

| School           | Feb.  | Mar.  | Apr.  | May   | June  | Average |
|------------------|-------|-------|-------|-------|-------|---------|
| W. J. H. S. .... | 92.8% | 93.8% | 95.2% | 93.1% | 96.2% | 94.2%   |
| J. J. H. S. .... | 87.9  | 90.8  | 91.7  | 93.2  | 94.7  | 91.6    |
| M. J. H. S. .... | 87.8  | 90.3  | 92.3  | 93.0  | 94.8  | 91.6    |
| Average. ....    | 89.5  | 91.6  | 93.0  | 93.1  | 95.2  | 92.5    |

## RESULTS

165

**Table 42**  
**Per Cent of Attendance by Curriculums**  
**Second Semester February, 1923—June, 1923**

| School           | 7th  | For. Lang. | Com'l. | Tech. | Ind. | Total |
|------------------|------|------------|--------|-------|------|-------|
| W. J. H. S. .... | 94.2 | 95.3       | 95.5   | 94.4  | 96.1 | 94.2  |
| J. J. H. S. .... | 92.4 | 94.2       | 92.3   | 91.9  | 86.9 | 91.6  |
| M. J. H. S. .... | 90.1 | 95.0       | 91.1   | 92.3  | 87.4 | 91.6  |
| Average .....    | 92.1 | 94.9       | 93.4   | 93.1  | 90.8 | 92.5  |

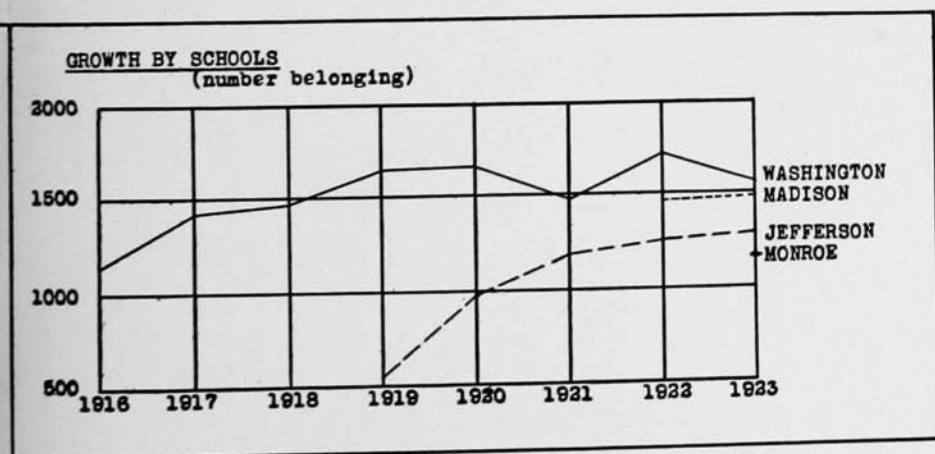
The growth in the attendance of each junior high school is illustrated by the table and chart which follow:

**Table 43**  
**Growth by Schools**  
 (Based on Number Belonging as of September of Each Year)

|                 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921  | 1922 | 1923 |
|-----------------|------|------|------|------|------|-------|------|------|
| Washington..... | 1147 | 1403 | 1470 | 1644 | 1662 | 1491* | 1606 | 1574 |
| Jefferson.....  |      |      |      |      | 965  | 1165  | 1239 | 1285 |
| Madison.....    |      |      |      |      |      |       | 1478 | 1494 |
| Monroe.....     |      |      |      |      |      |       |      | 1169 |
| TOTAL.....      | 1147 | 1403 | 1470 | 1644 | 2627 | 2656  | 4323 | 5522 |

\* Beginning in 1921, owing to congestion, the 7th B pupils in the Washington Junior district were retained by the contributing schools.

**CHART VI**



**Table 44**  
**Promotion Percentages in Junior High Schools**  
**Washington Junior High School**

| Date Promoted | Jan. June |       | Jan. June |      | Jan. June |      | Jan. June |      | Jan. June |      | Jan. June |      | Jan. June |      | Jan. June |      | Aver. |
|---------------|-----------|-------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-------|
|               | 1916      | 1916  | 1917      | 1917 | 1918      | 1918 | 1919      | 1919 | 1920      | 1920 | 1921      | 1921 | 1922      | 1922 | 1923      | 1923 |       |
| 7B.....       | 90.7      | 92.7  | 94.       | 96.5 | 96.5      | 94.8 | 94.5      | 88.4 | 94.5      | 87.8 | 86.4      | 92.7 | *         | *    | *         | *    | 92.4  |
| 7A.....       | 91.2      | 95.4  | 95.4      | 94.1 | 96.1      | 92.  | 96.5      | 97.9 | 89.6      | 89.5 | 94.5      | 93.1 | 83.       | 97.6 | 91.1      | 92.1 | 93.1  |
| 8B.....       | 90.4      | 95.9  | 93.8      | 93.8 | 94.3      | 93.  | 95.1      | 95.3 | 98.4      | 90.9 | 92.6      | 96.  | 92.3      | 90.  | 97.       | 96.0 | 94.0  |
| 8A.....       | 95.2      | 96.5  | 98.9      | 97.7 | 97.       | 96.9 | 90.       | 96.5 | 94.9      | 94.4 | 92.7      | 90.9 | 96.7      | 92.4 | 92.       | 96.4 | 94.9  |
| 9B.....       | .....     | 97.1  | 96.5      | 93.8 | 94.       | 91.5 | 98.4      | 98.3 | 99.1      | 96.9 | 97.6      | 90.7 | 94.5      | 88.3 | 91.       | 90.6 | 94.6  |
| 9A.....       | .....     | ..... | 98.3      | 99.2 | 95.3      | 99.2 | 97.3      | 100. | 96.3      | 99.6 | 98.7      | 99.5 | 94.8      | 95.8 | 93.4      | 97.4 | 97.5  |

**Jefferson Junior High School****Madison Junior High School**

|         | Jan. June |       | Jan. June |      | Aver. | Jan. June |      | Aver. |
|---------|-----------|-------|-----------|------|-------|-----------|------|-------|
|         | 1922      | 1922  | 1923      | 1923 |       | 1923      | 1923 |       |
| 7B..... | .....     | ..... | 98.2      | 96.6 | 91.9  | 90.2      | 94.2 | ..... |
| 7A..... | .....     | ..... | 97.3      | 91.3 | 92.8  | 93.7      | 93.7 | ..... |
| 8B..... | .....     | ..... | 95.3      | 93.9 | 93.1  | 87.5      | 92.4 | ..... |
| 8A..... | .....     | ..... | 95.4      | 85.2 | 91.2  | 92.8      | 91.1 | ..... |
| 9B..... | .....     | ..... | 89.4      | 83.8 | 86.5  | 83.       | 85.7 | ..... |
| 9A..... | .....     | ..... | 97.1      | 97.7 | 94.6  | 92.9      | 95.5 | ..... |

\*7 B Grades not sent to Washington Junior High due to lack of room.

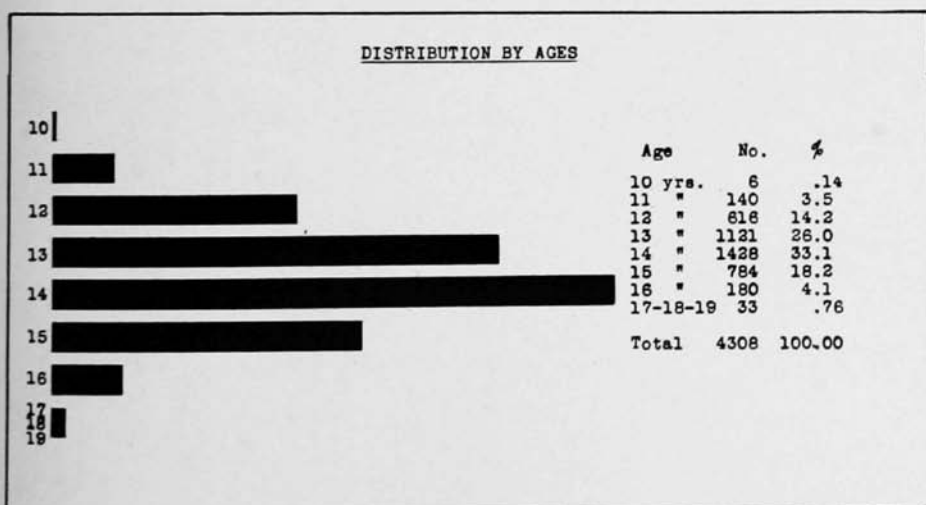


**Age Study.** Over-age is one of the most difficult problems faced by a city school system because it has such a direct bearing on elimination. It is generally the result of conditions which form problems in themselves, such as late entrance, irregular attendance, non-promotion, misfits, physical defects, etc.

In 1913 an age-grade survey was made. It was found that there was a high percentage of over-age among the school children of Rochester. As the result of this survey a constant effort has been made throughout the system during the past ten years to reduce over-age through appropriate remedial measures. In the junior high schools, through subject promotion and individual attention in the study coach department, a still further reduction has been made in the percentage of over-age in each district.

**Distribution by Ages.** In the following chart the distribution by ages is graphically illustrated. Included in this chart are the pupils of the Washington, Jefferson, and Madison Junior High Schools. It will be observed that the ages of junior high school pupils in Rochester range from ten to nineteen years with a median age of approximately fourteen.

CHART VII



**Over Age, Normal Age, and Under Age by Sex.** In determining the number who were under, normal and over-age, the following normal age limits, based on Dr. Frank P. Bachman's standard, were employed. Chronological ages at the beginning of the semester were used in this study.

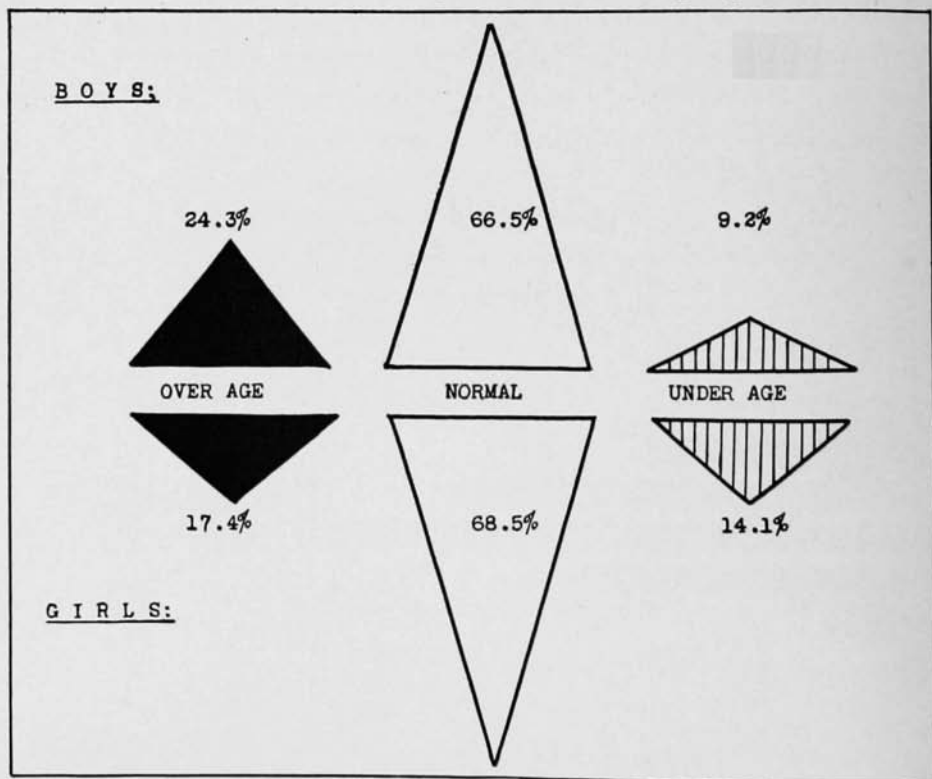
**Normal Age Limit for Entering:**

|    |                 |                       |
|----|-----------------|-----------------------|
| 7B | 12              | up to $12\frac{1}{2}$ |
| 7A | $12\frac{1}{2}$ | up to 13              |
| 8B | 13              | up to $13\frac{1}{2}$ |
| 8A | $13\frac{1}{2}$ | up to 14              |
| 9B | 14              | up to $14\frac{1}{2}$ |
| 9A | $14\frac{1}{2}$ | up to 15              |

**Normal Age Limit for Completing:**

|                 |                       |
|-----------------|-----------------------|
| $12\frac{1}{2}$ | up to 13              |
| 13              | up to $13\frac{1}{2}$ |
| $13\frac{1}{2}$ | up to 14              |
| 14              | up to $14\frac{1}{2}$ |
| $14\frac{1}{2}$ | up to 15              |
| 15              | up to $15\frac{1}{2}$ |

The percentages of girls and boys who are over, normal, and under-age are shown in Chart VIII. There are more over-age boys than over-age girls. The number who are of normal age is about equally divided between boys and girls, while the number of under-age girls excels the number of boys who are under-age. This situation is not an unusual one.

**CHART VIII****Over Age, Normal Age, and Under Age by Sex**

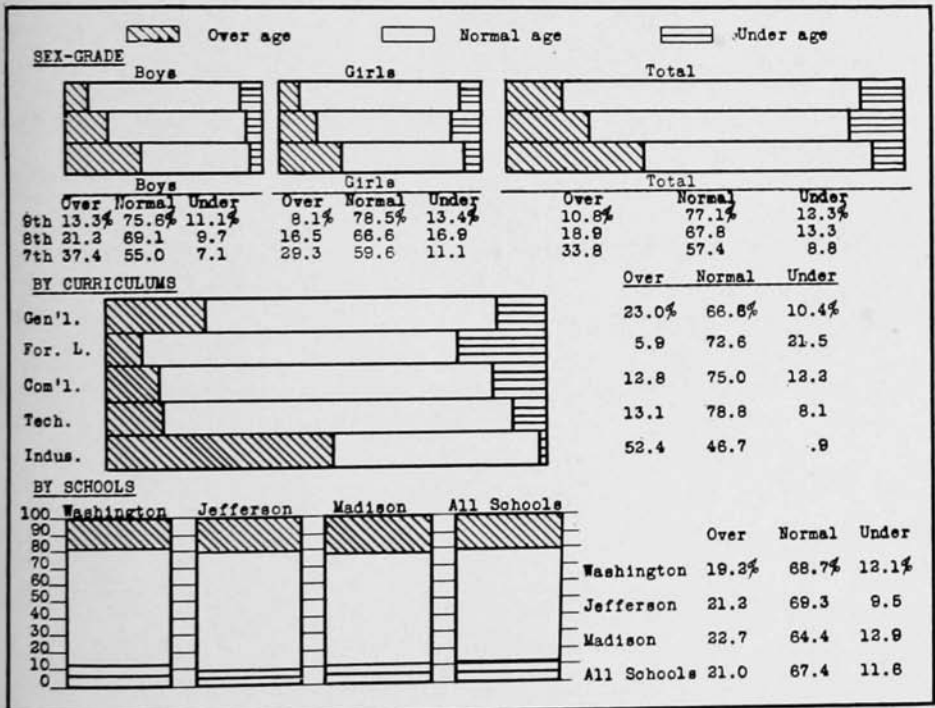
**Over, Normal, and Under Age by Grade, Curriculum, and Schools.** In the upper section of Chart IX the number over, normal, and under age is shown by grades. There are more over-age pupils in the 7th grade (represented by the lower bar) than in the 8th or 9th grades. This is due to the fact that many over-age pupils drop out of school as soon as the law allows.

In the center section of the chart the age data by curriculums are presented. A higher percentage of over-age is found in the Industrial Course than in any other curriculum. The highest percentage of under-age and the lowest percentage of over-age is found in the Foreign Language Curriculum.

The lower section of Chart IX shows that approximately 21% of the pupils are over-age, 67.4% of normal age, and 11.6% are under-age in each of the three schools.

### CHART IX

#### Over, Normal, and Under Age by Grades, Curriculum, and Schools





**Elimination.** Before the opening of the Washington Junior High School the peak of elimination in that district was at the close of the 6th grade. Since the opening of this school the peak of elimination has been in the 8th year. During the World War there was a great demand for help in all industries, consequently there was a large percentage of elimination in the case of boys and girls old enough to obtain work permits. Since 1918 a steady decline in elimination is noticeable in the 7th, 8th and 9th grades—especially in the 9th year. The number of permits issued to pupils from the public schools of Rochester from September 1, 1922 to August 31, 1923, as shown in the following table, would indicate that the peak of withdrawal is at the end of the 8th year.

**Table 45**  
**Work Permits, 1922-23**

| Age   | 6th | 7th | 8th | 9th | 10th | Total |
|-------|-----|-----|-----|-----|------|-------|
| 14    |     |     | 160 | 60  | 8    | 228   |
| 15    | 204 | 216 | 263 | 210 | 23   | 916   |
| TOTAL | 204 | 216 | 423 | 270 | 31   | 1144  |

The following tabulations represent the per cent of elimination from the Washington, Jefferson and Madison Junior High Schools since the schools were opened.

**Table 46**  
**Percentages of Elimination—January and June Terms,  
1916 to 1923**

**Washington Junior High School:**

| Grade | 1916     |       | 1917 |      | 1918 |      | 1919 |      | 1920 |      | 1921 |      | 1922 |      | 1923 |      |
|-------|----------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|       | Jan.     | June  | Jan. | June | Jan. | June | Jan. | June | Jan. | June | Jan. | June | Jan. | June | Jan. | June |
| 7th   | 5.55     | 8.14  | 7.   | 4.3  | 2.62 | 5.55 | 7.35 | 2.65 | 3.57 | 5.86 | 3.42 | 3.5  | 4.37 | 5.33 | 4.59 | 5.92 |
| 8th   | 7.88     | 11.21 | 10.  | 8.76 | 7.96 | 8.96 | 7.66 | 5.2  | 4.92 | 4.   | 3.61 | 5.13 | 3.01 | 5.78 | 3.52 | 8.66 |
| 9th   | No Class | 12.25 | 8.   | 7.97 | 9.63 | 12.1 | 9.77 | 4.88 | 6.72 | 8.35 | 2.0  | 4.13 | 3.12 | 4.53 | 4.27 | 4.92 |

**Jefferson Junior High Schools:**

**Madison Junior High School:**

| Grade | 1920     |      | 1921 |      | 1922 |      | 1923 |      | 1923 |      |
|-------|----------|------|------|------|------|------|------|------|------|------|
|       | Jan.     | June | Jan. | June | Jan. | June | Jan. | June | Jan. | June |
| 7th   | 3.6      | 2.7  | 2.09 | 3.78 | 2.61 | 5.55 | 3.97 | 3.35 | 4.28 | 4.81 |
| 8th   | 3.9      | 5.21 | 3.01 | 5.15 | 3.52 | 5.83 | 5.56 | 5.36 | 7.37 | 7.93 |
| 9th   | No Class | 8.42 | 3.77 | 8.31 | 4.29 | 5.65 | 6.34 | 3.92 | 13.5 | 9.46 |

## RESULTS

171

In the following tables elimination data for the semester ending in June, 1923 are given by course, age, and cause. In this tabulation pupils of the same chronological age have been grouped together and the totals entered in columns arranged for the various groups. On the same line with the entry in each group a tabulation of the causes of withdrawal for the pupils in this age group has been made so that a glance is sufficient to ascertain both the age and the cause for withdrawal of each pupil included in the tabulation. Each horizontal total under "Causes" equals the horizontal total under "Ages" shown opposite in the "Age" column.

Table 47

**Elimination from the Washington Junior High School by Course, Age, and Cause.—Semester Ending June, 1923**

| Seventh Grade                 |          |          |        | Ages |    |    |    |    |    |    |       | Causes          |      |     |      |  |
|-------------------------------|----------|----------|--------|------|----|----|----|----|----|----|-------|-----------------|------|-----|------|--|
| Course                        | No. Reg. | No. Lost | % Lost | 12   | 13 | 14 | 15 | 16 | 17 | 18 | Moved | Private Schools | Work | Age | Died |  |
| Academic                      | 360      | 16       | 4.44   |      | 4  | 2  | 6  | 4  |    |    | 4     |                 | 2    |     |      |  |
|                               |          |          |        |      |    |    |    |    |    |    | 1     |                 | 5    | 3   |      |  |
|                               |          |          |        |      |    |    |    |    |    |    |       |                 | 1    |     |      |  |
| Industrial and Household Arts | 62       | 9        | 14.51  |      |    |    | 7  | 1  |    |    | 1     |                 | 6    | 1   |      |  |

| Eighth Grade                  |          |          |        | Ages |    |    |    |    |    |    |       | Causes          |      |     |      |  |
|-------------------------------|----------|----------|--------|------|----|----|----|----|----|----|-------|-----------------|------|-----|------|--|
| Course                        | No. Reg. | No. Lost | % Lost | 12   | 13 | 14 | 15 | 16 | 17 | 18 | Moved | Private Schools | Work | Age | Died |  |
| Academic                      | 194      | 2        | 1.03   |      | 1  | 1  |    |    |    |    | 1     |                 |      |     |      |  |
|                               |          |          |        |      |    |    |    |    |    |    | 1     |                 |      |     |      |  |
| Technical                     | 157      | 4        | 2.54   | 1    |    |    | 1  | 2  |    |    |       |                 | 1    | 2   |      |  |
|                               |          |          |        |      |    |    |    |    |    |    |       |                 |      |     |      |  |
| Commercial                    | 215      | 7        | 3.25   |      | 1  |    | 5  | 1  |    |    | 1     |                 | 5    | 1   |      |  |
|                               |          |          |        |      |    |    |    |    |    |    |       |                 |      |     |      |  |
| Industrial and Household Arts | 207      | 54       | 26.08  |      |    | 2  | 37 | 14 | 1  |    | 2     |                 | 35   | 4   |      |  |
|                               |          |          |        |      |    |    |    |    |    |    | 2     |                 | 10   | 1   |      |  |

(Table 47, Continued)

## Elimination from the Washington Junior High School

| Ninth Grade                            |             |             |           | Ages |    |    |    |    |    |    |       | Causes             |        |     |      |  |
|--|-------------|-------------|-----------|------|----|----|----|----|----|----|-------|--------------------|--------|-----|------|--|
| Course                                 | No.<br>Reg. | No.<br>Lost | %<br>Lost | 12   | 13 | 14 | 15 | 16 | 17 | 18 | Moved | Private<br>Schools | Work   | Age | Died |  |
| Academic                               | 149         | 4           | 2.68      |      |    | 1  | 3  |    |    |    | 1     | 3                  |        |     |      |  |
| Technical                              | 74          | 4           | 5.40      |      |    | 1  | 1  | 2  |    |    |       |                    | 1<br>1 | 2   |      |  |
| Commercial                             | 181         | 8           | 4.41      |      |    | 4  | 3  | 1  |    |    | 1     |                    | 3<br>3 | 1   |      |  |
| Industrial<br>and<br>Household<br>Arts | 124         | 10          | 8.06      |      |    | 2  | 6  | 2  |    |    |       |                    | 2<br>6 | 2   |      |  |

Table 48

Elimination from the Jefferson Junior High School by  
Course, Age, and Cause.—Semester Ending June, 1923

| Seventh Grade                          |             |             |           | Ages |    |    |    |    |    |    |             | Causes             |             |     |      |  |
|--|-------------|-------------|-----------|------|----|----|----|----|----|----|-------------|--------------------|-------------|-----|------|--|
| Course                                 | No.<br>Reg. | No.<br>Lost | %<br>Lost | 12   | 13 | 14 | 15 | 16 | 17 | 18 | Moved       | Private<br>Schools | Work        | Age | Died |  |
| Academic                               | 448         | 8           | 1.77      | 2    | 3  | 1  | 1  | 1  |    |    | 2<br>3<br>1 |                    | 1<br>1      |     |      |  |
| Industrial<br>and<br>Household<br>Arts | 89          | 10          | 11.23     |      | 1  | 1  | 4  | 4  |    |    | 1           |                    | 1<br>4<br>1 | 3   |      |  |



## RESULTS

173

(Table 48—Continued)

## Elimination from the Jefferson Junior High School

| Eighth Grade                           |             |             |           | Ages |    |    |    |    |    |    |        | Causes             |              |        |      |
|--|-------------|-------------|-----------|------|----|----|----|----|----|----|--------|--------------------|--------------|--------|------|
| Course                                 | No.<br>Reg. | No.<br>Lost | %<br>Lost | 12   | 13 | 14 | 15 | 16 | 17 | 18 | Moved  | Private<br>Schools | Work         | Age    | Died |
| Academic                               | 219         | 4           | 1.82      | 1    | 1  |    | 2  |    |    |    | 1<br>1 |                    | 2            |        |      |
| Technical                              | 62          | 0           | 0         |      |    |    |    |    |    |    |        |                    |              |        |      |
| Commercial                             | 64          | 0           | 0         |      |    |    |    |    |    |    |        |                    |              |        |      |
| Industrial<br>and<br>Household<br>Arts | 121         | 21          | 17.35     |      |    | 3  | 13 | 4  | 1  |    | 2      |                    | 2<br>13<br>1 | 1<br>1 | 1    |

| Ninth Grade                            |             |             |           | Ages |    |    |    |    |    |    |       | Causes             |        |        |      |
|--|-------------|-------------|-----------|------|----|----|----|----|----|----|-------|--------------------|--------|--------|------|
| Course                                 | No.<br>Reg. | No.<br>Lost | %<br>Lost | 12   | 13 | 14 | 15 | 16 | 17 | 18 | Moved | Private<br>Schools | Work   | Age    | Died |
| Academic                               | 125         | 1           | .8        |      |    | 1  |    |    |    |    | 1     |                    |        |        |      |
| Technical                              | 59          | 2           | 3.38      |      |    |    |    | 2  |    |    |       |                    |        | 2      |      |
| Commercial                             | 75          | 5           | 6.66      |      |    | 2  | 1  | 1  | 1  |    |       |                    | 2<br>1 | 1<br>1 |      |
| Industrial<br>and<br>Household<br>Arts | 72          | 5           | 6.94      |      |    |    |    | 5  |    |    |       |                    | 3      | 2      |      |

Table 49

Elimination from the Madison Junior High School by Course, Age, and Cause.—Semester Ending June, 1923

| Seventh Grade                 |          |          |        | Ages |    |    |    |    |    |    |             | Causes          |        |     |      |  |
|-------------------------------|----------|----------|--------|------|----|----|----|----|----|----|-------------|-----------------|--------|-----|------|--|
| Course                        | No. Reg. | No. Lost | % Lost | 12   | 13 | 14 | 15 | 16 | 17 | 18 | Moved       | Private Schools | Work   | Age | Died |  |
| Academic                      | 477      | 13       | 2.72   | 3    | 3  | 2  | 3  | 2  |    |    | 1<br>2<br>2 | 2<br>1          | 3<br>1 | 1   |      |  |
| Industrial and Household Arts | 63       | 13       | 20.63  |      |    | 1  | 10 | 2  |    |    | 1<br>1      |                 | 9<br>2 |     |      |  |

| Eighth Grade                  |          |          |        | Ages |    |    |    |    |    |    |             | Causes          |         |        |      |   |
|-------------------------------|----------|----------|--------|------|----|----|----|----|----|----|-------------|-----------------|---------|--------|------|---|
| Course                        | No. Reg. | No. Lost | % Lost | 12   | 13 | 14 | 15 | 16 | 17 | 18 | Moved       | Private Schools | Work    | Age    | Died |   |
| Academic                      | 213      | 7        | 3.28   | 1    |    | 3  | 2  | 1  |    |    | 1<br>1      | 1<br>1          | 2       |        |      | 1 |
| Technical                     | 96       | 3        | 3.12   |      |    |    | 2  |    | 1  |    | 1           |                 | 1       | 1      |      |   |
| Commercial                    | 128      | 2        | 1.56   |      |    | 1  |    | 1  |    |    | 1           |                 |         | 1      |      |   |
| Industrial and Household Arts | 143      | 34       | 23.77  |      |    | 1  | 19 | 10 | 4  |    | 1<br>1<br>1 |                 | 18<br>5 | 4<br>4 |      |   |

(Table 49—Continued)

## Elimination from the Madison Junior High School

| Ninth Grade                   |          |          |        | Ages |    |    |    |    |    |    |        | Causes          |             |        |      |  |  |
|-------------------------------|----------|----------|--------|------|----|----|----|----|----|----|--------|-----------------|-------------|--------|------|--|--|
| Courses                       | No. Reg. | No. Lost | % Lost | 12   | 13 | 14 | 15 | 16 | 17 | 18 | Moved  | Private Schools | Work        | Age    | Died |  |  |
| Academic                      | 348      | 16       | 4.59   |      |    | 5  | 8  | 2  | 1  |    | 4      |                 | 5<br>4      | 2<br>1 |      |  |  |
| Technical                     | 71       | 12       | 16.9   |      |    | 2  | 1  | 6  | 2  | 1  |        |                 | 2<br>1<br>6 | 2<br>1 |      |  |  |
| Commercial                    | 175      | 26       | 14.85  |      |    | 6  | 9  | 11 |    |    | 1<br>2 | 1               | 6<br>7<br>8 | 1      |      |  |  |
| Industrial and Household Arts | 82       | 10       | 12.19  |      |    | 2  | 3  | 4  | 1  |    | 1      |                 | 2<br>3<br>4 |        |      |  |  |

It will be observed that the percentage of elimination from the different courses during the semester studied ranged from .8% to 26.08%. In every grade the Industrial and Household Arts Curriculum has the highest percentage of elimination. In comparing the elimination in the different curriculums it should be remembered that only pupils who are 14 years of age or older can elect the Industrial and Household Arts Course in the 7th grade. The State gives a certificate for the completion of this course at the end of two years. The tabulations show that in each school practically all the boys and girls who leave the Industrial or Household Arts Course are fifteen years or over and leave to go to work. In this course are many over-age pupils, who, because of their age and sometimes because of economic pressure at home, leave school at the earliest possible time to go to work. Often it is possible to keep such pupils in school for a longer period by giving them scholarships which provide weekly financial assistance for their families until the pupils are graduated. One fourth of the scholarships granted through the Children's Memorial Scholarship Fund go to pupils of the Industrial and Household Arts Courses.



Records have been kept of the summer and mid-year losses from the Washington Junior High School, covering a period of four years. These records show that during the summer, as well as during the term, the heaviest loss occurs at the end of the eighth grade. Without doubt the fact that pupils who are eligible for work permits and have secured positions during the summer are sometimes loathe to give up such positions is a real factor in summer losses.

It is of interest to know that the majority of those who quit school during the summer do not leave because of poor scholarship records. Available records show that in the Washington Junior High School (78% of which is foreign) an average of 90% leaving during the four summers studied had been promoted to the following grade. It is, therefore, either a question of economic pressure or the lure of the job that accounts for summer elimination from school.

**Holding Power Beyond Legal Requirements.** While it is of interest to know the percentage of pupils in the various grades and curriculums who leave school to go to work, move out of the city, etc., it is of even greater interest to know the percentage of pupils who could legally leave school but do not. Table 50 shows that in the 7th and 8th grades of the various junior high schools in June, 1923, there were many pupils who could not leave school. A few in the 9th grade had not attained the legal age so were likewise held in school.

In the 7th grade of the Washington, Jefferson, and Madison Junior High Schools there were several times as many in the Industrial Courses who were old enough to leave school as in the Academic Course. This is further evidence of the presence of many over-age pupils in the Industrial Courses. The figures for the 8th grade show a similar situation. In the 9th grade the percentage of pupils who could but did not leave school is large in all the curriculums.

Any claim for increased holding-power of the junior high school based on statistical data alone is bound to be misleading. It is recognized that there has been throughout the country a much larger demand and a larger opportunity for high school and college education than in years past. We know, likewise, that the Continuation School is the indirect cause of keeping some pupils in the regular school. In view of the fact that the average age of graduates from the grammar schools in Rochester is fourteen and one-half years it would seem clear that pupils of the Academic type are the ones who remain in grammar school until they graduate.

**Table 50**  
**Holding Power Beyond Legal Requirements**

**7th Grade**

|            |         | No. Registered | Could Not Leave | Could, But Did Not Leave | Left   |
|------------|---------|----------------|-----------------|--------------------------|--------|
| Washington | { Acad. | 360            | 86.39%          | 9.17%                    | 4.44%  |
|            | { Ind.  | 62             | 46.78%          | 38.71%                   | 14.51% |
| Jefferson  | { Acad. | 448            | 93.98%          | 4.25%                    | 1.77%  |
|            | { Ind.  | 89             | 42.70%          | 46.07%                   | 11.23% |
| Madison    | { Acad. | 477            | 91.82%          | 5.46%                    | 2.72%  |
|            | { Ind.  | 63             | 44.44%          | 34.93%                   | 20.63% |

**8th Grade**

|            |                | No. Registered | Could Not Leave | Could, But Did Not Leave | Left   |
|------------|----------------|----------------|-----------------|--------------------------|--------|
| Washington | { Acad.        | 194            | 94.33%          | 4.64%                    | 1.03%  |
|            | { Tech.        | 157            | 89.81%          | 7.65%                    | 2.54%  |
|            | { Com'l.       | 215            | 85.59%          | 11.16%                   | 3.25%  |
|            | { Ind. & H. A. | 207            | 32.37%          | 41.55%                   | 26.08% |
| Jefferson  | { Acad.        | 219            | 80.83%          | 17.35%                   | 1.82%  |
|            | { Tech.        | 62             | 75.81%          | 24.19%                   | .0%    |
|            | { Com'l.       | 64             | 85.94%          | 14.06%                   | .0%    |
|            | { Ind. & H. A. | 121            | 35.54%          | 47.11%                   | 17.35% |
| Madison    | { Acad.        | 213            | 87.33%          | 9.39%                    | 3.28%  |
|            | { Tech.        | 96             | 69.80%          | 27.08%                   | 3.12%  |
|            | { Com'l.       | 128            | 67.97%          | 30.47%                   | 1.56%  |
|            | { Ind. & H. A. | 143            | 24.48%          | 51.75%                   | 23.77% |

**9th Grade**

|            |                | No. Registered | Could Not Leave | Could, But Did Not Leave | Left   |
|------------|----------------|----------------|-----------------|--------------------------|--------|
| Washington | { Acad.        | 149            | 6.04%           | 91.28%                   | 2.68%  |
|            | { Tech.        | 74             | 4.05%           | 90.55%                   | 5.4 %  |
|            | { Com'l.       | 181            | 7.19%           | 88.40%                   | 4.41%  |
|            | { Ind. & H. A. | 124            | 4.04%           | 87.9 %                   | 8.06%  |
| Jefferson  | { Acad.        | 125            | 12.             | 87.2 %                   | .8 %   |
|            | { Tech.        | 59             | 6.79%           | 89.83%                   | 3.38%  |
|            | { Com'l.       | 75             | 8. %            | 85.34%                   | 6.66%  |
|            | { Ind. & H. A. | 72             | 5.56%           | 87.5 %                   | 6.94%  |
| Madison    | { Acad.        | 348            | 10.63%          | 84.78%                   | 4.59%  |
|            | { Tech.        | 71             | 12.68%          | 70.42%                   | 16.90% |
|            | { Com'l.       | 175            | 4. %            | 81.15%                   | 14.85% |
|            | { Ind. & H. A. | 82             | 4.88%           | 84.15%                   | 10.97% |

The over-age pupils in the junior high schools who take courses other than the Academic are of the type who have pretty largely dropped out of the grammar schools in the past, but who now are apparently being held in school by the differentiated courses of the junior high school.

In the case of pupils in the various grades and curriculums who could have left school but did not, it would seem reasonable to give to the junior high school credit for a definite holding power, especially in the Industrial Courses where most of the pupils are over-age and would, under former conditions, have dropped out as soon as the law permitted.

Table 51

**Carry-Over From 9th A Grade of the Junior High School to the Second Year of the Senior High School**

|   | 1920  |       | 1921  |       | 1922  |      | 1923  |       | Average |
|---|-------|-------|-------|-------|-------|------|-------|-------|---------|
|   | Jan.  | June  | Jan.  | June  | Jan.  | June | Jan.  | June  |         |
| Washington.....                           | 66.4% | 69.3% | 73%   | 59.5% | 71.1% | 65%  | 71.8% | 62.9% | 67.1%   |
| Jefferson.....                            |       |       | 87.2% | 79.8% | 73.5% | 76%  | 72.8% | 75%   | 76.7%   |
| Madison.....                              |       |       |       |       |       |      |       | 79%   | 79%     |
| Monroe.....                               |       |       |       |       |       |      |       |       | *       |
| Average of three Junior High Schools..... |       |       |       |       |       |      |       |       | 71.2%   |

In the foregoing pages certain facts regarding the holding power of the junior high schools have been presented. It is apparent that the percentage of those who continue their education beyond the 8th year is immediately increased as the result of the opening of a junior high school. The question may well be asked: "Does the increase in the number going on from the 8th grade to the 9th grade have a tendency to decrease the carry-over percentage from the 9th grade of the junior high school to the second year of the senior high school?" It is well known that the necessity

\* Schools in the Monroe Junior High School district have always sent a high percentage of their 8th grade graduates to high school. It is, therefore, safe to predict that a large percentage of the graduates of the 9th A grade of the Monroe Junior High School will enter the second year of senior high school.



of transferring from the grammar school building to a senior high school in a different building at the completion of the elementary course has caused a heavy percentage of withdrawal mid-way between the two types of schools. This might naturally be expected to be true in the case of transfer from junior to senior high school. However, data given above show that the percentage of 9th A pupils of the junior high schools, who actually go on to the second year of the senior high schools is high, in fact as high as the average carry over from the first to the second year in the senior high schools. These data are unusually significant because they show that pupils who have taken the junior high school course have sufficient interest and incentive to continue their work in the senior high school.

**Nationalities.** The four junior high schools all have foreign elements represented in the student population. Each nationality is prone to segregate itself and their children naturally attend one school. If it were not for the junior high school many of these pupils would come in contact pretty largely with pupils of their own nationality only. Bringing these pupils together with American born children is a powerful factor in Americanization work. Race prejudice tends to disappear in the junior high school.

Table 52

## Nationalities

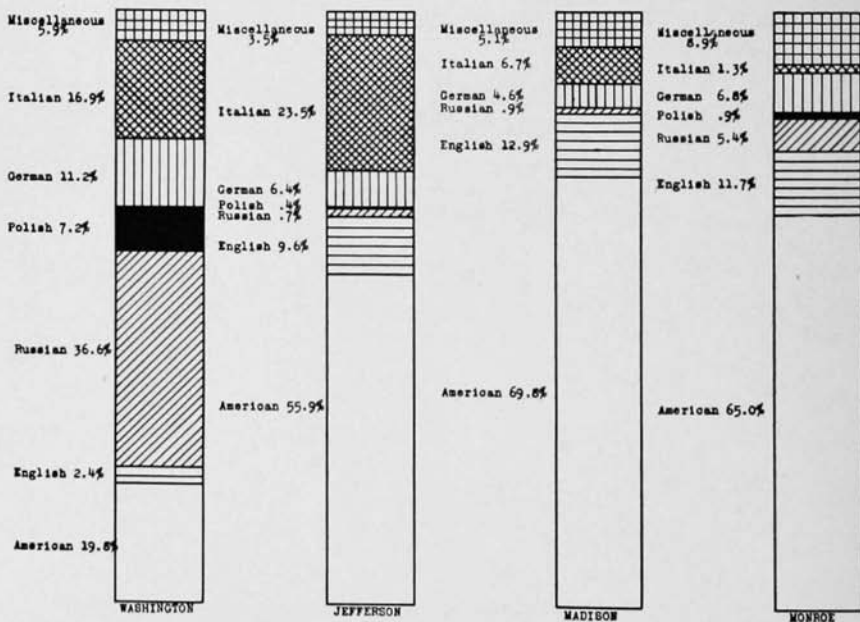
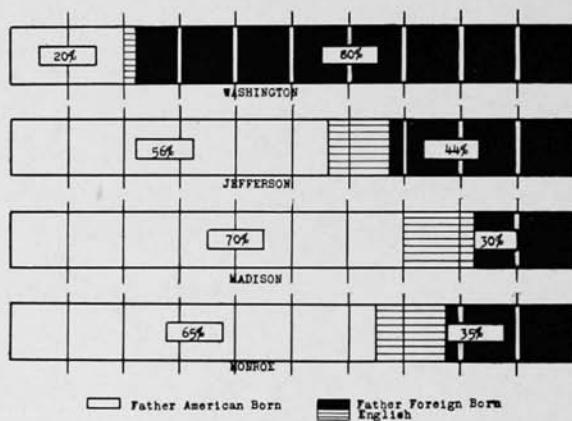
| School                | Amer. | Eng. | Russian | Polish | Germ. | Ital. | Misc. | Total |
|-----------------------|-------|------|---------|--------|-------|-------|-------|-------|
| W. J. H. S. . . . .   | 19.8  | 2.4  | 36.6    | 7.2    | 11.2  | 16.9  | 5.9   | 100%  |
| J. J. H. S. . . . .   | 55.9  | 9.6  | .7      | .4     | 6.4   | 23.5  | 3.5   | 100%  |
| M. J. H. S. . . . .   | 69.8  | 12.9 | .9      | .0     | 4.6   | 6.7   | 5.1   | 100%  |
| Mon. J. H. S. . . . . | 65.   | 11.7 | 5.4     | .9     | 6.8   | 1.3   | 8.9   | 100%  |

# CHART X

## NATIONALITY GROUPS

March 1923

Division of Students According to Country in Which Father Was Born



## PART V

---

### COSTS

---

#### CURRENT EXPENDITURES

**The Building Program.** It is now nearly ten years since the Board of Education set out upon its junior high school building program. That was before the World War with all its financial and other problems. Because of the belief that this policy was of vital educational importance to Rochester, the Board of Education has all along felt that its only sound and defensible course was to see this program through by providing one junior high school for each quarter of the city. That program was completed with the opening of the Monroe Junior High School this last September. In passing judgment upon costs, therefore, it is important at the very outset to understand what this junior high school program has meant in the way of relief both for the elementary schools and for the high schools of the city.

The decision to establish the Washington Junior High School was simply a decision on the part of the Board to solve the elementary school building problem in the northeastern section of the city by spending its money upon a central building rather than upon additions to the seven elementary schools that already existed. This was done by withdrawing the seventh and eighth grade pupils from the surrounding elementary schools, thus leaving these schools available for the children of the kindergarten and the first six grades. Furthermore, the pupils in this central school would remain for their ninth grade work instead of going on to the upper high school for this first year, and thereby relieve the crowded conditions in the upper high schools.

The Jefferson Junior High School at Edgerton Park relieved the elementary schools in the northwestern section to the point where, at the time the school was opened, it was possible to do away with portables and "part-time" sessions in the grammar schools in that part of the city.



The Madison Junior High School has made it possible to do away with portables and "part-time" sessions in the southwestern section and has solved for the present the elementary school building program in that locality.

The Monroe Junior High School has solved for the time being the elementary school building problem in the southeastern section of the city. Without the Monroe Junior High School, it would still be necessary to continue the use of portables as well as "part-time" sessions and the use of other temporary school building quarters in this section.

The junior high schools, by housing these first year high school pupils, have relieved the senior high school buildings of just that number of pupils. There are to-day 1,664 ninth grade, or first year high school, pupils in the four junior high schools who would otherwise have to be cared for in senior high schools. This would require a building large enough to hold as many high school students as are now in the West High School, and at present building costs such a building could not be erected for less than approximately \$1,250,000.

There are also at the present time approximately 4,000 seventh and eighth grade boys and girls in these junior high schools. If the Board of Education were to-day required to build elementary school buildings to accommodate these pupils, it would have to build seven schools of the size of No. 23 School on Barrington Street. The cost of these buildings at present building prices would be approximately \$2,000,000.

While these junior high school buildings have been expensive, since the costs both in buildings and in current operating expenses rank with those of the senior high school rather than with those of the elementary school, nevertheless it is to be remembered that had these buildings not been erected by far the greater part of these expenditures would have been required for additional elementary schools and for additional high schools.

**Explanation of Expenditures.** That the reader may know just what is included in the various cost groups which are listed under their technical names, the following definitions are given. In every case salaries and supplies are included; minor details are omitted.

|                    |  |
|--------------------|--|
| ADMINISTRATION     | <ol style="list-style-type: none"> <li>1. Principals and assistants.</li> <li>2. Clerical assistants.</li> <li>3. Supervision within the school.</li> </ol>  |
| INSTRUCTION        | <ol style="list-style-type: none"> <li>1. Teachers.</li> </ol>   |
| OPERATION          | <ol style="list-style-type: none"> <li>1. Janitors and helpers.</li> <li>2. Heat, light and power.</li> <li>3. Telephones and clock systems.</li> <li>4. Janitors' supplies.</li> </ol>  |
| MAINTENANCE        | <ol style="list-style-type: none"> <li>1. Painting, plumbing and mechanical repairs.</li> <li>2. Replacement of equipment.</li> <li>3. Alterations not adding to value of building.</li> </ol>   |
| AUXILIARY AGENCIES | <ol style="list-style-type: none"> <li>1. Books and supplies for indigents.</li> <li>2. Transportation of students.</li> <li>3. Lunches.</li> <li>4. Boys and Girls Clubs.</li> <li>5. Lectures.</li> </ol>  |
| CAPITAL OUTLAY     | <ol style="list-style-type: none"> <li>1. Purchase of land for school purposes.</li> <li>2. Cost of all new buildings and purchase of old ones.</li> <li>3. Alterations and additions to old buildings.</li> <li>4. Mechanical and educational equipment.</li> <li>5. Improvement of grounds.</li> </ol> |

**Explanation of Credits and Receipts.** In Tables 53 and 54 all income that could be credited to the schools in question is shown under the heading "Credits-Receipts."

The following is an analysis of the items credited under each heading:

|                                |  |
|--------------------------------|--|
| ADMINISTRATION AND INSTRUCTION | <ol style="list-style-type: none"> <li>1. Non-resident tuition fees.</li> <li>2. Sale of supplies.</li> </ol>      |
| OPERATION                      | <ol style="list-style-type: none"> <li>1. Telephone collections</li> <li>2. Rental of school buildings.</li> </ol> |

## OPERATION—Continued

3. Sale of obsolete equipment.

## AUXILIARY AGENCIES

1. Rental of text books.  
2. Rental of supplies.  
3. Lunchroom receipts.

**Current Expenditures for the Junior High Schools.** So far as current operating expenses are concerned, there is no substantial difference between junior and senior high school costs. The junior and senior high school teachers are on the same salary schedule because the junior high school teacher is required to have training equivalent, for his work, to the four years of college required of the senior high school teacher. Since approximately 80% of all current operating expenses are for instructional service salaries, this factor of better trained teachers alone places the junior high school on a plane with the senior high schools in current operating costs. In order to show actual costs for the calendar year, 1922, in the junior and senior high schools, Tables, 53 and 54 are presented.

**Table 53**  
**Junior High School Costs—1922**

|  | Washington Junior |                      |              | Jefferson Junior |                      |              | Madison Junior<br>(Sept. to Dec., 1922 only) |                      |             |
|--|-------------------|----------------------|--------------|------------------|----------------------|--------------|--|----------------------|-------------|
|  | Gross<br>Cost     | Credits-<br>Receipts | Net Cost     | Gross<br>Cost    | Credits-<br>Receipts | Net Cost     | Gross<br>Cost                                | Credits-<br>Receipts | Net Cost    |
| Administra-<br>tion and<br>Instruction | \$220,154.44      | \$2,850.01           | \$217,304.43 | \$175,465.81     | \$2,897.06           | \$172,568.75 | \$76,047.49                                  | \$946.41             | \$75,101.08 |
| Per-Capita                             | 135.48            | 1.75                 | 133.73       | 141.62           | 2.34                 | 139.28       | 51.63  | .64                  | 50.99       |
| Operation..                            | 24,747.27         | 54.08                | 24,693.19    | *37,238.08       | 258.40               | *36,979.68   | 29,846.65                                    | 21.40                | 29,825.25   |
| Per-Capita.                            | 15.23             | .03                  | 15.20        | *30.06           | .21                  | *29.85       | 20.26  | .01                  | 20.25       |
| Mainte-<br>nance.....                  | 8,000.33          | .....                | 8,000.33     | 3,402.21         | .....                | 3,402.21     | 897.17                                       | .....                | 897.17      |
| Per-Capita                             | 4.92              | .....                | 4.92         | 2.75             | .....                | 2.75         | .61  | .....                | .61         |
| Aux. Agen-<br>cies.....                | 10,114.69         | 6,697.88             | 3,416.81     | 18,538.42        | 12,556.98            | 5,981.44     | 9,859.08                                     | 2,807.13             | 7,051.95    |
| Per-Capita.                            | 6.22              | 4.12                 | 2.10         | 14.96            | 10.13                | 4.83         | 6.69   | 1.90                 | 4.79        |
| Cap. Out-<br>lay.....                  | 4,771.79          | .....                | 4,771.79     | 4,872.15         | .....                | 4,872.15     | 73,905.47                                    | .....                | 73,905.47   |
| Per Capita.                            | 2.94              | .....                | 2.94         | 3.93             | .....                | 3.93         | 50.17  | .....                | 50.17       |
| Total Ex-<br>penditures                | 267,788.52        | 9,601.97             | 258,186.55   | 239,516.67       | 15,712.44            | 223,804.23   | 190,555.86                                   | 3,774.94             | 186,780.92  |
| Total Per<br>Capita....                | 164.79            | 5.90                 | 158.89       | 193.32           | 12.68                | 180.64       | 129.36                                       | 2.55                 | 126.81      |
| Ave. No.<br>Belonging                  | 1,625             |                      |              | 1,239            |                      |              | 1,473  |                      |             |

\*Due to heating two adjoining buildings in Edgerton Pk., at an estimated expenditure of \$5,926.29. Crediting this cost the net is \$31,053.39 with a gross per capita of \$25.06, and a total per capita for the school of \$175.85.



**Table 54**  
**Senior High School Costs—1922**

|                                | East High and Annex |                  |              | West High School |                  |              |
|--------------------------------|---------------------|------------------|--------------|------------------|------------------|--------------|
|                                | Gross Costs         | Credits-Receipts | Net Costs    | Gross Costs      | Credits-Receipts | Net Costs    |
| Administration and Instruction | \$310,057.65        | \$7,616.05       | \$302,441.60 | \$225,190.27     | \$3,907.78       | \$221,282.49 |
| Per Capita....                 | 129.14              | 3.18             | 125.96       | 128.90           | 2.23             | 126.67       |
| Operation....                  | 31,750.30           | 44.80            | 31,705.50    | 18,571.57        | 55.40            | 18,516.17    |
| Per Capita....                 | 13.22               | .02              | 13.20        | 10.63            | .03              | 10.60        |
| Maintenance..                  | 6,410.88            | .....            | 6,410.88     | 8,589.77         | .....            | 8,589.77     |
| Per Capita....                 | 2.67                | .....            | 2.67         | 4.92             | .....            | 4.92         |
| Aux. Agencies                  | 40,126.54           | 38,064.07        | 2,062.47     | 27,650.97        | 24,360.00        | 3,290.97     |
| Per Capita....                 | 16.71               | 15.85            | .86          | 15.83            | 13.95            | 1.88         |
| Capital Outlay                 | 10,959.12           | .....            | 10,959.12    | 8,880.12         | .....            | 8,880.12     |
| Per Capita....                 | 4.57                | .....            | 4.57         | 5.08             | .....            | 5.08         |
| Total Expenditures....         | 399,304.49          | 45,724.92        | 353,579.57   | 288,882.70       | 28,323.18        | 260,559.52   |
| Total Per Capita....           | 166.31              | 19.05            | 147.26       | 165.36           | 16.21            | 149.15       |
| Ave. No. Belonging..           | 2401                |                  |              | 1747             |                  |              |

In an examination of Table 53 it will be seen that there are considerable differences between the costs in the Washington and the Jefferson Junior High Schools. This is to be expected because of the different conditions existing in the two schools. The following differences materially affect the costs. Washington Junior High School has a somewhat higher average salary (see Table 55) due to the automatic increase received by its teachers over a longer period. On the other hand, Washington Junior is operating in an over-crowded condition, whereas Jefferson Junior has not yet taxed its capacity. Then too, practically the same administrative organization is required for each school, although the difference in school population is approximately 300.

The operating cost at Jefferson Junior High School is very materially increased by the fact that under an arrangement with the city of Rochester the school heating plant is required to take care of two buildings in Edgerton Park.

Under Auxiliary Agencies it should be noted that the cost in Jefferson Junior High School is higher than in Washington Junior High School. In Washington Junior High School very little help is employed in the lunchroom, the service being maintained very largely by the pupils, whereas in Jefferson Junior High School lunchroom service is maintained by a corps

carried on the payroll. The fact that Jefferson Junior is not provided with a gymnasium calls for an additional cost per pupil for the provision of group activities within the school. These two factors tend to increase the cost of auxiliary agencies in that school as compared with Washington Junior High School.

Madison Junior High School was opened for the first time in September, 1922. Consequently the totals for Madison Junior High School, as shown in Tables 53 and 55 cover but four months of the fiscal year 1922.

**Current Expenditures for the Senior High Schools**—Table 54, which shows the current expenditures for 1922 in the senior high schools, is submitted so that a comparison may be made with Table 53 which shows similar expenditures for the junior high schools.

The per capita cost for instruction including administration within the school is dependent upon two factors: (1) the teachers' salary schedule, (2) the number of pupils per teacher.

The salary schedule is the same in both the junior and senior high schools. This schedule provides for a minimum salary of \$1600, a normal annual increment of not less than \$100, a normal maximum of \$2400 and an upper maximum of \$2800.

**Table 55**  
**Average Salary Per Teacher**  
Showing Average Salary Per Teacher in Junior  
and Senior High Schools

|                                  | *Number<br>of<br>Teachers | Monthly<br>Salary | Salary<br>per<br>Teacher |
|----------------------------------|---------------------------|-------------------|--------------------------|
| East High (including Annex)..... | 127                       | 28,327.00         | 223.048                  |
| West High.....                   | 75                        | 18,355.00         | 244.734                  |
| Washington Junior High.....      | 82                        | 18,080.00         | 220.488                  |
| Jefferson Junior High.....       | 74                        | 15,047.50         | 203.345                  |
| Madison Junior High.....         | 87                        | 17,342.00         | 199.334                  |

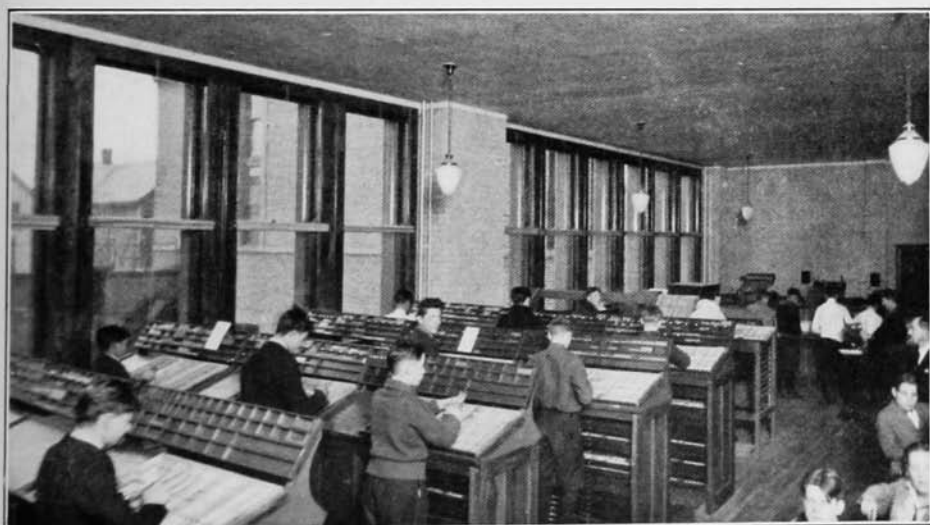
\*All administrative positions excluded.

Table 55 shows the average salary of the teachers in the junior and senior high schools. As may be seen from the table the average annual salary in the senior high schools is greater than the average annual salary in the junior high schools, owing to the fact that the senior high schools

have been established for a longer time and consequently have a larger percentage of teachers at the maximum salary rate. This factor would tend to increase the per capita costs of the senior high schools over the junior high schools.

The second vital factor in any comparative study of per capita costs is the number of pupils per teacher. Other things being equal, it would be expected that the average number of pupils per teacher in the junior high schools would be less than the average per teacher in the senior high schools, owing to the fact that the junior high schools have Practical Arts work with the necessarily small classes involved, while the senior high schools have only the general college preparatory and commercial courses. The only exception to this is in East High School Annex where the students have the Practical Arts work. It is to be remembered, however, that this factor of the Practical Arts work is partly offset by the smaller classes that are more commonly found in the third and fourth years of the senior high schools.

**Average Number of Pupils per Class.** The following table gives the average number belonging in the various classes of both senior and junior high schools divided according to Book (or Academic) Subjects, and Hand (or Shop) Subjects. It will be noted that in the junior high schools the average class size is approximately twenty-nine pupils in Academic Subjects and seventeen pupils in Hand Subjects. In the senior high schools the average class size is about twenty-four.



The Print Shop



Table 56

**Average Number of Pupils Per Class as of September, 1923  
in the Junior High Schools and Senior High Schools**

| <b>Junior<br/>High<br/>Schools</b> | <b>Book (or Academic) Subjects:</b>  | <b>W. J. H. S.</b> | <b>J. J. H. S.</b> | <b>Md. J. H. S.</b> | <b>Mo. J. H. S.</b> |
|------------------------------------|--------------------------------------|--------------------|--------------------|---------------------|---------------------|
|                                    | English.....                         | 33                 | 27.7               | 28.8                | 30                  |
|                                    | Mathematics.....                     | 30                 | 27.5               | 29.4                | 32                  |
|                                    | History.....                         | 33                 | 27.2               | 29.2                | 30                  |
|                                    | Science.....                         | 33                 | 27.7               | 28.8                | 30                  |
|                                    | Latin.....                           | 36                 | 27.8               | 27.9                | 34                  |
|                                    | French.....                          | 27                 | 13.5               | 21.6                | 0                   |
|                                    | Lessons in Business.....             | 38                 | 30.3               | 30                  | 26.5                |
|                                    | Commercial Geography.....            | 31                 | 28                 | 39                  | 29                  |
|                                    | Commercial Mathematics.....          | 30                 | 29.5               | 23                  | 23.5                |
|                                    | Bookkeeping.....                     | 30                 | 29.5               | 23                  | 23.5                |
|                                    | Typewriting.....                     | 32                 | 15.7               | 22.4                | 23                  |
|                                    | Average Book Subjects.....           | 32                 | 27.2               | 27.5                | 28                  |
|                                    | <b>Hand (or Shop) Subjects:</b>      |                    |                    |                     |                     |
|                                    | Cooking.....                         | 16                 | 15.5               | 15                  | 17                  |
|                                    | Sewing.....                          | 15                 | 16                 | 17.7                | 15                  |
|                                    | Laundry.....                         | 15                 | 15.2               | 15.2                | 15                  |
|                                    | Printing.....                        | 17                 | 15                 | 13.7                | 17                  |
|                                    | Millinery.....                       | ..                 | 15.6               | 12.4                | 16                  |
|                                    | Household Science.....               | 15                 | 18                 | 14                  | 15                  |
|                                    | Drafting.....                        | 24                 | 18.7               | 19.2                | 21                  |
|                                    | Machine.....                         | 18                 | 16.4               | 14.5                | 19                  |
|                                    | Try Out Shop.....                    | 18                 | 18.7               | 18.5                | 19                  |
|                                    | Machine Shop.....                    | ..                 | 18                 | 20                  | 20                  |
|                                    | Gas Engine.....                      | 18                 | 20                 | 29                  | ....                |
|                                    | Cabinet.....                         | 16                 | 15.4               | 21                  | 18                  |
|                                    | Commercial Art.....                  | 20                 | 15.3               | 15.7                | 16                  |
|                                    | Sheet Metal.....                     | 17                 | 18.2               | 18.5                | 16.5                |
|                                    | Electricity.....                     | 20                 | 20.7               | 19                  | 27.5                |
|                                    | Average Hand (and Shop)<br>Subjects: | 18                 | 16.5               | 16                  | 18                  |
|                                    | <b>Senior<br/>High<br/>Schools</b>   | <b>East High</b>   | <b>West High</b>   |                     |                     |
|                                    | Classics.....                        | 28                 | 26.4               |                     |                     |
|                                    | Modern Language.....                 | 28.1               | 26.1               |                     |                     |
|                                    | English.....                         | 27                 | 23.7               |                     |                     |
|                                    | Mathematics.....                     | 29                 | 23.2               |                     |                     |
|                                    | History.....                         | 26.3               | 26.9               |                     |                     |
|                                    | Physics.....                         | 20.7               | 23.1               |                     |                     |
|                                    | Chemistry.....                       | 23.2               | 24.3               |                     |                     |
|                                    | Biology.....                         | 29                 | 21.5               |                     |                     |
|                                    | Botany.....                          | 16                 | 12                 |                     |                     |
|                                    | Geography.....                       | 22.5               | 22.6               |                     |                     |
|                                    | Commercial.....                      | 25.5               | 22.3               |                     |                     |
|                                    | Drawing.....                         | 23                 | 19.4               |                     |                     |
|                                    | Music.....                           | 37.3               | 41.5               |                     |                     |
|                                    | Average.....                         | 25                 | 23.2               |                     |                     |

**Pupil Hour Costs.** In view of the fact that subjects taught in both junior and senior high schools are not organized on the same basis, comprehensive comparison of pupil hour cost is not possible. Table 57 simply offers a few suggestions for the student of pupil hour costs. For example, it may be seen in Group A, that the cost of teaching the general subjects in the junior high school is comparatively low. On the other hand, the costs in the Arts, as shown by group C, are high in comparison with the general subjects. It should be noted, that there are also a few subjects taught in the senior high schools, as shown in Group B, which have a high pupil hour cost.

In any consideration of the pupil hour costs given in Table 57 it should be remembered that these are gross instruction costs. In the case of the more expensive practical arts subjects, such as printing and mill work, the courses are substantially self-supporting when credited with the value of the output. A further consideration is the fact that under the Smith-Hughes Act for vocational subjects the Board of Education receives annually as high as \$1,000.00 per teacher, while the annual state grant for academic and elementary teachers is \$650.00 per teacher.

**Table 57**

**Pupil Hour Costs in Junior and Senior High Schools, April, 1923**

(Selected subjects only in Madison Junior High and East High Schools)

|                       | Madison Jr. | East High |
|-----------------------|-------------|-----------|
| A Civics.....         | .061        | .089      |
| English.....          | .062        | .115      |
| History.....          | .058        | .118      |
| Mathematics.....      | .073        | .119      |
| Health.....           | .083        | .106      |
| General Science.....  | .066        | ....      |
| B Biology.....        | ....        | .163      |
| Botany.....           | ....        | .392      |
| Chemistry.....        | ....        | .173      |
| Greek.....            | ....        | .235      |
| Social Economics..... | ....        | .141      |
| C Clothing.....       | .158        | ....      |
| Costume Design.....   | .187        | ....      |
| Textiles.....         | .189        | ....      |
| Millinery.....        | .175        | ....      |
| Millwork.....         | .162        | ....      |
| Pattern Making.....   | .119        | ....      |
| Printing.....         | .225        | ....      |

## CAPITAL EXPENDITURES

**Building and Equipment Costs.** So far as capital costs or expenditures for junior high school buildings and equipment are concerned, the cost is substantially no different from that involved in an equally well-equipped senior high school. It is thought that the best information concerning such costs will be provided by giving building costs of each of these junior high schools, and in detail the equipment and floor plans of one of these junior high schools.

The school selected is the Madison. While the Monroe Junior High School is built after much the same plan and has the same capacity, the actual cost has been much less than that of the Madison Junior High School, owing to the decreased cost of building at the time the contract for the Monroe Junior High School building was awarded. The contract for the Madison Junior High School, which follows, was awarded in January 1920, at the very peak of building costs. The actual cost was more than the contract figures owing to a provision by which the Board of Education was to meet any increased labor costs due to rise in wages beyond those allowed in the contract, and to benefit correspondingly by any decrease in wage. It was a time of great uncertainty in the matter of wages paid, and this seemed to be the fairest and most effective solution of the problem. It was in no sense a cost plus arrangement.

## Washington Junior High School

1. Area of site . . . . . 126,800 sq. ft.
2. Area of land covered by building . . . 61,200 sq. ft.
3. Kind of construction . . . . . 2 story and basement, non-fire-proof brick structure with slag and tin roof.
4. Kind of floors . . . . . Wood.
5. Total floor area of building . . . . . 129,468 sq. ft.
6. Total floor area of building used for school purposes . . . . . 118,744 sq. ft.
7. Cubical contents . . . . . 2,205,670 cu. ft.
8. Usable space . . . . . 1,844,121 cu. ft.
9. Original Cost (formerly Washington Grammar School) . . . . . \$204,088.00



10. Amounts of contracts and extras,  
for Shop addition, exclusive of build-  
ing site:

|  |                     |
|--|---------------------|
| Architect's Fees . . . . .                                   | 2,819.16            |
| Carpenter Work . . . . .                                     | 27,506.44           |
| Electrical Work . . . . .                                    | 3,962.00            |
| Heating & Ventilating . . . . .                              | 10,136.00           |
| Mason Work . . . . .   | 27,806.94           |
| Plumbing . . . . .   | 3,229.78            |
| Wire Guards for Windows enclosing Tool<br>Room, etc. . . . . | 336.00              |
| Electric Freight Elevator . . . . .                          | 1,440.00            |
| Clock System . . . . .                                       | 2,613.81            |
| Sprinkler System . . . . .                                   | 5,234.50            |
| Telephone Equipment . . . . .                                | 1,125.72            |
| Alterations . . . . .  | 1,154.91            |
| Painting . . . . .   | 8,050.00            |
| <b>BUILDING &amp; ADDITION TOTAL:</b>                        | <b>\$299,503.26</b> |
| Equipment . . . . .  | \$ 28,962.72        |

11. Heating and Ventilating . . . . . By fan system with air under automatic temperature control from each room, and direct radiation in the rooms under hand control.
12. Clock system . . . . . Electric system, Master and Program Clocks with secondary clock and bell in each room.
13. Wardrobe . . . . . Wardrobes built between class rooms, having an outside window.
14. Total number of rooms . . . . . 111
15. Student capacity . . . . . 1500

### Jefferson Junior High School

- Area of site . . . . . 72,425 sq. ft.
- Area of land covered by building . . . . . 56,171 sq. ft.
- Kind of construction . . . . . 3 story brick and stone fireproof structure with built-up asbestos roofing.

- 
- |     |   |   |
|-----|---|---|
| 4.  | Kind of floors.....   | Terrazzo in corridors and toilet rooms. Wood in rooms.                                  |
| 5.  | Total floor area of building.....   | 129,264 sq. ft.   |
| 6.  | Total floor area of building used for school purposes.....                            | 125,818 sq. ft.   |
| 7.  | Cubical contents.....   | 2,199,319 cu. ft.   |
| 8.  | Usable space.....   | 1,839,721 cu. ft.   |
| 9.  | First contracts awarded.....  | September 6, 1917.  |
| 10. | Amounts of contracts and extras. Building site provided by the City in Edgerton Park: |   |
|     | Architect's Fees.....   | \$ 19,377.70  |
|     | Blower System.....  | 2,050.00  |
|     | Carpenter Work.....   | 85,136.87   |
|     | Clock System.....   | 3,698.00  |
|     | Coal Conveyor.....  | 1,420.00  |
|     | Cut Stone.....  | 25,370.97   |
|     | Electric Work.....  | 27,598.83   |
|     | Elevator.....   | 3,510.00  |
|     | Heating and Ventilating.....  | 102,205.39  |
|     | Mason Work.....   | 309,993.24  |
|     | Painting.....   | 6,600.94  |
|     | Plumbing.....   | 23,885.20   |
|     | Roofing.....  | 13,523.23   |
|     | Telephone and Elec. Gong System.....  | 2,183.00  |
|     | Tunnel.....   | 27,831.80   |
|     | Vacuum Cleaner System.....  | 4,479.00  |
|     | BUILDING TOTAL.....   | \$658,864.17  |
|     | Equipment.....  | \$ 78,130.13  |
| 11. | Cost per cu. ft. of entire building.....  | \$0.30.   |
| 12. | Cost per cu. ft. of usable space.....   | \$0.358.  |
| 13. | Heating and Ventilating.....  | By fan system and direct radiation in rooms, under automatic temperature control.       |
| 14. | Clock System.....   | Electric system, master and program clocks, with secondary clock and bell in each room. |
| 15. | Wardrobe.....   | Metal lockers in both girls' and boys' locker rooms.                                    |
| 16. | Total number of rooms.....  | 120   |
| 17. | Student Capacity.....   | 1500  |

### Madison Junior High School

1. Area of site.....178,974 sq. ft.
2. Area of land covered by building....90,900 sq. ft. (excluding courts and drill grounds).
3. Kind of construction.....3 story and part basement brick and stone fireproof structure with built up asphalt roofing.
4. Kind of floors.....Terrazzo in corridors and toilet rooms. Finished floors in class rooms of wood.
5. Total floor area of building.....299,336 sq. ft.
6. Total floor area of building used for school purposes.....265,324 sq. ft.
7. Cubical contents.....3,945,272 cu. ft.
8. Usable space.....3,734,552 cu. ft.
9. First contracts awarded.....January 13, 1920.
10. Amounts of contracts and extras.  
Building site provided by the city in  
Wilson Park:

|                              |                       |
|------------------------------|-----------------------|
| Architect's Fees.....        | \$ 47,973.19          |
| Blower System.....           | 2,304.15              |
| Carpenter Work.....          | 240,160.19            |
| Elec. Clock System.....      | 4,966.00              |
| Electric Work.....           | 48,006.15             |
| Elevator.....                | 4,590.39              |
| Heating and Ventilating..... | 168,977.38            |
| Mason Work.....              | 866,950.26            |
| Painting.....                | 12,386.78             |
| Plumbing.....                | 54,270.15             |
| Roofing and Metal.....       | 19,222.12             |
| Stone Work.....              | 90,248.15             |
| Tile and Marble.....         | 95,281.19             |
| Vacuum Cleaner System.....   | 5,692.38              |
| <b>BUILDING TOTAL:</b> ..... | <b>\$1,661,028.48</b> |
| Equipment.....               | \$ 141,082.80         |



- 
- |   |  |
|---|--|
| 11. Cost per cu. ft. of entire bldg.....  | \$0.421 (including heating and ventilating).   |
| 12. Cost per cu. ft. of usable space..... | \$0.4447 (including heating and ventilating).  |
| 13. Heating and Ventilating.....          | By the fan system and direct radiation in rooms under automatic temperature control.     |
| 14. Clock System.....                     | Electric system, Master and Program clocks with secondary clocks and bells in all rooms. |
| 15. Wardrobe.....                         | Chicago wardrobes along corridor wall with sliding doors in class room side.             |
| 16. Total Number of rooms.....            | 141 (See Room Schedule).   |
| 17. Student capacity.....                 | 2,000  |
- 

### Monroe Junior High School

- |   |   |
|---|---|
| 1. Area of site.....  | 153,689 sq. ft.   |
| 2. Area of land covered by building.....                      | 90,900 sq. ft. (excluding courts and drill grounds).  |
| 3. Kind of construction.....                                  | 3 story and part of basement brick and stone fireproof structure with built-up asphalt roofing. |
| 4. Kind of floors.....  | Terrazzo in corridors and toilet rooms. Wooden floors in class rooms.                           |
| 5. Total floor area of building.....                          | 299,336 sq. ft.   |
| 6. Total floor area of building used for school purposes..... | 265,324 sq. ft.   |
| 7. Cubical contents.....                                      | 3,945,272 cu. ft.   |

- 
- |   |  |
|---|--|
| 8. Usable space.....  | 3,734,552 cu. ft.  |
| 9. First contracts awarded.....                                     | June 25, 1921  |
| 10. Amounts of contracts and extras,<br>exclusive of building site: |  |
| Architect's Fees.....   | \$ 42,211.70   |
| Carpenter Work.....   | 182,952.54   |
| Cast Stone.....   | 75,170.00  |
| Electric Clock System.....  | 5,475.00   |
| Electric Elevator.....  | 5,583.00   |
| Electric Work.....  | 33,066.04  |
| Excavating.....   | 54,153.15  |
| Foundation Walls.....   | 30,567.27  |
| Heating and Ventilating.....  | 151,194.63   |
| Mason Work.....   | 708,544.82   |
| Painting.....   | 12,135.00  |
| Plumbing.....   | 38,764.00  |
| Roofing and Metal.....  | 18,835.00  |
| Saw Dust Collector.....   | 2,041.50   |
| Tile, Terrazza and Marble.....                                      | 83,000.00  |
| Vacuum Cleaner.....   | 5,575.00   |
| BUILDING TOTAL.....   | \$1,449,268.65   |
| Equipment.....  | \$ 134,324.46  |
| 11. Cost per cu. ft. of entire bldg.....                            | \$0.367 (including heating and<br>ventilating.)  |
| 12. Cost per cu. ft. of usable space.....                           | \$0.388 (including heating and<br>ventilating.)  |
| 13. Heating and Ventilating.....                                    | By fan system and direct radi-<br>ation in rooms under automatic<br>temperature control.       |
| 14. Clock System.....   | Electric system, Master and<br>Program clocks with secondary<br>clocks and bells in all rooms. |
| 15. Wardrobe.....   | Chicago wardrobes along cor-<br>ridor wall with sliding doors in<br>class room side.           |
| 16. Total number of rooms.....                                      | 140  |
| 17. Student capacity.....   | 2,000.   |

**Equipment for Madison Junior High School****General Equipment****Furniture:**

|                                       |             |
|---------------------------------------|-------------|
| Assembly Seats, Chairs, Desks,        |             |
| Rugs, Lockers and Shades. \$43,975.88 |             |
| Office Equipment..... 1,058.73 .....  | \$45,034.61 |

**Lunch Rooms:**

|  |          |
|--|----------|
| Teachers and Students, Dishes, Cooking Utensils, Tables and Electrical Appliances..... | 9,268.58 |
|--|----------|

**Miscellaneous:**

|   |        |
|---|--------|
| Janitors' Implements, Toilet Fixtures and Fire Extinguishers..... | 715.14 |
|---|--------|

**Commercial:**

|  |          |
|--|----------|
| Typewriters, Typewriter Chairs and Tables..... | 6,198.25 |
|--|----------|

**Music:**

|                            |        |
|----------------------------|--------|
| Victrolas and Records..... | 320.25 |
|----------------------------|--------|

**Health Education:**

|   |          |
|---|----------|
| Recreation, Athletic, Medical, Surgical, and Gymnastic Equipment..... | 8,192.27 |
|---|----------|

**Domestic Art:**

|  |          |
|--|----------|
| Sewing Machine, Tables, Electric Irons, etc..... | 1,811.78 |
|--|----------|

**Free Hand Drawing:**

|                                   |          |
|-----------------------------------|----------|
| School Room Equipment... \$800.00 |          |
| Art Equipment..... 200.00.....    | 1,000.00 |

---

\$72,540.88

**Laboratory Equipment**

|  |             |
|--|-------------|
| Optical Equipment, Lanterns, Microscopes, etc..... | \$ 1,732.35 |
| Physical Apparatus.....                            | 444.99      |
| Maps, Charts, Globes, etc.....                     | 311.00      |
| Biological Apparatus—Charts.....                   | 104.40      |
| Chemical Glass Ware, etc.....                      | 281.49      |
| Science Reference Books.....                       | 669.60      |
| 5 Demonstration Tables.....                        | 1,900.00    |
| Green Houses.....                                  | 500.00      |

---

\$ 5,943.83



### Shop and Vocational Equipment

#### 7B Try-Out:

|  |             |
|--|-------------|
| Woodworking Equipment, Hand and Machine Tools, Sheet Metal Equipment, Electrical Equipment. .... | \$ 2,185.00 |
|--|-------------|

#### Elementary Machine Shop:

|   |          |
|---|----------|
| Machine Tools and small equipment for Bench Work in Metal. .... | 6,090.00 |
|---|----------|

#### Commercial Art:

|  |        |
|--|--------|
| Sign Writing and Interior Decorating Equipment. .... | 918.00 |
|--|--------|

#### Printing:

|   |          |
|---|----------|
| Presses, Type Cabinets, Paper Cutters, Type, and Supplies . | 5,473.80 |
|---|----------|

#### Mechanical Drawing:

|  |          |
|--|----------|
| Boards, Tables, and Drawing Instruments . .... | 2,634.00 |
|--|----------|

#### Advanced Machine:

|  |           |
|--|-----------|
| Complete Machine Tool Equipment for Working in Metal . | 17,136.63 |
|--|-----------|

#### Electrical:

|   |          |
|---|----------|
| Equipment for Wiring, Motor Testing, and Small Motor Building. .... | 5,093.75 |
|---|----------|

#### Foundry:

|   |          |
|---|----------|
| Cupola, Tumble Barrel, Flasks, Sand and Small Moulder's Tools. .... | 1,165.50 |
|---|----------|

#### Mill:

|   |          |
|---|----------|
| Production Machine Tool Equipment and Small Tools. .... | 9,370.67 |
|---|----------|

#### Pattern Making:

|   |          |
|---|----------|
| Woodworking, Pattern Makers Tools, Hand Tools, and Machine Tool Equipment. .... | 4,533.16 |
|---|----------|

#### Sheet Metal:

|   |          |
|---|----------|
| Hand Machines, Soldering Furnaces, and Small Tools. . | 2,171.82 |
|---|----------|

#### Auto Mechanics:

|   |          |
|---|----------|
| Motors Mounted on Stands, Transmission and Differential, Ignition System, and Small Tools. .... | 2,298.00 |
|---|----------|

#### Domestic Science:

|   |          |
|---|----------|
| Cooking Utensils, Dishes, Electrical Appliances, Tables, and Chairs. .... | 2,652.76 |
|---|----------|

#### Laundry:

|  |                    |
|--|--------------------|
| Washing Machine, Tubs, Ironing Boards, Drier, Range, and School Room Equipment. .... | 875.00             |
|  | <u>\$62,598.09</u> |

**7th B Try-Out****One Shop**

|   |           |
|---|-----------|
| Manual Training Benches .....   | \$500.00  |
| Schoolroom Furniture, Tablet Arm .....  | 150.00    |
| Woodworking Tools .....   | 500.00    |
| Sheet Metal Working Tools including Forming Machine, Seam-<br>ing Machine, Wiring Machine, Turning Machine, Burring<br>Machine, and Beading Machine ..... | 250.00    |
| Stakes, Moulds, etc. ....   | 100.00    |
| Shears .....  | 40.00     |
| Band Saw .....  | 150.00    |
| Bench Jointer .....   | 125.00    |
| Dry Grinder .....   | 125.00    |
| Small Tools for Sheet Metal Work .....  | 200.00    |
| Gas Furnaces .....  | 20.00     |
| Soldering Equipment .....   | 25.00     |
|   | <hr/>     |
|   | \$2185.00 |

**Elementary Machine Shop****One Shop**

|   |            |
|---|------------|
| Benches .....                             | \$500.00   |
| Schoolroom Equipment .....                | 150.00     |
| 2 Small Bench Lathes .....                | 400.00     |
| 8 Small Screw Cutting Engine Lathes ..... | 2,000.00   |
| 1 Hand Miller .....                       | 400.00     |
| 1 Small Shaper .....                      | 250.00     |
| 1 Dry Grinder .....                       | 125.00     |
| 1 Sensitive Drill .....                   | 150.00     |
| 1 Power Saw .....                         | 160.00     |
| 18 Gas Furnaces .....                     | 180.00     |
| Countershafting and Belting .....         | 700.00     |
| Machinist Vises .....                     | 50.00      |
| Stock Rack .....                          | 75.00      |
| Special Lathe Tools .....                 | 50.00      |
| Milling Cutters .....                     | 50.00      |
| Calipers, Gauges and Scales .....         | 100.00     |
| Taps, Dies and Drills .....               | 100.00     |
| Small Machinist Tools .....               | 150.00     |
| Dogs and Chucks .....                     | 500.00     |
|   | <hr/>      |
|   | \$6,090.00 |

## COSTS

199

**Commercial Art****One Studio**

|                                    |          |
|------------------------------------|----------|
| 24 Drafting Tables .....           | \$450.00 |
| Drawing Boards .....               | 150.00   |
| Lettering Pens, Brushes, etc. .... | 75.00    |
| Tee Squares .....                  | 20.00    |
| Triangles .....                    | 30.00    |
| Bentwood Chairs .....              | 60.00    |
| Airbrush .....                     | 125.00   |
| Paper Holder .....                 | 8.00     |
|                                    | <hr/>    |
|                                    | \$918.00 |

**Printing****One Shop**

|                                |            |
|--------------------------------|------------|
| Schoolroom Equipment .....     | \$ 75.00   |
| 1 14½ x 22 Press .....         | 725.00     |
| 1 10 x 15 Press .....          | 510.00     |
| 2 Variable Speed Motors .....  | 250.00     |
| 1 Lever Paper Cutter .....     | 375.00     |
| 1 Staple Binder .....          | 47.80      |
| 1 Lead and Rule Cutter .....   | 28.00      |
| 1 Dry Rack .....               | 105.00     |
| 1 Ink and Roller Cabinet ..... | 69.00      |
| 1 Imposing Stone .....         | 348.00     |
| 6 Rule Cases .....             | 10.50      |
| 6 Leader Boxes .....           | 3.60       |
| 1 Proof Press .....            | 170.00     |
| Type .....                     | 2,550.00   |
| Job Sticks .....               | 109.40     |
| Galleys .....                  | 97.50      |
|                                | <hr/>      |
|                                | \$5,473.80 |



**Mechanical Drawing****Three Rooms**

|  |                   |
|--|-------------------|
| Drawing Boards .....                       | \$300.00          |
| Tee Squares, Triangles, and Curves .....   | 150.00            |
| 4-Piece Sets of Drafting Instruments ..... | 300.00            |
| Drafting Tables .....                      | 1,200.00          |
| Steel Stools .....                         | 600.00            |
| Paper Trimmer .....                        | 30.00             |
| Blackboard Drawing Sets .....              | 30.00             |
| Paper Holder .....                         | 24.00             |
|  | <u>\$2,634.00</u> |

**Advanced Machine Shop****One Shop**

|                                      |                    |
|--------------------------------------|--------------------|
| Benches .....                        | \$400.00           |
| Schoolroom Equipment .....           | 150.00             |
| 12 Screw Cutting Engine Lathes ..... | 4,742.72           |
| 2 Milling Machines .....             | 1,793.91           |
| 2 Shapers .....                      | 900.00             |
| 1 Universal Grinder .....            | 1,100.00           |
| 1 Cutter Grinder .....               | 600.00             |
| 1 Dry Grinder .....                  | 125.00             |
| 1 Wet Grinder .....                  | 150.00             |
| 1 Back Geared Drill Press .....      | 400.00             |
| Sensitive Drill .....                | 250.00             |
| 1 Metal Planer .....                 | 1,700.00           |
| 1 Power Saw .....                    | 175.00             |
| 1 Gas Furnace .....                  | 200.00             |
| Counter Shafting, Belts, etc. ....   | 1,000.00           |
| Machinist Vises .....                | 50.00              |
| Stock Rack .....                     | 75.00              |
| Small Forging Tools .....            | 25.00              |
| Special Lathe Tools .....            | 100.00             |
| Special Milling Machine Tools .....  | 150.00             |
| Calipers, Gauges, and Scales .....   | 200.00             |
| Taps, Dies, and Drills .....         | 200.00             |
| Small Machinist Tools .....          | 150.00             |
| Dogs and Chucks .....                | 2,500.00           |
|                                      | <u>\$17,136.63</u> |

## COSTS

201

**Electrical****One Shop**

|                                   |                   |
|-----------------------------------|-------------------|
| Benches .....                     | \$400.00          |
| School Room Equipment.....        | 75.00             |
| Small Motors .....                | 1,000.00          |
| 1 Motor Generator Set.....        | 300.00            |
| Current Transformers.....         | 350.00            |
| Storage Battery.....              | 200.00            |
| Testing Magneto.....              | 25.00             |
| 1 Rectifier.....                  | 25.00             |
| 1 Dimmer.....                     | 47.75             |
| 1 Wheatstone Bridge.....          | 125.00            |
| Wiring Equipment.....             | 600.00            |
| Fixtures.....                     | 75.00             |
| Rheostats.....                    | 75.00             |
| 2 Ammeters.....                   | 75.00             |
| 2 Voltmeters.....                 | 100.00            |
| Piping Tools and Supplies .....   | 346.00            |
| 1 Screw Cutting Engine Lathe..... | 400.00            |
| 1 Sensitive Drill.....            | 150.00            |
| 1 Dry Grinder.....                | 125.00            |
| Electrician Small Tools.....      | 600.00            |
|                                   | <u>\$5,093.75</u> |

**Foundry****One Shop**

|                            |                   |
|----------------------------|-------------------|
| Motor.....                 | \$100.00          |
| Pressure Blower.....       | 94.50             |
| Fire Brick Lining.....     | 95.00             |
| Gas Oven.....              | 140.00            |
| Whiting Cupola.....        | 386.00            |
| 75 Snap Flasks.....        | 250.00            |
| Moulders' Small Tools..... | 100.00            |
|                            | <u>\$1,165.50</u> |

**Mill Room****One Shop**

|                                   |            |
|-----------------------------------|------------|
| Bench (built in) . . . . .        | \$150.00   |
| Cabinet Making Bench . . . . .    | 480.00     |
| Lumber Rack . . . . .             | 265.67     |
| Single Surfacers . . . . .        | 1,673.00   |
| Jointer . . . . .                 | 626.00     |
| Disc Sander . . . . .             | 230.00     |
| Saw Filing Machine . . . . .      | 116.00     |
| Factory Trucks . . . . .          | 69.00      |
| Dry Grinder . . . . .             | 125.00     |
| Band Saw . . . . .                | 631.00     |
| Boring Machine . . . . .          | 366.00     |
| Buzz Planer . . . . .             | 542.00     |
| 2 Variety Saw Benches . . . . .   | 952.00     |
| Automatic Knife Grinder . . . . . | 475.00     |
| Cut off Saw . . . . .             | 307.00     |
| Belt Sander . . . . .             | 559.00     |
| Clamps . . . . .                  | 350.00     |
| Small Working Tools . . . . .     | 255.00     |
| Gluing Equipment . . . . .        | 353.00     |
| Motor . . . . .                   | 75.00      |
| 2 Speed Lathes . . . . .          | 771.00     |
|                                   | <hr/>      |
|                                   | \$9,370.67 |

**Pattern Shop****One Shop**

|   |            |
|---|------------|
| Woodworking Benches . . . . .                     | \$500.00   |
| Schoolroom Equipment . . . . .                    | 75.00      |
| 1 Band Saw . . . . .                              | 720.00     |
| 1 Jointer . . . . .                               | 625.00     |
| 1 Disc Sander . . . . .                           | 250.00     |
| 4 Speed Lathes . . . . .                          | 1,700.00   |
| 1 Steam Glue Heater . . . . .                     | 17.00      |
| 1 Dry Grinder . . . . .                           | 125.00     |
| Small Pattern Makers' Woodworking Tools . . . . . | 396.16     |
| 4 Dozen Wood Clamps . . . . .                     | 125.00     |
|   | <hr/>      |
|   | \$4,533.16 |



**Sheet Metal Shop****One Shop**

|  |            |
|--|------------|
| Benches .....                          | \$500.00   |
| Schoolroom Equipment.....              | 150.00     |
| Squaring Shear.....                    | 72.68      |
| 2 Punches.....                         | 82.00      |
| Circle Shears.....                     | 54.00      |
| Seaming Machine.....                   | 50.00      |
| Grooving Machine.....                  | 54.00      |
| Forming Machine.....                   | 23.72      |
| Crimping and Beading Machine .....     | 20.00      |
| 4 Turning Machines.....                | 102.70     |
| 2 Wiring Machines .....                | 46.00      |
| 3 Burring Machines.....                | 19.00      |
| 1 Beading Machine.....                 | 36.72      |
| Stakes and Moulds.....                 | 156.00     |
| 1 Dry Grinder.....                     | 125.00     |
| 1 Drill Press.....                     | 150.00     |
| 1 Bolt Cutter.....                     | 5.00       |
| Sheet Metal Workers' Small Tools ..... | 300.00     |
| Calipers, Gauges, and Rules.....       | 100.00     |
| Steel Clamps.....                      | 50.00      |
| Taps, Dies, and Drills .....           | 75.00      |
|  | <hr/>      |
|  | \$2,171.82 |

**Auto Mechanics Shop****One Shop**

|  |          |
|--|----------|
| Engines taken from used cars .....   | \$300.00 |
| Used parts, including Rear Axles, Transmission, Ignition Systems,<br>Carburetors, etc..... | 400.00   |
| Jacks .....  | 40.00    |
| Electric Motor.....  | 100.00   |
| Sensitive Drill Press.....   | 150.00   |
| Screw Cutting Engine Lathe.....  | 400.00   |
| Dry Grinder.....   | 100.00   |
| Counter Shafting.....  | 100.00   |
| Garage Crane.....  | 125.00   |
| Engine Stands.....   | 100.00   |

**Auto Mechanics—Continued**

|   |            |
|---|------------|
| Oil Cabinet.....                              | \$ 25.00   |
| Special Tools for Various Makes of Autos..... | 50.00      |
| Standard Wrenches.....                        | 30.00      |
| Vises.....                                    | 50.00      |
| Wheel Puller .....                            | 10.00      |
| Testers.....                                  | 10.00      |
| Garage Pump .....                             | 150.00     |
| Gas Tanks .....                               | 10.00      |
| Machinist Tools.....                          | 50.00      |
| Voltmeters and Ammeters .....                 | 10.00      |
| Blow Torch .....                              | 8.00       |
| Soldering Outfit .....                        | 5.00       |
| Schoolroom Equipment, Tablet Arm Chairs.....  | 75.00      |
|   | <hr/>      |
|   | \$2,298.00 |

**Domestic Science****Four Kitchens**

|   |            |
|---|------------|
| Schoolroom equipment .....  | \$ 75.00   |
| 10 Double Domestic Science tables.....                            | 460.00     |
| 1 Supply Cabinet .....  | 55.00      |
| 10 Gas Ranges.....  | 360.00     |
| 1 Refrigerator.....   | 68.85      |
| China-ware, Glass-ware, Silver-ware .....                         | 670.00     |
| Aluminum-ware, Tin-ware, Nickel-ware, Iron-ware and Cutlery ..... | 963.91     |
|   | <hr/>      |
|   | \$2,652.76 |

**Laundry****One Room**

|                                 |          |
|---------------------------------|----------|
| Schoolroom Equipment.....       | \$150.00 |
| 12 Alberence Wash tubs.....     | 250.00   |
| 24 Ironing Boards .....         | 125.00   |
| 1 Gas Range.....                | 50.00    |
| 1 Clothes Drier .....           | 150.00   |
| 1 Electric Washing machine..... | 150.00   |
|                                 | <hr/>    |
|                                 | \$875.00 |

## Equipment for Lithography Shop

### One Room

The Employing Lithographers of the City of Rochester were very desirous of securing training for the young men who would be interested in entering an apprenticeship in the Lithographic trade. With that purpose in view they established and maintained, at their own expense, a school for the instruction of their employees at the Mechanics Institute. They found, however, that there was no assurance that men so trained would remain either in their employ, or even in the city of Rochester.

With a view to reaching a larger number, and because of facilities available in the junior high school, the equipment was transferred to the Madison Junior High School and courses opened to technical and industrial pupils. After a year's experience the Employing Lithographers, in a joint statement, expressed great satisfaction with the success of the work as conducted in the Madison Junior High School both in respect to the training of apprentices in the day school and the opportunity offered to the employees in this line in the evening school.

The equipment donated to the Board of Education for this purpose is listed below:

|  |            |
|--|------------|
| 85 Lithographing stones.....                         | \$400.00   |
| 12 Tables.....                                       | 36.00      |
| 6 Presses.....                                       | 1,420.00   |
| 1 Stone Rack.....                                    | 15.00      |
| 5 Sand Sieves.....                                   | 20.00      |
| 5 Scissors.....                                      | 7.50       |
| 8 Squares.....                                       | 8.00       |
| 1 Drawing Set.....                                   | 26.00      |
| 14 Drawing Boards.....                               | 7.00       |
| 12 Arm Rests.....                                    | 6.00       |
| 7 Leather Rollers.....                               | 105.00     |
| 2 Composition Rollers.....                           | 40.00      |
| 24 Scrapers.....                                     | 10.00      |
| 10 Turpentine Containers.....                        | 10.00      |
| 1 Ben Day Table.....                                 | 10.00      |
| 1 Ben Day Machine (property of Ben Day Company)..... |            |
| 1 Stone Polishing Tank.....                          | 30.00      |
|  | <hr/>      |
|  | \$2,150.50 |



## Rooms in Madison Junior High School

| GENERAL                                      | No. of Rooms |
|--|--------------|
| Principal's Office . . . . .                 | 1            |
| Assistant Principal's Office . . . . .       | 1            |
| Clerk's Office . . . . .                     | 1            |
| Girls' Adviser's Office . . . . .            | 1            |
| Waiting Room . . . . .                       | 1            |
| Assembly Room . . . . .                      | 1            |
| Dressing Room . . . . .                      | 1            |
| Library . . . . .                            | 1            |
| Women Teachers' Rest Room . . . . .          | 1            |
| Women Teachers' Emergency Room . . . . .     | 1            |
| Students' Emergency Room . . . . .           | 1            |
| Doctor's Room . . . . .                      | 1            |
| Students' Lunch Room . . . . .               | 1            |
| Faculty Lunch Room . . . . .                 | 1            |
| Serving Room of Faculty Lunch Room . . . . . | 1            |
| Private Dining Room . . . . .                | 1            |
| Band Room . . . . .                          | 1            |
| Store Room for Band Instruments . . . . .    | 1            |
| Janitor's Office . . . . .                   | 1            |
| Receiving Room . . . . .                     | 1            |
| Shipping Room . . . . .                      | 1            |
| Janitor's Work Room . . . . .                | 1            |
| Bleacher Storage . . . . .                   | 1            |
| Fan Room . . . . .                           | 2            |
| Filter Room . . . . .                        | 1            |
| Oil Room . . . . .                           | 1            |
| Pump Room . . . . .                          | 1            |
| Boiler Room . . . . .                        | 1            |
| Coal Room . . . . .                          | 1            |
| Paper Room . . . . .                         | 1            |
| Total  | 31           |

## COSTS

207

## ACADEMIC

|                                | No. of Rooms |
|--------------------------------|--------------|
| Foreign Language . . . . .     | 5            |
| English . . . . .              | 7            |
| History . . . . .              | 7            |
| Mathematics . . . . .          | 7            |
| Study Coach . . . . .          | 6            |
| Geography . . . . .            | 1            |
| Music . . . . .                | 2            |
| Drawing . . . . .              | 2            |
| Lecture Room . . . . .         | 1            |
| Science . . . . .              | 4            |
| Science Store Room . . . . .   | 1            |
| Conservatory . . . . .         | 1            |
| Teachers' Study Room . . . . . | 3            |
| Applied Art . . . . .          | 1            |
|                                | —            |
| Total                          | 48           |

## COMMERCIAL

|                       |   |
|-----------------------|---|
| Typewriting . . . . . | 2 |
| Bookkeeping . . . . . | 3 |
|                       | — |
| Total                 | 5 |

## HOUSEHOLD ARTS

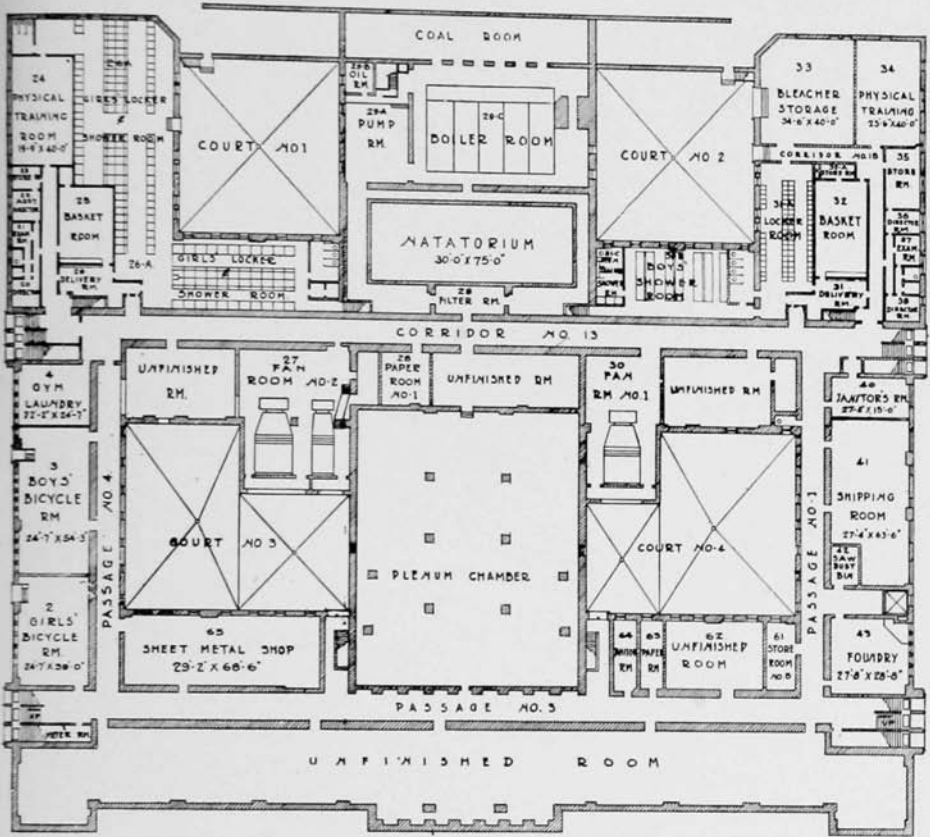
|                               |    |
|-------------------------------|----|
| Household Science . . . . .   | 1  |
| Cookery . . . . .             | 4  |
| Laundry . . . . .             | 1  |
| Sewing . . . . .              | 4  |
| Dressing Room . . . . .       | 1  |
| Millinery . . . . .           | 1  |
| Regular Class Rooms . . . . . | 4  |
| Office . . . . .              | 1  |
| Store Room . . . . .          | 1  |
| Dressing Room . . . . .       | 1  |
|                               | —  |
| Total                         | 19 |

| INDUSTRIAL                   | No. of Rooms |
|------------------------------|--------------|
| Office.....                  | 1            |
| Regular Class Room.....      | 1            |
| Lecture Room.....            | 1            |
| Drafting.....                | 2            |
| Commercial Art.....          | 1            |
| Applied Science.....         | 2            |
| Machine Shop.....            | 1            |
| Printing.....                | 1            |
| General Woodworking.....     | 1            |
| Electric Shop.....           | 1            |
| Foundry.....                 | 1            |
| Pattern Making.....          | 1            |
| Foundry Store Room.....      | 1            |
| Blue Printing Room.....      | 1            |
|                              | —            |
| Total                        | 16           |
| <b>PHYSICAL TRAINING</b>     |              |
| Gymnasium.....               | 2            |
| Gymnasium Store Room.....    | 2            |
| Plunge.....                  | 1            |
| Director's Office.....       | 2            |
| Asst. Director's Office..... | 2            |
| Examination Rooms.....       | 2            |
| Locker Rooms.....            | 2            |
| Shower Rooms.....            | 2            |
| Basket Rooms.....            | 2            |
| Class Rooms.....             | 2            |
| Delivery Rooms.....          | 2            |
| Gym. Laundry.....            | 1            |
|                              | —            |
| Total                        | 22           |
|                              | —            |
| Grand Total                  | 141          |



## COSTS

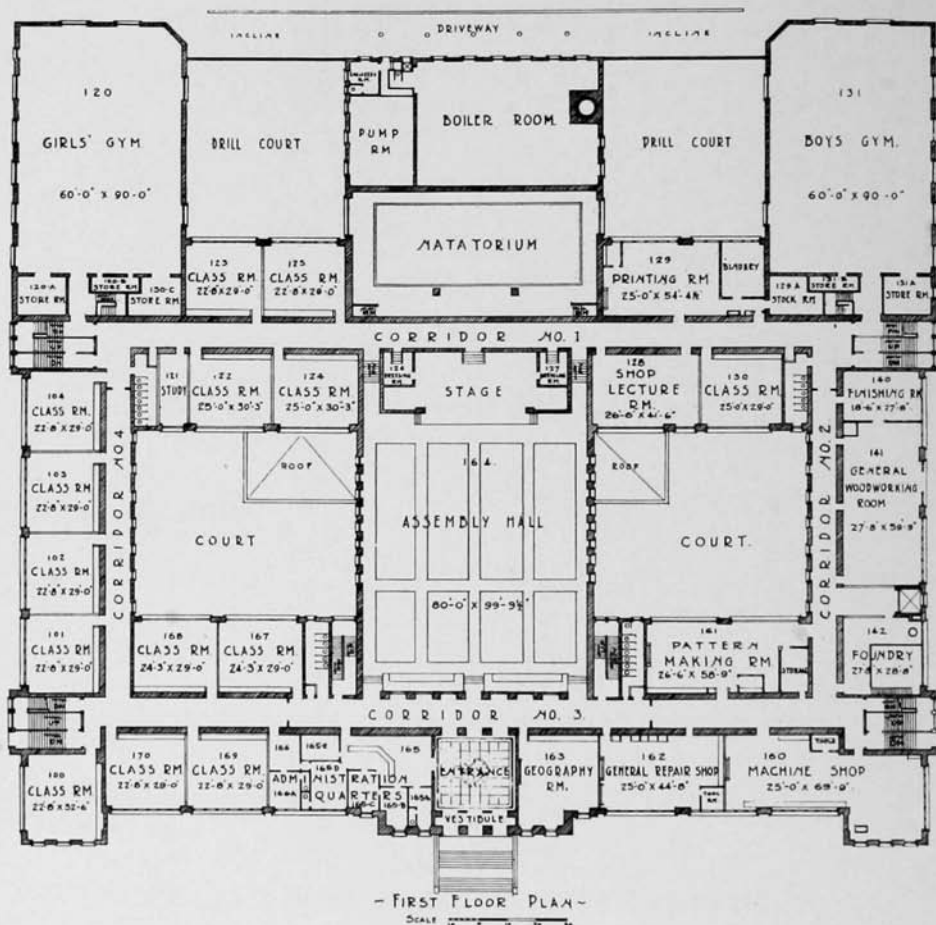
209



— BASEMENT PLAN —  
SCALE: 1" = 4'

**MADISON JUNIOR HIGH SCHOOL, ROCHESTER, N.Y.**

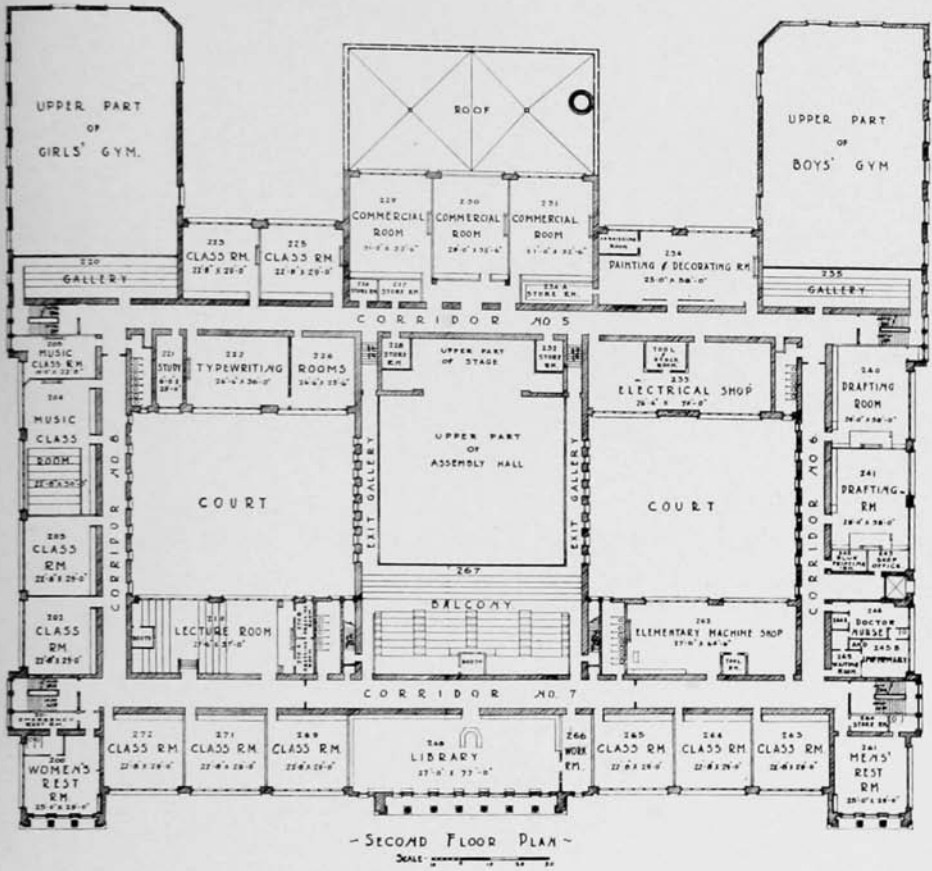
## THE JUNIOR HIGH SCHOOLS



MADISON JUNIOR HIGH SCHOOL ROCHESTER, N.Y.

## COSTS

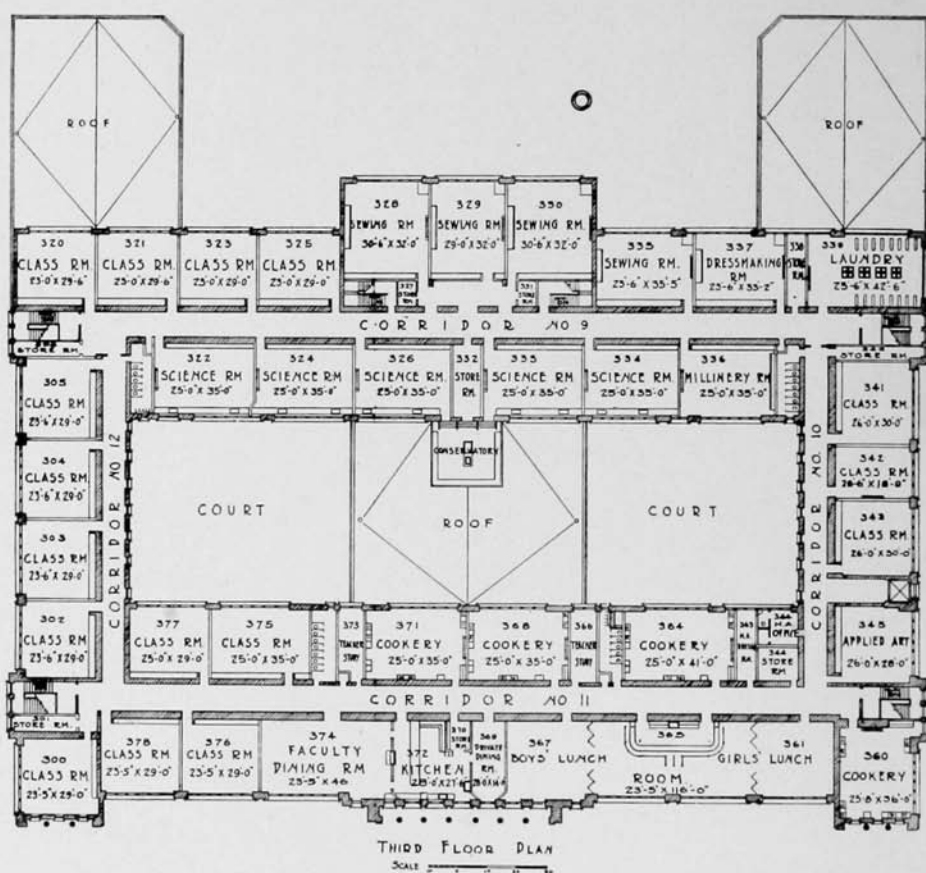
211



**MADISON JUNIOR HIGH SCHOOL, ROCHESTER, N.Y.**



## THE JUNIOR HIGH SCHOOLS



MADISON JUNIOR HIGH SCHOOL, ROCHESTER, N.Y.

## APPENDIX

**Evening Classes in the Junior High Schools**—The junior high schools afford exceptional opportunities for evening school work. The shops, laboratories, domestic science, and commercial equipment available in these schools could not be provided in grade schools. Of the 5394 adults registered for evening instruction in October, 1923, 2877 attended sessions in the junior high schools.

All four sections of the city are now provided with the opportunities afforded by the junior high school vocational shops. Both the Madison and Monroe Junior High Schools were opened for evening school classes in October, 1923.

Table 58

### Subjects Offered and the Number Enrolled in the Evening Schools, Fall Term, 1923

|  | W.J.H.S. | J.J.H.S. | Mad.J.H.S. | Mon.J.H.S. |
|--|----------|----------|------------|------------|
| <b>ENGLISH FOR THE FOREIGNER</b>   |          |          |            |            |
| Reading, Writing, Conversation, History, Civics,<br>Preparation for Citizenship.....   | 204      | 44       | 26         | 55         |
| <b>BUSINESS</b>  |          |          |            |            |
| Bookkeeping, Business Arithmetic, Business Writing,<br>Shorthand, Dictation, Typewriting, Business English and<br>Correspondence, Commercial Law, and Economics..... | 125      | 140      | 271        | 101        |
| <b>HOMEMAKING</b>  |          |          |            |            |
| Unit Course: Plain Sewing, Elementary Dressmaking,<br>Advanced Dressmaking, Shirt Waist Course, Millinery.....   | 93       | 169      | 299        | 187        |
| <b>DOMESTIC SCIENCE</b>  | ...      | 19       | 30         | 35         |
| <b>CABINET MAKING</b>  | 30       | 20       | 29         | 12         |

**AUTO MECHANICS**

|  |    |    |    |    |
|--|----|----|----|----|
| Engine repairing, chassis work, ignition, starting and lighting, "trouble shooting", carburetor work . . . . | 37 | 61 | 33 | .. |
|--|----|----|----|----|

**BLUE PRINT READING AND SHOP MATHEMATICS**

|   |    |    |    |    |
|---|----|----|----|----|
| As required of skilled mechanics in various trades;<br>Mechanical Drawing . . . . . | 30 | 63 | 43 | 55 |
|---|----|----|----|----|

**ELECTRICAL CONSTRUCTION**

|  |    |    |    |    |
|--|----|----|----|----|
| Wiring, construction, and repair of electrical instruments, including telephones . . . . . | 31 | 31 | 26 | 17 |
|--|----|----|----|----|

**MACHINE SHOP PRACTICE**

|  |    |    |    |    |
|--|----|----|----|----|
| Work on lathe, shaper, milling machine, grinder, drill press, planer, bench work assembling and fitting, tool room work. . . . . | 32 | 35 | 32 | 26 |
|--|----|----|----|----|

|                       |    |    |    |    |
|-----------------------|----|----|----|----|
| <b>COMMERCIAL ART</b> | 19 | 19 | 26 | 17 |
|-----------------------|----|----|----|----|

**PRINTING**

|  |    |    |   |    |
|--|----|----|---|----|
| Hand type setting, operating, presswork, make-ready, imposition, and color study . . . . . | 20 | 17 | 6 | 17 |
|--|----|----|---|----|

**SHEET METAL WORK**

|   |    |    |    |    |
|---|----|----|----|----|
| Pattern drafting, laying out of work, hand and machine operations . . . . . | 20 | 30 | 24 | 12 |
|---|----|----|----|----|

|                    |    |    |    |    |
|--------------------|----|----|----|----|
| <b>LITHOGRAPHY</b> | .. | .. | 26 | .. |
|--------------------|----|----|----|----|

**HIGH SCHOOL SUBJECTS**

|   |    |    |     |    |
|---|----|----|-----|----|
| English, French, Spanish, Italian, Mathematics,<br>Biology, Economics . . . . . | .. | .. | 167 | .. |
|---|----|----|-----|----|

|                   |    |    |    |    |
|-------------------|----|----|----|----|
| <b>GRADE WORK</b> | 16 | .. | .. | .. |
|-------------------|----|----|----|----|

|              |     |     |      |     |
|--------------|-----|-----|------|-----|
| <b>TOTAL</b> | 657 | 648 | 1038 | 534 |
|--------------|-----|-----|------|-----|

Most night classes in the junior high schools meet two evenings a week. The English to Foreigners and Citizenship classes are exceptions, meeting three evenings a week.

In the machine shops, electrical departments, and auto mechanic shops the demand is so great that these shops frequently have had to be opened six nights a week for three classes each. Instruction begins at 7:30 and closes at 9:30.

Complete information relative to evening schools is contained in a bulletin entitled "Rochester Public Evening Schools".



## LOCATION OF DISTRICTS

At the time the Washington Junior High School was opened in September, 1915, there were in the city system thirty-six grammar schools. This number has been increased, through annexation to the city during the past seven years, by the addition of seven schools. With the opening of the Monroe Junior High School in September, 1923, all except ten of these grammar schools have been brought under the junior high school organization.

The distribution of these grammar schools throughout the city has fortunately been favorable for the extension of the junior high school. (See Chart XI). Concerning the schools that have not been brought under the junior high school organization;

1. Two schools (Charlotte No. 38 and Kodak No. 41) have been recently annexed, and each is a Union School, in that it has all grades of work from the kindergarten on through the high school.

2. Three schools (No. 11, No. 25 and No. 33) lie in the eastern section of the city, beyond the range of any one of the four junior high schools at present established, and therefore constitute a part of the next junior high school district to be organized.

3. Three schools (No. 37, No. 43 and No. 44) lie just outside the junior high school districts already established, although No. 44 is sending its upper grade pupils to the Madison Junior High School. At present each of the other buildings has ample room to accommodate all the pupils that attend. No one of these schools is sufficiently far from a junior high school to make it impracticable for the 7th and 8th grade pupils to attend a junior high school. This attendance will come as the increase in school population in each of these districts necessitates additional room for the school.

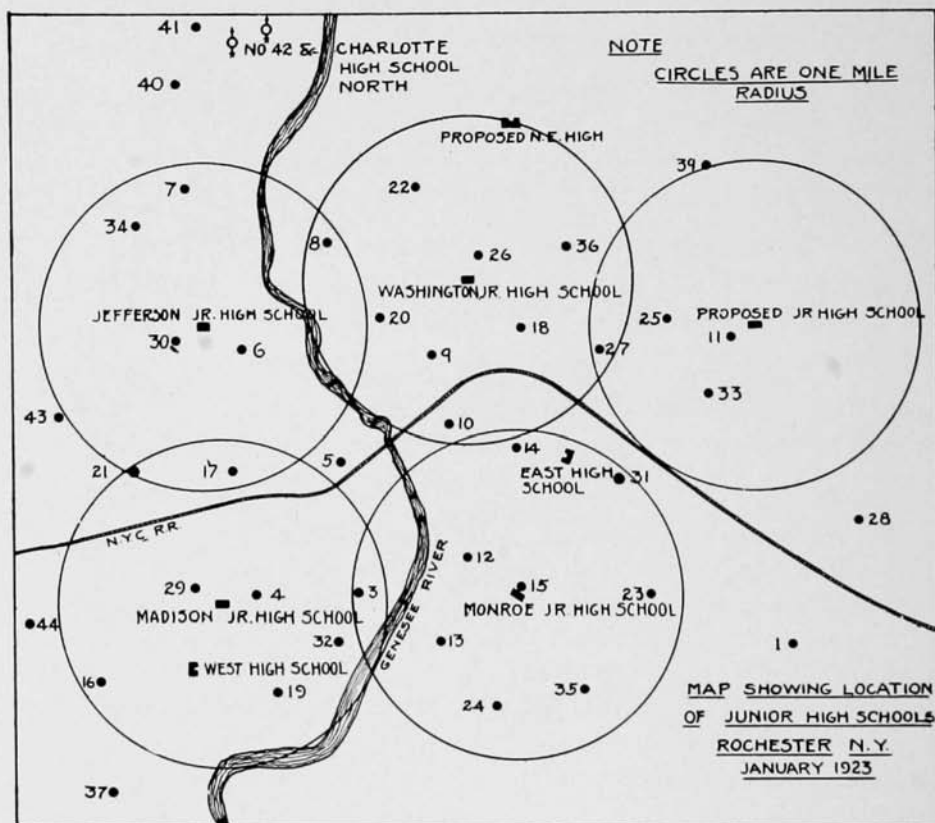
4. Two schools (No. 8 and No. 10) have never sent pupils to the Washington Junior High because of inadequate room in the latter school.

5. This leaves two schools (No. 1 and No. 28) for which junior high school provisions cannot readily be made.

6. Two schools (No. 39 and No. 40) are primary schools, having no grade above the fifth.

7. One school (No. 42) is situated so far from any junior high school that it will probably never send its graduates to any school except the Charlotte High School which is comparatively near.

CHART XI  
Junior High School Districts



## FORMS AND BLANKS

Many inquiries have come regarding the forms and blanks used in the junior high schools. The following are typical of the more important forms used, having to do with pupils' schedules, scholarship, attendance, permanent records, etc.

**The Report Card:** This card is issued three times a semester and indicates to the parent the type of work the pupil is doing, not only in his studies, but in citizenship.

| Health Education     |       |                    |           |
|----------------------|-------|--------------------|-----------|
| Personal Appearance  |       |                    |           |
| 1                    | 2     | 3                  | Term Mark |
|                      |       |                    |           |
| Nutrition            |       |                    |           |
| 1                    | 2     | 3                  | Term Mark |
|                      |       |                    |           |
| Hygiene              |       |                    |           |
| 1                    | 2     | 3                  | Term Mark |
|                      |       |                    |           |
| Exercises            |       |                    |           |
| 1                    | 2     | 3                  | Term Mark |
|                      |       |                    |           |
| Swimming             |       |                    |           |
| 1                    | 2     | 3                  | Term Mark |
|                      |       |                    |           |
| Teacher's Remarks    |       |                    |           |
| 1.                   |       |                    |           |
| 2.                   |       |                    |           |
| 3.                   |       |                    |           |
| Total Summary        | Grade | Parent's Signature | Date      |
| Citizenship          |       |                    |           |
| Scholarship          |       |                    |           |
| Health Education     |       |                    |           |
| Promoted to.....     |       |                    |           |
| Except .....         |       |                    |           |
| Non-promoted to..... |       |                    |           |

**Note**—The form of this card is tentative

| Junior High School   |  |
|--|--|
| Rochester, N. Y.   |  |
| Report Card of   |  |
| from.....192....., to.....192.....   |  |
| Section..... Home Room No.....   |  |
| Home Room Teacher.....   |  |
| Rating Symbols   |  |
| A—Superior work  |  |
| B—Work above the average   |  |
| C—Average work   |  |
| D—Work below the average   |  |
| E—Failure  |  |
| Each mark given on the Report Card represents the child's achievement from the beginning of the term to date in the subject or quality marked. |  |



**Report Card—Reverse Side**

| <b>Training-in-citizenship</b>                             |   |   |           |       |
|--|---|---|-----------|-------|
| <b>Self Control and Application</b>                        |   |   |           |       |
| 1  | 2 | 3 | Term Mark |       |
|  |   |   |           |       |
| <b>Co-operation</b>  |   |   |           |       |
| 1  | 2 |   | Term Mark |       |
|  |   |   |           |       |
| <b>Care of Property</b>                                    |   |   |           |       |
| 1  | 2 | 3 | Term Mark |       |
|  |   |   |           |       |
| <b>Thrift</b><br>Record by Treasurer<br>Number of Deposits |   |   |           |       |
| 1  | 2 | 3 | Total     |       |
|  |   |   |           |       |
| <b>Attendance and Punctuality</b>                          |   |   |           |       |
|  | 1 | 2 | 3         | Total |
| Absence  |   |   |           |       |
| Whole Days   |   |   |           |       |
| Half Days  |   |   |           |       |
| Times Tardy  |   |   |           |       |

| Name .....              |   |   |   |          |
|-------------------------|---|---|---|----------|
| <b>Scholarship</b>      |   |   |   |          |
| Subject                 | 1 | 2 | 3 | TermMark |
| Applied Science         |   |   |   |          |
| Bookkeeping             |   |   |   |          |
| Drawing                 |   |   |   |          |
| English                 |   |   |   |          |
| French                  |   |   |   |          |
| 1st Lessons in Business |   |   |   |          |
| History and Civics      |   |   |   |          |
| Geography               |   |   |   |          |
| Gymnasium               |   |   |   |          |
| Latin                   |   |   |   |          |
| Literature              |   |   |   |          |
| Mathematics             |   |   |   |          |
| Music                   |   |   |   |          |
| Penmanship              |   |   |   |          |
| Science                 |   |   |   |          |
| Spelling                |   |   |   |          |
| Typewriting             |   |   |   |          |
| Vocational Guidance     |   |   |   |          |
| Cabinetmaking           |   |   |   |          |
| Commercial Arts         |   |   |   |          |
| Drafting                |   |   |   |          |
| Electricity             |   |   |   |          |
| Lithography             |   |   |   |          |
| Machine Shop            |   |   |   |          |
| Elem. Mach. Shop        |   |   |   |          |
| Patternmaking           |   |   |   |          |
| Printing                |   |   |   |          |
| Sheet Metal             |   |   |   |          |
| 7 B or 7 A Try-out      |   |   |   |          |
| Design                  |   |   |   |          |
| Dressmaking             |   |   |   |          |
| Foods                   |   |   |   |          |
| Household Science       |   |   |   |          |
| Laundry                 |   |   |   |          |
| Millinery               |   |   |   |          |
| Sewing                  |   |   |   |          |

2. **Subject Failure Card:** This 3" x 5" card supplements the regular report card. It is sent to the parent by the subject teacher as soon as a pupil's work becomes unsatisfactory, in order that failure may be prevented if possible. It states the reasons for failure and asks the parent's co-operation.

192.....

.....of the..... Grade

is failing in.....

Reasons.....

.....Teacher

3. **Daily and Weekly Report Card:** A 3" x 5" card is used for informing parents, either daily or weekly, of the conduct, effort, and work of careless or indifferent pupils.

### Daily or Weekly Report Card

Name..... Date.....

Teacher

Conduct

Effort

Work

4. **Individual Absence Card:** One of these cards is sent to the office by the home room teacher for every case of absence needing investigation. The pupil is not allowed to return to the room until the teacher receives the report from the office.

**J. H. S. Absence Report**

Pupil's Name.....Age.....

Parent's Initials..... Address.....

Dates of absence.....

Remarks.....

Cause of Absence.....

Home Room Teacher.....Room No.....

**J. H. S. Return Report**

Name.....

Investigated by.....

Cause of Absence.....

Signed.....

5. **Vocational Counselor's Report Card:** This card is filled in by a counselor for each visit to a home. It contains spaces for the reasons for, and the results of the call.

**Vocational Counselor's Report**

Date

Member of family consulted

Report of investigation

Recommendation

Course chosen

---

**Vocational Counselor**



## APPENDIX

221

6. **Pupil's Daily Schedule Card.** This card is ruled to show the six periods of the day and the five days of the week. The first day of the semester each pupil fills out two, one for himself and one for filing in the office. By referring to this card the office can quickly learn the whereabouts of any pupil.

Madison Junior High School

Student's Schedule

Name White, Thomas Section LS91 Home Room Teacher Miss Eleanor Gregg Home Room No. 378

| Monday  |             |      |              | Wednesday       |              |      |              | Friday  |         |      |              |
|---------|-------------|------|--------------|-----------------|--------------|------|--------------|---------|---------|------|--------------|
| Period  | Subject     | Room | Teacher      | Period          | Subject      | Room | Teacher      | Period  | Subject | Room | Teacher      |
| 1       | Sheet Metal | 41   | Mr. Johnson  | 1               | Sheet Metal  | 41   | Mr. Johnson  | 1       | Science | 326  | Mr. Newhall  |
| 2       | Music       | 431  | Mr. Biddle   | 2               | Music        | 122  | Miss Giroux  | 2       | Music   | 202  | Miss Le Roy  |
| 3       | Clubs       |      |              | 3               | Assembly     |      |              | 3       | Lat     | 378  | Miss Gregg   |
| 4       | Math        | 170  | Miss Bennett | 4               | Math         | 170  | Miss Bennett | 4       | Math    | 170  | Miss Bennett |
| 5       | Eng         | 378  | Miss Gregg   | 5               | Eng          | 305  | Miss McCarty | 5       | Gram    | 378  | Miss Gregg   |
| 6       | Physical    | 131  | Mr. Leonard  | 6               | Lat          | 378  | Miss Gregg   | 6       | Lat     | 202  | Miss Le Roy  |
| Tuesday |             |      |              | Thursday        |              |      |              | Remarks |         |      |              |
| Period  | Subject     | Room | Teacher      | Period          | Subject      | Room | Teacher      |         |         |      |              |
| 1       | Science     | 326  | Mr. Newhall  | 1               | Lat          | 202  | Miss Le Roy  |         |         |      |              |
| 2       | History     | 202  | Miss Le Roy  | 2               | Lat          | 378  | Miss Gregg   |         |         |      |              |
| 3       | Gram        | 378  | Miss Gregg   | 3               | Music        | 431  | Mr. Biddle   |         |         |      |              |
| 4       | Math        | 170  | Miss Bennett | 4               | Math         | 170  | Miss Bennett |         |         |      |              |
| 5       | Eng         | 378  | Miss Gregg   | 5               | Gram         | 378  | Miss Gregg   |         |         |      |              |
| 6       | Draw        | 122  | Miss Giroux  | 6               | CLAS MEETING |      |              |         |         |      |              |
|         |             |      |              | FACULTY MEETING |              |      |              |         |         |      |              |

7. **Pupil's Permanent Record:** This card provides for a permanent record of the work of each semester in each subject during the three years of junior high school. In case of transfer the card accompanies the pupil.

[illegible]

# INDEX

## A

|   | PAGE           |
|---|----------------|
| Ability Grouping (see Group Mental Tests)             |                |
| Absence. Form used for Individual                     | 220            |
| Acceleration  | 65             |
| Activities, School                                    | 50, 76         |
| Administration  | 25, 29, 45, 69 |
| Adviser, Girls  | 27, 46         |
| Age Study   | 167            |
| Algebra, Comparative Tests in                         | 120            |
| Comparison of Withdrawals and Failures in             | 114            |
| Appointment, Requirements for                         | 42             |
| Art Education   | 76, 101        |
| Arts, Practical (see also Industrial Arts Curriculum) | 68             |
| Assembly Program                                      | 40             |
| Athletics   | 142            |
| Attendance  | 164            |

## B

|  |              |
|--|--------------|
| Band, School                                 | 52           |
| Blanks, (see Forms)                          |              |
| Bookkeeping:                                 |              |
| Comparison of marks received in              | 131, 133     |
| Time given to                                | 76           |
| Building Costs:                              |              |
| Jefferson Junior High School                 | 20, 191      |
| Madison Junior High School                   | 21, 193, 196 |
| Architect's Plans                            | 209          |
| Monroe Junior High School                    | 21, 194      |
| The Building Program                         | 181          |
| Washington Junior High School                | 20, 190      |
| Bureau of Education, Survey of 575 cities by | 19           |
| Business Education, Supervision of           | 67           |

## C

|                                   |     |
|-----------------------------------|-----|
| Campaigns, Health, Safety, Thrift | 55  |
| Carry-over Percentages:           |     |
| From 8th A to 9th B               | 162 |
| From 9th A to Senior High School  | 178 |
| Character Development             | 144 |
| Charts, List of                   | 8   |
| Civics, Aims of Instruction in    | 84  |



|  | PAGE                                 |
|--|--------------------------------------|
| Classes:   |                                      |
| Class periods per teacher.....                                 | 47                                   |
| Schedule of.....   | Insert                               |
| Size of.....   | 47, 188                              |
| Study Coach.....   | 62                                   |
| Clubs.....   | 54                                   |
| Code of Honor, The.....  | 149                                  |
| College Credit, (required of Junior High School Teachers)..... | 24, 44                               |
| Commercial Geography.....                                      | 76, 92                               |
| Commercial Curriculum, The.....                                | 74, 76, 80, 91, 98, 114, 152         |
| Commercial Mathematics.....                                    | 76                                   |
| Commercial Occupation.....                                     | 76                                   |
| Committees:  |                                      |
| Junior and Senior High School Teachers.....                    | 49                                   |
| Student.....   | 39                                   |
| Conduct, Form for Report on.....                               | 219                                  |
| Congestion in Elementary Schools.....                          | 19                                   |
| Costs.....   | 181, 190                             |
| Council, Work of Junior High School.....                       | 1                                    |
| Counselors.....  | 30                                   |
| Courses of Study.....  | 71                                   |
| Current Expenditures.....                                      | 184                                  |
| Current Events, Aims of Instruction in.....                    | 85                                   |
| Curriculums.....   | 24, 26, 30, 71, 73, 76, 80, 100, 165 |

## D

|   |        |
|---|--------|
| Dental Hygienists.....                    | 26     |
| Department Heads.....                     | 68     |
| Departmental Work in Grammar Schools..... | 109    |
| Directed Study.....                       | 56     |
| Directors.....                            | 25, 67 |
| Dramatics.....                            | 50     |
| Drawing in the Various Curriculums.....   | 105    |

## E

|   |                           |
|---|---------------------------|
| East High School:   |                           |
| Algebra Test Results.....                                       | 121                       |
| Comparison of Marks Received.....                               | 128, 132                  |
| Current Expenditures.....                                       | 185                       |
| Withdrawals and Failures.....                                   | 114                       |
| Electricity.....  | 104, 201                  |
| Elimination.....  | 170, 177                  |
| English.....  | 76, 77, 81, 114, 128, 132 |
| Enrollment.....   | 100, 164, 180             |
| Equipment, Cost of.....   | 191, 196                  |
| Evening Classes in the Junior High Schools.....                 | 213                       |
| Explanation of Credits and Receipts.....                        | 183                       |
| Explanation of Expenditures.....                                | 182                       |
| Extension Courses offered by University.....                    | 42                        |
| Extension of Junior High School Courses to Grammar Schools..... | 108                       |

## INDEX

225

## F

|  | PAGE               |
|--|--------------------|
| Faculty Meetings .....                         | 47                 |
| Failures .....                                 | 26, 62, 114        |
| First Lessons in Business, Time Given to ..... | 76, 92             |
| Foreign Language Curriculum .....              | 74, 76, 80, 88, 97 |
| Forms, Junior High School .....                | 31, 58, 217        |
| French, Instruction in .....                   | 90                 |

## G

|   |                    |
|---|--------------------|
| Games .....                                   | 142                |
| General Science, Aims of Instruction in ..... | 67, 87             |
| Geography, Aims of Instruction in .....       | 86                 |
| Girls' Adviser .....                          | 27, 46             |
| Glee Clubs .....                              | 51                 |
| Government by Student Organizations .....     | 39                 |
| Graduates, Junior High School .....           | 137, 154, 156, 159 |
| Grammar, Aims of Instruction in .....         | 82                 |
| Group Mental Tests .....                      | 26, 29, 134        |
| Grouping, Ability (see Group Mental Tests)    |                    |
| Growth .....                                  | 165                |
| Guidance (see also Girls' Adviser) .....      | 61, 76             |
| Gymnasium, Description of .....               | 141                |

## H

|   |                                     |
|---|-------------------------------------|
| Hand work for Boys, Aims in .....                   | 103                                 |
| Handwork for Girls, Aims in .....                   | 104                                 |
| Health Bureau .....                                 | 47                                  |
| Health Education .....                              | 76, 102, 139                        |
| History .....                                       | 86, 129, 133                        |
| Holding Power of the Junior High School .....       | 160, 176                            |
| Home making Courses (See Household Arts Curriculum) |                                     |
| Home Room Organization .....                        | 39                                  |
| Household Arts Curriculum .....                     | 74, 76, 95, 100, 104, 156, 165, 171 |

## I

|                                       |                                       |
|---------------------------------------|---------------------------------------|
| Illustrations, List of .....          | 9                                     |
| Individual Differences, Meeting ..... | 73                                    |
| Industrial Arts Curriculum .....      | 26, 74, 76, 80, 96, 99, 159, 165, 171 |
| Institutes, Teachers' .....           | 23, 42                                |
| Instrumental Music .....              | 53                                    |
| Intelligence Tests, Group .....       | 29, 126, 134                          |

## J

|  |               |
|--|---------------|
| Jefferson Junior High School:                                |               |
| Algebra Test Results .....                                   | 122           |
| Carry-over from the 8th A to 9th B .....                     | 162           |
| Carry-over from 9th A to Senior High School .....            | 178           |
| Cost of Buildings, Equipment, and Current Expenditures ..... | 184, 186, 191 |
| Elimination from .....                                       | 170, 177      |
| Enrollment and Attendance .....                              | 100, 164, 180 |
| Promotion Record .....                                       | 166           |
| Standard Tests .....   | 134           |
| Study Coach Department Report .....                          | 65            |
| Withdrawals and Failures .....                               | 115           |

|   | PAGE   |
|---|--------|
| Junior High School, The:                              |        |
| Aims of.....  | 22     |
| In the Country at Large.....                          | 17     |
| Location of Districts.....                            | 215    |
| Opening of first Junior High School in Rochester..... | 20     |
| Reasons for Establishment in Rochester.....           | 11, 19 |
| Why so Named.....                                     | 21     |
| Junior High School Report:                            |        |
| Aim.....  | 1      |
| Preparation by Council.....                           | 1      |

## L

|  |     |
|--|-----|
| Language, Standard Tests in.....               | 127 |
| Latin:   |     |
| Comparative Tests in.....                      | 126 |
| Comparison of Marks Received in.....           | 129 |
| Comparison of Withdrawals and Failures in..... | 114 |
| Instruction in.....                            | 89  |
| Lesson Plans, Forms for.....                   | 58  |
| Librarian, Duties of.....                      | 46  |
| Literature, Aim of Instruction in.....         | 81  |
| Lunch Period.....                              | 49  |

## M

|   |                         |
|---|-------------------------|
| Madison Junior High School:                                   |                         |
| Architect's Plans.....  | 209                     |
| Carry-over from 8th A to 9th B.....                           | 162                     |
| Carry-over from 9th A to Senior High School.....              | 178                     |
| Cost of Building, Equipment, and Current Expenditures.....    | 184, 186, 189, 193, 196 |
| Elimination from.....   | 170, 177                |
| Enrollment and Attendance.....                                | 100, 164, 180           |
| Promotion Record.....   | 166                     |
| Marks Received at Senior and Junior High Schools:             |                         |
| Comparison of.....  | 127                     |
| Mathematics:  |                         |
| Aim of course in.....   | 82                      |
| Comparison of marks received in.....                          | 130, 133                |
| Time given to.....  | 76                      |
| Time given to subjects included under term "Mathematics"..... | 77, 78                  |
| Supervision of.....   | 67                      |
| Mechanical Drawing, Time given to.....                        | 76                      |
| Medical Inspection.....                                       | 47                      |
| Mental Tests (See Group Mental Tests)                         |                         |
| Monroe Junior High School:                                    |                         |
| Carry-over from 8th A to 9th B.....                           | 162                     |
| Carry-over from 9th A to Senior High School.....              | 178                     |
| Cost of Building and Equipment.....                           | 194                     |
| Enrollment and Attendance.....                                | 100, 164, 180           |
| Music:  |                         |
| Aim of instruction in.....                                    | 103                     |
| Glee Clubs, Boys' and Girls'.....                             | 51                      |
| Instrumental Music.....                                       | 53                      |
| School Band.....  | 52                      |
| School Orchestra.....   | 51                      |
| Time given to Instruction in.....                             | 76                      |
| Vocal Music.....  | 50                      |



## INDEX

227

## N

|   | PAGE   |
|---|--------|
| National Intelligence Test Results.....         | 135    |
| Nationalities of Junior High School Pupils..... | 179    |
| Noon Hour, The.....                             | 49     |
| Nurse, School.....                              | 26, 47 |
| Nutrition Classes.....                          | 26     |

## O

|                                     |        |
|-------------------------------------|--------|
| Orchestra, School.....              | 51     |
| Organization:                       |        |
| General Principals of.....          | 22, 29 |
| Home Room.....                      | 39     |
| Otis Intelligence Test Results..... | 135    |

## P

|  |         |
|--|---------|
| Paper, The School.....                                   | 56      |
| Penmanship:  |         |
| Aims.....  | 103     |
| Time given to.....                                       | 76      |
| Permanent Record Card, Form for.....                     | 221     |
| Physical Examinations.....                               | 26      |
| Physician, School.....                                   | 26, 47  |
| Practical Arts, Supervisor of.....                       | 68      |
| Principals of Junior High Schools:                       |         |
| Duties of.....   | 45, 68  |
| Selection of.....  | 25      |
| Principal, Vice.....                                     | 26, 68  |
| Promotion by Subject.....                                | 62      |
| Promotion Records by Schools.....                        | 166     |
| Provisional Course of Study for Junior High Schools..... | 71      |
| Pupils:  |         |
| Attention to Individual Needs.....                       | 26      |
| Forms for reporting absence of.....                      | 220     |
| Number of pupils per class.....                          | 47, 187 |
| Weekly Report on work of.....                            | 219     |
| Pupil-Hour Costs.....                                    | 189     |

## R

|  |          |
|--|----------|
| Recitation, The Socialized.....  | 60       |
| Report Card, Form for.....   | 217      |
| Results:   |          |
| Commercial.....  | 152      |
| Comparative Data on Algebra and Latin Test Results.....                            | 120, 126 |
| Comparative Data on the Marking Systems of the Junior and Senior High Schools..... | 127      |
| Comparative Data on Withdrawals and Failures.....                                  | 114      |
| Group Mental Tests.....  | 134      |
| Health.....  | 139      |
| Industrial.....  | 155      |
| Social Civic.....  | 144      |

## S

|   | PAGE       |
|---|------------|
| Sabbatical Year.....                      | 24         |
| Salaries:                                 |            |
| Average per Teacher.....                  | 186        |
| Schedule of.....                          | 45         |
| Schedule-Form for pupils.....             | 221        |
| Schedule of Classes, Typical.....         | Insert     |
| Schedule, The Time (See Time Schedule)    |            |
| School Activities.....                    | 50, 76     |
| School Government.....                    | 39         |
| School Paper, The.....                    | 56         |
| Science, General.....                     | 67, 76, 87 |
| Senior High School Costs.....             | 185        |
| Seventh Grade Try-out.....                | 30, 198    |
| Shop Subjects:                            |            |
| Aims.....                                 | 103        |
| Equipment.....                            | 197        |
| Faculty meeting of teachers of.....       | 49         |
| Time Schedule for.....                    | 105        |
| Size of Classes.....                      | 47, 188    |
| Social Civic Results.....                 | 144        |
| Socialized Recitation, The.....           | 60         |
| Social Studies, Time given to.....        | 76, 77, 79 |
| Special Subjects, Aims of.....            | 101        |
| Spelling, Aims of Instruction in.....     | 82         |
| Standard Tests.....                       | 126, 133   |
| Student Government.....                   | 39         |
| Study Coach Classes:                      |            |
| Advantages of.....                        | 62         |
| Reports for Washington and Jefferson..... | 64         |
| Work of.....                              | 26         |
| Study, Directed.....                      | 56         |
| Subject Failure Card, Form for.....       | 219        |
| Subject Failures.....                     | 62         |
| Subject Promotion.....                    | 62         |
| Subjects, Aim in the Several.....         | 81         |
| Subjects, Number of Teachers by.....      | 69         |
| Superintendent.....                       | 66         |
| Superintendent, Assistant.....            | 66         |
| Supervised Study (See Directed Study)     |            |
| Supervision:                              |            |
| From within the School.....               | 68         |
| From without the School.....              | 66         |
| General Principles of.....                | 25, 29, 69 |
| Supervisors.....                          | 66         |
| Swimming, Instruction in.....             | 143        |

## T

|   |        |
|---|--------|
| Tables, List of.....                    | 6      |
| Teachers:                               |        |
| Average Salary of.....                  | 186    |
| Classification by Subjects.....         | 69     |
| Committees.....                         | 49     |
| General Statement.....                  | 23, 42 |
| Guidance.....                           | 30     |
| Increased Requirement for Teachers..... | 43     |

|  |              |
|--|--------------|
| Teachers—Continued:                            | PAGE         |
| Institutes .....                               | 23           |
| Number of pupils per .....                     | 47, 187      |
| Number of teaching periods per .....           | 47           |
| Requirements for appointment of .....          | 24, 42       |
| Sabbatical year .....                          | 24           |
| Salary Schedule .....                          | 45           |
| Type of teacher selected .....                 | 23           |
| University Courses for .....                   | 24, 42       |
| Technical Curriculum .....                     | 74, 76, 80   |
| Aims .....                                     | 103          |
| Distinctive Features .....                     | 94           |
| Summary of .....                               | 97           |
| Time given for Hand work in .....              | 106          |
| Tests:   |              |
| Algebra .....                                  | 120          |
| Group Mental .....                             | 26, 29, 134  |
| Intelligence .....                             | 26, 126, 134 |
| Language .....                                 | 127          |
| Latin .....                                    | 126          |
| Standard .....                                 | 133          |
| Terman Intelligence Test Results .....         | 126          |
| Time Schedule, The .....                       | 75           |
| Chart .....                                    | 80           |
| For Shop work in the Various Curriculums ..... | 105          |
| Try-out, Seventh Grade .....                   | 30           |
| Typewriting:                                   |              |
| Aims of instruction in .....                   | 92           |
| Comparison of marks received in .....          | 130, 133     |
| Time given to .....                            | 76           |

## U

|   |        |
|---|--------|
| University of Rochester, Courses offered by ..... | 24, 42 |
| Data on number of teachers attending .....        | 43     |

## V

|  |     |
|--|-----|
| Vice-Principal .....                         | 26  |
| Duties of .....                              | 68  |
| Vocal Music .....                            | 50  |
| Vocational Classes .....                     | 106 |
| Time given to Hand work in .....             | 106 |
| Vocational Counselor's Report—Form for ..... | 220 |

## W

|   |               |
|---|---------------|
| Washington Junior High School:                              |               |
| Algebra Test Results .....                                  | 122           |
| Carry-over from 8th A to 9th B. ....                        | 162           |
| Carry-over from 9th A to Senior High School .....           | 178           |
| Commercial Curriculum Results .....                         | 152           |
| Cost of Building, Equipment, and Current Expenditures ..... | 184, 186, 190 |
| Destination of Commercial Graduates (1918-1923) .....       | 154           |
| Elimination from .....                                      | 170, 177      |
| Enrollment and Attendance .....                             | 153, 164      |



|   |                    |
|---|--------------------|
| Washington Junior High School— <i>Continued</i> : | PAGE               |
| Marks Received, Comparison of .....               | 128 132            |
| Promotion Record .....                            | 166                |
| Standard Tests .....                              | 133                |
| Study Coach Department Report .....               | 64                 |
| Withdrawals and Failures .....                    | 114                |
| Withdrawals from Commercial Course .....          | 153                |
| West High School:                                 |                    |
| Algebra Test Results .....                        | 122                |
| Current Expenditures .....                        | 185                |
| Withdrawals and Failures .....                    | 115                |
| Withdrawals .....                                 | 114, 153, 160, 170 |
| Work Permits Issued, Number of .....              | 170                |



W. J. H. S. ~ SPRING TERM ~ 1923

[illegible]





3 9077 00652112 7