COURSE OF STUDY

Outline

COURSE OF STUDY

of the

PUBLIC SCHOOLS

of the

CITY OF ROCHESTER

NEW YORK

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Outline Course of Study

Adopted by the Board of Education, July 2, 1913

This revision of the former course of study has been carried on through four committees of principals, each committee consisting of three members. Every elementary school in the city has been affiliated with some one of these committees, thus avoiding duplication and at the same time giving a wide field of teachers and principals for advisory purposes. The work of these committees has not included the so-called special subjects, such as music and drawing, nor has it extended beyond the activities of the elementary school.

Two years ago a provisional course of study was adopted for use in all grades. Upon the committees referred to rested the responsibility of gathering from all possible sources experience with this provisional course and of reformulating, in the light of this experience, the proposed course. Thus formulated the course has been submitted, as far as possible, to a committee of teachers representing all grades in the system. It was the function of these teachers to examine critically the proposed course and to report back such modifications as they might see fit. A general committee consisting of the Superintendent and the chairmen of the four committees named constituted the committee for final action.

Educational theory recognizes the systematic development of all the powers of the growing child as the dominant aim of elementary education. This aim can not be realized except as TRAINING in all things essential to the welfare of the child becomes a vital consideration

in the school room. For the teacher, the approach to this training is through the body of knowledge outlined in the course of study. The procedure of the teacher in enabling the pupil both to acquire and to use this body of knowledge determines its training value for the pupil. The procedure of the teacher may call into play chiefly the memory of the pupil, thereby neglecting training in power to judge values, initiate, organize ideas and appreciate ends. No course of study can adequately guard against this tendency. The only safeguard is intelligent supervision, teachers' institutes, supplementary suggestions to the course of study and other similar means.

The body of knowledge outlined in the course of study should be an expression of what has come to be regarded as essential to the individual who would adapt himself to his social, civic and vocational environment. The legitimate demand for elimination from our courses of study can be met in part, at least, by eliminating those elements which have little, if any, value for the facts they contain or the principles they establish. The present course in arithmetic, for example, has eliminated much former work in denominate numbers, a great part of commission, taxes and insurance, the whole of customs, duties, brokerage, and stocks and bonds, on the ground that these are not useful to the child as knowledge, nor are they in any way essential to desirable training.

TIME SCHEDULE

Grades	I	II	III	IV	V	VI	VII	VIII	Total
General Exercises	50	75	100	50	50	55	25	25	430
Reading and Literature	500	575	500	250	250	250	150	150	2625
Arithmetic		225	225	250	250	250	250	250	1700
Spelling		75	100	100	75	75	75	75	575
Writing		75	75	75	75	75	75	75	525
Oral and Written Language and Grammar	75	200	100	175	150	150	250	250	1350
Geography			Geog. & His. 100	250	250	250	115		965
History					50	50	200	250	550
Nature Study, Civics, Physiology and Hygiene				100	75	75	75	85	410
Music	50	50	75	75	75	60	60	60	505
Drawing and Allied Work	75	60	60	60	65	75	75	60	530
Manual Training, Sewing and Cooking		40	40	40	60	60	75	120	435
Physical Exercises	75	75	75	75	75	75	75	75	600
Total Minutes for Week	825	1450	1450	1500	1500	1500	1500	1500	11225

HOURS FOR DISMISSAL

Grades	I	II	III	IV	V	VI	VII	VIII	
A. M.	11:40	11:40	11:40	11:45	11:45	11:45	11:45	11:45	A. M.
P. M.	3:25	3:25	3:25	3:30	3:30	3:30	3:30	3:30	P. M.

A Suggestive Course of Work for Kindergartens

UNDERLYING PRINCIPLES.

1. To cultivate right relationship { family / community }
2. To cultivate a realizing sense of our dependence each upon the other.
3. To cultivate co-operation.
4. To cultivate a spirit of loving service.

THE AIMS.

I. To develop each child physically, mentally and morally:

   a. In physical development, through play and games and work.

   b. In mental development, a cultivation of attention and concentration through the exercise of the five senses.

   c. In moral development, the training of right habits—obedience, punctuality, order, industry, self-control, courtesy, reverence.

II. To give an elementary knowledge of color, form, size, number, comparison and sound, also to train in ability to express in simple, clear language his observations and experiences.

These aims may be worked out under the following heads:

I. In Physical Development he gains control through:

   1. Rhythmic movements—clapping, tapping with feet, swinging, hopping, running, marching, skipping, playing band, dramatic rhythm, rocking-horse, see-saw, dancing dolls and bears,

Jack-in-the-box, birds, swaying trees, bending cornstalks, leaves and nuts falling, flying kites, rolling hoops, etc.

2. Games and Plays—finger plays, ball games, sense games, ring play, including dramatic and traditional games.
3. Free play with toys.

II. In Language he gains power to express through:

1. The repetition of nursery rhymes, finger plays and folk plays.
2. The interchange of children's experiences in the home, the school and out of doors.
3. The stories told to children and children's reproduction of stories.
4. The memorizing of simple songs and verses.
5. The careful training in articulation, pronunciation and distinct speech.
6. The constantly increasing vocabulary as a result of larger associations and experiences in the kindergarten.

III. In Music he gains an idea of tone, sound and appreciation through:

1. Listening to music.
2. Simple tone work—listening to sound, reproducing sound, imitation of bird calls and sounds of animals, calling and whistling.
3. Singing.
4. Memorizing simple songs.

IV. In Nature Study he gains power of observation through:

1. Care of animal and plant life.
2. Making gardens.
3. Observation of forces in Nature, sun, wind, rain, snow—the seasons, weather, etc.
4. Walks and excursions.

V. In Hand Work he gains self-control, skill and power to think and do through:

1. Building with blocks at table—large blocks on the floor.
2. Outlining and designing forms with large sticks, tablets and seeds (horse-chestnuts) used on the floor.
3. Modeling in sand and clay.
4. Drawing—mass work—blackboard and crayons.
5. Cutting—a. Free, simple objects, slash cutting.
   b. Line cutting, magazine pictures and objects drawn with broad lines.
6. Folding—Simple forms, using large paper as bogus 9 x 9.
7. Painting—Flat washes of a single color and simple objects.
8. Weaving—a. Cloth on large looms—
   b. Paper weaving, heavy manilla mats, strips 2 in.
   c. Felt and linen mats.
9. Sewing—Cloth and card—Limited.
10. Construction—Cardboard modeling and simple toys made of wood and outside material.

VI. In Number he gains the fundamental concepts of mathematics through:

1. Counting—Based upon child's interest in units of a kind and continuity of tone in numbering them. Concrete things, as dolls, balls, marbles, seeds, stones, shells.
2. Grouping—Arranging units of a kind in twos, threes, etc. Useful in simple designs.
3. Division of units—Separation into parts and combining parts into other units as in building and construction work.
4. Measuring—Simple measurements and comparisons used in all hand work and building.

VII. In Form he gains fundamental ideas of proportion and symmetry through:

1. Observing, comparing and contrasting nature forms, as fruits, vegetables, nuts, shells, pebbles by direct handling in play.

2. Type solids—Used as a guide to, and an interpreter of, the forms in nature.

3. Handling, comparing and dividing type solids to gain a basis for classification of concrete objects in the environment of the child and in nature.

TOPICAL OUTLINE

PURPOSE.

The purpose is to illustrate the unity existing between Froebel's Mother Play, Nature and Community Life.

Mother Play.	Nature.	Community Life.
	SEPTEMBER	
I. The Greeting To become acquainted *The family*	I. Vacation Experiences Parks Lakes Seashore Country Play grounds Observation of plants and animal life Family Life in Nature Home pets Kitten Dog Rabbits Pigeons Squirrels	I. Greeting Exchange of vacation experiences Family life Members of Family Daily interests of each a. Father's work b. Mother's care c. Brother's and Sister's interests d. Baby's care and playthings
	OCTOBER.	
II. The Pigeon House Sharing experiences *The Carpenter* Actively connected with shelter	II. Preparation for Winter Plant life Fall fruits Ripening seeds Falling leaves Observation of tree buds How protected Planting bulbs	II. Home Occupation a. Washing b. Ironing (use of coal) c. Sweeping d. Cooking Canning Pickling e. Sewing Winter clothing Shelter The Carpenter The Mason The Plumber

NOVEMBER

III. Grass Mowing
- Dependence upon many people for comforts
- All gone
- *The Church*
- Expression of gratitude
- Pat-a-cake

III. Preparation for Winter
- Animal Life
  - Harvest of Bees
  - Harvest of Squirrel
  - Caterpillars
  - Insects
  - Migration of birds
  - Hibernation of animals
  - Animals' Winter Coats

III. Occupations
- Indirectly related to home.
  - a. Grocer
  - b. Baker
  - c. Miller
  - d. Milkman
  - e. Farmer
  - f. Huckster
- Thanksgiving Festival

DECEMBER.

IV. The Toyman
- Home Festival
- *The Flower Basket*
- Expression of love in service

IV. Evergreen Trees
- Christmas Greens
  - Holly
  - Mistletoe
  - Reindeer

IV. Christmas Preparations
1. Home
2. School
- Santa Claus
  - His Helpers
  - Top makers
  - Toy shops
- Story of First Christmas

JANUARY

V. Tick-Tack
- To develop habits of order and punctuality
- The Child and the Moon
- The Boy and the Moon
- Little Maiden and Stars

V. Time
- Seasons—colder days
  - Ice—snow
- Lights—sun, moon, stars

V. Obedience to Law
- Arrangement of home and school activities in relation to time.
- Winter sports
- Lights—artificial
- Trades—
  - Blacksmith
  - Coalman
  - Shoemaker
  - Miner

FEBRUARY

VI. The Knights
- Ideals of bravery, courtesy, loyalty, courage, charity

VI. Faithful Animals
- Dogs
- Horses

VI. 1. Everyday Heroes
- Postman — Valentine's Day
- Firemen
- Policemen
- Trainmen

2. Our Country's Heroes
- Soldiers
- Sailors
- Lincoln
- Washington

Our Country's Flag

MARCH

VII. The Weather-Vane
- Consciousness of unseen power
- The Window—
  The Light Bird

VII. Forces in Nature
- Wind
- Rain
- Sun (circulation of sap)

VII. Wind as Helper and Playfellow
- a. Drying walks and clothes
- b. Flying kites
- c. Sailing boats
- Making Maple Sugar

APRIL

VIII. Fishes in the Brook
- Freedom is necessary for life
- Right environment
- Froebel's birthday, April 21

VIII. Awakening of Life in Nature
- Plants—opening buds
- Animals—Rabbits, frogs and toads
- Coming of birds

VIII. Preparation of Spring Clothing
- Water in the home
- a. Cleanliness—
  - personal—
  - home
- b. Other uses of water
  - a. Boats
  - b. Mills

MAY

IX. The Little Gardener
- Care
- Nurture
- The bird's nest
- Study of nest building
- Mother care
- The pigeon house

IX. Nature's Garden
- Wild flowers
- Tree blossoms
- Grasses
- Return of birds
- Nest building
- Cocoons
- Our kindergarten garden

IX. Making of Home Gardens
- May day
- Spring sports
- Excursions
- Farmer's Spring planting
- Memorial Day

JUNE

X. The Farm Yard
- Acquaintance with animal life and care

X. Animal Life on the Farm
- Horses
- Cows
- Sheep
- Hens—chickens
- Insect life
- Bees
- Ants
- Spiders

X. Excursions to Country, Park and Lake
- Modes of travel
- Vacation plans

Arithmetic

It is generally agreed, on the one hand, that the study of Arithmetic should develop mental power along the lines of attention, concentration, judgment and reasoning; on the other, that it should give to the child such skill in the use of numbers as will enable him to perform the fundamental operations with facility and accuracy and in such a manner that the mere mechanics of these processes shall not retard his thinking. The following quotation from Prof. Henry Suzallo, Teachers' College, Columbia University, in his report to the International Commission on the teaching of Mathematics is significant:

"There is, in 'advanced,' as well as in reactionary quarters, a revolt against the tendency to objectify, explain, or rationalize everything taught in arithmetic. On the whole it is a discriminating movement, for this opposition to 'rationalization' in arithmetical teaching, and in favor of 'memorization' or 'habituation,' bases its plea on rational grounds, mainly derived from the facts of modern psychology.

"A study of actual arithmetical facts, upon which this opposition expresses itself, suggests the four following general principles as to the use of 'rationalization' and 'habituation' as methods of mastery: (1) Any fact or process which always recurs in the same identical manner, and occurs with sufficient frequency to be remembered, ought not to be 'rationalized' for the pupil, but 'habituated.' (2) If a process does recur in the same manner, but is so little used in after life that any formal method of solution would be forgotten, then the teacher should 'rationalize' it. (3) If the process always does occur in the same manner, but with the frequency of its recurrence in doubt, the teacher should both 'habituate' and 'rationalize.' (4) When a process or relation is likely to be expressed in a variable form, then the child must be taught to think through the relations involved, and should not be permitted to treat it mechanically through a mere act of habit or memory. These laws will, of course, not be interpreted to mean that no reason is to be given a child in a process like 'carrying' in addition.

The reason is not essential to efficient mastery, but it may be given to add interest or to satisfy the specially curious."

FIRST GRADE.

No Formal Number Work.

SECOND GRADE.

"B" Class.

Although there has been no formal number work previous to this grade, the children have incidentally absorbed many number facts.

The teacher should utilize all this information and carefully avoid attempting to *teach* the child that which he already knows. She should make him feel that he is expected to contribute information rather than give him the impression that he is taking up a subject entirely new to him.

1. Count pencils, books, desks, pupils and other familiar objects.

2. Select a given number of objects by counting.
   Encourage group counting; but do not try to make it a matter of memory.

   The purpose of this work is to develop number concepts. This is entirely different from teaching abstract number facts.

3. Teach concepts of difference and equality by means of comparisons.
   a. Indefinite—with lines, using terms: longer, longest; shorter, shortest.

      With objects, using terms: smaller, smallest; larger, largest, etc.

   b. Definite—using the terms: two times as long; one-half as large, etc.

4. Teach inch, foot and yard by means of actual measurements.

5. Teach reading and writing of numbers up to 100.

6. Teach the forty-five combinations.

$2=\frac{1}{1}$ $18=\frac{9}{9}$ $3=\frac{2}{1}$ $17=\frac{9}{8}$ $16=\frac{8\ 9}{8\ 7}$ $4=\frac{2\ 3}{2\ 1}$ $15=\frac{9\ 8}{6\ 7}$ $5=\frac{3\ 4}{2\ 1}$

$14=\frac{7\ 9\ 8}{7\ 5\ 6}$ $6=\frac{3\ 5\ 4}{3\ 1\ 2}$ $13=\frac{6\ 9\ 8}{7\ 4\ 5}$ $7=\frac{6\ 4\ 5}{1\ 3\ 2}$ $12=\frac{6\ 8\ 9\ 7}{6\ 4\ 3\ 5}$

$8=\frac{4\ 7\ 6\ 5}{4\ 1\ 2\ 3}$ $11=\frac{4\ 9\ 6\ 8}{7\ 2\ 5\ 3}$ $9=\frac{3\ 8\ 5\ 7}{6\ 1\ 4\ 2}$ $10=\frac{5\ 8\ 9\ 6\ 7}{5\ 2\ 1\ 4\ 3}$

Note—After the combinations have been duly taught, the teacher should lead the pupils to see that *adding* a cipher does not increase the value of any figure or set of figures.

7. After completing the teaching of the above couplets, use three figures in a group and drill for accuracy and speed.

SECOND GRADE.

"A" CLASS.

1. Simple oral problems dealing with things familiar to the child and affording him an opportunity to apply number facts that he has learned.
2. Continue the use and application of inch, foot and yard.
   Measure materials used in the regular work of the grade.
3. Estimate and test lengths and distances.
4. Teach the following table from actual use of the measures and apply in simple problems.

   2 pints=1 quart

   4 quarts=1 gallon

5. Use cent, nickel and dime in oral problems so as to create interest, arouse mental activity, and appeal to the sense of utility by having the children deal with familiar articles and prices.
   Remember that this is thought work.
6. Review the forty-five combinations.
7. Teach reading and writing of numbers to 1000.
8. Add groups of two, three and five figures.

   Be sure that the children understand the relation of the forty-five combinations to the addition of a column of figures, e. g., 9+8, 29+8, 89+8, 19+8, etc.

9. Teach Subtraction.
10. Teach carrying and add three columns not more than five figures high.
11. Emphasize rapid and accurate oral work in the combinations, and do not begin the written work until this has been secured.

THIRD GRADE.

"B" Class.

1. Continue the simple oral problems. See Second Grade.
2. Review the table of Liquid Measure taught in Second Grade.
3. Teach dozen and half dozen.
4. Teach the table of Dry Measure from actual use and application of the measures in simple oral problems.

2 pints=1 quart
8 quarts=1 peck
4 pecks=1 bushel

5. Review inch, foot and yard and teach pupils how to measure with the foot rule in inches and half inches. Apply to their hand work.
6. Continue the work in the use of cent, nickel and dime; also use the quarter and half dollar. Be sure that the pupils know how to make change properly.
7. Teach reading and writing of numbers to six places.
8. Continue the rapid work in the addition combinations, using groups of two, three and five figures. Work for accuracy and speed.
9. Continue the work in Addition, using three columns five figures high.
10. Continue the work in Subtraction, using six figures across.
11. Teach the thirty-six sets of factors from products in the order given below:

25	4	81	9	49	64
6	15	10	14	8	27
32	20	35	30	21	40
28	45	42	54	48	56
63	72				
16	24	18	12	36	

Note—Avoid teaching the factors of the various products in rotation or in the form of the usual tables. Thirty-six sets of factors are obtained by omitting those sets in which the figure *one* appears as a factor; also those sets in which either factor is more than nine.

Children will learn the former without any special emphasis and will not need the latter in working examples in multiplication or division. In teaching a set of factors be sure that the children are able to reverse the factors, e. g., 7x4 — 4x7.

Observe that the products in the last line have more than one set of factors and so are taught last.

12. Teach Multiplication with one figure in the multiplier.

"A" Class.

1. Continue the oral problem work as in the "B" Class.
2. If pupils are able to do the oral work accurately and rapidly they may begin simple work in written problems involving one operation.
3. Review Liquid Measure and Dry Measure and continue to apply these measures in simple problems.
4. Teach Table of Time and apply in problems.

60 seconds=1 minute
60 minutes=1 hour
24 hours=1 day
7 days=1 week

The children should know the days of the week and the months of the year, also how to tell the time of day readily before they leave the Third Grade.

The following may prove helpful in memorizing the number of days in each month:

Thirty days hath September,
April, June and November.
All the rest have thirty-one
Save February, which alone
Has twenty-eight, and one day more
We add to it one year in four.

5. Continue the use of coins, previously taught, in oral problems. See statement in Second Grade A outline.
6. Teach Roman Numerals to and including L.

7. Continue the rapid oral work in Addition and Multiplication. Be sure that the children can work accurately and rapidly in class before they are permitted to do silent, written work at their seats.
8. Continue the work in Addition, using three columns ten figures high.
9. Continue the work in Subtraction.
10. Teach Multiplication with two and three figures in the multiplier.
11. Teach Short Division, avoiding the use of remainders at first.
12. The meaning of signs +, —, x, ÷, = should be taught as the teacher has occasion to use them. The children should understand and be able to use all these signs before they leave the Third Grade.
13. The terms sum, minuend, subtrahend, remainder, multiplier, multiplicand, product, partial product, divisor, dividend and quotient should be taught as the teacher has occasion to use them. Be sure that the children know the meaning of all these terms before they leave the Third Grade.

FOURTH GRADE.

"B" Class.

1. Continue the oral problem work of preceding grades. Short mental tests will help the teacher to note the progress of each child in the power to think accurately and quickly. This part of the work is not for drill, but should be used to stimulate mental activity.
2. Review Liquid Measure, Dry Measure and Table of Time by using them in simple problems involving one operation.
3. Teach Linear Measure as a table and apply in problems.

12 inches=1 foot
3 feet=1 yard
5280 feet=1 mile

As occasion requires teach

5½ yards or 16½ feet=1 rod
320 rods=1 mile

4. Teach how to measure with the foot rule in inches, half inches and quarter inches by actual measurements. Let the child use his ruler enough to become familiar with it.

5. Teach the children how to write dollars and cents, and how to use the same in problems.
6. Teach reading and writing of numbers to seven places.
7. Teach Roman numerals to and including C; also teach values of D and M.
8. Continue the rapid oral work in Addition and Multiplication as the needs of the class may require.
9. Continue the work in Addition, using four and five columns from six to ten figures high.
10. Have enough work in Subtraction so that the pupils will keep the process and all the exceptions clearly in mind.
11. Continue the work in Multiplication with two and three figures in the multiplier, calling particular attention to the effect of ciphers in multiplicand and multiplier.
12. Continue the work in Short Division. Use remainders and emphasize the various exceptions, e. g., cipher in the quotient, etc.

"A" CLASS.

1. Oral problem work—See Fourth B outline.
2. Review tables of measures, previously taught, by using in problems that do not involve more than two operations. Present the same fact in a variety of ways so as to make the children think. Avoid using problems for drill work.
3. Teach Avoirdupois Weight and apply in problems.

16 ounces=1 pound
100 pounds=1 hundred weight
2000 pounds=1 ton

4. Teach gross and score and apply in problems.
5. Continue problems using dollars and cents.
Simple bills will suggest one type of this kind of problem.
6. Continue the reading and writing of numbers according to the needs of the class.
7. Continue the work in Addition, Subtraction, Multiplication and Short Division, emphasizing those points which are most liable to cause inaccurate work. Drill for accuracy and speed.

8. Teach Long Division, using two figures in the divisor until the children have mastered the various steps in this process; then use three and four figures in the divisor.

STEPS: Test with Trial Divisor
Multiply
Compare
Subtract
Bring down

Be sure that each child knows how to use the trial divisor and does not "guess" at the quotient figure.

9. Drill in all Fundamental Processes for accuracy and rapidity.

FIFTH GRADE.

"B" CLASS.

1. Develop the fraction idea with concrete material as far as it may be necessary.
2. Use the fractions in oral and written problems.
3. Continue problem work as a means of reviewing and using the various tables of weights and measures previously taught. (See Fourth Grade outline.) This work should be a stimulus to mental activity and should provide thought material.
4. Continue reading and writing of numbers, both Arabic and Roman, according to the needs of the class. It is rarely necessary to go higher than billions in Arabic numbers.
5. Continue the work in the fundamental processes. Place special emphasis on that part of each process in which failures are most frequent. Devote a few minutes every day to a systematic drill on some process to obtain accuracy and speed.
6. Teach the multiplication of a whole number by a mixed number and vice versa as a part of the fundamental processes.
7. Teach odd, even and prime numbers; also meaning of "prime to each other."
8. Teach rules for divisibility of numbers by 2-4-8; 3-6-9; 5-10.
9. Begin formal work in Common Fractions by teaching and using

the terms integer, fraction, numerator, denominator, proper fraction, improper fraction, mixed number, like fractions, unlike fractions, terms of a fraction, factor and common factor.

10. Teach how to change:
    a. An integer to a fraction.
    b. A mixed number to an improper fraction.
    c. An improper fraction to a whole or mixed number.
11. Teach how to reduce fractions to higher, lower and lowest terms. Teach Greatest Common Divisor as applied to this topic, but no more exhaustively.
12. Teach how to reduce fractions to a common denominator. Get the least common denominator by inspection when possible. This is the place to accent the fact that the denominator gives the name to the fraction; hence common denominator means same name. Teach Least Common Multiple as applied to this topic, but no more exhaustively.
13. Teach Addition and Subtraction of Fractions and Mixed Numbers.

"A" Class.

1. Continue the oral problem work. (See Fourth Grade B outline.)
2. Continue written problem work as outlined in Fifth B.
3. Continue the work on bills, teaching how to receipt them.
4. Use the ruler in practical work, measuring to one-eighth of an inch.
5. Develop the idea of surface and teach Square Measure.

144 square inches=1 square foot
9 square feet=1 square yard
160 square yards=1 acre

Teach as you find it necessary

30¼ square yards
or =1 square rod
272¼ square feet

6. Use practical problems in finding simple areas from given dimensions; also in finding one dimension when the area and one other dimension are given.

7. Continue to read and write whole numbers, also dollars and cents, with particular reference to the various combinations of ciphers.
8. Continue the work in the fundamental processes as outlined for Fifth B.
9. Continue the work in Addition and Subtraction of Fractions and Mixed Numbers.
10. Teach Multiplication and Division of Fractions, using Cancellation whenever possible.
11. Use compound and complex fractions simply as a means of reviewing the above.
12. Teach "of" as a sign of multiplication; and be sure that the pupils understand the meaning of "by" in "divided by" as an equivalent of the division sign.

SIXTH GRADE.

General Statement.

If the work up to this point has been properly done, the pupils should be able to perform the various fundamental operations with such accuracy and facility that the teacher may now devote most of the time to the development of the child's reasoning powers.

A brief, daily, rapid, systematic drill on some one of the fundamental processes should serve to maintain and even increase the automatic power which the child has gained in the work of previous grades.

The problems of these last three grades should be based upon the best business practice of the day and should represent operations of real life. They should be so prepared by the teacher or carefully selected by her from some good text, as to meet the needs of the class. No arithmetic can take the place of a good teacher. The wording of the problems should be varied as much as possible, and absolute accuracy should be expected. Pupils must comprehend the conditions in a problem before attempting its solution. They should be taught to look for what is given and what is required as the first step in problem work.

Less time should be given *to explaining* problems for which the pupils are unprepared; and more time devoted to solving problems which they can master independently.

The new problem which is being taught should be mixed, in the assignment to the class, with problems involving other principles which have been previously mastered, so that pupils must discriminate between the new and the familiar types.

The work of all preceding grades should be considered a part of the work of each of these grades, and the various tables of weights and measures previously taught should afford material for problems.

The practice of devoting the recitation period to *indiscriminate* explanation of problems prepared during the study period is wasteful. Much of this time should be used for mental arithmetic which is a very important part of the work of these grades.

The use of small numbers in this mental work enables the mind to be wholly concentrated on the conditions found in the problem and thus prepares the way for dealing with larger numbers and is a means of stimulating thought in the written work.

"B" CLASS.

1. Brief daily drill on fundamental processes. (See "General Statement.")
2. Review all processes in common fractions, using them both in problems and in abstract work.
3. The range of problems should involve all principles taught in this grade or preceding grades. A clear method of statement and neat arrangement of work should be rigidly required.
4. Teach Decimal Fractions.
    a. Show relation to fundamental processes and to Common Fractions.
    b. Meaning and use of the decimal point.
    c. Notation and Numeration.
    d. Effect of moving decimal point to right or left.
    e. Placing the decimal point in the four fundamental processes.
    f. Changing common fractions to decimals.
    g. Changing decimals to common fractions.
5. Review square measure and teach cubic measure, applying both in practical problems.

SIXTH GRADE.

"A" CLASS.

1. Brief daily drill on the fundamental processes. (See "General Statement.")
2. Continue to review common fractions as in Sixth Grade B.
3. Review decimal fractions, using them both in problems and in abstract work.
4. Teach Fractional Relations.
   a. Finding a part of a number, e. g., $\frac{3}{7}$ of 21.
   b. Finding what part one number is of another, e. g., What part of the cost is the loss or gain?
   c. Finding a number, which represents the whole, when a part is given, e. g., $\frac{3}{4}$ of the pupils or 27 are present, how many belong to the grade?
5. Memorize the following equivalents in United States money and use in oral and written problems:

   $\frac{1}{2}$, $\frac{1}{3}$, $\frac{2}{3}$, $\frac{1}{4}$, $\frac{3}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{1}{6}$, $\frac{1}{7}$, $\frac{1}{8}$, $\frac{3}{8}$, $\frac{5}{8}$, $\frac{7}{8}$, $\frac{1}{10}$, $\frac{1}{12}$, $\frac{1}{20}$, e. g. $\frac{1}{2} = 50$ cents $\frac{1}{3} = 33\frac{1}{3}$ cents, etc.

6. Board Measure, as the needs of the pupils may require, should be taught by the Manual Training teacher in connection with the regular work of this department.
7. In reviewing the various tables of weights and measures, previously taught, make such applications of the principle of reducing from a higher to a lower or a lower to a higher denomination as you can use in problems of real life.

SEVENTH GRADE.

"B" CLASS.

1. Continue brief daily drill on the fundamental processes. (See "General Statement.")
2. Continue rapid oral work in all processes of common and decimal fractions.
3. At least one-half of the problem work in this grade should involve

the principles taught and the tables of weights and measures used in the preceding grades. (See "General Statement.")

4. Teach the language and meaning of Percentage in its relation to common and decimal fractions.
5. Review topic 5 of the Sixth Grade A outline and teach the per cent equivalents.
6. Teach the three cases of percentage, showing the relation of each to the work in common fractions as outlined in topic 4 in Sixth Grade A.
7. Make practical, business application of the above cases to the subject of Profit and Loss.

"A" CLASS.

1. Drill and review as outlined for the B Class.
2. Teach the *first* case in Commission.
3. Teach Simple and Trade Discount with practical applications. Review bills in connection with this topic.
4. Teach how to find premium on an Insurance Policy.
5. Teach Simple Interest by the six per cent and one other method. This topic includes the subtraction of dates; also finding the amount.
6. As outlined in the B Class a large part of the problem work should deal with what has been taught in the preceding grades.
7. Use many oral and written problems with all phases of the work taught in this and preceding grades. Use the problems for thought and not for drill. (See "General Statement.")

EIGHTH GRADE.

"B" CLASS.

1. Drill and review as outlined for the Seventh Grade.
2. Teach Bank Discount.
   a. Promissory note with and without interest.
   b. Term of discount.

c. Discount.

d. Proceeds.

Oral and written problems in this work.

3. Teach Ratio and Simple Proportion.
4. Teach Square Root and its applications to the triangle.
5. Problem work as outlined in the Seventh Grade and in the "General Statement."

"A" CLASS.

1. Drill and review as outlined in the Seventh Grade.
2. Review the applications of Square Root as applied to the triangle.
3. Review problems in all tables of weights and measures previously taught.
4. Teach the subject of measurement as applied to the triangle, parallelogram, circle and cylinder.
5. Pupils in this grade should become familiar with such common business forms as the following: checks, money orders, deposit slips, receipts and endorsements.
6. The pupils of this grade should also know how to keep a simple, personal cash account.
7. General Review (last ten weeks). (See "General Statement.")

Reading

Reading is, beyond comparison, the most important of the conventional school exercises, not only because it is the key to the world's great literature, but because any considerable advancement in the other departments of school work is impossible without it. Hence it should receive the first consideration of the primary teacher in the preparation of her program of formal work. A child who has completed the primary grades should be able to read any production whose thought and vocabulary he can comprehend. If any considerable number of normal children can not do this, there is something wrong with teacher or method. It does not follow from this that a greatly increased amount of time should be put upon reading. This would cause weariness, loss of interest, and would defeat the desired end. An abundance and variety of interesting exercises, properly balanced, afford needed mental relief, stimulate interest and reinforce one another.

Dull grind upon words will not make good readers in any sense. Interest is fundamental. The child learning to read must be consciously seeking thought through the symbol. If reading is well taught, children learn to read without much conscious effort to that end. The conscious effort will have been expended in the search for information or other object of interest, and reading will have been merely the new road to the sought for goal.

In all grades the teacher should constantly bear in mind the importance of cultivating a taste for good literature. Giving the child possession of the art of reading, without the power to discriminate between good literature and bad, is like giving him a sharp tool without instruction as to its proper use. Hence no demand for formal exercises as drill work or for other purposes should ever induce the teacher to give the child reading matter which is not in itself worth reading.

If the course of instruction in the reading does not give most of

the children power to read freely and with good expression any suitable material and to discriminate the good from the bad and choose the good, the work is not successful.

I. Texts

From the standpoint of method there are two types of primary reading texts available. One type makes no provision for giving through the pages of the primer or first reader any part of the mechanics of reading. The other type does attempt to provide either openly or in disguised form for more or less of the necessary mechanics. An example of the first type is to be found in the primer or first reader that gives the simple continuous story. There is no reference in such a text to phonetics nor to any one of the method devices or method principles involved in gaining control of the mechanism of reading. All this latter work is to be provided from sources other than the reading text. Examples of the second type are more numerous. Books of the second type vary from those which merely involve the essential repetition of words, to those which attempt to incorporate the necessary instruction in phonetics.

It is difficult to find a sound defense for the ultimate use in primary work of books other than the first type named above. The chief aim in reading is to gather the continuous and unbroken thought from the printed page. The relation of the mechanics of reading to the real reading which should be carried on when once the printed page is placed before the child, is analogous to the relation between spelling and the written composition. Spelling is taught as a subject. Pure spelling could no more be justified than could pure phonetics. Spelling finds its application in the written composition. No teacher, however, thinks of interjecting comments on spelling when a child is writing a composition. What is desired in the composition is the continuous flow and expression of thought. It is just as essential in reading proper that the mechanism of phonetics and word repetition and all other details involved shall be, so far as possible, anticipated before the reading lesson begins, thereby holding the emphasis on the big thing in reading, which is the gathering of the continuous thought, as it is to observe the same care in not interrupting the child in the writing of his composition. Of course there are times when wisdom requires that

the reading proper shall be discontinued and the unfamiliar word attacked. This is exceptional.

It should be stated frankly, therefore, that the present policy with reference to primary reading will aim to lead ultimately to the use of those primers and first readers which make no provision, disguised or otherwise, for the mechanism of reading, but which present the simple story in continuous form and leave to the teacher the doing of all things that are necessary to enable the child to get that simple continuous story presented.

While this suggests the type of book toward which we should look, nevertheless no primer or first reader will be adopted as a uniform requirement for all schools. The books for the first year's work in reading will be supplied as supplementary books by the Board of Education. No child, therefore, will be expected to purchase a reading book during the first year of school. All basal books beyond the first year will be purchased by the children. The present basal text, Stepping Stones to Literature, will be continued until further notice. All children, therefore, upon the completion of the first year's work, will purchase Book II in the Stepping Stones series. So far as possible sets of different books will be placed in the schools as needs and opportunities may develop. Requisitions for texts may be made by Principals. The approval of these requisitions by the Superintendent will constitute the only form of adoption necessary.

II. Mechanics of Reading

1. Introductory Statement.

The ultimate use of primary reading texts which provide for no part of the mechanics of reading, is a challenge to the highest professional spirit of our teachers. Frankly stated it means that each teacher of primary reading must master the principles involved and must interpret all details and devices in the light of these principles. There should be the widest possible freedom for each teacher to use such means of reaching the desired end as her needs, experience and ingenuity may warrant. On the other hand there should be rigid uniformity in the grasp and application of the essential principles involved. Uniformity in aim and principle, freedom and variety in means and devices make for the highest professional advancement to teacher and system alike. To this end the following statement of principles is made:

2. The Vital Association.

The experienced reader in all silent, or thought-getting reading, apparently makes an instantaneous association between the

a. Visual, or sight of the printed word, or symbol, and the

b. Mental concept, or meaning of the word, or symbol.

Since the teacher of primary reading aims to develop in the children the power to make this instantaneous association, it is essential that the main laws, or principles of association, shall be kept in mind. Of these laws, or principles, three are of special importance. In general, the strength of the association will vary with

(1) Intensity of the Stimulus.

We naturally remember longest those things which produce the strongest impression upon us at the outset. Each of us associates certain experiences with certain times and places. A child badly injured by an explosion on the Fourth of July forever associates the day and the experience. If the new word and its meaning can be fused by a vivid impression, the association will often be permanently made. This suggests the importance of not attempting too many new words in any given lesson, as well as the importance of having the teacher prepared to present every new word as vividly as possible. In this connection it will repay every teacher to read the chapter in Dr. Montessori's book on The Assignment of the Lesson. While lessons are not assigned to the beginner in reading, the principles set forth in this chapter admirably reveal the importance of gaining the intense stimulus through avoiding a multitude of confusing impressions.

(2) Interest.

The child, like the adult, retains best those things in which he has a vital interest. Nothing is of greater concern to us than that which meets a conscious need. Childhood is vitally interested in the story. The mechanics of reading is simply a means of enabling the child to get for himself the story concealed in the printed page. The desire to get the story is a strong incentive and one that leads to an interest in the means. So far then as every new step in the mechanics can be approached through an activity of vital interest to the child, so far the association will be strengthened and retentiveness secured. In fact, if interest is to be secured in the process, it must be secured through activ-

ities that appeal. Physical activity, curiosity, imitation, etc., are instinctive with children, and every such instinct should be made use of. This involves the use of games, rhymes, and other means so well understood by the primary teacher.

(3) Repetition.

It is generally true that the greater number of times a process is performed the more easy and automatic the process becomes. This is the law of association most commonly used. It lies at the basis of the so-called drill in school.

3. Expression.

It is exceptional when any child of legal school age has not gained from his environment before entering school all the experiences necessary to enable him to get readily the meaning of any good primer or first reader story that is read aloud to the child. If this assumption be valid, then it is obvious that oral expression, or pronouncing the word aloud, plays an especially important part with the beginner, since by this process the unknown, or visual symbol, is interpreted in terms of the known, or auditory stimulus. In this process the chain of association is as follows:

a. Visual.

This consists in seeing the printed word, or symbol. For example, the word *cat*.

b. Muscular.

In the word cat, the two phonograms c and at are blended. Once these phonograms have been taught and the child enabled to make the blend, the vocal organs adjust themselves for the pronunciation of the word.

c. Auditory.

Once the child pronounces the word aloud, the word reaches the ear through the oral stimulus with which the child is familiar. This at once gives rise to the

d. Mental Concept, or Meaning of the Word Employed.

As the child develops the power to read independently, the inter-

mediate steps, muscular and auditory, are apparently eliminated and the association of word and concept, steps a and d, becomes instantaneous. This is true in all silent or thought-getting reading. All intelligent reading aloud, however, involves the four steps stated.

4. Dramatization.

The chief value of dramatization in primary reading is related to expression, not impression. It is true that the profound interest of the child in dramatizing makes more vivid the impression and so secures a retention in memory of the thought content, or subject matter. For this reason, dramatization is a valuable educational factor through all the grades. There is probably no means of portraying so vividly to the child an important historical action as to dramatize it, if it lends itself to dramatization. As a factor in the mechanics of primary reading, however, dramatization is of great value in securing natural oral expression. No child will merely pronounce words in a dramatization which interests him. He will rather express through these words all the meaning which they convey. As a means of securing free and natural expression, therefore, dramatization should be freely used by the teacher of primary reading. This activity recognizes the motor instinct strongly, and no instinct of childhood is of greater educational concern or value than the motor.

5. The Approach.

There is common agreement to-day that the names of the letters of the alphabet are not the first object of attack in primary reading. In fact Germany, through national regulation, provides that primary reading shall not be approached through this so-called alphabet method. The important thing is the sound or value of the letter, not the name. But is the sound or value of the letter the first object of attack? Many maintain that the order of procedure should be first the sound of the letter, then the combination of letter sounds into words, and then the combination of words into sentences. This synthetic method of approach is used by many competent teachers. To say that pupils cannot be taught to read well through this approach is contrary to the facts. But pupils were taught to read when the approach was made through the names of the letters.

The question of approach turns largely on the question of interest. Keeping in mind the two great objects in reading, to enable the child

to get the connected thought, and to enable him to *express* this thought intelligently, how can the child approach these needs through the greatest intensity of interest? From this point of view, it would seem that the approach would be first through the connected simple story as told by the teacher. Every child loves the story, and there is no doubt as to the interest of a child in the presence of a story well told. This furnishes a strong incentive for enabling the child to acquire the means of getting the story for himself from the printed page. It also guarantees a well established thought content in the mind of all pupils.

The next step is the breaking of this story into the short, simple connected sentences which compose it. In this way interest is still held, and the connected thought element is impressed upon the child as the important thing. Furthermore, as the first of these short sentences is placed upon the blackboard and "read" by the pupils with the aid of the teacher, the oral expression is in terms of connected thought. These impressions of connected thought-getting and connected thought expression, are all important. They are natural in that they conform to the oral language life of the child, and they guard at the outset against the mere word pronunciation element in reading.

The next step breaks this simple sentence into its component parts, the words. This is followed by the breaking up of the word into letter values. Here, of course, comes the necessary work on word drill and phonetics.

To summarize, the natural approach in primary reading is:

a. The simple story told by the teacher.

b. The simple connected sentence written upon the blackboard.

c. The word.

d. The letter value.

III. Phonetics

Immediately following this preliminary statement is the required course in phonetics. The amount of work that will be suggested as necessary for completion each semester will be more definitely described in the teachers' meetings which are to follow. There are two valid reasons why the requirement in phonetics should be uniform throughout the city. In the first place phonetics is taught for the purpose of aiding the child in articulation. In the second place the sub-

ject of phonetics has come to be regarded as necessary if the child is to gain the power that will enable him independently to work out pronunciation of words. It is comparatively rare that the meaning of a word in any primary text is not known to the child when once the child can pronounce aloud the word. It is true that the unit in reading is the sentence. It is equally true, however, that the unit in the mechanics of reading is the letter value, or sound, and not the name. If, then, two such essentials as articulation and power of independent application in reading are dependent to a great extent upon phonetics, then the best procedure should be secured and applied to all schools. The use of this power may be applied to any particular book within the range of the child if only the power has been gained. A uniform vocabulary is by no means essential if uniform strength in getting at the word through the mastery of phonetics has been created; hence the option in the choice of primers and first year texts and the uniform requirement in phonetics.

The time necessary for each teacher to do the work required in phonetics cannot be stated. It is naturally true that the minimum time consistent with thorough-going teaching should be used. Ways and means of reducing this time will undoubtedly develop as the work proceeds.

Phonetics should in the main be taught in separate lessons, precisely as spelling is taught in the separate lesson and applied in the work of composition. This clearly provides that all phonetics taught shall be used in word development, thus clearly recognizing that phonetics is a valuable MEANS and not an end.

Phonetic Work for First B Grade

In the teaching of phonetics it should be borne in mind that our language is far from being a phonetic language, and that any attempt to teach it as such must prove a failure.

We can, however, give to the beginner in reading a great deal of power if the sounds of letters and their combinations be taught in the simplest way.

The teacher must be familiar with the letters as to those having breath sounds and those having vocal utterance.

The following outline is to promote clear, distinct articulation,

good voice modulation and correct habits of speaking. After the Second Grade work has been completed the teacher should know that through this suggestive outline the child will have gained power to help himself, to produce expressive and thoughtful reading, and that he has received mental discipline and real culture.

Outline—First B Grade.

Sounds of consonants. Short sounds of vowels with these known consonants.

Note—Begin blend as soon as a few consonants and the short sound of "a" have been given.

Note—The above combination will form basal phonograms from which words may be built with single initial phonograms as for example: f-at; p-et; s-it; n-ot; c-ut.

Note—Do not refer to these basal phonograms as families, and do not give them in lists. Long sounds of vowels may be shown here by adding (e) to the above list. Here is the best place to give rule for final (e).

Note—List of common phonograms out of which hundreds of words can be made: am—old—ail—eat—ill—ight—ing—all—ant—ink—air—ear—ash—end—ice — ill—edge—out—ought—east—utter—arrow—oil—ounce.

Note—Use no diacritical marks; speak of vowels as to their first and second sounds.

Letter names are to be given during this term.

Work for First A Grade.

Note—Upon entering the First A Grade the child should know the names and sounds of all the letters.

At this period children should be able to make independently any *phonetic* word of one syllable found in any first reader and all words of two syllables having such ending as: ing—ly—en—ed.

A *constant* review of all B Grade work should be given.

Outline—First A Grade.

The phonograms for this grade may be taken from this list as the teacher wishes to present them:

oi; oy; ç; ish; dr; bl; fl; pl; sl; br; pr; gl; gr; fr; tr; cl; cr; ness; ful; ck; less; ir; ur; ar; or; oo.

In teaching the compound phonograms, such as dr; br; tr; bl; pl, and so forth, the greatest care should be taken in giving the correct presentation. Use a complete word and reduce until the compound phonogram alone remains as: drain, drā, dr. There can be no mistake as to the ear-training in this way; the child will work it out for himself and hence avoid the common error of giving d and r individual sounds.

The simple rule for two vowels coming together is to be taught at this time so that the child may gain in power. After having such words as road; read; seed, the child will see that the first vowel has its name sound.

Work for Second B Grade.

Note—Upon entering Second B Grade the child should be able to recognize words as to the sound of vowel therein contained, 1st or 2nd. (Rules for final e—and two vowels coming together.)

All previous work should be reviewed as to single letter sounding; blend; building of new words and selecting known phonograms from words placed upon the blackboard by the teacher.

Note—The power to select these phonograms as to initial, basal and final should be brought out here.

New phonograms for this term may be taken from the list as the teacher needs them.

ä; a; ar; er; ear; or; ir; ur; o; u; ew; ure; gh, and ph sounded as f.

Work for Second A Grade.

New phonograms: ar; air; ear; eir; ci; ce; si; se; ti; sound as sh.

Note—Before the child leaves the Second A Grade the teacher should be sure that he knows all previous work in a clear definite way. No child is ready for his third year work unless he knows all the sounds of all the vowels, referring to them as to having their 1st; 2nd; 3rd; 4th.

Work for Third Year "Complete."

A complete summary of all previous work with daily drill on the building of words—selection of known phonograms.

Marking is taken up in this grade for the first time, also the names for the vowels as to their sound in certain words, using the dictionary form for the 1st sound of A as being long; 2nd sound, short; 3rd sound, Italian; and so on.

Examples should be given as fate—fat—far—fall—fare—fast, placing proper marks and then placing words upon the board to be marked by the child.

The Fourth Grade teacher should not be asked to spend time upon pronunciation and enunciation except where a word of uncommon use occurs.

Spelling

There is no formal work in spelling in the first and second grades. The very nature of the work of enabling the child to grasp the mechanics of reading obviates the necessity of formal spelling in these grades.

The Alexander Speller, Book I, is used for spelling in the third and fourth grades.

The Alexander Speller, Book II, is used for the remaining grades.

As these books are used the lists of words meet admirably the needs of the different grades.

In all grades above the second there must be a formal spelling lesson every day. In these lessons the pronunciation of every word is to be given with the divisions of the words into syllables.

It should be borne in mind by all teachers that every lesson is a language lesson and a spelling lesson.

Writing

FIRST GRADE.

During the first semester the writing should be done with white crayon on the blackboard, the writing being large and executed with free movement. The simple arm movement exercises should also be taught. During the second semester blackboard work should be given, and also practice on paper where the ruled lines are placed one and one-half inches apart, the minimum letters occupying one-half of this space and the capitals and extended letters filling the full space. The writing on paper should be done with the arm and hand slightly raised from the paper and desk, thereby using practically the same free movement for the pencil writing that the child uses at the blackboard.

SECOND GRADE.

The same movement should be carried into the writing in the second grade as advised for the second semester, first year. The size of the writing should be reduced to three-fourths of an inch. The minimum letters should be one-half that height. Considerable attention should be given to developing the arm movement.

THIRD GRADE.

Pen and ink is first used in this grade. The free movement is continued, but the right arm is allowed to rest lightly upon the desk. Correct position of the hand and pen, as well as that of the body, should carefully be taught.

THE OTHER GRADES.

A schedule of the Mills System of Writing books is given below for the different grades. All copies should be faithfully practiced on loose paper before any work is placed in the book.

In giving a fifteen minute lesson, about five minutes should be devoted to movement drill work, five minutes on loose paper, using the copy taken from the book, and five minutes to the work in the

book, writing not more than a half page during one lesson. The work during each semester is to complete the copies in one book. Should the teacher complete the work sooner than the term, the pupil should be allowed to review the same copies on loose paper.

Schedule of Mills Writing Books, First Semester.

3 B Grade	Book 2
3 A Grade	Book 3
4 B Grade	Book 3
4 A Grade	Book 4
5 B Grade	Book 5
5 A Grade	Book 5
6 B Grade	Book 6
6 A Grade	Book 6
7 B Grade	Book 7
7 A Grade	Book 7
8 B Grade	Book 7
8 A Grade	Book 8

Schedule of Mills Writing Books, Second Semester.

3 B Grade	Book 2
3 A Grade	Book 3
4 B Grade	Book 4
4 A Grade	Book 4
5 B Grade	Book 5
5 A Grade	Book 6
6 B Grade	Book 6
6 A Grade	Book 7
7 B Grade	Book 7
7 A Grade	Book 8
8 B Grade	Book 8
8 A Grade	Book 8

Much of the success of the penmanship work depends upon the practical application of the movement and the correct formation of the letters in the actual daily written work of the pupil. An accurate estimate may be gained of the pupil's progress in writing by the way he uses it in the regular lesson work. The spelling lesson is perhaps the best in which to insist upon proper movement, although the correct way of writing should be insisted upon in all the daily work.

Personal Help.

The importance of the teacher's being able to write with this movement can not be over estimated. A few strokes from the teacher's pen at the desk of the backward pupil will often encourage the poorest of writers to improve.

English

The Course of Study in English provides for: (1) A general outline for all grades; (2) A general digest of the course in all grades; (3) A syllabus for each grade. The general outline and the digest only are printed in this course. The syllabus in each case simply gives, in the way of suggestions and references, such details as are helpful for the individual teacher. The full outline of the course, however, is included in the course herein printed.

GENERAL OUTLINE.

This **general outline** gives the theory and forms the basis of the course in each of the eight grades.

"A" SOURCES OF THOUGHT MATERIAL—IMPRESSION.

I. EXPERIENCES OF THE CHILD'S LIFE.

1. Personal.
   - A. Home Life.
   - B. School Activities.
   - C. Street Incidents.
   - D. Child's Knowledge and Observation of Nature.
2. Social—Child's Environment and Relation to Society and Humanity.
3. Industrial—Child's Knowledge and Observation of Industries.
4. Civic—Child's Knowledge and Observation of Civic Life.

II. LITERATURE.

1. Poetry—Poems to be memorized or read.

2. Prose—Stories and selections from literature.
3. Grade Libraries.

III. Pictures.

IV. Other Subjects of the Grade.

"B" REACTION FROM THOUGHT MATERIAL—EXPRESSION.

I. Expression Through Color, Ink and Scissors.

II. Expression Through Dramatization.

III. Oral Expression.

1. Conversation.
2. Reproduction.
3. Invention.

IV. Written Expression.

1. Reproduction.
2. Invention.
3. Letter writing.

"C" TECHNICALITIES OF EXPRESSION.

I. Arrangement.

II. Technical Language and Grammar.

III. Copying, Dictation and Writing from Memory.

IV. Correct Use.

General Digest.

"The work of each grade must be done in the light of the course as a whole." Professor Chubb—"Teaching of English."

In order to get the relation of each grade to preceding and succeeding grades, the teacher should remember that, while each grade must review and extend the work of earlier grades, in the main, only the new or advance work for any one grade is given in this digest.

"A" SOURCES OF THOUGHT MATERIAL—IMPRESSION.

Grade 1B and 8A inclusive—See General Outline.

"B" REACTIONS FROM THOUGHT MATERIAL—EXPRESSION.

I. Expression Through Color, Ink and Scissors.

II. Expression Through Dramatization.

III. Oral Expression.

1. Conversation: Reactions from "A" I and IV.

1B. Answer teacher's questions—Correct sentences. Encourage observation—Coherence.

1A. Topics from child's experience, observation and knowledge.

2B. First grade continued and extended.

2A. Train for coherence and sequence of time and event. Keep to the topic; teacher merely to guide the conversation.

3B. Fewer topics and more thorough treatment. Greater accuracy in observation. Teacher's plan of questions to direct conversation.

3A. Few topics fully developed. Begin investigation of new and unfamiliar topics. One topic extended over several lessons.

4A-B. Conversation is oral preparation for oral invention. Recitations in History and Geography are drills in conversation. Begin speaking before others. Aim for habits of clear expression and correct use in all recitations. List errors for attention in language period.

5A-B. Report and discussion following investigation. Elaboration of topic to maintain interest. Definite assignments to individuals for investigation. Topical recitations in other subjects. Correct habits of expression in all recitations.

6A-B. Two purposes—1. An oral preparation of subject-matter for the purpose of oral inventive expression. 2. To emphasize the natural relation of expression in other recitations to expression in language.

Limit the topic. Begin reference studies.

7A-B. Conversation—The first approach to a new topic. Encourage pupils to take initiative. Elaborate topics in other subjects. Reference studies in History and Geography.

Recitation—Correct habits of expression in all recitations. Encourage independent preparation and recitation of lessons.

8A-B. Recitation—Drill for correct use. Pupils held responsible for all recitations. Extend topics from other subjects. Reference studies.

Dissertation—Topics developed in class room or assigned for home study. Biographical topics preferable. Teacher passive; pupils active.

2. Oral Reproduction: Reaction from "A" II and IV.

1B. Introduced late in term. Stories involving repetition and having clear beginning, related middle, and definite close.

1A. Orderly arrangement of beginning, middle, and close, a means of giving first conception of oral paragraphing.

2B. Stories short and simple. Follow sequence of events. First co-operatively and later by individuals.

2A. Gradual increase in number of events. Logical, orderly reproduction as a conscious step toward oral paragraphing.

3B. Reproduce only a few of best stories given. Teacher reproduces the less interesting parts. Questions or groups of guide words to insure logical sequence or to indicate paragraphing. Occasional independent reproduction.

3A. Continue 3B with enlarged vocabulary.

4A-B. Stories with easily distinguishable parts. Character portrayal from stories. Repeat for correction of language forms. Pupils give suggestions for improvement. In 4B guide words gradually replaced by topics and sub-topics which lead to the co-operative outline in 4A.

5A-B. Character portrayal emphasized. Co-operative outlines, an aid to independent reproduction. Self help stimulated by criticism of another's work.

6A-B. Gradually introduce longer selections from literature. Topics assigned from other subjects. Selection read or told in one lesson, discussed in second and reproduced in third. Short reproductions for concentration, narration, description, exposition.

7A-B. Gradual reduction of reproduction in favor of more invention. Immediate reproduction of short stories with definite plots or clear character portrayal. Include narration, description, and exposition. Develop power for independent outlines which are required for reproduction of selections from literature.

8A-B. Proportion of reproduction decreased. Reproduce an occasional short story. Reproduce selections from literature. Encourage declamation. Pupils criticise one another's reproduction. Limited practice in argumentation.

3. Oral Invention: { Reactions from "A" I, III and IV. / Resultant of conversation.

Inventive expression is not a creation of ideas but rather invention of expression and development of personality.

1B. Short sentences given by the children.

1A. Pictures to stimulate original sentences.

2B. Children dictate sentences; after co-operative alterations teacher writes them on blackboard. Encourage originality for free, spontaneous self-expression.

2A. Copy from blackboard sentences developed as in 2B. Free use of pictures. Suggestive words or phrases as an aid in making mental pictures.

3B. Use topics developed in conversation for more sustained efforts in oral invention and speaking before others.

3A. Extension of 3B.

4A-B. Work based upon conversation. Completing an unfinished story. Original stories. Original sentences concerning a given topic studied for logical order and paragraph.

5A-B. Speaking before class for self-control, self-respect, and forcible style. Elaboration of topic sentence. Expect greater spontaneity than in reproduction.

6A-B. Review well prepared topics for drill in speaking before others. Pupils add to stories previously reproduced. Amplify a proverb, fable or newspaper heading.

7A-B. Pupils speak without previous preparation from knowledge already acquired. Review well prepared topics for longer and more sustained efforts. Aim for self-possession, self-poise, and self-respect through connected and independent discussion of a given topic. Practice expanding a topic sentence. Translate pictures into language story. Give mental pictures from suggestive phrases. Amplify proverbs. Elaborate topics from History, Geography, Nature Study, etc.

8A-B. Dissertation: Prepare to meet increasing demands of Eighth Grade and High School. Encourage impromptu dissertation. Class debates. Reports on current events. General independent thinking and self-expression.

IV. WRITTEN EXPRESSION.

(No subdivisions until third grade.)

The proportion of written to oral expression by grades is as follows:

First Grade	no written	all oral
Second "	one-fifth written	four-fifths oral
Third "	one-fifth "	four-fifths "
Fourth "	one-fourth "	three-fourths "
Fifth "	one-third "	two-thirds "
Sixth "	one-third "	two-thirds "
Seventh "	one-half "	one-half "
Eighth "	one-half "	one-half "

2B. Copy one to three sentences previously developed by reproduction or invention and written on blackboard. Write sentences in co-operation with teacher. Original sentences to contain given words related in thought.

2A. Four or five sentences the maximum. Use of guide words related in thought and logical in order.

1. WRITTEN REPRODUCTION: { Reactions from "A" II and IV. / Resultant of Oral Reproduction.

3B. Only a few of the oral reproductions written. Copy one (later two) paragraphs written as a result of oral reproduction. Dictation of one (later two) paragraphs previously developed orally. Independent reproduction of simple stories. Guide words grouped to indicate paragraphs, one at first, later two.

3A. New words learned or placed on board before work begins. Encourage appropriation of words and phrases of the author for enrichment of vocabulary. Divide longer stories into parts. Number of paragraphs increased to two or three.

4B. Co-operative paragraphing. Continue relation of sentences in a paragraph. Study the relation of paragraphs in a selection as suggested in the development of topics and sub-topics. Increasing use of co-operative outlines in longer reproductions, studied in parts.

4A. Gradually lead up to independent paragraphing. Continue relations of sentences and paragraphs. Comparison of pupil's work with standards developed. Reproductions written as a whole. Best work read to class as a model. Extended use of co-operative outlines. Avoid slavish following of exact words and phrases of author. Short reproductions without outline. Topic or opening sentence noted for central thought of paragraph.

5A-B. Independent paragraphing. Expect proper use of related sentences in a paragraph, related paragraphs in written papers, and use of topic or opening sentences. Co-operative outline limited to two or three main topics. Three or four paragraphs in written papers. Pupils correct their own papers before handing to teacher.

6A-B. Pupils gradually prepare most of co-operative outlines. Frequent short reproductions. One longer, complete reproduction, every four or five weeks. One period a week to individual help. Special aim for correct form in each lesson. Attention to sentence structure. A class room standard established.

7A-B. Aim constantly for clearness, connectedness and conciseness of expression. Moderate use of paraphrase to test comprehension of original. Frequent use of analysis, condensation, summary, newspaper headlines, telegrams, etc., as aids to right habits of study. Reproductions from literature always follow oral reproduction of same topic.

8A-B. Continue work of seventh grade. No oral preparation required. Aim to develop judgment, habits of analytical study and discrimination.

2. WRITTEN INVENTION: { Reactions from "A" I, III and IV. / Resultant of Oral Invention.
See note under IV, Written Expression.

3B. Copy from blackboard, original sentences previously developed orally, and written, after correction, by the teacher. Write a paragraph of original sentences from guide words. First one, later two paragraphs.

3A. Extend 3B. Use pictures to stimulate original expression.

4A-B. Co-operative outlines the basis of written invention. Work done one or two paragraphs at a time. Later, complete reproduction not exceeding four or five paragraphs. Best papers discussed by class. Original stories. Completing unfinished stories. Narration and description based on pictures. Pupil criticise own work before it goes to the teacher.

5A-B. All oral and other written work to contribute to written invention. Daily practice in original writing of one or two short paragraphs. A few longer formal papers during term. Elaboration of topic sentence into a paragraph. Occasional impromptu writing on familiar topics. Utilize outlines developed under oral inventive work. Encourage habit of giving time and thought to a subject. Preservation of papers through term to show progress.

6A-B. Invention increases in proportion to reproduction. Teacher writing with pupils on same topic. Teacher's judgments kept in background. Daily practice on short papers and on sub-topics of co-operative outlines. A long formal paper every five weeks. Continue pupil's criticism of own work. Constant aim for correct form.

7A-B. Invention has precedence over reproduction. Encourage originality. Daily practice in short papers and in sub-topics of a subject continued over several lessons. Impromptu writing. Original

stories, using introduction read by teacher. Additions to stories reproduced. Monthly or bi-monthly long paper.

8A-B. Invention the chief medium in written expression.

Daily practice. Monthly or bi-monthly long paper.

Give individual tastes and enthusiasms free expression.

3. LETTER WRITING.

3A. Friendly letters of simplest form. Heading, Salutations, and Conclusion. Copying complete letters.

Copying body of letters and supplying headings, etc.

Develop content orally before writing original letter.

4A-B. Review and extend 3A. Read to children letters from literature—imaginative letters. Discuss motives for letter writing.

5A-B. Continue previous work. B. Answer to advertisements. A. Simple business letters. Emphasize necessity for accuracy and neatness.

6A-B. Continue work of fifth grade. Some work in letters of friendship. Special emphasis on business correspondence.

7A-B. Social correspondence. Review previous grades.

Motives and suggestions for business correspondence. Demand accuracy and neatness.

8A-B. Comprehensive review of all previous work. Business correspondence, with emphasis on brevity, pointed and exact statement. Social correspondence, including both formal and informal notes, invitations, regrets, and other conventional and accepted forms.

"C" TECHNICALITIES OF EXPRESSION.

I. ARRANGEMENT.

1B. Writing sentences on blackboard.

1A. Writing sentences on paper.

2B. Margin at left in written sentences. Heading of written paper—grade—date—subject.

2A. Margins at left and right of paper. Descriptive title for written papers.

3B. Simple sentences only. Avoid excessive use of "and" and "but." Indentation in paragraphs—copying and dictation. Indentation applied to all written work.

3A. Simple sentences with modifying phrases. Indentation in paragraphs required. Review use of headings and margins.

4B. Distinguish between statement and question. Co-operative paragraph with guide words and outlines.

4A. Statements, questions, commands, exclamations. Some independent paragraphing. Topic sentence. Co-operative outline. Superscription on envelopes. Review and application of margins and headings.

5B. Recognize sentences as declarative, interrogative, imperative, exclamatory. Gradual introduction of use of complex sentence. (No attempt at analysis.) Modifying phrases expanded into clauses. Independent use of paragraphs. Selection of topic sentences from printed paragraphs. Co-operative outlines—two or three main topics. Impromptu oral and written work. Review, friendship letters. Answers to advertisements.

5A. Review and extension of work of 5B. Two parts of sentence—subject and predicate. Extend co-operative outlines to four main topics. Simple business letters.

6B. Simple subject, simple predicate; complete subject, complete predicate. Unity of sentences, relation of paragraphs; a standard established, the practice not rigorously enforced. Pupils gradually taking greater

share in co-operative outlines. Need of caution in too extensive use of outlines. Business correspondence

6A. Gradual introduction of compound sentence. Recognition of sentences as simple, complex and compound. Exercises in combining, condensing and transforming sentences. Some simple outlines made by pupils unaided.

7A-B. Continued practice in use (not analysis) of complex and compound sentences. Combination of short related simple sentences into one longer complex and compound sentence and vice versa. Continued attention to paragraphing. Independent outlines.

8A-B. More definite study of the use of complex and compound sentences through analysis. Study paragraphing, using selections of literature as models. Extended work in independent outlining. General review.

II. Technicalities of Language and Grammar.

1B. 1. Capitals—Beginning of sentence, pupil's name "I."

2. Punctuation—Period at end of sentence.

3. Preparation for dictionary. Phonics.

1A. 1. Capitals—Proper names in reader.

2. Punctuation—Question mark at end of sentence.

3. Dictionary Work—Learn the Alphabet. Phonics.

2B. 1. Capitals—"O," first word of each line of poetry, months, days.

2. Punctuation—Period after abbreviations. Period and comma in dates on written paper.

3. Abbreviations—Mr., Mrs., Months, Days.

4. Dictionary Work—Master Alphabet. Phonics.

2A. 1. Capitals—State, City and Street.

2. Punctuation—Review.

3. Abbreviations—N. Y., St., Ave., P. O.

4. Dictionary Work—Arrangement in alphabetical order of familiar words with different initials. Phonics.

3B. 1. Capitals—Review previous work. Initials.

2. Punctuation—Period with abbreviations in number work and with initials. Hyphen in compound word and at end of line to show separation of syllables.

3. Abbreviations—Those used in number work.

4. Dictionary Work—Review. Phonics.

3A. 1. Capitals—First word of simple direct quotation. Heading, salutation and conclusion of a simple letter.

2. Punctuation—Quotation marks in simple direct quotation. Punctuation of heading, salutation and conclusion of simple letter. Apostrophe in singular possessive and in contractions.

3. Abbreviations—Supt., Prin., Dr., Pres., Rev.

4. Dictionary Work—Accent mark. Phonics and diacritical marks.

4B. 1. Capitals—Superscription on an envelope.

2. Punctuation—In superscription on an envelope.

Interrogation Marks—Apostrophe in plural possessives and contractions. Comma preceding quotation.

3. Abbreviations—Review.

4. Dictionary Work—Arrangement in alphabetical order of familiar words having initials only alike.

Phonics and diacritical marks.

4A. 1. Capitals—Titles and places; names of Deity; proper names in Bible stories.

2. Punctuation—Exclamation mark. Comma following "yes" and "no" when used with name of person addressed.

3. Abbreviations—Those in arithmetic and geography, Gov., Gen., Capt., Sec.

4. Dictionary Work—Review.

5B. 1. Capitals—Proper names in geography and history.

2. Punctuation—Comma to set off clause or phrase out of natural order.

3. Abbreviations—P. S., A. M., P. M., M. D., D. D., and other common degrees.

4. Dictionary Work—Arrangement in alphabetical order of familiar words having unlike initials.

5A. 1. Capitals—Review.

2. Punctuation—Comma in series of words.

3. Abbreviations—U. S. A. For the States.

4. Dictionary Work—Review.

6B. 1. Capitals—Proper use required in all papers.

2. Punctuation—Comma separating person addressed. Quotation marks in broken quotations.

3. Abbreviations—O. K., C. O. D., f. o. b., inst., ult., etc.

4. Dictionary Work—Words at top of dictionary page. Diacritical key.

5. Grammar—Kinds of sentences as to use. Simple subject and predicate; complete subject and predicate.

6A. 1. Capitals—See Sixth B.

2. Punctuation—Caution against quotation marks in indirect quotation.

3. Abbreviations—i. e., e. g., via, viz., anon., mdse., Messrs.

4. Dictionary Work—Abbreviations in defining words "n," "a," "v," adv., pron., sing., pl.

5. Grammar—Kinds of sentences as to form. Recognition of parts of speech—nouns, pronouns, verbs, adjectives and adverbs.

7B. 1. Capitals—Proper use of all capitals.

2. Punctuation—Require all punctuation marks taught in grades below. Teach comma to set off introductory connecting adverbs.

3. Abbreviations—Classify in review all abbreviations of lower grades.

4. Dictionary Work—Review previous work. Drill in opening promptly to given letter or word and in getting pronunciation, spelling and definition. Use index in all texts.

5. Grammar—Review sixth grade. Recognition of prepositions, interjections and conjunctions. Nouns: Classification, properties, declension, use in sentence. Parsing pronouns.

7A. 1. Capitals—See 7B.

2. Punctuation—See 7B.

3. Abbreviations—See 7B.

4. Dictionary Work—Repeat 7B.

5. Grammar—Adjectives: Classification, comparison, use in sentence, parsing. Prepositions: List of common ones; use. Interjections: Recognition and use. Analysis and diagraming simple sentences.

8B. 1. Capitals—See seventh grades.

2. Punctuation—Review all previous work. Comma after introductory words, phrases and clauses. Dash and parenthesis.

3. Abbreviation—See seventh grades.

4. Dictionary Work—Drill in finding punctuation, accent, spelling, definitions. Frequent reference to

index in all texts. General use of works of reference.

5. Grammar—Verbs: Classification, properties, principal parts, inflection, parsing. Analysis and diagraming of compound sentence.

8A. 1. Capitals—See seventh grades.

2. Punctuation—See seventh grades. Comma before additional clause; semi-colon and colon.

3. Abbreviations—See seventh grade.

4. Dictionary Work—Daily use of dictionary. Use of index in all texts. Frequent use of encyclopedia and other works of reference.

5. Grammar—Thorough review and more intensive study of grammar. Conjunctions. Clauses. Phrases. Analysis and diagraming of complex and compound sentences.

III. Copying, Dictation and Writing from Memory.

1B. Copying—Short sentences on blackboard.

1A. Copying—Short sentences on blackboard and paper.

2B. Copying—From board, readers, etc. Dictation—Short sentences previously studied. Memory Writing—Occasional short poems or stanzas.

2A. Copying—Model language, number or spelling lesson. Dictation—Short sentences. Memory Writing—Occasional short poems or stanzas.

3B. Copying—Models of indentation, headings, titles and margins. Dictation (do not repeat)—Following copying exercise. Memory Writing—Short poems.

3A. Copying—Limited amount of review. Dictation (do not repeat)—For concentration of attention and correct use of language forms. Memory Writing—Short poems.

4A-B. Copying—Gradually replaced by dictation. Dictation (do not repeat)—For concentration and cor-

rect language forms. Memory Writing—Short poems, memory gems, etc.

5A-B. Dictation (do not repeat)—As a test in use of technicalities. Memory Writing—Poems, quotations, etc.

6A-B. Dictation—To create power of sustained attention. Memory Writing—Poems, quotations, etc.

7A-B. Dictation—To furnish models in complex and compound sentence structure and in all other forms which the class may be studying. To create power of sustained attention and concentration. Writing from Memory—To give practice in use of capitals and marks of punctuation, and to fix firmly in mind selection learned.

8A-B. See seventh grades.

IV. Correct Use.
(In course of preparation.)

History

"In teaching the history of any nation or time, the first step is to select certain centers about which facts and events of inferior significance naturally group themselves.

"Such centers may be the names of great leaders, places which were the scene of momentous occurrences or events of crucial significance; for example, Abraham Lincoln, Bunker Hill, The Dred Scott Decision. In teaching young children, the centers selected should be picturesque if possible. But they should always have a vital, casual relation to the units clustering about them.

"Thoroughness in teaching history requires true perspective, the proper relation of events, especially as to cause and effect. It is not necessary that all events be recorded, but that those recorded have significance and appear in due proportion.

"A mere stringing together of occurrences of varying significance upon a plane of apparent equality dissipates interest and produces as a result the opposite of thoroughness."

FIRST AND SECOND GRADES.

See History Stories in connection with the Language Course.

THIRD GRADE.

"B" Class.

Stories of Rochester and its early settlement. (See Course in Geography.)

"A" Class.

Stories associated with New York State.

Stories suitable for national holidays, the same to be studied during the month in which the holiday occurs.

FOURTH GRADE.

"B" Class.

Stories of Discoverers and Explorers.

Required: Columbus and Magellan.

Read with class any two of the following: Vespucci, Eric, Abraham, Moses.

Note—In studying any of the above, impress the leading historical facts as a background for formal study.

"A" Class.

Stories of Discoverers and Explorers, continued.

Required: Champlain, Hudson and DeSoto.

Read with class two of the following: De Leon, Balboa, Cortez. (See note under Fourth Grade "B.")

FIFTH GRADE.

"B" Class.

Required: Norse Stories, Vasco de Gama, and the Cabots.

Read with the class Stories of Greece, and any of the following: Alexander, Caesar and Joshua. (See note under Fourth Grade "B.")

FIFTH GRADE.

"A" Class.

Pioneer Stories.

Required: Daniel Boone and George Rogers Clark.

Optional: Meriwether Lewis and John C. Fremont, and read with class Stories of Rome and of England.

SIXTH GRADE.

"B" Class.

Men who have helped to make America great.

Required: William Penn, the Peacemaker; Roger Williams, the Liberal Minded; Benjamin Franklin, the Diplomat and Philosopher; Patrick Henry, the Orator.

SIXTH GRADE.

"A" Class.

Required: George Washington, the Father of his Country; Daniel Webster, the Statesman; Abraham Lincoln, the Emancipator; Ulysses S. Grant, the General; William McKinley, the Soldier and Statesman.

Present these in story form. Give them their historical setting as to time and importance. Emphasize the lessons indicated by the titles given.

Pupils may use the historical stories as a part of their regular work in reading, and they may also make use of the material for language work wherever available, but the historical truths taught from these stories are to be quite distinct and definite. The time allotted to history should be used to emphasize definite historical facts.

SEVENTH GRADE.

"B" Class.

The more formal study of history begins in this grade and a text book should be in the hands of each pupil.

Review the discoverers and explorers and great leaders as taught in the previous grades and teach such others as may be necessary to establish in the minds of the pupils the basis of the claims of the four European nations that were most interested in the New World.

Colonization Period and the Struggle of the English for Supremacy, 1607 to 1765.

SEVENTH GRADE.

"A" Class.

Struggle for American Independence and a Constitutional Government. Period from 1760 to 1816, including the Revolutionary War, the beginning of the Constitution and War of 1812.

EIGHTH GRADE.

"B" Class.

Period of Compromise and the Civil War. From 1816 to 1865.

"A" Class.

Period of Reconstruction and Growth from 1865 to the present time. There should be in this grade a general review.

Elementary Civics

EIGHTH GRADE.

"B" Class.

Government—Its Origin; its Need.

Government—Of the Colonies by England:

a. Royal Province.

b. Charter.

c. Proprietary.

Self-Government—Beginnings:

a. Colonial Assembly in Virginia.

b. Compact in the Mayflower.

c. The New England Town Meeting.

A United Government—Beginnings:

a. United Colonies of New England.

b. Albany Convention.

c. Stamp Act Congress.

A United Government—Developing:

a. Continental Congress. (Note the important things accomplished at the successive Congresses held in 1774, 1775, 1776 and 1777.)

b. Articles of Confederation.

Object—How Made? When adopted?

Results.

A United Government—Established:

The Constitution.

Why superior to other forms? How made? Compromises that settled the disputes of the Convention. When and how adopted by the several States.

"A" Class.

Government—Nation, State, City:

Study the Constitution of United States as a type, dwelling on essential features as indicated below and emphasizing the relation of these three forms of government. It will be found helpful to organize a Class Club, developing a simple constitution and transact necessary class business according to accepted parliamentary rules.

Plan:

a. Under Constitution in Nation and State.

b. Under Charter in City.

Departments:

1. Legislative Department to make laws:
   a. Nation has Congress: House of Representatives and Senate.
   b. State has Legislature: Assembly and Senate.
   c. City has Common Council: Body of Aldermen.
2. Executive Department to enforce the laws:
   a. Nation: President and those officers appointed by him.
   b. State: Governor and certain other elected officials; also men appointed by them.
   c. City: Mayor and certain other elected officials; also men appointed by them.
3. Judicial Department to decide questions relating to the laws:

   Study briefly the Courts and their duties in Nation, State, City.

Officials in the Various Departments of Nation, State and City:

a. Title.

b. Qualifications for office.

c. Term of office.

d. How nominated: Conventions, Caucuses.

e. How elected.

f. Duties.

g. Compensation.

Law Making:

a. Limit of powers in the various law-making bodies.

b. How a bill becomes a law.

c. The veto; its use and meaning.

The County and its Relation to State and to City:

Only the general and most essential features should be developed.

The Ward and its Relation to the City:

This topic should be briefly developed in connection with the study of the officials of the City as indicated above.

Geography

The objects aimed at in the following outlined Course are threefold:

I. To train the learner to see geographic facts or recognize geographic phenomena when he sees them.

II. To enable the learner to see geographic facts and understand geographic phenomena from the examination of maps and from the reading of text.

III. The acquisition of knowledge.

These objects are set forth in their logical order, the third being easily attained when the work of the first two is systematically carried on.

First Grade.

Observation:

1. The sun—sunrise, sunset, morning, noon and night.
2. Seasons—autumn, winter, spring, summer.
3. Weather—warm, cold; fair, cloudy; rainy, windy, snowy.

Note—All these observations should be made throughout the year by both classes and should be recorded each day by some simple device which the children can readily enter into and understand.

Second Grade.

Observation:

Continue the observations of the first grade with the following amplifications and additions:

1. The sun—Points of the compass as determined by sunrise and sunset; heat, causing evaporation.
2. The seasons—Length of days, shorter, longer; warmer, colder. The activities of the season; e. g., planting in spring, etc.

See note under First Grade.

THIRD GRADE B.

Review and amplify the topics of the first and second grades.

I. The sun:

a. Heat at different times of day, and in sunshine and in shade.

b. Shadows: Length, longer and shorter; at different times of the day; of the year. Note which side of a building has no sunshine. When practicable construct a sun dial.

c. Effect upon plant life. Show the necessity of sunlight by covering up a plant or section of the lawn for a few days.

II. Weather:

a. Directions of the wind observed from a weather-vane on some near-by building, or better by one on the premises, constructed by the pupils; north wind, south wind, etc.

b. The phenomena of rainfall.

1. Vapor (some always in the atmosphere).
2. Clouds.
3. Rain (or snow).
4. Absorption by the earth.
5. Formation of springs, brooks, rivers, lakes and oceans.
6. Evaporation.

c. Weather Chart:

1. Pupils should be taught to use the thermometer and to record on a chart at some stated time each day the temperature, direction of the wind and the general state of the weather.

2. Summarize at the end of each month the number of clear days, cloudy and partly cloudy days, rainy or partly rainy days and the prevailing winds.

III. Direction and Location:

Cardinal and semi-cardinal points; relative positions as:

a. Locate pupils with reference
   1. To different parts of the room.
   2. To other pupils.
   3. To objects in the room.

b. Locate room with reference to other rooms on the same floor.

c. Locate buildings with reference
   1. To parts of yard.
   2. To child's home.
   3. To objects of interest near by.
   4. To part of city.

d. Locate adjoining streets and state direction in which they extend.

IV. Land and Water Forms:

Taught as far as possible by actual observation; when not possible by pictures or sand table. Definitions must always *follow*, not precede in this work.

a. Spring, brook, creek.

b. River—Tributary, source, falls, mouth, banks (right and left), bed.

c. Pond, lake, outlet.

d. Hill, valley, slope, plain.

e. Island, peninsula, cape, isthmus.

Note—An excursion of at least one-half day should be planned and supervised by the principal.

V. Life:

a. Study of a plant as to the effect

1. Of sunlight.
2. Of air.
3. Of moisture.
4. Of temperature.

b. Illustrate by treatment of two similar plants under opposite conditions.

VI. Maps (teach their symbolism).

Proceed in the following order, making them very simple:

a. School room.

b. School yard.

c. Rochester, locating only

1. Genesee River.
2. Main Street and three or four others.
3. Two or three large parks.
4. Two or three prominent public buildings.
5. Reservoir on Cobb's Hill.

One or more excursions should be made to some point where these places can be seen.

THIRD GRADE A.

I. Review and continue Third B.

II. Maps.

a. State (making the map very simple).

Locate only

1. Three rivers—Hudson, Mohawk, Genesee.
2. Mountains—Catskill, Adirondack.
3. Cities—New York, Buffalo, Rochester, Syracuse, Albany.
4. Canal—Erie.

b. Interpret printed maps of City and State, referring constantly to the simple maps already made and emphasizing symbolism.

III. Industries of Rochester and near-by country:

a. Agriculture—Market gardening, farming, nurseries, fruit growing.

b. Manufacturing—Shoes, men's clothing, buttons, kodaks, optical instruments.

c. Interchange of products (beginning of commercial ideas).

Excursion to some factory. The object of this excursion should be to give the children a vital interest in one of the industries of Rochester.

Fourth Grade B.

The World as a Whole.

It is recommended that the globe be used almost entirely, in order that the child's mind may be familiarized with the correct shape of the earth.

I. General.

a. Shape:

1. Two simplest proofs.

b. Size:

1. Miles in circumference.
2. Time to travel around it.

c. Rotation:

1. Direction, west to east.
2. Causes day and night; how?

Perform experiment in dark room with candle if possible.

II. Climatic Circles.

a. Equator and its Relation to the Poles.

b. Tropics.

c. Polar Circles.

Teach Tropics and Polar Circles as boundaries of heat belts.

III. Zone or Heat Belts.

a. Names and Location:

1. Bounded by circles.
2. Bounded by zones.

b. Life:

1. Plant.
2. Animal.
3. Man.

In this connection read "Seven Little Sisters," showing by means of the globe the zones in which each lives. "Big People and Little People of Other Lands" may also be read at this time with profit.

IV. Hemisphere (Eastern and Western).

a. Teach the relative location of continents and oceans.

V. Our relation to and dependence upon the whole world.

"Aunt Martha's Corner Cupboard" suggests a good plan for this topic.

FOURTH GRADE A.

THE WORLD IN HEMISPHERES.

I. Western Hemisphere.

a. Grand Divisions—North America and South America; their relative positions and general boundaries.

b. Principal Coast Indentations.

1. Caribbean Sea.
2. Gulf of Mexico.
3. Gulf of St. Lawrence.
4. Hudson Bay.
5. Bering Sea.
6. Gulf of California.
7. Baffin's Bay.

Define Sea, Gulf, Bay.

c. Principal Coast Projections:

1. Alaska.
2. Nova Scotia.
3. Florida.
4. Yucatan.
5. Lower California.

Define Isthmus, Peninsula, Cape.

d. Islands:

1. Greenland.
2. Newfoundland.
3. West Indies.
4. Terra del Fuego.

Define Island.

e. Great Highlands:

1. Rocky Mountain System.
2. Andes Mountains.
3. Appalachian System.
4. Plateau of Brazil.

Define Mountain Range, Peak, Volcano, Plateau.

f. Great River Systems:

1. Mississippi.
2. St. Lawrence.
3. Mackenzie.
4. Yukon.
5. Columbia.
6. Amazon.
7. La Plata.
8. Orinoco.

Define River System, River Basin.

g. Climate:

1. As affected by Distance from the Equator (latitude).
2. As affected by Altitude.
3. As affected by Ocean Currents:

Japan Current.

Gulf Stream.

Labrador Current.

II. Eastern Hemisphere.

a. Grand Divisions—Eurasia, Africa, Australia.
Relative Positions and General Boundaries.

b. Principal Coast Indentations:

1. North Sea.
2. Baltic Sea.
3. Bering Sea.
4. Sea of Okhotsk.
5. Japan Sea.
6. Yellow Sea.
7. China Sea.
8. Bay of Bengal.
9. Arabian Sea.
10. Persian Gulf.
11. Red Sea.
12. Mediterranean Sea.
13. Adriatic Sea.
14. Black Sea.
15. Bay of Biscay.
16. Gulf of Guinea.
17. Gulf of Carpentaria.

c. Principal Coast Projections:

1. Scandinavian Peninsula.
2. Peninsula of Kamchatka.
3. Peninsula of Korea.
4. Malay Peninsula.
5. Peninsula of India.
6. Grecian Peninsula.
7. Spanish Peninsula.
8. Danish Peninsula.

d. Islands:

1. Iceland.
2. Spitzbergen.
3. Nova Zembla.
4. Japanese Islands.
5. Philippine Islands.
6. East Indies.
7. British Isles.
8. Madagascar.
9. New Zealand.
10. Tasmania.

e. Great Highlands:

1. The Great Eurasian Highland.
2. Ural Mountains and Mountains of Scandinavia (Kiolen).
3. African Highlands.
4. Atlas Mountains.

f. River Systems:

1. Danube.
2. Volga.

3. Dnieper.
4. Don.
5. Ural.
6. Ob.
7. Yenisei.
8. Lena.
9. Amur.
10. Yangtze.
11. Hoangho.
12. Indus.
13. Ganges.
14. Mekong.
15. Nile.
16. Congo.
17. Niger.
18. Zambezi.

g. Climate:

1. As affected by Distance from the Equator (latitude).
2. As affected by Altitude.
3. As affected by Sheltering Mountain Ranges.
4. As affected by Ocean Currents:

Japan Current.
Gulf Stream.
Define Climate.

FIFTH GRADE B.

NORTH AMERICA AND SOUTH AMERICA BY COUNTRIES.

Note 1—It is obvious that the least important countries should have little time devoted to them, while those of greater and growing significance should be much more fully treated. Approximately, the

following allotment of time should be adhered to in the study of the following countries:

Canada ....6 weeks
Mexico .....3 weeks
Countries of Central America and the West Indies .....1 week
Argentina ....2 weeks
Chili .....2 weeks
Brazil ....2 weeks
Other countries of South America.....2 weeks

The United States, except its location with reference to other countries, is omitted here, as it is treated fully in the Sixth Grade.

Note 2—Early in this grade children should be sufficiently familiar with the subject of latitude and longitude to interpret it upon the maps and to make practical use of it in locating actual positions.

Study each country by the following suggestive outline:

a. Position, both actual and relative to the United States.
b. General physiographic character.
c. An idea of its general climate with note of any marked exception in certain localities.
d. Chief physical features.
e. The people:
    1. Origin.
    2. Characteristics.
    3. Occupation.
    4. Stage of civilization.
f. Chief cities.
g. Government.
h. Commercial relations to the United States.
i. Its world importance.

Fifth Grade A.

Asia—Africa—Australia.

By Countries.

See Note 1 under Fifth Grade B.

Allow approximately the following amount of time to each of the following countries:

China	3 weeks
Japan	3 weeks
India	3 weeks
Other countries of Asia	2 weeks
Egypt	2 weeks
British South Africa	2 weeks
Remainder of Africa	2 weeks
Australia and New Zealand	1 week

Europe, except its location, is omitted, as it is fully treated in the Sixth Grade.

A general study of the countries according to the following suggestive outlines:

a. Position, both actual and relative to Europe and to the United States.

b. General physiographic character.

c. An idea of its climate, comparing its climate with that of countries of similar latitude in the Western Hemisphere; state reasons for the differences.

d. Chief physical features.

e. The People:

1. Origin.
2. Characteristics.
3. Occupation.
4. Stage of civilization.

f. Chief cities.

g. Government.

h. Commercial relations to the United States.

i. Its world importance.

Sixth Grade B.

The United States.

The United States, including its possessions, giving special emphasis to New York State, its political divisions, its government as a type of other States and of the Federal Government.

I. General:

a. Location and boundaries.

b. Size—relative and actual (approximate distance east and west, north and south), as shown in miles and in days travel by train.

c. Number of States.

d. Relief and Drainage.

e. Climate.

Note—The teacher is referred to Chapter X of Tarr's First Book of Physical Geography for her own information as to what constitutes Climate and the causes of its variation.

In teaching climate in this general way it is desirable that the children should be taught to locate regions that represent distinctively the types mentioned in Chapter X.

f. Population and its Distribution.

g. Government:

1. Form.

2. Chief Executive.

3. Capital City.

h. Name and location of important cities (at least ten of the largest).

i. Our relations to other countries of the world along the lines of Industry and Commerce.

II. New York State.

a. Location:

1. Section.
2. Boundaries.

b. Surface.

c. Political divisions:

1. Counties (number).
2. Cities (principal ones).

d. Industries:

1. Of Rochester.
2. Of the State at large, naming the location of any special industry, such as the "fruit belt," salt production, power production.

e. Commercial facilities:

1. Railroads.
2. Canals.
3. Other Waterways.

f. Natural Scenery and Resorts.

g. Population.

h. Government:

1. Form.
2. Chief Executive.
3. Capital City.

i. Educational:

1. Common Schools.
2. Colleges and Universities.
3. State University.

Note—Use wall map of New York State.

III. By Sections.

Use divisions and subdivisions as given in the text-book. The following is a suggestive outline applicable to each:

a. Location.

b. Names of the States in the section giving their relative position.

c. Relief and Drainage.

d. Climate.

e. Industries:

1. Productions.

2. Trade (commerce).

Give emphasis to the reason why one section produces a certain thing better and more abundantly than another section.

f. Leading Cities:

1. Capitals.

2. Other cities, giving the reason for their importance.

g. Places of Interest:

1. Natural.

2. Historic.

h. Education.

IV. Territorial Possessions.

Alaska, Hawaii, Porto Rico, Philippines, Panama Canal Zone and small islands in the Pacific.

a. Location and Size.

b. People.

c. Productions.

d. How and when acquired by the United States.

e. Cities.

Note—In order that some uniformity of time to each division of this Course may be secured, it is suggested that approximately the following amount of time be spent upon each of the four divisions:

General (Division I) ..... 4 weeks

New York State (Division II) ..... 3 weeks

Sections (Division III) .....12 weeks
Territorial Possessions (Division IV) ..... 1 week

SIXTH GRADE A.

EUROPE.

An intensive study of Europe, emphasizing the commercial relations between it and the United States.

In order that the proper setting may be given to Europe, it is desirable that a brief study of the physical features of the continent Eurasia should first be made, using the following outline:

I. Eurasia.

General Physical Features:

a. Mountain Ranges.
b. Plateaus.
c. Lowlands.
d. River Systems.
e. Coast Features.
f. Oceans.

II. Europe (General).

a. Location, actual and with reference to the United States.
b. Size (relative to the United States).
c. Relief and Drainage.
d. Climate.

Note 1—The teacher is referred to Chapter X of Tarr's First Book of Physical Geography for her own information as to what constitutes Climate and the causes of its variation.

Note 2—In teaching climate in this general way it is desirable that the children should be taught to locate regions that represent distinctly the types mentioned in Chapter X.

Note 3—In teaching the climate of Europe it is interesting to note the differences between the climate of places of the same latitude in Europe and in America and the reason for such differences.

e. Countries (names and location with reference to one another).

1. Six Great Powers.
2. Minor Powers.

III. Countries.

Note—It is obvious that equal attention should not be paid to all the countries of Europe. The following outline is suggestive as a type of treatment of the more important ones:

Great Britain:

a. Location.
b. Size (actual and relative).
c. Relief and Drainage.
d. Climate.
e. Character of the People—The Population.
f. Industries:
    1. Agriculture.
    2. Mining.
    3. Commerce.
g. Location of important cities and the reason for their importance.
h. Government.
i. Education.
j. Noted places:
    1. Natural.
    2. Historical.
k. Colonies.
l. Relation to the United States
    1. Commercial.
    2. Historical.

Note—Develop the reason for England's commercial supremacy.

Seventh Grade B.

Commercial and Industrial Geography.

At the close of the sixth year it is believed that the pupils are sufficiently acquainted with the descriptive Geography of the world to enter into the larger discussion of man's needs and his efforts to meet them.

I. Man's needs.

a. Food.

b. Clothing.

c. Shelter.

For these he is dependent upon the earth, and his skill and industry in producing and distributing them.

The character, quantity and quality of these needs vary greatly with differences of climate and of other conditions over which man has but little control. Contrast the Eskimos with the natives of the tropical regions; the Lapps and Finns with the Arabs, etc.

II. The advancement of knowledge and culture has brought about a specialization of labor and a better adjustment to natural surroundings. Instead of each community trying to produce and manufacture everything it needs for its own comfort and happiness, it has learned to follow that particular industry which brings the largest practical results with the least effort, and to exchange the surplus for products that can be more cheaply produced by others.

This specialization of labor has brought about the development of great industrial regions, and at the same time has brought into existence another highly organized industry, Commerce.

These larger regions are:

a. Agriculture.

b. Manufacturing.

c. Grazing.

d. Fishing.

e. Lumbering.

f. Mining.

Work out by means of Geography text-books and wall maps a knowledge of these chief industrial regions of the world, of the United States, of New York State. Ascertain the reasons for such specialization, such as soil, cheap power, etc. (2 weeks.)

Note—In order that some uniformity of time to each division and subdivision of this course may be secured, it is suggested that approximately the amount of time after each be used.

III. In each of these regions there is further specialization of industry as shown by the different branches of:

1. Agriculture (United States). (2 weeks).
    a. Wheat growing in the north central section.
    b. Corn growing in the middle central section.
    c. Cotton growing in the south central section.
    d. Rice growing in the southeast section.
    e. Fruit growing in farm localities.
    f. Market gardening near large cities.
2. Manufactures. (3 weeks).
    a. Food and food products:
        1. Slaughtering and Meat Packing.
        2. Milling.
    b. Textiles:
        1. Cotton Manufacture.
        2. Wool Manufacture.
        3. Silk Manufacture.
        4. Clothing Manufacture.
    c. Iron and Steel.
    d. Lumber and Manufactures Employing Lumber.
    e. Boots and Shoes.
3. Grazing. (1 week.)
    a. Cattle.
    b. Sheep.
    c. Swine.

4. Fishing. (1 week.)
    a. Cod.
    b. Oyster.
    c. Salmon.
    d. Seal.
5. Lumbering. (1 week.)
    a. White pine.
    b. Yellow pine.
    c. Hard woods.
    d. Red woods.
    e. Cedars.
6. Mining. (1 week.)
    a. Iron.
    b. Coal (soft and hard).
    c. Copper.
    d. Gold.
    e. Silver.

Locate by maps the subdivided industries. Devote most of the time to the United States and to New York State.

IV. The next step involves the study of a single product of any given industry, methods of production, values, transportation and markets.

The following outline is suggestive only, and is easily adapted to any other agricultural product.

Besides the special study of wheat, it is to be hoped that the teacher will have time to outline and study other food products, such as:

a. Sugar.
b. Rice.
c. Tea.
d. Coffee, etc.

THE STUDY OF WHEAT. (4 weeks.)

1. Distribution of the World's Great Wheat Fields.

   a. In the United States:

      1. North central section, including Indiana, Illinois, Minnesota, North and South Dakota, Wisconsin, Kansas and Nebraska.
      2. Western section, including California, Oregon and Washington.
      3. Eastern section, including New England and North Atlantic States.
      4. Southern section, Texas

   b. In the foreign countries:

      1. Russia.
      2. India.
      3. France.
      4. Austria-Hungary.
      5. Canada.
      6. Argentine Republic.

2. Conditions of Cultivation.

   a. Soil.

   b. Climate:

      1. Temperature.
      2. Rainfall.

   c. Methods of Cultivation. Contrast the methods of wheat cultivation in Western New York and in the north central section of the United States.

   d. Economic Conditions. Lands, cheap or expensive; labor, scarce or plentiful; machinery and its relation to labor.

      Apply these economic conditions to the United States, to India, to Russia.

3. Harvesting.
    a. Reaping.
    b. Threshing.
4. Marketing.
    a. Transportation:
        1. Farm to railroad.
        2. Grain elevators (storage).
        3. By rail or waterway to points of concentration for transshipment or manufacture.
        4. Shipment, east or abroad.
    b. Location of great wheat markets of the United States and reason for their location:
        1. Duluth.
        2. Minneapolis.
        3. St. Louis.
        4. Chicago.
        5. Buffalo.
        6. New York.
        7. San Francisco.
        8. Portland, Oregon.
    c. Location of great wheat markets of the world:
        1. One in India.
        2. One in Russia.
        3. One in Canada.
5. Manufacture.
    a. Process:
        1. Purification of the grain.
        2. Grinding (study methods of grinding from early times to the big roller process mills of to-day).
        3. Bolting (what bolting does and the by-products).

4. Bagging and preparing for final market.

b. Types of Mills:

1. Custom.
2. Merchant.

c. States which lead in the manufacture of flour and the reason therefor:

1. Minnesota.
2. Ohio.
3. Illinois.
4. Indiana.
5. New York.

6. Marketing the finished product.

a. The home market.

b. Great Britain and Ireland.

There should be time enough to treat two other products, either as suggested in this outline for wheat, or in one worked out by the teacher and principal.

Seventh Grade A.

Commercial and Industrial Geography.

Three fundamental needs of mankind are:

1. Food.
2. Clothing.
3. Shelter.

In the previous grade all these needs were studied in a general way showing how geographic conditions influence them. Large industrial regions were described and located, market cities and transportation routes were traced upon maps, and one or more food products studied showing the various steps from the soil to the table.

There remains to be considered more in detail clothing and shelter, and the geographic conditions which influence them. These topics are to be treated separately.

1. By a study of these needs in different climates, and in different civilizations.
2. By a general study of the larger regions from which the materials are obtained.
3. By a study of some of the methods by which these raw materials are obtained, prepared for market and shipped to centers from which they are distributed to the manufacturers.
4. By a study of production, manufacture and trade.

CLOTHING.

I. All civilized nations clothe themselves. The material used, the amount of clothing, and the nature of the garment, vary greatly among different races and in different climates. By means of pictures, contrast the clothing in different climates; of different races in similar climates. Note that primitive people have garments few in number and of almost universal pattern. Contrast the clothing of a native of Korea and of a resident of the city of Rochester. Clothing is used as a means of ornament as well as a means of comfort. This love of adornment is instinctive and is found in no small degree in the lowest stages of human life. Note the early history of trade with the savages of newly discovered lands and islands. Among the more highly civilized peoples, personal adornment has become an art, and great varieties of materials of many weaves and colors are manufactured, as well as many ornaments used upon the head and hands, about the neck or fastened to the garments. (1 week.)

II. The materials used for the manufacture of clothing are of vegetable or animal origin, and include the following as the most important:

1. Materials of Vegetable Origin.
   a. Cotton.
   b. Flax.
   c. Hemp.
   d. Grasses in great variety.
   e. India rubber.

2. Materials of Animal Origin.
    a. Wool from the
        1. Sheep.
        2. Goat.
        3. Alpaca.
        4. Camel.
    b. Silk.
    c. Leather made from hides of
        1. Cattle.
        2. Sheep.
        3. Goats.
        4. Horses.
        5. Swine.
    d. Furs.

Note the great variety of fur-bearing animals and the habitat of the most important. Using wall maps, locate the regions of the world in which each of the above mentioned raw materials is found in greatest abundance.

Have the pupils give a list of the different kinds of materials that enter into the garments of a well dressed man; of a well dressed woman, and point out the places where each may have been produced. (3 weeks.)

III. The preparation of clothing from raw materials involves their collection or growth, their manufacture or preparation and their marketing. It frequently happens that more than one kind of raw material enters into the manufacture of a single fabric.

Study these operations after the following suggestive outline:-

COTTON.

1. The World's Great Cotton Fields.
    a. In the United States.
    b. In foreign countries.

2. The Plant.
    a. An annual.
    b. Description of.
    c. Cotton.
3. Its Cultivation and Two Varieties.
    a. Upland.
    b. Sea Island.
4. Conditions of Cultivation.
    a. Climate.
    b. Soil.
    c. In India.
    d. In Egypt.
5. Harvesting of the Crop.
    a. How picked.
    b. How cleaned from seeds.
    c. Baled.
    d. By-products.
6. Transportation.
    a. To states that lead in the manufacture of cotton. Name the most important and the reason therefor.
7. Manufacture.
    a. Process:
        1. Spinning.
        2. Weaving.
        3. Mercerization.
        4. Dyeing and Finishing.

As far as possible study one or more materials of animal origin. Study how the fabrics and other products when finished are sold and distributed for domestic manufacture, such as:

a. Undergarments.
b. Hosiery.
c. Hats.

d. Boots and shoes.

e. Collars, cuffs and shirts.

f. Ready-made clothing. (6 weeks.)

SHELTER.

Much the same may be said of shelter as a need, as has been said of clothing. By pictures and text compare the variety of habitations of man, conditioned by race, climate and civilization. Compare the dwellings in rural districts with those of a modern city. (1 week.)

I. Study the Essentials of a Good House in Rochester.

1. Heating.
2. Ventilation.
3. Sanitary needs. (2 weeks.)

II. Study of a Typical House.

Trace and assemble materials, naming locations where they are found as raw materials and the centers where they are prepared for the builder. (3 weeks.)

III. Finally, study how food, clothing and shelter have been made available by the co-operation of men. For example: Have the pupils name as far as possible the different activities involved in placing a dish of strawberries on their table; buttons on their clothing; paper on the walls of their homes, etc. (2 weeks.)

The following books and apparatus will be found useful, and in some cases necessary, in carrying out this course in the Seventh Grade.

1. Course of Study and Syllabus for Elementary Schools, New York State.
2. Carpenter's Series:
   a. How the world is fed.
   b. How the world is clothed.
   c. How the world is sheltered.
3. Chamberlain Series:
   a. How we are fed.

b. How we are clothed.

c. How we are sheltered.

4. Adams' Elementary Geography.
5. McMurry, "Type Studies of the United States."
6. Stereopticon and various slides that may be obtained from the State Department.
7. Stereoscope and Educational Stereographs.
8. Outline Maps.
9. As a hand-book for the teacher, Gannett-Garrison-Houston's Commercial Geography is recommended.
10. Frey's "Leading Facts of Geography."—*New York edition.*
11. The Story of Cotton.—*Brooks.*
12. Story of a Grain of Wheat.—*Edgar.*
13. Commercial and Industrial Geography.—*Kellar and Bishop.*
14. Rabenort's Geographical Series.—*Am. B. Co.*

Physiology

FIRST GRADE.

Teachers of B Grades cover topics I, II, III and VII. Teachers of A Grades review work of B Grade, and teach the additional topics assigned this grade.

I. THE BODY.

Name, location and use of the principal parts and organs—head, trunk, brain, heart, stomach, etc.

II. FOOD.

Necessity of food for growth and repair. Good foods—milk, eggs, bread, butter, meat, fruit, vegetables, olive oil, nuts and cocoa. Poor foods—tea, coffee and alcoholic drinks.

III. AIR.

Value and need of pure air.

IV. WATER.

Emphasize the use of the drinking fountain. Necessity of pure water for drinking and bathing. Danger of the common drinking cup.

V. REST AND EXERCISE.

Importance of regular and sufficient sleep.

Importance of regular daily exercise at home and in school.

VI. ACCIDENTS AND EMERGENCIES.

Proper care of cuts, bruises and burns.

VII. Habits to be Emphasized.

Thorough mastication.

Proper position and breathing.

Keeping objects out of the mouth, such as pencils, money, etc.

Removing rubbers indoors.

Value of clean hands and faces.

Second Grade.

Teachers of B Grades review work of First Grade, and teach topics I, II, III and VI. Teachers of A Grade review all previous work, and teach topics IV and V.

I. The Body.

Its composition—flesh, blood and bones.

II. Food.

a. Good meals.

1. Breakfast—fresh fruit, cereal, eggs, toast, milk, etc.
2. Lunch—sandwiches, fruit, nuts, milk, chocolate, etc.
3. Dinner—soup, meat or fish, bread, vegetables, and fruit or a light pudding.

b. Poor meals.

Meals in which strong tea, coffee or alcoholic drinks are served.

III. Air.

Necessity for constant supply of pure air.

Exhaled air impure.

Outdoor air usually pure.

Need for, and ways of ventilating rooms.

IV. Water.

Need for much drinking of water.

When drinking water should be boiled.

Necessity for regular bathing.

V. Care of Body.

Teeth—temporary and permanent sets, value in preparing food for digestion, care of teeth, causes of decay.

Advantages of outdoor exercise.

Rest and sleep—best time for, and amount of, sleep necessary.

VI. Accidents and Emergencies.

Danger from wounds.

What to do if clothing catches fire.

VII. Habits to be Emphasized.

Cultivate habit of deep breathing and breathing through nostrils constantly.

Correct and daily use of tooth brush.

Third Grade.

Teachers of B Grades cover topics I, II and VII.

Teachers of A Grades review work of B Grade and teach the additional topics assigned this grade.

I. The Body.

Principal functions—motion, respiration, nutrition, excretion and sensation.

II. Food.

Value of such liquid foods as milk and cocoa.

Dangers of coffee, tea and all forms of alcoholic drinks.

Danger of over-eating; especially such foods as pie, cake, candy, etc., and of green or decayed fruit.

Superiority of milk delivered in bottles over that delivered in cans; care necessary after delivery at home.

How eggs, butter, meat, flour, bread, fish, etc., should be kept at home and in stores.

Why food is cooked; fried foods to be avoided; simply prepared foods the best.

III. AIR.

The thermometer and its use.

Why artificially heated rooms should be kept at from 65 to 70 degrees.

Why the windows of one's sleeping room should be open at night.

Cold air not necessarily pure air.

Importance of teaching, in connection with lessons in physical training, the value of exercises in deep breathing and of exercises to improve posture and increase lung capacity.

IV. WATER.

Necessity for a daily cold or tepid bath and a warm bath at least once a week.

Use of soap.

Hot water bottle and its use in relieving pain, etc.

V. CARE OF BODY.

Clothing—importance of keeping the body dry and free from colds; need for underclothing.

Teeth—necessity of taking good care of temporary teeth; the first permanent teeth; why the teeth should be examined by a dentist, and necessary cleaning and filling done at least twice a year.

Eyes and Ears—value; various ways in which they are often injured and weakened; different ways of favoring and protecting the eyes.

Contagious diseases—bacteria briefly and simply spoken of; how the house fly spreads disease; why windows and doors should be screened; necessity for clean homes, clean yards and clean streets.

VI. ACCIDENTS AND EMERGENCIES.

Danger from rusty nails.

Danger from sunstroke.

Danger from electric wires.

Danger from escaping gas.

VII. Habits to be Emphasized.

Proper care of hair and nails.

Sleeping with windows open.

A daily movement of the bowels to get rid of waste matter. (Neglect of this function a frequent cause of appendicitis and other bowel troubles.)

Grade IV.

Teachers of B Grades cover topics I, II, III and IV. Teachers of A Grades review briefly the work of the B Grade and cover the additional topics.

I. Body.

Review chief parts, organs, etc., and their uses as outlined in grades I, II and III.

Bones examined and simply described; common names of bones; composition of bones, change in bone composition as one grows older; use of joints.

II. Food.

Composition of proteid, fat, starch, sugar, mineral matter, water, the components that are useful to body; use of these components; need for variety of diet; digestion a chemical process; saliva and mouth digestion; importance of eating slowly and masticating thoroughly; value of milk as a food—great value to children; value of milk and eggs in the diet of invalids.

III. Air.

Composition simply and briefly explained; how oxygen is valuable to the body; why it must be supplied continually in the air we breathe; carbon dioxid—small amount in pure air—a product of combustion in the body exhaled from lungs; out-of-door air usually pure.

Organs of breathing—mouth, nose, epiglottis, trachea, bronchia, lungs, backbone, ribs, sternum, intestinal muscles, diaphragm described in elementary way.

How we breathe; best posture for correct breathing; correct posture results in best carriage of body and improved appearance.

IV. WATER.

Proportion of water in tissues; soft water, hard water, the former the greater solvent. Value of water in cleansing the inside of the body; value of drinking several glasses of hot or cold water a half hour or more before meals; why best not to drink water during meals; excretion of water and waste matter in solution through the skin, kidneys and lungs. Water an aid in preventing constipation.

V. BLOOD.

How digested food, oxygen and water get to all parts of the body; composition of the blood—red and white corpuscles, serum, etc., and use of each spoken of in an elementary way; simple description of heart, arteries, veins and capillaries and the uses of each.

VI. CARE OF BODY.

Clothing—why needed, materials best for summer and for winter; need for underclothing; different kinds and advantages.

Teeth—value to body, temporary and permanent sets and number in each; structure, in elementary way; difference in form of some adapted for cutting and others for grinding.

Eyes—chief parts of and use of each, in an elementary way; the process of seeing described very simply; various ways in which eyes are injured or made defective; ways of favoring and protecting the eyes.

Ears—value of hearing to the body, both from standpoint of enjoyment and practical use. Outer, middle and inner ear and the process of hearing simply described. Ear-wax; its use, removal, etc.

Voice—organs of speech; location of vocal cords; how sound is made; why voice should not be strained.

Contagious diseases—useful and harmful bacteria discussed in an elementary way; common contagious diseases named and the reasons for avoiding them given; why children from homes

where there are measles, scarlet-fever, diphtheria, etc., should not attend school or mingle with other children until danger of contagion is past, and why such houses should not be visited during that period. Sources of contagion in common diseases; smallpox and what statistics show of the effects of vaccination; possible, typhoid infected sources; why drinking water from such suspected sources should be boiled.

Rest and exercise—benefits of various kinds of exercise; why out-of-door preferable; value of keeping up regular exercise and especially participation in some open air sport during manhood and womanhood; value of hours for rest and sleep.

Alcoholic drinks—review points enumerated in Grades I, II and III, giving more details and greater emphasis.

VII. Accidents and Emergencies.

Common accidents, such as cuts, bruises, sprains, burns, injuries from sunstroke, heat prostrations, electric shocks, drowning, escaping gas, fainting, etc., simply discussed as to their cause, prevention and treatment. Review all points enumerated under this head in Grades I, II, III, with special emphasis on the importance of learning to swim while young.

Grade V.

Teachers of B Grades cover topics I, II, III, IV.

Teachers of A Grades review briefly the work of the B Grade and cover the additional topics.

I. Body.

Muscles—what they are, use to the body, kinds of food that make strong bones and muscles; effect of exercises on muscles, need for rest; tissues of the body composed of water, proteid, fats, mineral matter, these supplied by food.

II. Food.

Why food should not be washed down; why cold drink should be avoided; why cold food should be eaten slowly and only in small quantities; the esophagus and stomach; gastric juice and stomach digestion; violent exercise or hard study near meal time

to be avoided; the intestines, liver and pancreas; bile, pancreatic juice and intestinal fluid, and the use of each in intestinal digestion; value of rest to the digestive organs, omitting a meal often more effective than medicine; why eating between meals and overeating should be avoided; best ways of keeping eggs, meat, bread, flour, fruit, etc., fit for use; most hygienic ways of preparing meats, soups, vegetables, etc.; why coffee and tea are harmful to children; the value of cocoa; harm resulting from eating too much pie, cake, doughnuts, candy, etc.

III. Air.

How indoor air often becomes impure; need for and ways of ventilating; the thermometer and how to read it; temperature for school and living rooms; how to keep the air of furnaces and stove-heated rooms from becoming too dry; mouth breathing and adenoids; advantages of nose breathing; the vast surface of lung cells in which the exchange of oxygen for carbon dioxid and watery vapor may take place; the importance of rhythmic deep breathing and how it may be cultivated.

IV. Water.

Dangers from impure water and ice.

Skin—structure and use of the dermis, epidermis, perspiratory glands, oil glands, nails and hair, in an elementary way; nature and value of respiration; insensible perspiration; how perspiratory and oil glands soil the skin; necessity for daily cleansing the skin; value of cold, tepid and warm baths; uses of packs, steam and thermal baths, etc.; value of hot water in relieving pain, allaying congestion, increasing circulation in the extremities of the body.

V. Blood.

Arterial and venous blood compared; the pulse and how to tell its rate; normal pulse, etc.; the course of the blood in pulmonary and systemic circulation described without special effort to have details remembered; changes in appearance of blood during circulation and reason for.

VI. Care and Protection of the Body.

Clothing—disadvantage of too heavy clothing for children or for

adults; harm from tight clothing; hygienic hats, caps, shoes, etc.; use of rubbers and why they should not be kept on indoors.

Teeth—causes and cure of irregular teeth; causes and prevention of decay; when and how to clean; use of dental floss, tooth powder, etc.; why temporary teeth should be cleaned and filled.

Eyes—nearsightedness, farsightedness, cross-eye, and astigmatism briefly discussed; indications of each explained; need for consulting an oculist concerning; benefits from wearing glasses in such cases.

Ears—location and use of the eustachian tube; common injuries to the ears; ways of protecting them.

Voice—change of voice in boys and special care necessary during that period; advantages of a strong but well modulated and pleasing voice.

Contagious diseases—diseases in which bacteria are in the sputum; tuberculosis of the lungs (consumption); why called the Great White Plague; usual symptoms of; care in regard to sputum and destruction of bacteria; pure out-of-door air and nutritious food the remedies for; sanatoriums for out-of-door treatment; food, etc., used at; persons likely to develop this disease; conditions favorable for development; special ways of fortifying oneself against tuberculosis; why vigorous health is the best preventive of all diseases.

Alcohol—effect of alcoholic drinks on the warmth of the body; alcoholic drinks and physical endurance; alcoholic drinks and insurance; growth of the alcoholic habit; why total abstinence is the wisest and best plan.

Tobacco—why harmful to the body; untidiness of the habit; "tobacco heart" and insurance; why cigarettes are especially harmful; their bad effects on boys.

Exercise, rest and sleep—Review Fourth Grade Course.

VII. Accidents and Emergencies.

Review Fourth Grade Course.

Grade VI.

Teachers of B Grades cover topics I, II, III, IV and VIII.

Teachers of A Grades cover the additional topics.

I. Body.

Review work assigned under this topic to Grades IV and V.

II. Food.

Review briefly work of Grades IV and V.

How digested food is taken into the blood; waste expelled from bowels; necessity for a daily thorough movement of bowels; harm of constipation and how it may be prevented through wise selection of diet, exercise, etc.

Alcoholic drinks neither a proper food nor an aid to digestion, cause disease. Wise and unwise habits of eating discussed; discussion of nutritious meals, meals for invalids, unhygienic meals, etc.; bacteria and their part in the destruction of food considered in an elementary way.

III. Air.

Danger from gas and other stoves without pipes to carry off the poisonous products of combustion; value of cool air and wide open windows in sleeping rooms; city and country air; day and night air; cool and warm air discussed as to purity, etc.; advantages of rugs, moist cloth dusting, etc.; value of sunshine.

Breathing—close connection between lung capacity and health; elasticity of lungs; how lung capacity may be increased; exercises to improve posture and lung capacity; value of daily practice of deep breathing exercise; pure air and deep breathing exercises the best aids to good health.

IV. Water.

Kidneys—number and location in body; value in eliminating urea from blood; effect on the kidneys of drinking plentifully of water; location and use of bladder, danger from too long retaining urine, false modesty in this respect to be discouraged.

V. Blood.

Review topics assigned to Grades IV and V.

The points to be emphasized are the vital necessity for free circulation of the blood to every part of the body; why circulation should not be obstructed by tight clothing or improper position, and how circulation may be improved by exercise, massage, etc.

VI. NERVES.

Brain, spinal cord, nerves, nerve centers, and the office of each simply and briefly described; the great importance of carefully protecting the brain and spinal cord from blows and other injuries.

VII. CARE OF BODY.

Teeth—why first permanent teeth need special attention; necessity for examination by a dentist at least twice a year; good teeth-building foods; chewing crusts, etc., good exercise for teeth; common injuries to be avoided.

Eyes—why unwise not to wear glasses if eyes are defective; advantages of spectacles over eye-glasses, care of glasses; care of eyes of infants; large amount of blindness; nearsightedness, etc., and how much of it might be avoided.

Ears—signs of defective hearing and approaching deafness; why an aurist should be consulted concerning such symptoms; deafness in one ear often undetected for a long time; deafness a calamity to be avoided.

Voice—exercises to strengthen and improve tone, use of tongue and teeth in speech, and exercises for improving enunciation.

Contagious diseases—the house-fly, proof that it is not particular about its food; number of bacteria one fly can carry; how responsible for typhoid germs, tubercular bacilli, germs from sores and various other sources getting into the human body and causing disease and many deaths; where and under what conditions it breeds; why refuse from stables and garbage should be removed; or if not, why they should be kept in vaults, screened and disinfected; why dead animals, straw, paper, or any other materials likely to decay should not be kept on the premises; why sewerage system should be kept in order and lime, oil or other disinfectant frequently sprinkled in drains; why all windows and doors, especially those of the kitchen and

dining room, should be screened; why all flies that get into the house should be killed; why flies should be kept from the sick; why unscreened or uncovered fruit, candy, food, etc., should not be purchased from stores.

Exercise, Rest and Sleep—Review and emphasize topics assigned Grade IV.

VIII. Joy of Health and Strength.

Ability to play and work our best, to look our best and be our best some of the most satisfactory things in life; one's attitude toward play and work when ill compared with attitude when in enjoyment of perfect health; good health the best possible capital; individual responsibility for its possession; the principal bodily habits likely to develop health and strength enumerated and emphasized.

IX. Accidents and Emergencies.

Review and emphasize topics assigned Grade IV.

Grade VII.

Teachers of B Grades cover topics I, II, III and IV. Teachers of A Grades review briefly the work of the B Grade and cover the additional topics.

I. Body.

Review topics as outlined for Grades IV, V and VI. Such additional facts as the adaptability of the shape and structure of bones to use; kinds of joints; use of tendons; connection tissue, etc., should be taught at this time.

II. Food.

Proteid, fat, starch, sugar and mineral salts and the use of each to the body given in greater detail; regulation of diet to suit heat conditions; need of variety in diet; composition, care, use and digestibility of such common foods as milk and its products, eggs, meat, grains, vegetables, fruit, nuts, olive oil, etc., given in greater detail; coffee, tea, chocolate, cocoa, "soft" drinks and alcoholic drinks discussed from the standpoint of value to the

body: best ways of keeping and preparing foods; harm from eating freely of rich desserts, candy, etc.; why a liking for milk, eggs and certain food valuable in illness should be cultivated; direct value of wisely selecting one's food at daily meals.

III. DIGESTION.

A chemical process; saliva, salivary glands and mouth digestion; benefits of slow eating and thorough mastication; esophagus, stomach, small intestine, large intestine, brief statement as to muscles of canal and how they work, length of digestive canal; gastric glands, gastric juice and stomach digestion, the work of muscles in stomach digestion; the liver, pancreas, work of and intestinal digestion; absorption and assimilation briefly described; need for thorough daily movement of the bowels, best time for and regularity essential.

IV. EATING HABITS.

Food should be taken slowly and masticated thoroughly; eating between meals to be discouraged; why food should not be soaked or washed down with liquids; use of cold drinks or cold food at regular meals; effect of violent exercise or severe mental effort immediately before or soon after meals; effect of excitement on digestion; happy state of mind the best condition.

V. AIR.

Review topics assigned Grades IV, V and VI, presenting them in greater detail. Emphasize deep breathing and other exercises likely to increase lung capacity and improved position.

VI. WATER.

Review topics assigned to Grades IV, V, VI. Emphasize the value of drinking water freely; frequent bathing; reason for not quickly checking the flow of perspiration; many simple ways in which water is useful to the body; the skin, kidneys, etc., studied in more detail.

VII. BLOOD.

Review work of preceding grades, giving more detail. Normal temperature of body; significance of pulse rate.

Grade VIII.

Teachers of B Grades cover topics I, II, III, IV. Teachers of A Grades review topics of B Grades and in addition teach remaining topics.

I. Nervous System.

Review topics given in Grade VI; the principal parts of the brain and the use of each; the structure of the brain and spinal cord presented in more detail than in Grade VI; the ganglia and their function briefly discussed.

II. Special Senses.

Sight—the eyes and their use to the body; principal parts of each, the use of each, the process of seeing presented in more detail than in Grades IV, V and VI; special care and protection necessary for eyes of infants; the disadvantage of defective vision or blindness and personal responsibility for the condition of one's eyes emphasized throughout; such points as correct position when reading by artificial light; not allowing the book or paper one is reading to lie flat on a desk or table, and other similar points should be presented so frequently and forcefully as to result in personal application by each pupil.

Hearing—present the topics pertaining to the structure, care and protection of the ears, given in Grades IV, V and VI, giving more detail and enlarging where the ideas will be clarified or strengthened thereby; proper care and protection should be the chief aims; the cause of dumbness.

Taste, smell and feeling—each briefly discussed and explained; how sense acuteness may be cultivated.

III. Care of Body.

Clothing—present topics enumerated in other grades, with greater detail.

Teeth—present topics given in other grades, but in greater detail where helpful, e. g., more facts concerning structure, names of different teeth, etc.; the utility and beauty of clean healthy teeth should be emphasized throughout.

Voice—review topics given in preceding grades.

IV. Contagious Diseases.

Discuss the points given under this head in preceding grades, giving additional data where feasible; health officers and their duties; removal of garbage, waste, etc., at public expense and the reason; necessity of public and personal cleanliness; public movements to prevent the spread of tuberculosis of the lungs, etc.; importance of pure water supply; how individual good sense and reasonable care may prevent much illness and suffering; review points on the house-fly; danger of infection from mosquito.

V. Accidents and Emergencies.

Consider the points enumerated in preceding grades, giving additional information where practicable, e. g., how to stop bleeding from an artery or a vein, how to perform artificial respiration, especially in cases of drowning and electrical shocks, how to do simple bandaging, cleansing of cuts, wounds, etc.; value of reasonable caution in preventing accidents, and of quick action in repairing and lessening the harmful effects of them.

VI. Exercise, Rest and Sleep.

Emphasize the topics enumerated in preceding grades, value of out-of-door sports, best times for exercise upon the muscles and upon the different functions; value of rest to the brain before severe effort.

VII. Alcohol, Tobacco, Opiates.

Review topics given in preceding grades; take up in some detail the effect of alcoholic drinks upon the stomach, liver, heart, arteries, etc.; effect on morals; relation of alcoholic habit to insanity, crime, working ability, securing employment, doing one's best in athletics; growth of alcoholic habit; harm from use of tobacco, especially cigarettes; injurious effects of opiates.

VIII. The Joy of Health and Strength.

The great advantage of good health and strength and the discomforts and handicap of ill health discussed; ease with which health and strength are lost and difficulty and length of time required to regain them; summary of habits likely to make our bodies healthy and efficient.

Nature Study

The following course in Nature Study is an exact reprint of the former course. It is printed here for such suggestions as it may contain for teachers. It is in no sense a required course.

The need of the right kind of work in Nature Study for pupils in the elementary school is obvious. Rochester has not been able thus far to find a satisfactory way of meeting this need. Unless actual specimens are intelligently and sympathetically used the work is bound to be perfunctory and valueless. To insure the getting of such specimens and the intelligent and sympathetic use of them by the teacher requires facilities and more extended means of training than are now available. The whole course in Nature Study is, therefore, being worked through with the view of ascertaining the extent to which the two essential conditions just named can be made in such a way as to guarantee to the child, at least to some appreciable extent, the advantages which the real study of Nature is designed to give.

First Grade.

Fall.

Color: Fields, trees, sky, birds, flowers, charts of leaves and fruit.

Gardening, farm life, with excursions to farm.

Study of some common tree, as horse chestnut, apple or maple, leaves, fruit, uses.

Preparation of plants for winter.

Moths and butterflies; development, preparation for winter.

Winter.

Color: Snow and shadows, bare fields, forests, fruits.

Study of common vegetables and fruits.

Plant passivity.

Study of same tree continued; trunk, branches, bark, buds; study of some common evergreen, as pine or Norway spruce.

Domestic birds, as hen, duck, pigeon, canary, parrot; comparison of structure as related to food and habits; family life and care of young.

SPRING.

Color: Opening buds and leaves, flowers, birds, insects.

Spring awakening of life.

Study of the same tree continued; opening of buds, flowering, formation of fruit, uses of tree.

Gardening and farm life.

Moths and butterflies.

Simple talks on the weather throughout the year; sunshine charts.

Stories and poems.

SECOND GRADE.

FALL.

Gardening and farming.

Study of tree as in first grade, as poplar, elm, oak or chestnut.

Dissemination of a few common seeds; dandelion, milk-weed, stick-tight, burr, maple.

Fruits: Apples and apple-like fruits, stone fruits, nuts, berries.

Grasshoppers, locusts, crickets.

WINTER.

How plants and animals pass the winter.

Study of tree continued; also cedar or hemlock.

Study of vegetables and fruit continued.

Conditions of germination; experiments to show effect of moisture, heat and light.

Let the children plant flower seeds, as sweet pea or nasturtium, and watch germination and growth to fruiting.

Comparative study of cat and rabbit, or other unlike animals.

SPRING.

Gardening and farm life.

Rise of sap; opening of buds; springing up of plants from underground parts.

Tree study continued.

Recognition of a few common flowers.

Wild birds, as robin, English sparrow, crow, oriole; food habits, family life, use to man.

Forms of water, wind and directions; weather charts of sunshine and wind.

Stories and poems.

THIRD GRADE.

FALL.

Recognition of common flowers.

Trees: Kinds of oaks and maples; other common deciduous and evergreen trees of neighborhood and in the parks; ready recognition of them at all seasons; uses to man.

Comparison of seeds, as to mode of dissemination; use of various fruits to plants.

Planting of wheat.

Insect homes: Leaf rollers and miners, galls, tents, nests of wasps, bees, ants.

Migration of birds.

WINTER.

Tree study continued.

Study of cereals.

Germination of squash, pumpkin, bean or pea; corn or wheat; careful study of stages in each; drawings made.

Domestic mammals: Horse, cow, sheep, etc.; habits, comparison, uses, products.

Experiments on air, heat, wind, thermometer, temperature.

SPRING.

Trees and flowers.

Planting of corn; study of wheat and corn plants.

Wild birds: Spring migration and nesting habits; uses to man.

Insect homes continued.

Cloud forms.

Weather charts of wind, sunshine, cloud forms and temperature.

Poems and stories.

FOURTH GRADE.

FALL.

General plant relationship: No study of parts of flower by children, but simply recognition of relationship; study of sunflower and comparison with other composites collected by children; study of mint family.

Leaf venation: Parallel and netted veined leaves.

Bird habits continued.

Study of bugs and beetles; aquaria with water insects.

WINTER.

Germination of various plants having one and two cotyledons to compare; drawings.

Wild mammals in groups as far as can be studied; domestication; relations to man.

Comparison of food habits and adaptation of animals already studied.

SPRING.

Lily, rose and buttercup families, studied in the same way as the composite family.

Leaf venation.

Study of flower parts sufficiently to recognize that parts of one group are usually in threes, never in fives, while parts of other groups are often in fives. Children by this time should be able to separate the plants they find into the two great groups of monocotyledons and dicotyledons, and discover the distinctions for themselves.

Study of birds and insects continued.

General problems relating to seasons as suggested by United States Weather Bureau.

Effect of climate on man.

Stories and poems.

FIFTH GRADE.

Wood: Kinds; appearance in various sections; value of different kinds.

Forests: Growth; enemies; preservation; lumbering.

Study of important plant families; flower parts.

Continued classification into groups of monocotyledons and dicotyledons.

Recognition of great groups of algae, fungi, mosses, ferns, gymnosperms, angiosperms.

Clam, snail, cray-fish, lobster; fish; life habits.

Changes in coloration; protective coloration of mammals, birds and insects.

How insects live; how they breathe; how they eat; experiments with food plants.

SIXTH GRADE.

Literature.

Work of flower parts; pollenation, wind and insect; provisions to prevent self-pollenation and to secure cross-pollenation.

Growth of fruit from flower; careful study of various examples.

Study of different kinds of fruit as to provisions for seed dispersal.

Roots: Work, adaptations.

Stems: Work, adaptations.

Locomotion of various vertebrates and adaptations.

Bees, wasps and ants.

Common minerals: Formation of rocks, as shale, sandstone, conglomerate, limestone, granite, etc.; building stones; formation and transportation of soil.

Literature.

Seventh Grade.

Ecological factors: Heat, water, soil, light, wind.

Plant societies.

Weeds and useful plants, with special study of economic relations.

Differences between wild and cultivated plants; methods by which our food plants have been produced from the original wild stock.

Development of frog and toad; water insects; study of habits in aquaria.

Simple experiments in Physics.

Literature.

Eighth Grade.

General physiology of plants and animals; experiments.

Physics.

Economic relations of animals and insects.

Literature.

Drawing

KINDERGARTEN.

COLOR STUDY.

a. Presented as a whole, as found in the rainbow, the glass prism, soap-bubble, shells, birds, insects, etc.

b. Recognition of the individual colors that make up the whole, i. e., the prismatic colors—red, orange, yellow, green, blue, violet.

c. Study of the kindergarten gifts, flowers, fruits, vegetables, bits of materials, etc.

BRUSH WORK.

a. Flat tones of color over large surfaces.

b. Experiments in mixing colors—yellow and blue to make green, etc.

c. Clouded wash of blue to suggest sky.

d. Clouded wash of green lower on paper suggesting land.

e. Free painting of very simple objects, fruits, vegetables, large flowers, etc.

BLACKBOARD WORK.

Imaginative and illustrative pictures related to the daily programs.

FIRST GRADE.

COLOR STUDY.

Oral—a. Conversational lessons noting colors found in immediate surroundings and in materials brought into the school room.

b. Introduction of color chart of the standard colors. Brush Work—Water colors and ink.

I. Color washes—applied to picture settings for illustration, etc.
   a. Flat washes—tinting paper for design lessons.
   b. Graded washes—suggesting standard and tints.
   c. Clouded washes—suggesting sky and land.

II. Nature Specimens—large, simple studies.
   a. Flowers.
   b. Fruits.
   c. Vegetables.

III. Object Drawing—large and simple in outline.
   a. Objects familiar to the child in home and school environments.
   b. Objects related to the daily lessons.

IV. Figure Drawing.
   a. Drill on action lines for figure drawing.
   b. Mass drawing of figures built on action lines.

V. Illustration.
   a. Picture stories from daily lessons.
   b. Picture stories from home and school incidents.

PAPER CUTTING—Freehand.
   a. Familiar objects.
   b. Objects related to the daily work.
   c. Story pictures from daily lessons.
   d. Simple units for design—leaf motifs.

DESIGN—
   a. Simple units—squares cut from squared paper, simple leaves.
   b. Simple borders—from above units and through line and dot combinations.

APPLIED DESIGN—
   a. To manual training cardboard models.
   b. To booklet covers.

c. To Christmas Cards, Valentines and Easter Cards.

BLACKBOARD DRAWING—Drill in mass drawing of

a. Nature specimens—large flowers, fruits and vegetables.

b. Objects related to daily work.

c. Figure drawing through action lines.

d. Illustration of daily lessons, etc.

PICTURE STUDY—Picture relating to home life and child life.

Millet.

Holmes.

SECOND GRADE.

COLOR STUDY.

Oral—a. Conversational lessons about colors found in fields, trees and immediate surroundings.

b. Study of color charts of standard colors and of the tints and shades.

Brush Work—Water colors and ink.

I. Color Washes—applied to picture settings for illustration, etc.

a. Flat washes—tinting paper for design lessons.

b. Clouded washes—suggesting sky, land, trees, ponds, etc.

c. Stained glass effects—to be used in design lessons.

II. Nature Specimens—large, simple specimens.

a. Flowers on stem with leaf.

b. Fruits on branch.

c. Vegetables.

III. Object Drawing—large and simple in contour.

a. Objects familiar to the child in home and school environments.

b. Objects used as illustrative material in some of the daily lessons.

IV. Figure Drawing.

Mass drawing of figures built on action lines applicable to the illustrations required.

V. Illustration.

a. Picture settings, including sky, land, middle distance, trees, ponds, etc.

b. Picture stories from daily lessons.

c. Picture stories from home and school incidents.

PAPER CUTTING—Freehand.

a. Objects related to daily lessons.

b. Familiar objects.

c. Story picture from daily lesson.

d. Simple units for design—flower motifs.

DESIGN.

a. Simple units—flower motifs.

b. Simple borders—units repeated, marginal lines.

c. Simple surface covering—units repeated on properly spaced paper.

APPLIED DESIGN.

a. To manual training, cardboard models.

b. To booklet covers.

c. To Christmas cards, valentines and Easter cards.

BLACKBOARD DRAWING—Drill in mass drawing of

a. Nature specimens—large, simple flowers, fruits and vegetables.

b. Objects related to daily work.

c. Figure drawing built on action lines.

d. Illustration of daily lessons.

PICTURE STUDY—Pictures relating to home activities for the welfare of the family.

Breton.

Herring.

THIRD GRADE.

COLOR STUDY.

Oral—a. Conversational lessons, including knowledge gained in 1st and 2nd grades.

b. Study of color charts—standards, scales of colors and warm and cool colors.

Brush Work—Water colors and ink.

I. Color Washes.

a. Flat washes—tinting paper for design lessons.

b. Clouded washes—suggesting sky, land, tree, water, etc., for picture settings for illustration.

c. Stained glass effects—for use in design lessons.

II. Nature Specimens.

a. Flowers with foliage.

b. Fruits on branch with foliage.

c. Vegetables—not as regular in contour as those used in previous grades.

III. Object Drawing.

a. Familiar objects.

b. Objects used as illustrative material in some of the daily lessons.

IV. Figure Drawing.

Mass drawing of figures built on action lines applicable to the illustrations required.

V. Illustration.

a. Picture settings including sky, middle distance, foreground trees, rivers or roads.

b. Story pictures from the daily lessons or from civic life.

PAPER CUTTING—Freehand.

a. Objects related to the daily lessons.
b. Story pictures from daily lessons.
c. Units for design.

DESIGN—

a. Simple units—flower or animal motifs.
b. Simple border—units repeated, marginal lines.
c. Simple surface covering—unit repeated on properly spaced paper.
d. Simple circular rosette.

APPLIED DESIGN—Decorative composition of plant forms.

a. To manual training cardboard models.
b. To book covers.
c. To holiday cards and valentines.

PENCIL DRAWING—Freehand.

a. Lines—horizontal and vertical, suitable quality and proper pencil holding.
b. Drill on proper drawing of ellipses.
c. Large curved objects, simple in contour, below and above eye level.

BLACKBOARD DRAWING—Mass drawing of

a. Nature specimens.
b. Objects related to daily lessons.
c. Figure drawing for illustration.
d. Illustration of daily lessons..

PICTURE STUDY—Animal Life.

Landseer.
Bonheur.

Fourth Grade.

Color Study.

a. Talks, including knowledge gained in previous grade.

b. Study of charts—intermediate hues and harmonies contrasted and dominant.

Nature Studies.

a. Flowers with foliage—color and pencil massing.

b. Fruits. Color.

c. Vegetables, single and in groups. Pencil outline.

d. Landscape. Color.

Object Study.

a. Pencil sighting for right proportions.

b. Freehand practice in drawing ellipses. Pencil.

c. Single curved objects simple in outline below eye level. Pencil.

d. Single curved objects simple in outline above eye level. Pencil.

e. Groups of curved objects below eye level. Pencil.

Figure Drawing.

a. From action lines. Color.

b. From charts. Color.

Illustration.

a. From daily lessons, or

b. From dictated topics.

Decorative Composition.

a. Pleasing arrangement of plant forms within a given area.

b. Harmonious coloring of above arrangement.

Design.

a. Simple units for corner decoration.

b. Simple units for borders and surface covering.

c. Simple lettering.

Design applied to

a. Manual training models.

b. Book covers.

c. Holiday cards and booklets.

PICTURE STUDY—Illustrating labor.

Dupre.

Troyon.

FIFTH GRADE.

COLOR STUDY.

a. Oral lessons, including knowledge gained in previous grades.

b. Study charts illustrating scales, intermediate hues, broken colors, non-colors, warm and cool colors.

c. Study of harmonies—dominant, contrasted and analogous.

NATURE STUDIES.

a. Flowers with foliage. Color. Pencil outline.

b. Fruits with foliage. Pencil outline. Color.

c. Vegetables in groups. Color.

d. Landscape. Pictorial and decorative. Color.

OBJECT STUDY—Pencil outline.

a. Pencil sighting for true proportions.

b. Single objects of use and of beauty. Pencil outline.

c. Groups of above mentioned objects. Pencil outline.

POSE DRAWING.

From charts and models.

COLOR SCHEME RECORDS.

a. Selection of textiles, pictures and nature specimens containing combinations of pleasing colors.

b. Recording schemes from above materials for use in the following lessons.

DECORATIVE COMPOSITIONS.

a. Line composition showing well balanced spacing.

b. Pleasing arrangement and coloring of plant forms within a given area.

c. Pleasing arrangement and coloring of a vase form within a given area.

d. Well arranged landscape masses within a given area.

DESIGN.

a. Conventionalization of top views of flowers.

b. Conversion of the above drawings into units of pure design.

c. Lettering.

d. Historic Ornament—Egyptian.

Design applied to

a. Borders for constructed blotter pad.

b. Border or single unit for telephone pad.

c. Border on sewing bag made in Domestic Art Work.

d. Book covers.

e. Holiday cards, leaflets, etc.

PICTURE STUDY.

Murilla.

Della Robbia.

SIXTH GRADE.

COLOR STUDY.

a. Talks, including knowledge gained in previous grades.

b. Study of charts illustrating scales of color, broken or passive colors, non-colors, intermediate hue, warm and cool colors.

c. Study of harmonies—dominant, contrasted and analogous.

NATURE STUDIES.

a. Flowers with foliage. Color. Pencil outline.

b. Fruits or vegetables. Color.

c. Landscape. Color.

OBJECT STUDY—Pencil outline.

a. Curved objects with handles, cooking utensils, etc.

b. Group of curved objects, one of which has handle.

c. Principles of parallel and angular perspective.

d. Simple rectangular objects below eye level.

POSE DRAWING.

From charts and models.

COLOR SCHEME RECORDS.

a. Selection of textiles, pictures and nature specimens containing pleasing color combinations.

b. Recording color schemes from above materials for use in the following lessons.

DECORATIVE COMPOSITION.

a. Pleasing arrangement and coloring of a curved object with handle within a given area.

b. Well arranged landscape masses within a given area.

c. Well balanced arrangement of a plant form with initial letter within a given area.

DESIGN.

a. Conventionalization of top and side views of flowers.

b. Conversion of the above drawings into units of pure design.

c. Lettering.

d. Study of Historic Ornament—Greek.

Design applied to

a. Square table mats.

b. Book covers, leaflets, holiday cards, etc.

c. Domestic Art models—note-book covers, pin-discs, etc.

PICTURE STUDY.

Corot.

Reynolds.

SEVENTH GRADE.

COLOR STUDY.

a. Talks, including knowledge gained in previous grades.

b. Study of the different color charts in use in the schools.

c. Study of the harmonies—dominant, contrasted, analogous and complementary.

a. Stenciling.

NATURE STUDIES.

a. Flowers with foliage. Color.

b. Flowers with foliage. Pencil massing, and in outline.

c. Fruits or vegetables. Color.

d. Landscape. Color.

OBJECT STUDY—Pencil outline.

a. Study of principles involved in the foreshortened circle and in parallel and angular perspective above and below eye level.

b. Cottage house with out-of-door surroundings.

c. Rectangular objects in different positions.

d. Groups containing curved and rectangular objects.

e. Shoes or rubbers in walking positions.

POSE DRAWING—Pencil or color.

From charts and from models.

COLOR SCHEME RECORD.

a. Selection of textiles, pictures and nature specimens containing pleasing color combinations.

b. Recording color schemes from above materials for use in the following lessons.

DECORATIVE COMPOSITION.

a. Pleasing arrangement and coloring of a plant form interlaced with initial letter within a given area.

b. Pleasing arrangement and coloring of a group of objects within a given area.

c. Well arranged landscape masses within a given area.

DESIGN—Pencil and color.

a. Conventionalization of top and side views of flowers and seed pods.

b. Conversion of above drawings into units of pure design.

c. Lettering.

d. Study of Historic Ornament—Roman.

Design applied through brush or stencil to

a. Round table mat.

b. Book covers, portfolio, mottoes, holiday cards, etc.

c. Domestic Art models—pillow tops, belts, etc.

PICTURE STUDY.

Millet.

Raphael or Michael Angelo.

COLOR STUDY.

EIGHTH GRADE.

a. A thorough review of the oral lessons of the previous grades, including the meaning and application of all color terms used in connection with this work.

b. A thorough review of the color harmonies.

NATURE STUDIES.

a. Flowers with foliage. Water colors or colored crayons.

b. Flowers with foliage. Pencil massing and in outline.

c. Landscape Study.

1. Selection and proper mounting of pleasing landscape prints.

2. A selection of five of the most beautiful landscape spots in or near Rochester.

3. Written statements as to why these spots are considered beautiful.

4. Pictorial painting of simple but pleasing landscape.

OBJECT STUDY—Pencil outline and light and dark or colored crayons.

a. A thorough review of the knowledge of the principles of perspective gained in preceding grades.

b. A well arranged group consisting of a cottage, a dog kennel and a bird-house with suitable out-of-door surroundings.

c. Groups containing curved and rectangular objects.

d. Shoes in walking positions.

POSE DRAWING—Pencil or color.
From models.

DECORATIVE COMPOSITION—Color.

a. End Pieces—pleasing arrangement of plant forms interlaced with the letters END or FINIS.

b. Poster—Well arranged landscape masses balanced with a pose drawing within a given area.

DESIGN—Color and pencil.

a. Conventionalization of top and side views of flowers and seed pods.

b. Conversion of above drawings into units of pure design.

c. Lettering.

d. Study of Historic Ornament—Ranaissance.

e. Study of beautiful buildings in Rochester.

f. Written statements as to why these buildings are considered beautiful.

Design applied through brush, block-printing and stencil to

a. Book covers, blotter and telephone pads.

b. Home furnishing articles—pillow tops, table runners, aprons, etc.

c. Holiday booklets, cards and calendars.

d. Menu and place cards.

e. Domestic Art articles.

PICTURE STUDY.

a. American Painters of note.

b. American Illustrators of note.

HIGH SCHOOL.

COLOR.

a. Technical color terms needed in the instruction, i. e., tone, value, intensity, neutrality, color, balance, analysis, synthesis, etc.

PICTORIAL REPRESENTATION.

MEDIUMS. Pencil, charcoal, water colors, colored crayons, pen and ink.

I. NATURE STUDIES.

a. Flowers, grasses, sedges, seed pods, fruits.

b. Trees with out-of-door surroundings.

c. Landscape effects illustrative of the different seasons, climates, interesting incidents, etc.

Note—The above studies are used as motifs for decorative treatment applied to posters, book covers, portfolios, pillow and table covers, etc.

MEDIUMS. Pencil, charcoal, water colors, colored crayons, oil colors.

II. Object Study.

a. Foreshortening of surfaces and converging of lines as found in principles of perspective.

b. Representation of fine pottery and of articles of utility, noting good form, proportion, grouping, coloring and composition. Stress laid on the study of tone values in the use of all mediums.

c. Representation of interior of rooms.

d. Representation of interior furnishings of rooms.

III. Pose Drawing—Charcoal, water colors.
From the human figure and from casts.

Decorative Composition.

Mediums. Water color, charcoal and colored crayons.

a. Well balanced arrangements of masses of flowers, fruits, pottery, pose, landscapes, etc., within given areas.

b. Applied to

Posters, book covers, initial letters, end pieces, etc.

Design—Decorative.

a. Conventional treatment of plant forms.

b. Above treatments converted into bi-lateral and balanced units of pure design.

c. Grouping of abstract spots expressing balance, rhythm, harmony.

d. Application of (a), (b) and (c) to borders, rosettes and all-over patterns.

e. Lettering.

f. Talks on, and copying of good examples of Historic Ornament.

g. Costume Designing—Wearing apparel.

Constructive.

a. Pottery.

b. Articles made from leather.

c. Articles from card and pasteboard.

d. Articles made from metals.

Applied to

a. Textiles—table covers, pillow tops, bags, mats, etc.

b. Leather—purses, card cases, book covers, belts, scissor-holders, etc.

c. Card, Pasteboard and Paper—candle shades, blotter, telephone and laundry pads, book covers, book plates, holiday cards, etc.

d. Metal—lamp and candle shades, blotter pad corners, trays, etc.

e. Pottery—vase forms, tiles.

f. Lettering—book covers, mottoes, book plates and title pages, holiday cards, posters, etc.

Applied through

a. Stenciling.

b. Leather tooling.

c. Block printing.

d. Metal hammering and perforating.

e. Tracing and brush work.

INTERIOR DECORATION.

a. Color analysis from nature specimens, textiles, Japanese prints, etc.

b. Color synthesis showing well balanced color harmonies.

c. Application of the above problems to designs and to color schemes to be used in home decoration, etc.

d. Plan of interior decoration and furnishing of living room, dining room and sleeping room.

e. Talks on school room decoration illustrated by pictures, etc.

PICTURE STUDY AND LECTURES.

a. Pictures from the most noted artists.

b. History of Art—Primitive, Mediaeval, Renaissance and Modern.

Illustrated by printed pictures and are objects characteristic of the periods studied.

c. The Relation of Art to Industry.

d. Civic Planning—Rochester Beautiful.

e. Architecture of beautiful buildings in Rochester.

Normal Training School.

Fine Arts.

This course is planned to be directly applied, by the students, to the work in the class-room, and is intended to give increased hand skill in art expression throughout all lines of work.

It involves the planning and working out of lessons to correlate with the other subjects of the curriculum; gives special attention to methods of presentation, observation of model teaching, and practice teaching under criticism.

The work includes the use of scissors, pencil, ink, water colors, clay, and blackboard, and is planned to cover the course of instruction in all grades. Beginning with the free imaginative and illustrative drawing and cutting in the lowest grade, it progresses through all the phases of pictorial or representative and constructive drawing, decorative treatment and applied design.

The pictorial work includes freehand representation of plant and animal life, pose from the human figure, landscape studies, still life from objects related to the daily work and rapid blackboard sketching for illustration, thereby giving practical application of the drawing to the teacher's work in the class room.

The decorative work and design include decorative arrangements of simple plant forms within pleasing enclosures; original designs, including by-symmetrical and balanced units for borders, rosettes and surfaces, using natural forms, abstract spots, geometric shapes and historic ornament as motifs; book covers, posters, initial letters, tail pieces, lettering, etc.; stenciling and wood-block printing on textiles.

The constructive drawing includes the geometric problems, simple projections of surfaces, development or pattern making, working drawings of common objects, and constructive design applied to simple forms of handicraft.

By means of lectures and the study of reproduction, the students are given a general knowledge of noted artists and modern illustrators.

School and home decoration receive special attention in connection with the study of domestic art, and stress is laid on the fact that through art we learn to appreciate the higher and broader side of life.

The following course of study covers the work done by both normal and kindergarten classes, and includes the methods of presentation, practice and model teaching in all phases of the art work.

Color.

Material:

Water color, crayon.

Recognition and Comparison:

Standards, tints, shades, hues, non-colors, broken colors and harmonies. Familiar terms used in connection with all color work.

Application:

Color schemes studied from nature textiles, Japanese prints, etc., and applied to decorative arrangements in future work, i. e., book covers, initial letters, end pieces, nature charts, etc.

Nature.

Material:

Water color, crayon, ink, charcoal, scissors and paper for cutting when practicable.

Mass representation and accented outline of flowers, grasses, weeds, seed pods, fruits, vegetables and trees, noting color, form, proportion and characteristics of growth. These studies are to be used as motifs for decorative composition to be applied to future work. Landscape effects, illustrating the different seasons and climates, to be used as settings for illustrative work and in decorative composition.

Linear and Aerial Perspective.

Principles of freehand perspective, i. e., foreshortening of surfaces, converging of lines as found in parallel and angular perspective.

Object Drawing.

Representation in accented outlines and in mass representation of objects singly and in groups, in light and dark, and in light and shade, working for good form, proportion, coloring, texture and spacing.

Pose Drawing.

From the human figure, representing characters studied in literature and activities appropriate to the different seasons, and from animal life illustrating nature study and other subjects.

Pictorial Illustrations.

Of all subjects as carried out in grade work, i. e., literature stories, geography, nature study, songs and games, etc.

Blackboard.

Drawings in all subjects.

Freehand.

Clay modeling and cutting as carried out in grade work.

Decoration.

Principles of decoration, i. e., the decorative treatment of lines, shapes, flowers, fruits, landscapes, etc., in pleasing arrangements. The conventional treatment of plant forms, the grouping of abstract spots expressing balance, rhythm and harmony; the building of the bi-lateral and the balanced units to be repeated in borders, rosettes and surface coverings.

Lettering for blackboard quotations, book covers, posters, etc. The above principles are applied to constructed articles of use and ornament such as book covers, posters, initial letters, end pieces, calendars, blotters, pads, writing tablets, portfolios, scarfs, pillows, table covers.

Wood-block printing and stenciling.

Problems.

Projections of simple type-solids, as cube, square prism, square pyramid, equi-lateral tri-angular prism, right-angled tri-angular prism, hexagonal prism, cylinder, cone, spool, etc.

Development of type solids. Cube, square prism, square pyramid, equi-lateral tri-angular prism, right-angled tri-angular prism, hexagonal prism, cylinder, cone, etc.

Cross sections of hollow cylinder, spool and like objects.

Working drawings from simple type forms, simple objects based on type forms, and freehand sketches of familiar objects.

Domestic Art

FOR GIRLS.

Introductory Note—"Handwork in relation to the child is expression in terms of form and color; in relation to social life it is the interpretation of art and industry."—*Dr. F. M. McMurry.*

I. The Aim of the Course. This course in Domestic Art aims to be an integral part of public school instruction. The possibilities of the subject as a factor in the correlation of school studies with home life and with our present economic problems justify its place in the curriculum.

Its purpose is not primarily to meet an immediate personal need or to prepare for future trade work, although it will in a measure react on both. The course is distinctly educational, aiming to train children into "the utmost possible largeness of being for the utmost possible service." To be of worth it should stimulate thought and train judgment and taste as well as hands. It fails in its purpose if increasing thinking power and greater efficiency do not follow its use.

II. Plan of the Work.

The Needle Arts now taught include:

1. In the elementary and grammar schools—

Simple articles of wearing apparel.

Practice in applied design.

Pattern cutting at sight. (Grades 5 and 6 only).

Simple study of textiles.

Note book exercise for estimating cost of materials.

Occasional tests for speed and accuracy.

Special exercises in the use of the sewing machine, also in embroidery, crocheting and home-furnishing.

2. In special schools—

   Extension classes for girls who withdraw before reaching the seventh year.

3. In the Training School. (For Teachers)—

   General applications in needlecraft.

   Design.

   Study of textiles.

   Pattern cutting and adjustment of patterns.

   Estimate of individual expenditure for materials.

4. In the Evening Schools—

   Plain needlework.

   Dressmaking.

   Millinery.

   Embroidery.

   Crocheting.

   Lace Making.

III. Statistics (Day Schools only).

   Average age of girls—10 to 14 years.

   Lessons per week—one.

   Average time—one hour, twelve minutes.

   Grades taught—5B, 5A, 6B, 6A, 7B, 8B.

   Time—one hour per week in grades 5 and 6, 1 1-4 hours in grade 7B, 2 hours in grade 8B.

   Extension classes—six.

   Cost per capita—20 cents per year.

   Number of girls taught—3397.

OUTLINE.

GRADE 5B.

In this grade pupils should be led to see the connection between the braiding and the weaving they have previously done and the more

advanced work of weaving textile raw materials into cloth. The intricacies of manufacture are too difficult for comprehension, but a review of the lessons on warp and woof will arouse the interest of the children in the materials used.

SYLLABUS.

Needle Practice:

Basting, running, back-stitching, overcasting, hemming, overhanding, sewing on buttons, outline or stem stitch, tests for speed and accuracy.

Applications:

Bag with initials or decorative border, Christmas articles, cutting patterns for dolls' clothes, undirected work.

Design:

Simple letter to be applied to some article made; simple space division for a border.

Textile Study:

Brief study of textile raw materials—cotton, flax, wool or silk; their relation to the woven fabric.

Note Book:

Estimate cost of materials used.

GRADE 5A.

Needle Practice:

Review of previous stitches; sewing on buttons, hooks and eyes; sewing on tape; patching, chainstitch; rope stitch; tests of speed and accuracy.

Applications:

Hemmed towel; needle-book; hemstitched towel; panholder (an exercise in free pattern cutting); Christmas articles; undirected work.

Design:

Simple form for a needle-book border design; initial for a towel.

Textile Study:

Children's clothing; materials for different seasons and climates; materials suitable for wearing in a sick room.

Note Book:

Estimate cost of materials used.

GRADE 6B.

Needle Practice:

Review of previous stitches; gathering; putting on band; catch stitch; blanket stitch; speed and accuracy tests.

Applications:

Child's apron; sash curtains; Christmas work; undirected work.

Design:

Simple design for book cover applied to the class note book.

Textile Study:

Fast and fugitive colors; directions for laundering ribbons; effects of alkali soaps on colored fabrics.

Note Book:

Estimate cost of materials used.

GRADE 6A.

Needle Practice:

Review of stitches; French seam; placket; practice in cutting by thread; simple decorative stitches; loops for buttons; button-holes; speed tests.

Applications:

Child's or doll's skirt; Christmas work; pillow case; pin disc; brushbroom holder.

Design:

Design for a circular or elliptical form—applied to a pin-case or brushbroom holder.

Textile Study:

Textile manufactures of European countries: laces, embroideries, linens, silks (select one).

Note Book:

Estimate cost of materials used.

GRADE 7B.

The quantity of material required for a garment should be carefully thought out before any attempt is made at cutting.

SYLLABUS.

Needle Practice:

Hemstitching; button-holes and loops; tucking; marking towels; herring-bone stitch; simple feather stitch; accuracy and speed tests.

Applications:

Underskirt (adjustment of pattern); Christmas work; towel hemstitched and initialed; cooking apron; sleevelets.

Design:

Simple design for doily; initial or border for a towel.

Textile Study:

Fabrics considered from the standpoint of durability, good taste and cost; selection of materials suitable for a school dress; removal of ink, iron rust and grease spots.

Note Book:

Expenditure and accounts; textile notes.

GRADE 8B.

The decoration of an article should always be planned with thought of its suitability to the material and purpose.

SYLLABUS.

Needle Practice:

Stockinet darning; rolled hem; tucking; skirt binding; mitering corners; linen marking; damask hemming; matching; joining and sewing on lace; machine stitching; decorative stitches.

Applications:

Underwaist or guimpe; Christmas work; portfolio, desk pad, table runner or pillow top; short kimono (machine stitched).

Design:

For pillow top, portfolio, desk pad or table runner.

Textile Study:

Economics of purchase applied to materials used. Laundering; effects of water and alkali, soaps on cottons, woolens and artificial silks.

Note Book:

Expenditure and accounts; characteristics of textile fabrics used.

Domestic Science

I. Purpose of the Course in Domestic Science.

1. To teach the art of right living, to awaken interest and educate girls to give efficient service in the practical work of the home.
2. To develop habits of work which will economize time, energy and material; to establish habits of neatness and personal cleanliness.
3. To develop in the girl a sense of responsibility, independence and resourcefulness in this work, good judgment, self-control and control over external forces.

II. Time given to Domestic Science.

III. The Course of Study for the 6th A Grade.

1. Cookery.
   - a. Breakfast Dishes.
     1. Toast.
     2. Stewed fruits.
        - Dried fruits.
        - Fresh fruits.
     3. Cocoa.
     4. Cereals.
     5. Eggs.
        - Poached.
        - Cooked in shell.
     6. Milk toast.
   - b. Breakfast Menus. Proper Food Combinations.
     1. Preparation and serving of a breakfast. (Review breakfast dishes.)

2. Care and arrangement of the dining room.
3. Setting the table.
    a. Good taste.
    b. Comfort.
    c. Economy of time and labor.

c. Use of Dry Bread.
1. Brown Betty Pudding.
2. Chocolate Bread Pudding.
3. Preparation of Bread Crumbs.

d. Flour Mixtures.
1. Source and history of the leavening agents.
2. Soda used in Ginger Bread.
3. Baking Powder used in Baking Powder Biscuits.

e. Christmas Candies.
1. How to pack a gift box.
2. Peanut Brittle.

f. Milk.
1. Food Value.
2. Milk Products.
3. Junket.

2. House Sanitation.

a. Housekeeping.
1. Dish washing.
2. Care of kitchen waste.
3. Care of sinks and plumbing.
4. Use and care of coal and gas ranges.
5. Laundering kitchen linen.
6. Sweeping and dusting.

7. Care of kitchen cupboards.
8. Care of food in the home.

3. Home Nursing and Personal Hygiene.
   a. Treatment of burns and cuts.
   b. Prevention of infection.
   c. Emergencies.
   d. Personal Cleanliness.
      1. Care of person—hands, finger nails, hair and dress.
      2. Habits in kitchen.
4. Source and Production of Food.
   a. Sanitation in the production, transportation and sale of food in stores and markets.
   b. Protection of the city milk supply.
5. Food Value and Cost.
   a. Classification of the typical foods as—
      1. Source of energy or strength to work and play.
      2. Source of material for building body tissues.
      3. Aids to good health.
   b. Costs of foods compared with their food value.

IV. The Course of Study for the 7th A Grade.

1. Cookery.
   a. Principles of cookery.
      1. Effect of heat on the characteristic food substances.
      2. How to make food palatable and digestible.
   b. Starchy Foods.
      1. The potato.
         a. Structure.

b. Composition.

c. Boiled potatoes.

2. Cereals.

a. Boiled and steamed rice.

b. Advantages of steaming over boiling.

c. Boiled rice. Hard sauce.

d. Baked rice and cheese.

3. Starch as a thickening agent.

a. Cornstarch pudding.

b. White sauce applied to creamed vegetables and left overs.

c. Cream soups.

c. Protein Foods.

1. The egg.

a. Preservation in the home.

b. Tests for freshness.

c. Omelets.

2. Meat.

a. Study of cuts of meat and how to market.

b. Costs of different cuts of beef.

c. Broiled Hamburg steak. Parsley butter.

d. Flour Mixtures.

1. Study of the nature and chemical action of leavening agents.

a. Soda. Its action with sour milk and molasses. Muffins.

b. Baking Powder.

Review Baking Powder Biscuits.

Variations—Fruit Rolls, Shortcakes, Meat Pies.

c. Yeast.

Conditions necessary for best growth.

Study bread flour.

Bread.

e. Supper Menus.

1. Prepare and serve a simple supper. (Review Processes.)
2. Table setting.

f. Social Lesson.

1. Milk sherbet.
2. How to serve refreshments.
3. Cost of refreshments.

g. Christmas Candies.

1. Brown Sugar Cream Candy.
   a. Chocolate Fudge.
   b. Cocoanut Kisses.
   c. Peanut Creams.
2. Cost per pound.
3. Superiority of home-made over cheap boughten candy.

2. Home Sanitation.

a. Launder kitchen aprons.

1. Soap solution.
2. Starch.
3. Bluing.

b. How to clean kitchen.

1. Cupboards.
2. Refrigerator.

3. Sinks.
4. Ranges.

3. Marketing.
   a. Standard weights and measures.
   b. Cuts of meat. Costs. Uses.
      1. Visit to market.
   c. Care of meat in markets.
      1. Conditions which make a market sanitary.

4. Food Values.
   a. How to secure a balance of food constituents in the dietary.

V. Course of Study for the 8th A Grade.

1. Cookery.
   a. Preservation of Food.
      1. Cause of food spoiling. How to prevent.
      2. Study yeasts, moulds and bacteria; conditions favorable and unfavorable to growth.
      3. Canned fruits and vegetables.
      4. Jellies and marmalades.
      5. Cost of fruits preserved in the home.
   b. Fermentation Encouraged.
      1. Roll dough.
      2. Parker house, Swedish Rolls and Coffee Cake.
   c. How to Plan and Prepare Meals.
      1. Food requirements of the daily dietary.
      2. Luncheon or Supper Dishes.
         a. Cottage Pie—use of left-overs.
         b. Cake—variations of a standard cake rule by change in form, flavoring or frostings.

3. Plan Menus for luncheon or supper.
    a. Prepare and serve a simple meal.
    b. Table setting.
4. Dinner Dishes.
    a. Cheap cuts of meat.
    b. Stew with vegetables and dumplings.
    c. Beef Rolls.
    d. Vegetables—attractive ways of serving the common vegetables.
    e. Salads—cooked dressing.

d. Refreshments for Social Gatherings.
1. Meaning of hospitality.
2. Simplicity in entertaining.
3. Ice Cream.
4. Small cakes.

e. Invalid Cookery.
1. Special diets for tuberculosis and anemia.
2. Serving the invalid's tray.
3. Beef tea, broths, gruels.
4. Egg nog, custards, egg poached in milk.

f. Christmas Candies.
1. Aim to enable girls to make their Christmas candies at home.
2. Fondant.
3. Candy stages and tests.
4. Variations of fondant candies.

2. Home Care of the Sick.
a. Care of the sick room.
1. Making the bed, cleaning and ventilation of room.

2. How to prevent spread of contagious diseases.

b. Care of Patient.

3. Care of Children.

a. Best type of feeding bottle.

1. How to keep clean.

b. Sleep, feeding, amusement.

c. Bathing and dressing.

4. Housekeeping.

a. How to launder table linen.

1. Removal of stains.

2. Washing, ironing and folding.

3. Ironing embroidery.

5. Practical Problems.

a. During lessons on preservation of fruits, girls may bring fruit from home and preserve this for home use.

b. Orders for cake, jellies, marmalades and other foods are filled by the girls of the cooking classes.

c. Luncheons are prepared and served to small groups of teachers. Girls market and estimate cost.

d. Baked goods and candy are prepared for school sales.

Manual Training

Aim of the Course. The purpose of the course in Manual Training is both cultural and utilitarian. Its value lies in the realization of the following aims:

To supplement the other subjects of the curriculum through the construction of models to illustrate those subjects.

To instill a taste and respect for manual labor.

To bring the pupil into touch with the industries of the world through the study of typical methods of manufacture and through the actual transformation of rough material into finished product.

To develop good taste in home furnishings and an appreciation of good workmanship and honest construction.

Method of Manual Training. Since Manual Training is founded upon the development of self activity, the work should begin with exercises most easy *from the child's point of view* and proceed to those more difficult.

Every model constructed should have a vital connection with life—home life, school life or the child's life of sport. While a series of models has been suggested for each grade, teachers are urged to substitute any other models which meet a more real need, and any desires of pupils to work out new models should be most carefully considered and encouraged.

Great care should be taken that full opportunity is given for the exercise of the pupil's judgment regarding matters of shape, size and proportion of parts. Nothing so depreciates the value of manual work as too much help from the teacher. Pupils should be led to discover that the use to which any article is put, governs its form and the material to be used in its construction, and that ornamentation should chiefly consist in the refinement of necessary parts and the bringing out of the natural beauty of the material.

Divisions of the Course. The Course in Manual Training is divided into two parts:

1. Primary Hand Work (directed) for all pupils in grades first to fourth, inclusive.
2. Tray and Bench Work in wood for boys of grades fifth to eighth, inclusive.

The Primary Hand Work is outlined for the teachers of the primary grades by the special manual training teachers. The instruction to the pupils is then given by the regular grade teachers.

The Tray and Bench Work are taught by the special manual training teachers.

Primary Hand Work (Directed).

The Primary Hand Work includes:

Cardboard construction.

Weaving.

Work with toy knitters, raffia and reed.

Cardboard Construction.

The cardboard work is designed to give definite help in the teaching of number. This constructive number work should familiarize pupils with the terms right and left; should develop accuracy and afford the finest mental discipline. Some of the cardboard models are given solely for their value in number work, others will be found useful in connection with literature, nature study, etc.

The use of the ruler is introduced gradually, with inches first, and later, halves and quarters.

Teachers are especially urged to encourage the children to find new uses for the various materials furnished. For use in the original work a number of full sheets of cover paper will be sent yearly to each school.

There is a close correlation between the art work and the construction work in that each grade decorates some of the cardboard models under the direction of the art department. For details regarding the decorated cardboard work, see the Art Course.

First Grade.

As pupils are not able to use the rules in the first grade, light weight cover paper, blocked out in one inch squares, is furnished.

The following models are suggested:

Model.	Material.
Tag (if needed).	Tag Board.
Envelope.	Railroad Paper.
Square Tray.	Blocked Cover Paper.
Seed Box with Cover.	
May Basket (plain).	
May Basket (fancy).	
Sled, Cart.	
Snow Shovel.	
Chicken Coop.	
Furniture for Doll House.	

Second Grade.

Model.	Material.
Yarn Winder.	Tag Board.
Tag.	
Circle Maker.	
Envelope.	Manila Paper.
Book Mark, Tray.	Cover Paper.
Circular Mount.	
Rectangular Mount.	
Blotter, Shaving Pad.	
Letter Case (1).	
Letter Case (2).	
Handkerchief Case.	
Wall Pocket.	
Easter Basket.	
May Basket.	

THIRD GRADE.

Model.	Material.
Tag.	Tag Board.
Yarn Winder.	
Circle Maker.	
Foundation for Circular Picture Frame.	
Envelope.	Manila Paper.
Book Mark, Pen Wiper.	Cover Paper.
Candy Box.	
Handkerchief Box.	
Easter Basket.	
May Basket.	
Fan.	

FOURTH GRADE.

Model.	Material.
Tag.	Tag Board.
Circle Maker.	
Envelope.	Manila Paper.
Hexagonal Mount.	Cover Paper.
Octagonal Mount.	
Favor Box.	
Needle Book.	
Top Collar Case.	
Photograph Frame.	
Hair Pin Tray.	
Woven Tray.	
Post Card Album.	

WEAVING.

The purpose of the exercises in weaving is to help the child gain control of the hand.

The age of the child determines the grade of exercises, beginning with the coarse and simple and working up to the finer and more difficult.

The exercises in weaving give excellent opportunities for talks on textile fibres—cotton, wool, linen and silk. Many of the articles made afford the child an opportunity to work out color design.

The work in all grades should be both co-operative and individual.

Second Grade.

Use warp and weft in short lengths for all exercises.

Models.	Materials.
Rugs and Mats.	Mertzo Braid, Corticelli Braid, Roving, Rags, Burlap, Felt.

Third Grade.

Models.	Materials.
Doll's Hood, Stocking Cap, Doll's Muff, Doll's Tippet or Collar. Rugs with patterns in color.	Roving, Yarn, Jute, Warp.

Fourth Grade.

Models.	Materials.
Hammock, Doll's Tam O'Shanter Cap, Bath Slippers, Boy's Muffler, Boy's Marble Bag.	Roving, Yarn, Jute, Warp, Chenille.

Exercises with toy knitters, raffia and reed.

The exercises with toy knitters, raffia and reed in second, third and fourth grades, consist in making simple models, i. e.,

Mitten Cords (Looping).

Horse Reins.

Foundation Strand for Mats, etc.

Napkin Rings.

Strand for Doll Hats and Doll Furnishings, Coin Purses, etc.

Picture Frames.

String Balls.

Mats, Brushbroom Holders.

Simple Baskets, Jardinieres.

Raffia Pillows.

Tray and Bench Work in Wood.

Tray Work, Fifth Grade. Manual Training in wood is begun with the tool best known to boys, the knife. The equipment consists of Tray, Knife, Try Square, Triangles, Compasses and Ruler.

In Grammar Schools all the classes in Manual Training are held in the Manual Training Room.

Instruction in Tray or Knife Work should cover the following points:

Correct use of each tool in the equipment.

Correct position of body in whittling.

Proper manner of holding wood.

Kinds of cuts.

Principal facts about forestry, logging, lumbering and milking.

(In the elementary schools the tray work may be continued through the sixth grade or the sixth grade boys may go to the nearest Grammar School for bench work.)

Models suggested, Fifth Grade.

Pencil Sharpener.

Plant Label.

Key Board, Blotting Pad.

String Winder, Spool and Thimble Holder.

Thread Holder, Match Safe.

Match Box and Scratch.

Whisk Broom Case, Pen Tray.

Easel for Calendar, Wall Bracket.

Brush and Comb Case.

Tooth Brush Rack, Paper Knife.

Small Screen.

Letter Holder, Doll's Furniture.

Sled, Kites, Aeroplanes.

Thin Wood Toys.

Bench Work, General Directions. During the course in bench work the boys should learn:

Care of bench and equipment.

To distinguish common kinds of wood, both in growing trees and in lumber.

Ways of cutting timber, also facts about knots, shakes, sap, winding, expansion and contraction of wood, warping, seasoning, kiln drying, etc.

Names of all tools as taken up for use; the names of their parts and proper care of tools.

Method of sharpening edge tools.

Something of the history and evolution of more common tools.

Facts about the manufacture of tools, screws, nails, etc.

Use of stains, shellac, varnish, wax, etc.

Some portion of each boy's time should be spent in making articles for the school, i. e.,

Models to illustrate other subjects in course of study.

Simple furniture for school rooms.

Frames for pictures, pedestals for statuary.

Toy furniture and simple furniture for the kindergarten.

Book stalls for teachers' desks.

Models for permanent school exhibit.

Apparatus for simple experiments in physics.

Drawing. "Before there can be accurate expression there must be clear conception."

The first six lesson periods of the semester may be devoted to drawing.

Previous to the construction of every model in bench work there should be:

1. Freehand sketch of model to be made.

2. Working drawing to scale of all articles except experimental models.

3. Complete order for stock required.

   a. Lumber—length x width x thickness, allowing ¼ in. extra in width and 1 in. in length.

   b. Nails, screws or other material needed.

Careful attention should be given to the

Making of drawings from objects.

Proper arrangement of different views in working drawings and proper placing on paper.

Arrangement of lettering on mechanical drawings.

I. Name plate 4" x 1"—placed ⅜" from bottom and right side in lower right hand corner.

II. Name plate consists of

   1. Name—Bench No.

   2. Grade and School—Date.

III. Name of object. 1" below top of center of paper. Letters ¼" in height.

IV. Scale ½" below name of object. Letters ⅛" in height.

Lines used in working drawings are

Visible edges—full heavy lines.

Invisible edges—broken lines (⅛ in. dash).

Extension lines—full light lines.

Center lines—dash and dot alternating, dash ½ in., dot ⅛ in.

Dimension lines—full light lines.

Mechanical Drawing Outline.

Fifth Grade B.

8 Freehand sketches.

Sheet of horizontal lines.

Freehand sketches of articles to be made.

FIFTH GRADE A.

Sheet of horizontal and perpendicular lines.

Sheet of compass exercises.

Freehand sketches and mechanical drawings of articles to be made.

SIXTH GRADE B.

Sheet of lettering.

Freehand sketches and mechanical drawings of articles to be made.

SIXTH GRADE A.

Sheet of modified squares.

Freehand sketches and mechanical drawings of articles to be made.

SEVENTH GRADE B.

Simple projections of square prisms, triangular prisms, triangular prisms placed back of square prisms.

Freehand sketches and mechanical drawings of articles to be made.

SEVENTH GRADE A.

Sheet of tools and joints: try squares, saw box, cross lap joint and mitre joint. (Drawn to scale.)

Freehand sketches and mechanical drawings of articles to be made.

EIGHTH GRADE B.

Sheet of tools and joints: mallet, housed joint, dowel joint and mortise and tenon joint.

Freehand sketches and mechanical drawings of articles to be made.

EIGHTH GRADE A.

Freehand sketches and mechanical drawings of articles to be made.

Bench Work, Sixth Grade. In the sixth grade the boys should learn:

Use of gauge and knife to lay out work.

Use of saws: back, cross-cut, rip.

Use of trestles, saw boxes.

Use of try square to lay out and test work.

Proper use of hammer, nail set.

When and how to use nails, brads.

Use of brace and bits, bit stop, countersink.

Method of setting screws.

Facts about use and misuse of sandpaper.

To detect grain of wood and use this knowledge in planing.

Chiseling: vertical, oblique, stop chiseling.

Use of glue and clamps in gluing.

Facts about use and misuse of files.

Simple rules of framing.

Board measure.

The general directions for dressing a piece of wood are:

1. Smooth broad surfaces and mark better side x near better edge.
2. Joint better edge and mark x.
3. Gauge to width and joint to gauge line.
4. True one end.
5. Measure to length and true.

Models suggested, Sixth Grade.

Sandpaper and pounding block.

Necktie rack, plant stand.

Bench hook, bread cutter, safety match holder.

Magazine rack.

Knife strop, tooth brush rack.

Tea pot stand, letter file.

Scouring board, trays.

Trellis, chair caning (small model).

Kites, aeroplanes.

Bench Work, Seventh Grade. In the seventh grade the following points should be covered:

Uses of dowel.

Beveling, chamfering, making round.

Bow sawing.

Use of spoke-shave.

Method of applying different kinds of hinges.

Joints to make—housed and cross-lap.

Models:

Ring toss, candle stick.

Money box, knife box, tooth brush rack.

Scientific toys.

Bird house, sleeve board, copper match holder.

Hat rack, kitchen corner, corner shelf.

Salt box, scouring box, simple book stall.

Broom holder, bracket shelf, towel rack, foot stools.

Book stall—housed joint.

Box with each lap joint.

Tabouret—cross-lap joint.

Kites, aeroplanes.

Bench Work, Eighth Grade. In the eighth grade there should be a review of the principles and processes learned in previous grades, also all points not already covered should be taken up, as follows:

Use of scrapers.

Use of gauges.

Use of corner blocks and other means of strengthening.

Joints to make: dowel-mortise and tenon.

Models:

Plant rest, wind mill, tabourets.

Book stalls (with housed joint).

Boxes with lapped joint.

Umbrella rack, shoe boxes, stools.

Book shelves, photograph holders.

Blotters, paper knives, envelope cases.
Plate racks, cabinets, screens, clock cases.
Magazine racks, hanging book shelves.
Ink stands, towel racks.
Costumers, tables.
Pedestals, waste paper baskets.
Lamps, book ends.
Kites, aeroplanes, step ladder.
Scientific toys.

Music

This Course of Study is not to be considered in any sense final. It will be changed, from time to time, as the work progresses, as the musical ability of teachers and students increases, and as the further study of educational principles and methods may demand. It will also be supplemented by the semester outlines, by circulars giving additional instruction, and by such help and suggestions as the Department of Music may give.

Grade I.

Aim to give children rich musical experience from songs outlined each semester.

Work of grade outlined as follows:

1. Rote Songs—

   Gaynor, Books I and II; Congdon Music Primer, Book I; Singing Leaves; Modern Primer.

   Review Kindergarten Songs.

2. Voice Work—

   Exercises designed to cultivate light head-tones.

   Much individual work with monotones.

3. Ear Training and Interval Drill—

   Exercises designed to test accuracy of ear and to develop musical sense through power of imitation.

Grade II.

Aim to give children wider musical experience through many songs and to introduce them to musical forms from printed page.

Work of grade outlined as follows:

1. Rote Songs—

   Gaynor, Books I and II; Art Song Cycle, Book I; Modern Primer.

2. Book Work—

   Sight reading from Congdon Primer, Books I and II.

3. Voice Work—

   Exercises designed to cultivate light head-tones.

4. Interval Drill and Ear Training—

   Exercises designed to develop musical sense through power of imitation and discrimination.

5. Dictation and Written Work—

   Based on Interval Drill.

Grade III.

Aim to give children a wider musical experience and knowledge of musical forms from printed page.

Work of grade outlined as follows:

1. Rote Songs—

   Gaynor, Books I and II; Art Song Cycle, Book I; Modern Primer.

2. Book Work—

   Sight reading from Modern Primer and supplementary music books.

   Many rounds and canons to be sung.

3. Voice Work—

   Exercises designed to cultivate light head-tones.

4. Ear Training and Interval Drill—

   Intervals in phrases of songs studied.

5. Dictation and Written Work—

   Exercises based on Interval Drill.

Grade IV

Aim to develop a true appreciation of quality of tone and beauty

of melody and harmony, and to assure definite knowledge of music.

Work of the grade outlined as follows:

1. ROTE SONGS—

   Gaynor, Books I and II; Art Song Cycle, Books I and II; Modern Primer.

2. BOOK WORK—

   Sight reading from Modern Primer and supplementary music material.

   Special attention to technical problems in time and interval, and to two-part singing.

3. VOICE WORK—

   Exercises designed to cultivate light, flexible tones.

4. EAR TRAINING AND INTERVAL DRILL—

   Intervals in phrases of songs and exercises studied with special attention to chromatic intervals.

5. DICTATION AND WRITTEN WORK—

   Based on ear training and interval drill, and scales studied.

GRADE V.

Aim to develop a true appreciation of quality of tone and beauty of melody and harmony, and to assure definite knowledge of music.

Work of grade outlined as follows:

1. ROTE SONGS—

   Gaynor, Books I and II; Art Song Cycle, Books I and II; Modern Reader, Books I and II.

2. BOOK WORK—

   Sight reading from Modern Music Reader, Books I and II, and supplementary reading material.

   Special attention to chromatic tones.

3. VOICE WORK—

   Exercises designed to preserve light head-tones.

4. Ear Training and Interval Drill—

Intervals in phrases of songs and exercises studied, with special attention to chromatic intervals.

Chord work suggested.

5. Dictation and Written Work—

Based on ear training and interval drill, and scales studied.

Grade VI.

Aim to develop a true appreciation of quality of tone and beauty of harmony, and to assure definite working knowledge of music.

Work of grade outlined as follows:

1. Rote Songs—

Twenty Song Classics.

2. Book Work—

Sight reading from Modern Music Reader, Book II, and supplementary music material.

Laurel Music Reader used as supplementary book.

Special attention to problems of time and interval, as outlined, and to three-part selections for unchanged voices.

3. Voice Work—

Exercises designed to preserve light head-quality of tones. Special attention to any changing voices among boys.

4. Ear Training and Interval Drill—

Intervals in phrases of songs and exercises studied, with special attention to chromatic intervals.

Chord work as outlined.

5. Dictation and Written Work—

Exercises based on ear training, scales and studies.

Grade VII.

Aim to develop a true appreciation of quality of tone and beauty of harmony, and to assure definite working knowledge of music.

Work of grade outlined as follows:

1. Book Work—

   Sight reading from Modern Music Reader, Book II.

   Laurel Music Reader used as supplementary book.

2. Voice Work—

   Exercises designed to preserve the light head-quality of tones.

   Special attention to any changing and changed voices among boys.

3. Ear Training and Interval Drill—

   Exercises and songs studied and chord work as outlined.

4. Dictation and Written Work—

   Exercises based on ear training and interval drill, scales and studies.

Grade VIII.

Aim to develop a true appreciation of good music and a definite working knowledge of the same.

Work outlined in this grade as follows:

1. Book Work—

   Sight reading in Modern Music Reader, Alternate Third.

   Laurel Music Reader used as supplementary book.

   Special attention to three and four-part songs for changing and changed voices.

2. Voice Work—

   Exercises designed to preserve the correct quality of tones with special attention to changing and changed voices of boys.

3. Ear Training and Interval Drill—

   Exercises and songs studied and chord work as outlined.

4. Dictation and Written Work—

   Melodies from dictation, and a general review of problems met throughout grades.

High School.

1. Normal Classes.

   Aim to equip students with a knowledge of the elements of Music as a preparation for the Music Course in the Normal Training School.

2. Chorus Classes.

   Aim to give students skill in reading choruses, part songs and choral works at sight and in artistic interpretation and presentation.

3. Harmony.

   Aim to give a musical foundation and guide to artistic interpretation in the study of voice, piano, or any other musical instrument.

4. History of Music.

   Aim to give students a knowledge of the origin and development of music.

5. Music Appreciation.

   Aim to acquaint students with the classical music literature and its composers, and to equip them with the ability to enjoy intelligently the beautiful in music.

Students may take any one or more of the above courses, credit being allowed in proportion. The following complete course known as:

6. A General Cultural and Theoretical Course, consisting of two or more recitations per week in chorus, one in harmony, one in music history, and one in music appreciation, is advised.

   Besides these classes there are the following music activities in which high school students are invited to participate:

   1. Boys' and Girls' Glee Clubs, the members being chosen by the director on the score of voice and reading ability.
   2. The School Orchestra, all students playing wind or string instruments being eligible for admission.

Physical Education

GRADE I.

Time—15 Minutes Daily.

The following "Orders of Exercises" are especially adapted to the needs of the smaller children. The class is to stand beside the seats and imitate the teacher. Good form cannot be demanded of the little people, and the purpose of the lesson is to give needed activity to the children, which will make for poise and bodily control, as well as tend to prepare them for more definite exercises in the advanced grades, and to teach them how to take directions accurately.

OCTOBER.

ORDER OF EXERCISES.

Children rise.
Breathing exercise.
Head bending to left and right.
Arm raising sideways.
Trunk bending forward.
Hips firm.
Breathing exercise.
Gymnastic Play ..... A Picnic.

GAMES.

Gymnastic.
Cat and Rat:
Hands Up.
Blind Men.
Singing.
Farmer in the Dell.
Drop the Handkerchief.

NOVEMBER.

Order of Exercises.

Breathing exercise.
Arm flinging sideways.
Head twisting to left and right.
Feet opening and closing.
Trunk bending to left and right.
Running in place.
Breathing.

Gymnastic Play ..... A Wind Storm.

Games.

Gymnastic.	Singing.
Fire Engine Race.	Hot Ball
Crossing Brook.	The King of France.
Mr. Slap Jack	Row, Row, Row Your Boat.

RHYTHMIC EXERCISES.

October and November.

March.
Breathing.
Windmills.
Tiptoe marching.
Elephant imitation.
Skipping.
Marching, with arm raising sideways.
Breathing.

DECEMBER.

Order of Exercises.

Breathing exercises.
Marking time.

Head bending backward.
Arm stretching overhead and standing on tiptoes.
Arm bending upward.
Trunk twisting.
Running around the room.
Breathing exercise.

GYMNASTIC PLAY .....Christmas Fun

GAMES.

Gymnastic.	Singing.
Running around room.	The Muffin Man.
Jumping over pointer.	Did You Ever See a Lassie?
Jack be Nimble.	

JANUARY.

ORDER OF EXERCISES.

Breathing exercise.
Heel raising.
Shaking hands up and down.
Trunk bending forward.
Knee bending upward.
Trunk twisting.
Running on tiptoe in place (turning in different directions).
Breathing.

GYMNASTIC PLAY .....Winter Sports.

GAMES.

Gymnastic.	Singing.
Vaulting over seats.	Greeting Game.
Race, touching wall.	Looby Loo.
Follow the Leader.	

RHYTHMIC EXERCISES.

December and January.

Marching.

Blowing seeds away.

Swing.

High-stepping horses.

Blacksmith.

Bending and stretching knees.

Breathing.

FEBRUARY.

Order of Exercises.

Deep breathing.

Marching in place.

Arm flinging sideways.

Trunk bending forwards.

Hips firm.

Trunk twisting.

Skipping around the room.

Breathing.

Gymnastic Play ..... Military Imitations.

Games.

Gymnastic.	Singing.
Snow Man.	The King of France.
Prince Tip.	Soldier Boy.
Race Horses.	

MARCH.

Order of Exercises.

Breathing.

Knee bending.

Arm swimming.

Heel raising.

Reaching forward, downward and lifting an imaginary weight from the floor.

Trunk swaying.

Running in place.

Arm stretching upward with breathing.

GYMNASTIC PLAY ..... Imitation Game.

Wind whistling.

Swing.

Walking a fence rail.

Rolling marbles.

See-Saw.

Jumping rope.

Blowing wind mills of paper.

GAMES.

Gymnastic.	Singing.
Cat and Rat.	One, Two, Three Blow.
Skipping Tag.	When I Was a Shoemaker.
Hot Ball.	
Hide the Thimble.	

RHYTHMIC EXERCISES.

FEBRUARY AND MARCH.

Lesson I....Page 67.....Graded Games and Rhythmic Exercises.

Lesson II....Page 67 & 68..Graded Games and Rhythmic Exercises.

APRIL.

ORDER OF EXERCISES.

Hips firm.

Feet close.

Head bending backwards.

Stretching upward on toes with arms overhead.

Facing left, joining hands in aisles and sliding to right, then to left.

Head twisting.

Flying around room.

Deep breathing.

GYMNASTIC PLAY ..... Spring.

Smelling fragrance.

Rain on roof (tapping with toes).

Branches tossing in wind.

Digging trenches for melting snow.

Putting on boots, then wading in water.

Flying wild geese.

Breathing.

GAMES.

Gymnastic.	Singing.
Crossing Brook.	Garden Scamp.
I Saw.	Ten Little Indians.
Tag.	
Blind Man's Buff.	

MAY.

ORDER OF EXERCISES.

Breathing.

Knee bending.

Arm raising sideways.

Feet sideways place.

Arm flinging forward, upward.

Hop on one foot, then on the other.

Breathing.

GYMNASTIC PLAY ..... Seashore Activities.

Breathing the salt air.
Throwing stones in the water.
Riding on raft.
Swimming.
Steamboat.
Running on the shore.
Rising and falling waves.

GAMES.

Gymnastic.	Singing.
Hide the Thimble.	Farmer in the Dell.
Squirrels in Trees.	Visiting Game.
Feather Fly.	Merry-go-round.

RHYTHMIC EXERCISES.

APRIL AND MAY.

Lesson III.....Page 68...Graded Games and Rhythmic Exercises.

Lesson IV or V Page 69...Graded Games and Rhythmic Exercises.

GRADE II.

OCTOBER.

ORDER OF EXERCISES.

Breathing.
Knee bending.
Arm raising sideways.
Feet close and open.
Trunk bending forward.
Marking time.
Breathing.

GAMES.

Gymnastic.	Singing
Cat and Mouse.	Garden Scamp.
Mr. Slap Jack.	Squirrels.

NOVEMBER.

ORDER OF EXERCISES.

Breathing.
Hips firm—Head firm.
Heels raising.
Arm bending.
Trunk bending sideways.
Running in place.
Breathing.

GAMES.

Gymnastic.	Singing.
Belled Cat.	London Bridge.

Huckle, Buckle, Bean Stalk.
New York.
GYMNASTIC PLAY ....October and November.... Imitating Indians.
Following the trail.
Trying to smell camp fire.
Shooting with bow and arrow.
Chopping wood.
Paddling canoe.
Fire dance.
Smelling camp fire.

RHYTHMIC EXERCISES.

OCTOBER AND NOVEMBER.

Marching.

Blowing pinwheels.
Spinning tops.
Bowing.
See Saw.
Skipping rope.
Breathing.

DECEMBER.

Order of Exercises.

Breathing.
Hand shaking up and down.
Marking time on tip-toe.
Trunk bending forward.
Trunk twisting.
Jump in place.
Breathing.

Games.

Gymnastic.
Cat and Mice.
Going to Jerusalem.
Circle Ball.
Huckle, Buckle, Bean Stalk.
Singing.
Water Sprite.

JANUARY.

Order of Exercises.

Foot placing sideways.
Arms forward, raise sideways, fling.
Stride standing, heel raising.
Head firm.
Trunk bending sideways.

Vaulting through seats.

Breathing.

GAMES.

Gymnastic. Singing.

Have You Seen My Sheep? Lads and Lassies Out A'walking.

Bean Bag Relay.

Vaulting over Bench.

DECEMBER AND JANUARY.

GYMNASTIC PLAYS ..... Carpenter and Mason.

Pacing off spaces for building.

Blowing sawdust.

Sawing boards (first to the right, then to the left).

Digging cellar (first to the right, then to the left).

Planing boards (first to the right, then to the left).

Jump into cellar.

Blowing upon the weather-vane.

RHYTHMIC EXERCISES.

Marching.

Breathing.

Arm bending forward and flinging sideways.

Wading in deep snow.

Shoveling deep snow.

Trees in the wind.

Swing Jumps.

Breathing.

FOLK DANCING ..... Heel and toe Polka.

FEBRUARY.

ORDER OF EXERCISES.

Marking time.

Arm raising sideways with deep breathing.

Arm bending upward.
Left (or right) leg sideways raise.
Trunk bending forward.
Run around room.
Breathing.

GAMES.

Gymnastic.
Bean Bag Relay.
Red Lion.
Teacher and Class.
New York.

Singing.
I Took a Walk One Evening.

MARCH.

ORDER OF EXERCISES.

Breathing.
Heel raising.
Head bending backward.
Knee bending upward.
Trunk bending forward.
Cut step (swing step).
Breathing.

GAMES.

Gymnastic.
Teacher and Class.
Squirrels in Trees.
Lost Bean Bag Relay.

Singing.
German Clap Dance.

FEBRUARY AND MARCH.

GYMNASTIC PLAY ..... Sailors.

Breathing to smell salt air.
Hauling halyards.

Lifting anchor.
Rolling ship.
Jolly sailors.
Breathing.

RHYTHMIC EXERCISES.

Marching—Spiral formation.
Breathing.
Farmer sowing seeds.
Looking over high fence.
Reaping the grain.
Mowing with scythe.
Barn dance breathing.

FOLK DANCE ..... Chimes of Dunkirk.

APRIL.

ORDER OF EXERCISES.

Breathing.
Arm flinging sideways.
Walk standing, heel raising.
Arm swinging.
Stride standing, trunk bending sideways.
Skipping around room.
Breathing.

GAMES.

Gymnastic.	Singing.
Touch Bean Bag.	Knots in May.
Witch and Her Jars.	
Lost Bean Bag Relay.	
Running in Zig Zag and Spiral.	

MAY.

Order of Exercises.

Breathing.
Arm bending and stretching sideways.
Slow tip-toe march.
Trunk bending forward.
Stride standing, trunk twisting.
Hop on one foot (twice with right then with left).
Breathing.

Games.

Gymnastic. Singing.

Flowers and the Wind. Swiss May Dance.

Relay Races.

APRIL and MAY.

Gymnastic Play ..... Base Ball.

Walking to the ball grounds.
Band playing before games.
Pitching the ball.
Bend forward to catch low ball.
Batting ball.
Making "home run."
Breathing.

RHYTHMIC EXERCISES.

Marching.
Breathing salt air.
Swimming.
Walking log over stream.
Rowing.

Sail tipping in wind.
Ducking under water.
Breathing.

FOLK DANCING.

Sailors' Hornpipe.

GRADE III.

OCTOBER.

ORDER OF EXERCISES.

Chest raising.
Heel raising.
Arm raising sideways.
Marking time.
Trunk bending forward.
Running softly in place.
Breathing.

GAMES.

Gymnastic.
Dodge Ball.
The Miller is Without.
Token Tag.
Spool Garden.
Singing.
The Jolly Miller.

NOVEMBER.

ORDER OF EXERCISES.

Marching around room.
Head bending backward.
Head firm.
Walking forward on tiptoes.
Arm flinging forward.

Knee bending.

Breathing.

GAMES.

Gymnastic.

Birds.

Circle Ball.

I Say "Stoop."

Singing.

London Bridge.

Looby Loo.

RHYTHMIC EXERCISES.

OCTOBER AND NOVEMBER.

Lesson I..Page 82.....Graded Games and Rhythmic Exercises.

Lesson II..Part I Page 83..Graded Games and Rhythmic Exercises.
Roundel.

DECEMBER.

ORDER OF EXERCISES.

Arm raising sideways (Breathing).

Head twisting.

Arm bending upward.

Feet apart, heel raising.

Running in place.

Breathing.

GAMES.

Gymnastic.

Merry-Go-Round.

The Belled Cat.

Sitting Tag.

Teacher with Bean Bags.

Singing.

Lads and Lassies Out A'walking.

Weaving Game.

JANUARY.

ORDER OF EXERCISES.

Shaking hands up and down.

Running in place.
Arm raising sideways (Breathing).
Knee bending upward.
Trunk Twisting.
Vaulting seats.
Breathing with head bending backward.

GAMES.

Gymnastic.
I Say "Stoop."
Dodge Ball.
Birds.
Cat and Rat.

Singing.
Twining the Wreath.

RHYTHMIC EXERCISES.

DECEMBER AND JANUARY.

Lesson III....Page 87....Graded Games and Rhythmic Exercises.

FEBRUARY.

ORDER OF EXERCISES.

Breathing.
Marching.
Alternate arm stretching upward.
Bowing.
Climbing on seats and jumping softly down.
Flying around room.
Breathing.

GAMES.

Gymnastic.
Bean Bag Catching.
Derby Jig.
No. 14 Relay Race.
Button, Button.

Singing.
Round and Round the Village.

MARCH.

Order of Exercises.

Tapping with alternate feet.
Knee bending.
Hands on top of head.
Dancing in place.
Rowing a boat.

Games.

Gymnastic.

Weather Cock.
Stage Coach.
Bugaboo.
Tag Ball.

Singing.

The Jolly Miller.

RHYTHMIC EXERCISES.

February and March.

Lesson IV....Page 89....Graded Games and Rhythmic Exercises.
Lesson V....Page 90....Graded Games and Rhythmic Exercises.

APRIL.

Order of Exercises.

Breathing.
Heel and toe Polka.
Arm stretching sideways.
Heel raising.
Trunk bending forward.
Stride jump.
Breathing.

Games.

Gymnastic.

Follow My Leader.
Relay Races.
Stone.
Farmer and Crow.

Singing.

Oats, Peas, Beans and Barley Grow.
October Games.

MAY.

Order of Exercises.

Breathing.
Stretching.
Arm raising forward.
Heel raising, knee bending.
Bowing.
Change step.
Breathing.

Games.

Gymnastic.
Chase the Rabbit.
Hoop Race.
Look out for the Bear.
Hawk and Hen.
Tom, Tom, the Piper's Son.

Singing.
Review Year's Games.

RHYTHMIC EXERCISES.

April and May.

Lesson VII....Page 92....Graded Games and Rhythmic Exercises.
Lesson VIII...Page 93....Graded Games and Rhythmic Exercises.

Grade IV B.

Gymnastics

Lesson I.

October.
Attention (In place—rest).
Feet close.
Hips firm.
Heels raise.
Arms sideways, fling.

February.

Hips firm—head backward, bend.
Mark time.
Breathing.

LESSON II.

Attention—mark time.
Chest raise.
Head firm.
Feet close—heels raise.
Arms forward, raise.
Hips firm—left foot forward, place.
With knee upward bending mark time.
Inhale and arms sideways, raise.
Exhale and arms sideways, sink.

LESSON III.

NOVEMBER. MARCH.

Attention.
Feet sideways, place.
Arms upward, bend.
Hips firm—left foot forward, point, etc.
Hips firm—trunk half forward, bend.
Feet sideways, place—head backward, bend.
Hips firm—heels raise—knees bend, etc.
Turning palms outward—inhale—exhale.

LESSON IV.

Feet close—open.
Head backward bend.
Arms upward, bend sideways, stretch.
Hips firm—foot raising forward.
Arms forward, bend sideways, fling.

Trunk to left, twist—to right, twist.

Hips firm—heels raise—running in place.

Arms upward, bend—deep breathing.

LESSON V.

DECEMBER. APRIL.

Facing.

Arms forward, bend—sideways fling, etc.

Arms upward, stretch, etc.

Hips firm—left knee upward, bend—right knee upward, bend.

Trunk half forward, bend—hips firm, etc.

Arms forward, bend—trunk to left (right) bend, etc.

Mark time on tiptoe (running).

Hips firm—knees bend—knees stretch—head backward, bend.

LESSON VI.

Right (left) dress—forward dress.

Arms forward, raise—deep breathing, sideways fling, etc.

Hips firm—head firm.

Hips firm—foot placing forward with heel raising.

Arms upward, bend—trunk half forward, bend—arms sideways, stretch, etc.

Head firm—deep breathing—head backward, bend.

Skipping around room.

Breathing with arm raising sideways.

LESSON VII.

JANUARY. MAY.

Facing—feet close—feet open.

Arms stretching upward.

Hips firm—feet sideways, place—heels raise, etc.

Arms forward, bend—trunk half forward, bend—arms sideways, fling.

Hips firm—left foot forward, place—head backward, bend, with deep breathing, etc.

Hips firm—feet close—trunk twisting.

Hips firm—prepare to jump.

Breathing.

LESSON VIII.

Hips firm—prepare to jump.

Arms upward, bend—head backward, bend, etc.

Arms sideways and upwards stretch.

Hands at hips, place—touch step forward.

Hips firm—feet sideways, place—trunk forward, bend—arms upward, bend, etc.

Head firm—trunk bending to side.

Jump in place.

Breathing with arm raising forward.

GRADE IV A.

GYMNASTICS.

LESSON I.

OCTOBER. FEBRUARY.

Attention.

One step forward (backward) march.

Hips firm—head backward, bend.

Head firm.

Arms sideways, raise—heels raise, etc.

Feet close—trunk forward, bend, etc.

Mark time.

Breathing.

LESSON II.

Facing.

Hips firm—alternate heel and toe raising.

Head twisting.

Arms sideways, stretch.

Head firm—heels raise, etc.

Hips firm—trunk forward, bend—head backward, bend, etc.

Hips firm—alternate knee upward bending.

Deep breathing.

LESSON III.

NOVEMBER. MARCH.

Two steps forward (backward) march.

Arms upward, bend—inhale and arms sideways, stretch, etc.

Hips firm—left (right) knee upward bend, forward stretch.

Trunk forward, bend—arms forward, upward fling, etc.

Head firm—feet sideways, place—trunk bending—to side.

Hips firm—prepare to jump.

Arms sideways and heels raise, etc.

Arms upward, bend—inhale and arms upward, stretch.

LESSON IV.

Arms forward, bend—inhale and arms sideways, fling.

Hips firm—knee bending (10 counts).

Arms upward, bend—left arm sideways, stretch—arms change.

Touch step to side and step in front.

Feet sideways, place—trunk forward, bend—arms sideways, raise, etc.

Arms upward, bend—trunk to left (right), twist—arms sideways, stretch, etc.

Hips firm—feet sideways, place—jump to position.

Deep breathing with arm raising sideways.

LESSON V.

DECEMBER. APRIL.

Forward dress.

Hips firm—heels raise, knees bend, etc.

Head firm and feet close—head backward, bend, etc.

Arms half sideways, bend.

Hips firm and left foot forward, place—heels raise, knees bend, etc.

Hips firm and feet sideways, place—trunk forward, bend.

Hips firm—stride jump.

Arms upward, bend.

Deep breathing—with palms up, arms sideways, stretch.

LESSON VI.

Left dress—arms sideways, raise, with deep breathing.

Hips firm and left foot forward, place—left knee bend, etc.

Arms forward, bend—head backward, bend, and arms sideways, fling, etc.

Left leg forward, raise—hips firm—head firm—position.

Hips firm—trunk forward, bend—head twisting.

Arms sideways, raise—trunk bending.

Jump facing 90°

Arms upward, stretch. Arm parting with deep breathing.

LESSON VII.

JANUARY. MAY.

Chest raise and inhale.

Hips firm—heels raise—knee upward bending, march in place.

Head firm—head backward, bend.

Arms forward, raise—sideways, fling.

Arms sideways, raise—heels raise—slow march forward.

Feet sideways, place—trunk forward, bend—arms forward, upward, fling, etc.

Vaulting through seats.

Deep breathing with arm raising sideways.

LESSON VIII.

One step forward and left face.

Hips firm—head backward, bend.

Arms sideways and upward stretch.

Arms upward stretch and feet sideways, place—heels raise—head firm, etc.

Left hip firm and right arm sideways, fling—trunk to right, bend, etc.

Hips firm—running in place.

Hips firm—knees bend, etc.

Arm circumduction.

Fourth Grade A and B.

RHYTHMIC EXERCISES.

Lesson I.

March to hall or corridor in twos, fours and eights.

Arm stretching upward slowly from shoulder.

Touch step. Back of hands on hips. Begin with the left; advance, point in front, and then step forward with the same foot. Repeat with the right foot.

Swimming. Arms reach forward, then separate; at same time step forward with one foot, and recover.

Walk forward 4 counts, 3 steps; heels together on "4" with hands on hips, bend trunk to left, and raise; bend trunk to right and raise.

Schottische step. Count: Run, run, run, skip. Back of hands on hips.

Arm raising sideways and knee bending.

Inhale and exhale slowly.

Folk Dances:

"How do you do, my partner?"

"Chimes of Dunkirk."

LESSON II.

March to places.

Head bending backward,

Throwing a ball: 1. Tossing with right, catching with both.

2. Tossing with left, catching with both.

3 and 4 Bouncing in like manner.

Shoveling snow: Shovel.

Throw.

Class advances step by step.

Stride jump: Standing position to stride: On toes.

Skating: Striding forward with alternate feet.

Arm raising forward, moving sideways and sinking. Inhale, exhale.

FOLK DANCES:

The Jolly Miller.

Dan Tucker.

LESSON III.

March two by two in double circle.

Arm raising upward from shoulder height.

Heel and toe polka.

Chopping a tree.

Walk forward 3 steps, feet together on "4" Twist and bend to the left and then to the right, moving arms to left and right, and bending knees in courtesy.

Skipping rope.

FOLK DANCES:

1. Reel.
2. Baby Polka.

GAMES.

SEPTEMBER TO DECEMBER.

Center Base.	Masters and Men.
Sheep Fold.	Hide the Thimble.
Twelve O'Clock.	Black and White.
Obstacle Relay Race.	The Night Before Christmas
Bean Bag Backward.	Fish in the Sea.

JANUARY—MARCH.

Time Ball.	Roll Ball.
All Up.	Blind Man's Buff.
Steeple Chase.	Letter Man.
Bean Bag Target.	Peter Piper.

APRIL—JUNE.

Chariot Race.	Passing Object Race.
Prisoner's Base.	Fourth of July.
Sculptor.	Bunnie's Egg.
Steps.	Knots in May.
Bull in Ring.	

Gymnastics in Grades V, VI, VII, and VIII, are from Enebuske's "Progressive Gymnastic Days' Orders". Rhythmic Lessons in Grades V, VI, VII and VIII are given under the direction of a special teacher.

GRADE V B.

GYMNASTICS.

October. *February.*

Lesson I.....Page 8.

Lesson II.....Page 9.

November. *March.*

Lesson III.....Page 10.

Lesson IV.....Page 11.

December. *April.*

Lesson V.....Page 12.

Lesson VI.....Page 13.

January. *May.*

Lesson VII.....Page 14.

Lesson VIII.....Page 15.

GRADE V A.

GYMNASTICS.

October. *February.*

Lesson I.....Page 16.

Lesson II.....Page 17.

November. *March.*

Lesson III.....Page 18.

Lesson IV.....Page 19.

December. *April.*

Lesson V .....Page 20.

Lesson VI.....Page 21.

January. *May.*

Lesson VII.....Page 22.

Lesson VIII.....Page 23.

Note—Use head instead of trunk in all backward bendings.

GRADE V A AND B.

GAMES.

September. *December.*

Bears and Cattle. Schoolroom Tag.

Dare Base. Ball Tag.

Three Deep. End to End Bean Bag.

Contest in Arches. Simon Says.

January. *March.*

Bears and Cattle (in Schoolroom). Hill Dill.

Running for Places. Tucker.

Three Deep.
No. 14 Relay.

April.

Hill Dill.
Bean Bag Overhead.
Dodge Ball.
Bull in the Ring.
Relay Races.
Dodge Ball.

June.

Drop the Handkerchief.
Jacob and Rachel.
Beetle Goes Round.
Stealing Sticks.

GRADE VI B.

GYMNASTICS.

October.

Lesson I.....Page 8.
Lesson II.....Page 10.

November.

Lesson III.....Page 13.
Lesson IV.....Page 16.

December.

Lesson V.....Page 19.
Lesson VI.....Page 22.

January.

Lesson VII.....Page 25.
Lesson VIII....Page 26.

February.

March.

April.

May.

GRADE VI A.

GYMNASTICS.

October.

Lesson I.....Page 27.
Lesson II.....Page 28.

November.

Lesson III.....Page 29.
Lesson IV.....Page 30.

December.

Lesson V.....Page 31.
Lesson VI.....Page 32.

February.

March.

April.

January. *May.*

Lesson VII.....Page 34.

Lesson VIII....Page 35.

Note—Use head instead of trunk in all backward bendings.

GRADE VI A AND B.

GAMES.

OUTDOORS.

No. 14 Relay Race.	Fox and Chickens.
Potato Race.	Three Deep.
Last Couple Out.	Volley Ball.
Leap Frog Race (for Boys).	

INDOORS.

Schoolroom Tag.	Beast, Bird or Fish.
Hurley Burley Bean Bag.	Animal Game.
Relay Bean Bag Race.	Volley Ball.
Three Deep.	

GRADE VII B.

GYMNASTICS.

October. *February.*

Lesson I.....Page 34.

Lesson II.....Page 35.

November. *March.*

Lesson III.....Page 36.

Lesson IV.....Page 37.

December. *April.*

Lesson V.....Page 38.

Lesson VI.....Page 39.

January. *May.*

Lesson VII.....Page 40.

Lesson VIII....Page 41.

GRADE VII A.

GYMNASTICS.

October. — *February.*

Lesson I.....Page 42.

Lesson II.....Page 43.

November. — *March.*

Lesson III.....Page 44.

Lesson IV.....Page 45.

December. — *April.*

Lesson V.....Page 46.

Lesson VI.....Page 47.

January. — *May.*

Lesson VII.....Page 48.

Lesson VIII....Page 49.

Note—Use head instead of trunk in all backward bending.

GRADE VII A AND B.

GAMES.

OUTDOORS.	INDOORS.
No. 14 Relay Race.	Medicine Ball.
Medicine Ball.	No. 14 Relay Race.
Zig Zag Ball.	Zig Zag Ball.
Dumbbell or Club Race.	Ball Race.
Touch Ball.	Observation.
Catch Ball.	Simon Says.
Driving a Pig to Market.	Geography Game.
Double Relay Race.	Bean Bag Quoits.
	Three Deep.

GRADE VIII A AND B.

GYMNASTICS.

October. — *February.*

Lesson I.....Page 60.

Lesson II.....Page 61.

November.

Lesson III.....Page 62.

March.

Lesson IV.....Page 63.

December.

Lesson V.....Page 64.

April.

Lesson VI.....Page 65.

January.

Lesson VII.....Page 66.

May.

Lesson VIII....Page 67.

GAMES.

OUTDOORS.	INDOORS.
Arch Ball.	Arch Ball.
Ladysmith.	Relay Races.
Serpentine Race.	Chase Ball.
Chase Ball.	Volley Ball.
Volley Ball.	Captain Ball.
Basket Ball (under modified rules).	Ladysmith.
Tennis.	Three Deep.
Baseball.	Hockey.
German Bat Ball.	German Bat Ball.
Dodge Ball.	Keep Your Eyes Open.
	Corner Ball.
	End Ball.
	Basket Ball.
	Dodge Ball.

Review VII Grade Games.

ATHLETICS.

Boys' and Girls' Clubs are organized in the seventh and eighth grades for volunteer after school games and gymnastics.

Fire and Accident Prevention

A committee of principals and teachers has worked out the following suggestive courses in Fire and Accident Prevention. These courses are printed here to invite a study and consideration of them by the teacher. Teachers are expected to give such parts of the course only as they find it possible to give in and through other subjects. There is much in each of these courses that can be used to advantage in the regular work in physiology and hygiene. There are also other portions that can be used to advantage in the work in language and that will also re-enforce the work in civics. The exact place which these will ultimately take in our Course of Study is not established. The courses are presented rather as a study.

ACCIDENT PREVENTION.

First Grade.

Common Accidents at Home.

Do not leave pails or other obstacles on stairways. Stairways should always be well lighted. 3,101 out of 100,000 accidents occur on stairs and steps.

Do not allow round or sharp things to remain on floors.

Do not scuffle or play in dangerous places.

Do not play with matches, fire, toy pistols, etc. Caution about handling hot water. 2,969 out of 100,000 accidents occur by burns or scalds.

Caution about sitting in or leaning out of high windows.

Splinters in hands or feet.

Caution in the use of illuminating gas.

Properly shut off when not in use.

Leaks should be repaired at once.

Do not take a light or strike a match in a room where the gas has been leaking.

Caution about putting those things in the mouth with which they are not familiar, such as medicines, samples of things that have been left at doors, plants, etc.

Caution about running with sharp or pointed things in hands or mouth.

Second Grade.

Common School Accidents.

Responsibility for the care of younger children.

Danger of pushing, shoving or tripping others.

Danger of riding a bicycle or roller skating in the school year.

Danger from throwing snow balls, stones or other things.

Necessity for order in fire drill.

Care for ourselves and for others in games and at periods of relaxation.

Third Grade.

Street Accidents.

The traffic officer.

Care for small children and old people on the street.

Caution in crossing a street. Cross streets only at regular crossings.

Caution about catching on to vehicles.

Do not play in the street.

Do not play ball or throw snow balls in the street. Why is there a city ordinance against doing these?

Never touch a wire that has fallen to the street. In case you find one down stand guard over it till someone comes and have him notify the wire department of the Rochester Railway and Light Company, at once. If you see a person in contact with a live wire be sure not to touch any part of his body. You can pull him away by his clothing or push the wire from him with a piece of wood or board with safety. In such case act quickly.

Street Accidents in New York, 1912:		
Killed by Auto	201	
Killed by Trolley	121	
Killed by Wagons	164	
	486	486
Injured by Auto	1260	
Injured by Trolley	667	
Injured by Wagons	297	
	2224	2224
Total		2710

References:

"Street Accidents in New York."—*Lit. Dig.*, 46:32.

FOURTH GRADE.

STREET CAR ACCIDENTS.

Consideration for the safety of others.

Do not board a car that is in motion.

Do not alight from a car in motion.

When alighting from a car always face in the direction in which the car is going.

Do not cross opposite bound tracks from behind a car.

Do not run in front of a moving car.

Do not step from a car in front of a moving vehicle.

Caution not to get caught between two cars.

Do not stand on the running board or steps of cars.

References:

Chamber of Commerce "Accident Prevention."

"Needless Slaughter in Street Cars."—*Everybody's*, 16:344.

FIFTH GRADE.

TRAVEL ACCIDENTS.

Out of 100,000 accidents for which the leading accident insurance companies have been concerned, 29,726 were travel accidents, for which these companies paid $2,432,245.

Railroad wrecks, their cause and what is being done to prevent them.

"Safety First" campaigns of street car companies.

Speed regulations for automobiles and motorcycles.

Protection and care at grade crossings.

Traffic regulations:

Keep on the right side of street.

Care when turning and at sharp corners.

Lights on vehicles at night.

Dangers from standing on the platform of a car or of letting any part of the body project from a moving car.

References:

"Railway Accidents."—*Outlook*, 103:46-95:507.

"Twelve Months of Train Wrecks."—*Lit. Dig.*, 46:452.

"American R. R. Accidents—A Safety First Campaign."—*Review of Reviews*, 47:327.

SIXTH GRADE.

INDUSTRIAL ACCIDENTS.

The right of the worker to be protected from accident.

Dangerous types of employment.

Purpose of factory inspection by State and City.

Safeguards on machinery and dangerous places.

Foolishness of taking unnecessary risks.

Consideration for other workers.

References:

"Our Industrial Juggernaut."—*World's Work*, 11:7257. *Everybody's*, 16:146.

"What a Boy Can Risk."—*Survey*, 23:9-11.

"Factory Girls' Dangers."—*Outlook*, 97:817.

"Industrial Accidents."—*Survey*, 26:1.

"Just Wops."—*Everybody's*, 25:578.

"Work Hazards that go into a Loaf of Bread."—*Survey*, 26:804.

SEVENTH GRADE.

SAFE LIVING CONDITIONS.

Duties of the Fire Marshal.

The Building Codes of Rochester. (A copy can be obtained at the office of the Fire Marshal.)

Discuss the essential elements of safety in:

a. A single dwelling.

b. A two family apartment.

c. A tenement house.

EIGHTH GRADE.

ECONOMIC LOSS THROUGH ACCIDENTS.

Discuss with the class the great economic loss involved when society loses the life production of some boy or girl who has been killed by accident.

What it means to the family when the father, the wage earner, is killed or incapacitated by accident.

The economic value of an arm or an eye.

Discuss in a general way:

Employers' Liability Laws.

Workingmen's Compensation Acts.

Accident Insurance.

KINDERGARTEN.

I. Slogan—"Do not play with matches!"

"Do not go near the fire!"

II. No. of recitations:

Two or three talks.

III. Our own fire drill:

Careful explanation to children as to just what fire drill means—necessity for absolute attention, obedience, promptness and following the child just ahead.

During fire drill walk with your hands at your sides.

IV. The Fireman:

Here, as with our other helpers, the emphasis is placed upon the characteristics of the fireman—his courage, promptness, obedience, helpfulness, etc. This is brought out through experiences and stories.

V. Collect pictures of fire horses, etc.:

Note 1. If a fire house is close enough to school it may be used as the objective point of a morning walk.

2. A burnt finger or the passing of a fire wagon will offer sufficient reason for a talk.

VI. School Library:

"Fire Fighters and their Pets."—*Sixth Grade Library.*

FIRST GRADE.

I. Slogan—"Let us avoid fires by being clean and careful," or "Do not strike matches, they will surely burn you!"

II. Number of recitations (To be determined later):

III. Causes and Prevention. (Emphasize PREVENTION and What can I do to help?):

Note. Take only what your class is ready for.

a. Lack of cleanliness.

1. Our yards at home—What can I do to clean up?

b. Fires start from

1. Matches, candles, lamps.

c. Fires spread by

1. Carelessness.

2. Leaving bonfires unwatched.

d. Children get burned by

1. Playing (running) near stoves and fireplaces.

2. Playing near bonfires.

3. Carelessness about lamps, Christmas trees, etc.

4. Striking matches.
5. Fireworks on Fourth of July.

IV. Our own fire drill:
   a. Why we have it.
   b. Necessity for promptness and order.
   c. Recognition and knowledge of gongs.

V. The fireman (or the fire-dog):
   a. Visit firehouse.
      Emphasis placed here as in kindergarten on characteristics.

VI. Collect pictures.

VII. References:

Reynolds Library:

"Concerning Jess—A True Dog Story."—*Harp. Weekly,* Jan. 14, '11.

"Fire Crackers."—*St. Nicholas,* July, '10.

"How to Interest Children in Fire Protection."—*Am. City,* Jan., '13.

School Library:

"Fire Fighters and their Pets."—*Sixth Grade Library.*

"Fire Brands."—*Fourth Grade Library.*

SECOND GRADE.

I. Slogan—"In case of fire, smother it."

II. No. of recitations (To be determined later):

III. Causes and Prevention (Emphasize PREVENTION and What can I do to help?):

Note—Take only what your class is ready for.

   a. Lack of cleanliness.
      1. Our yards at home—The cellar and attic—What can I do to clean up?

b. Fires start from

1. Matches, candles, lamps, gas jets.

a. Necessity for proper receptacle for used and unused matches.

b. Rats and mice eat match heads and start fires when matches are about loose.

c. Note the best kind of matches to prevent fire. Show children a box of safety matches.

c. Fires spread by

1. Carelessness.

Never leave a bonfire until it is out.

2. Fright.

If you see even a tiny fire pour water on it or throw a rug on it and call an older person.

IV. Our own fire drill:

a. Why we have it.

b. Necessity for promptness and order.

c. Recognition and knowledge of gongs.

d. Instances of effectiveness of school fire drills in our own city.

V. Practical application to child:

a. Children get burned by

1. Playing near stoves or fireplaces.

2. Playing near bonfires.

3. Carelessness about lamps, Christmas trees, etc.

4. Fireworks on Fourth of July.

b. What to do in case you catch fire:

1. Smother it with anything near by—a coat, blanket or rug.

2. Do not run.

VI. Fire horse:

a. Visit fire house.

1. Note orderliness of house.
2. Care of and love for horses by firemen.
3. Characteristics of horses—their gentleness and power, etc.
4. Work of horses.

VII. Collect Pictures.

VIII. References:

Reynolds Library:

"How to Interest Children in Fire Protection."—*Am. City*, Nov., '11.

School Library:

Publications of Rochester Chamber of Commerce.

"Fire Fighters and Their Pets."—*Sixth Grade Library.*

"Fire Brands."—*Fourth Grade Library.*

THIRD GRADE.

I. Slogan—"Good housekeeping means few fires."

II. Number of recitations (To be determined later):

III. Causes and Prevention (Emphasize PREVENTION and What can I do to help?):

Note—Take only what your class is ready for.

a. Lack of cleanliness—Children may copy statements 1, 2, 3 and 4 for a language exercise, or may make a declaration in writing, "I will not carry a lighted candle into a closet," etc.

1. Rubbish heaps are fire breeders.
2. Attics and cellars should be kept clean and free from materials that will burn.

3. Hot ashes carelessly thrown against wooden steps or fences, or placed in wooden barrels will start a fire.
4. Lamps should be kept very clean.

b. Fires start from

1. Matches—See that the match is out before you throw it down. Keep matches in a tin box.
2. Lamps—Do not run or play about a table with a lamp upon it. Never fill lamps at night.
3. Candles—Do not hold a candle near you if you must carry it. Many children dressed in outing flannel have been dreadfully burned from a lighted candle or match.

   Do not carry a candle into a closet.
4. Do not light a gas jet near an open window; it may set the curtains afire.
5. Stoves—Stoves should not become overheated.

   Clothing should not be hung near a hot stove.

c. Fires spread by

1. Holiday causes
   a. Fourth of July.
   b. Christmas trees.
2. Carelessness
   a. Do not leave a fire until it is out.
3. Fright—If you see even a tiny fire pour water on it or smother it. Call an older person. Do not leave it.

IV. Our own fire drill:

a. Why we should have it.
b. Necessity for promptness and order.
c. Recognition and knowledge of gongs.
d. Why all outside doors should open out.

V. Practical application to children:

a. How children get burned.

b. What would you do in case you caught fire?

c. How to treat burns and scalds (Physiology).

VI. Fire heroes:

What are the characteristics of a hero?

Why is every fireman a hero?

VII. Collect pictures.

VIII. References:

School Library:

"Fire Brands."—Grade V.

"Fire Fighters and their Pets."—Chapters IV and V—*Sixth Grade Library.*

Rochester Chamber of Commerce Publications.

Reynolds Library:

"Greater Love Hath No Man."—*Harper's Weekly,* June 25, 1910.

"Fire Crackers."—*St. Nicholas,* July, 1910.

"Mike Hester's Miracle."—*Harper's Weekly,* Nov. 23, 1912.

FOURTH GRADE.

I. Slogan—"Property destroyed by fire is gone forever and never can be replaced."

II. No. of recitations (To be determined later):

III. Our own fire drill:

Each grade should be taken about the building noting all fire gongs. The fire code for your school should be studied and at least one child in a grade should set off the gong. It will add greatly if at this time the whole school may respond to the gong.

IV. Practical applications to children:

a. What to do in case you catch fire.

b. What to do in case you discover a fire.

c. How to treat burns and scalds (Physiology).

V. Preparation by city for calling fire department:

a. Visit firebox nearest school and learn how it operates.

b. Report to teacher the location of firebox nearest each child's home.

c. Phone number for station nearest school—nearest home.

Note—Penalty for false alarm.

VI. Collect pictures and news items:

Note—These news items will amply supply lines of thought for class talks.

VII. "Fire Brands" (Reading).

VIII. References:

Because "Fire Brands" meets the need so perfectly, other references are unnecessary except as the pupils may bring in news items, etc.

FIFTH GRADE.

I. Slogan—"An ounce of prevention is better than a pound of cure," or "National waste impoverishes the nation as family waste impoverishes the household."

II. No. of recitations (To be determined later):

III. Fire waste:

a. Its extent:

1. Rochester's latest report for year.

How much per month? per week? per capita?

2. U. S. Report.

b. Its Economic Significance:

1. Does fire insurance replace property?

2. Fire insurance makes it necessary for the merchant to charge more for goods. Who pays the fire insurance?
3. Labor expended in replacing burned property might have been spent upon increasing amount of property.
4. What does it mean to a nation to have large tracts of lumber burned?
5. The government requires the use of oil in forest engines. Why?
6. What is the best way to build a fire that will not spread?

Note—The best place to study this is in connection with the study of lumbering in Geography.

When studying about mines note explosions from "fire-damp."

c. Cause and Prevention:

Note—If possible find causes in Rochester and per cent. of fires that come from same causes. Also note news items.

Note—Take only what your class is ready for.

1. Lack of Cleanliness.
2. Smoking.
   a. Homes.
   b. Factories (oily floors).
   c. Garages (gasoline).
3. Fires start from
   a. Matches.
   b. Lights—note necessity for protecting lights.
   c. Heating—
      1. Defective chimneys and flues.
      2. Neglected furnaces.
      3. Over-heated stoves—note how stoves should be put up—zinc on floor and wall, etc.
      4. When starting fires in stoves—NEVER use kerosene.

d. Explosives—

1. Gasoline—note proper care of.
2. Oils.

Note—Shipment and storage of explosives.

IV. Practical application to pupil:

a. How to treat burns and scalds (Physiology).

b. What would you do if you caught fire?

c. What would you do if your house caught fire?

V. Our own fire drill (review):

a. Talk on necessity for, etc.

b. At least one child strikes gong during study.

c. Location of firebox on street nearest school.

d. Location of firebox nearest pupil's home.

e. Station number of phone.

f. Penalty for false alarm.

VI. Class exercise:

Each child write one rule which if carried out would help prevent fire waste, e. g. A clean city has few fires—or

Class may co-operatively frame up a pledge in answer to the question, "Will you be a Fire Warden and a Life Saver?" e. g. I will put out, or leave in perfect safety, any bonfire that I may build—or

Class may co-operate in framing up rules for the prevention of fire at home, e. g. Do not put hot ashes in a wooden barrel.

Note—Very interesting and valuable data may be framed up by these grades. The Committee on Fire Prevention will be glad to see this work and edit it.

VII. Collect pictures, news items and magazine articles.

VIII. References:

Reynolds Library:

1. "Fight Against Forest Fires."—*Nat. Geog. Mag.*, July, 1912.
2. "Forest Fires."—*Scientific American*, Jan. 13, 1912.
3. "Enormous Waste in U. S."—*Scientific American*, Jan. 15, 1912.
4. "Appalling Fire Hazards in America."—*Current Literature*, Jan., 1912.
5. "The Land We Live In."—*Price.*
6. "Practical Forestry."—*Gifford.*
7. "Camp Fire and How to Make It."—*Country Life*, June 9, 1912.
8. "Firedamp."—*Review of Reviews*, Vol. 43, p. 372.
9. "What Forest Fire Means."—*World's Work*, Vol. 17.
10. "Fire Making in the Old Days."—*St. Nicholas*, Dec., 1912.
11. "Fires a Woman Can Put Out."—*Ladies' Home Journal*, Oct., '12.
12. "How to Act in Case of Fire."—*Scientific American*, May 28, 1910.
13. "How to Interest Children in Fire Protection."—*Am. City*, Jan., 1913.

School Library:

1. "The Significance of Our Fire Waste."
2. "Fire Prevention."
3. "Individual Fire Fighting."
4. U. S. Bulletin 418.
5. "Fire Brands."—*Fourth Grade Library.*

SIXTH GRADE.

I. Slogan—"Prevent big fires by extinguishing small ones."

II. No. of recitations (To be determined later):

III. Practical application to pupil:

a. Burns and scalds—their treatment and care (Physiology).

b. What would you do in case you or your house caught fire?

IV. Our own fire drill:

a. Necessity for—note cases in city.

b. At least one pupil strike gong in study.

c. Location of firebox on street nearest school.

d. Location of firebox nearest pupil's home.

e. Station number on phone.

f. Penalty for false alarm—cost to city.

V. Rochester's Fire Department:

a. Visit Fire House.

1. Equipment.

2. Organization.

3. Cost to city.

b. Just what happens when the fire alarm is rung?

c. Rochester's Fire School.

1. What training required—type of men, etc.

2. Note schools of other cities.

VI. The Development of the Fire Department:

a. "Bucket Brigade."

b. Volunteer Department.

c. 1913 Department.

VII. Collect pictures, magazine articles, news items.

VIII. References:

Reynolds Library:

1. "Mike Hester's Miracle."—*Harper's Weekly,* Nov. 23, 1912.

2. "Fire Service of Rochester."—*Mathews.*

3. "The Fire Department—An Afternoon with Chief Croker."—*Outlook,* Jan. 27, 1908.

4. "Training and Life of New York Fireman."—*Am. Magazine,* May, 1906.

5. "How Jim Cosgrove Finished."—*Harper's Weekly,* Feb. 27, 1909, Vol. 53.
6. "Notable Fires—Story of Volunteer Fire Department of New York."—*Geo. W. Sheldon.*
7. "Fire Prevention."—*Croker.*
8. "How to Act in Case of Fire."—*Scientific American,* May 28, 1910.
9. "Smoke Perils at Fires."—*Scientific American,* May 25, 1907.
10. "Syllabus for Public Instruction in Fire Prevention."—*Am. City,* March, 1912.
11. "Practical Suggestions for Reducing Fire Losses."—*Am. City,* Nov., '11.
12. "Fire Precautions for the General Public."—*Am. Homes,* Sup. 13, Mar., '10.
13. "Modern Methods."—*Scientific American,* Oct. 21, 1911.
14. "N. Y.'s Fire College."—*Scientific American,* Oct 21, 1911.

School Library:

1. Rochester Herald Pictorial Supplement, June 2, 1912.
2. "Individual Fire Fighting."—*Rochester Chamber of Commerce.*
3. "Fire Prevention."—*Rochester Chamber of Commerce.*
4. "Fire Fighters and their Pets."—*Sixth Grade Library.*

SEVENTH GRADE.

I. Slogan—"Fire prevention is better than fire insurance," or "Fire insurance does not replace lost property," or "50% of fire loss is preventable.

Will you help to prevent that 50%?"

II. No. of recitations (To be determined later):

III. Practical application to pupils:

a. Burns and scalds—their treatment and cure (Physiology).

b. What would you do in case you or your house caught fire?

IV. Our own fire drill (review):

V. The Chemistry of Fire (Nature Study):

a. What is fire?

b. Some causes of combustion:

1. Gasoline (storage—use in cleaning, etc.).
2. Electricity (note wiring).
3. Powder in fireworks (what happens).

VI. Devices for Protection (Nature Study):

a. Chemical extinguishers (how made).

b. Automatic sprinklers (how made).

c. Automatic alarms (how made).

VII. What should every large building have in order to guard against fire? (Visit one.)

a. For Safety of Building:

1. Automatic sprinklers.
2. Hand appliances—sprinklers, stand pipes, hose.
3. Automatic alarms.
4. Fire stops.
5. Self-closing fireproof doors.
6. Watchmen.

b. For Safety of People in Building:

1. Exterior fire escapes.
2. Towers.
3. Enclosed stairways.
4. Self-closing doors opening out.

VIII. Fire Insurance (Arithmetic):

Compare our rates with foreign.

Fire costs 300 cents per capita in America and 33 cents in Germany—Why? (See "City Life and Municipal Facts.")

Compare losses in American cities with Germany, etc.

IX. Historic Fires (American History).

X. Collect news items and magazine articles.

XI. References:

Reynolds Library:

1. "Are You Really Insured Against Fire?"—*World's Work*, Vol. 17.
2. "Notable Fires."—*Geo. W. Sheldon.*
3. "The Department Store and Its Fire Risks."—*Survey*, April 15, '12.
4. "Elements of Factory Fire Protection."—*Engineering Mag.*, June, 1912.
5. "Practical Fire Prevention."—*Engineering Mag.*, June, 1912.
6. "How to Act in Case of Fire."—*Scientific American*, May 28, 1910.
7. "Fire Prevention."—*Croker.*
8. "Public Safety Department of Rochester, '11."
9. "Will Your House Burn?"—*World's Work*, Vol. 17.
10. "Factories and Their Fire Protection."—*Archit. Record*, Vol. 27.
11. "Syllabus for Public Instruction in Fire Prevention."—*Am. City*, March, 1912.
12. "Practical Suggestions in Reducing Fire Losses."—*Am. City*, Nov., '11.
13. "Fire Losses of 1912."—*Am. City*, Feb., '13.
14. Control of Fire Through Scientific Methods."—*Scientific American*, July 15, 1911.
15. "Historic Fires."—*Scientific American*, July 9, 1904.

School Library:

1. "Automatic Sprinkler Protection."
2. "Individual Fire Fighting."—*Rochester Chamber of Commerce.*

3. "Fire Prevention."—*Rochester Chamber of Commerce.*
4. "Dangers and Chemistry of Fire."—*C. Maris.*
5. "Factories and Their Fire Protection."
6. "The Significance of Our Fire Waste."
7. "Fire Brands."—*Fourth Grade Library.*
8. Encyclopedia.

EIGHTH GRADE.

I. Slogan—"Right civic conscience demands right building."

II. No. of recitations (To be determined later):

III. Practical application to pupils:
   a. Burns and scalds—their treatment and cure (Physiology).
   b. What would you do in case you caught fire? If your house caught fire?

IV. How the city guards against fires:
   a. Fire Companies (review).
   b. Water Supply, Source of—how conducted, etc.
   c. Building laws—
      1. Visit a building in your neighborhood, if possible, that meets Rochester's laws.
      2. Draw a plan of it. What does "fireproof" mean?
      3. Are the laws adequate as proven by Rochester's fire history?
      4. How could they be improved?
      5. Walk through your neighborhood and see how fire laws are met.

V. Collect news items and magazine articles.

VI. References:

Reynolds Library:

1. "The Department Store and Its Fire Risks."—*Survey,* April 13, 1912.

2. "Elements of Factory Fire Protection."—*Engineering Mag.*, Aug., '12.
3. "Fighting the Fire Peril."
4. "Fire Prevention as a Municipal Protection."—*Surveyor*, April 8, 1911.
5. "Effects of Fire on Building Material."—*Scientific American Supplement* 17, 1910.
6. "Structural Aspects of Fireproof Dwellings."—*Architectural Record*, Volume 25.
7. "Factories and Their Fire Protection."—*Architectural Record*, Volume 27.
8. "Fire Prevention."—*Croker.*
9. "Our Wasteful Nation."—*Cronan.*
10. "Scientific American Reference Book."
11. "Public Safety Department of Rochester, 1911."
12. "Fire Prevention."—*Outlook*, Sept. 12, 1908.
13. "Practical Fire Prevention."—*Croker. Engineering Magazine*, June, 1912.
14. "How to Act in Case of Fire."—*Scientific American*, May 28, 1910.
15. "Syllabus for Public Instruction in Fire Prevention."—*American City*, March, 1912.
16. "Fire Precautions for the General Public."—*American Homes*, Sept. 13, March, 1910.
17. "Fire Losses 1912."—*American City*, Feb., 1913.
18. "How to Interest Children in Fire Protection."—*American City*, Jan., 1913.
19. "The Inflammable Tenement."—*McClure's*, Oct., 1911.

School Library:

1. "Individual Fire Fighting."—*Rochester Chamber of Commerce.*
2. "Fire Prevention."—*Rochester Chamber of Commerce.*
3. "Bulletins and Fire Reports."

4. "Factories and Their Fire Protection."
5. "Fire Prevention Text Book."
6. "Rochester's Fire Report."
7. "Careers of Danger and Daring."—*Eighth Grade Library.*
8. "Town and City."—*Gulick.*
9. Encyclopedia.

Vocational Course for Girls

ELEMENTARY.

The elementary Vocational work is planned especially for girls of the seventh and eighth grades, who are not going to high school, and who intend, on leaving the grammar school, to stay at home or go to work. Any girl, thirteen years of age and over, who has completed the work of the sixth A grade, may take this course.

The aims are:

1. To interest the girl in school work by showing the practical advantages.
2. To give an adequate idea of home-making.
3. To lay a foundation of scientific training in industrial and home affairs.
4. To give a knowledge of women's industries.
5. To discover individual aptitudes.
6. To train for efficiency.

The work includes two year courses in sewing, cooking and design, in addition to the grade work corresponding to that of the seventh and eighth grades.

All girls who complete this elementary course are prepared to enter the advanced course in Madison Park Vocational School or to enter either the East or West High School.

SEWING.

The sewing course includes (1) sewing, (2) millinery, (3) textiles.

1. Sewing covers:

a. Instruction in all kinds of stitches used in hand sewing.

b. Use and care of sewing machines, both lock stitch and chain stitch. The use of attachments.

c. The making of cooking outfit, aprons, underwear, children's rompers and dresses, kimonos, and cotton dresses.

d. Household linens. The making and hemming of sheets, pillow cases, towels, napkins, and table cloths.

e. Speed tests both in hand and machine work.

f. The use of patterns—altering, cutting garments, simple drafting for cuffs, collars and yokes.

g. Mending and altering garments.

2. Millinery

a. The use of materials—buckram, wire, velvet, linen and ribbon.

b. Altering and renovating old hats and trimmings.

c. The making and trimming of simple hats.

3. Textiles:

The study of textiles is to be carried on in connection with the materials used in dressmaking and millinery. A variety of samples of the different classes of fabrics (cotton, wool, silk and linen) are to be brought in and studied as to name, cost, wearing qualities and uses.

COOKING.

I. The course includes:

1. The Study of Food.

a. Source and manufacture of the food products, their nature and properties.

b. Effect of heat on the fundamental food substances.

c. Function of food in nutrition. The requirements of the daily family dietary.

d. Sanitation in the production, transportation and marketing of food.

2. Cooking.

a. Preparation of typical foods of the starch, sugar, fat and protein groups.

b. Preparation of meals.

c. Serving.

1. Formal.

2. Informal.

d. Preservation of fruits and vegetables.

3. Sanitation and Hygiene.

a. House Cleaning.

1. Sweeping and dusting.

2. Cleaning cupboards, ranges, refrigerator, sinks and plumbing.

3. Care of kitchen, bed room, dining room and furnishings.

b. Laundry Work.

1. Kitchen linens.

2. Table linens.

3. Cooking uniforms.

4. Wash dresses.

5. Underwear.

c. Personal Habits.

1. Personal appearance in kitchen.

2. Personal cleanliness.

d. Care of food in the home.

4. Economy.

a. Marketing.

b. Use of left-over food.

c. Costs and relative food values.

5. Home Nursing, Emergencies and Care of Children.

II. The Field for Practical Work covers:

1. Teachers' lunch rooms where the girls serve.

a. Luncheon dishes.

b. Tray luncheons.

c. Simple course dinners.

2. School children's lunches.

a. Mid-morning lunch.

b. Noon lunch.

3. The cooking classes prepare and serve these lunches. This arrangement adds purpose and incentive to the cooking, makes it possible to give practice in cooking in family quantities, and the receipts from the sale of luncheons cover the cost of materials used for instruction in the cooking classes.

4. Training in table setting and waiting on table is given in serving the course dinners in the teachers' dining rooms.

5. Cooked food and preserved fruits and vegetables are prepared on order and for food sales.

DESIGN.

Design is closely related to all work in sewing and housekeeping. It includes the study of effects in lines and color harmony with application, sketching from models and application to garments, the working out of designs for embroidery and braiding, original designing of garments and hats, and house arrangement, decoration and furnishing. The following are suggestions for practical applications:

1. Line effects in spacing for tucks. flounces, plaits, etc.

2. Illustrating with paper such problems in sewing as plackets, biases and mitre corners.

3. Cross-stitch designs for cushions and bags.

4. Embroidery designs for towels, aprons, jabots, pin cushions, underwear, waists, hats, and collar and cuff sets.

5. Designing of patterns for pockets, collars, yokes, etc.

6. Making of original design for child's dress and one-piece dress.

7. Stencil designs for curtains, screens and household decorations.

ARITHMETIC.

The principles covered in the seventh and eighth grade Course of Study are to be followed in this course, but the problems will be

based upon the garments made in sewing, upon the household decoration work in design, and upon the housekeeping work. In each department goods should be checked up by the pupils when received, the costs reckoned and inventories made from time to time. The amount and cost of materials used for each garment should be estimated. Various housekeeping problems, including periodic cost for clothing, fuel, food and housing for families of different numbers are to be worked out. Housekeeping accounts should be carefully kept, according to a systematic method of bookkeeping. This diversity of problem work will give ample opportunity to cover all principles required in the grammar grades.

English and Reading.

The work in English will correspond with the regular course of the seventh and eighth grade. A quantity of practical work in business forms, advertisements, application letters and social forms, should be given. A number of current magazines are provided for reading and for work in English, both oral and written.

Note Books.

Each pupil will keep a note book containing work from all departments. Neatness and accuracy will be required.

Other Subjects.

The work in penmanship, geography, history, civics, physiology and hygiene, will generally correspond with the regular course of the seventh and eighth grades. The geography and history will be based especially upon the industrial and commercial phases of the community. Emphasis will be placed upon the history of women in industries and upon the production, manufacture, consumption, and transportation of fabrics in connection with geography.

Time Schedule.

	Minutes per week
Reading	100
Arithmetic	220
Spelling	75
Writing	75
Language and Grammar	250
Industrial Geography, History and Civics	150
Nature Study, Physiology and Hygiene	85

Music	30
Design	210
Sewing	360
Cooking	180
Physical Training	65
Total	1800

Madison Park Vocational School

GENERAL STATEMENT.

Madison Park Vocational School is located at Public School No. 2, King Street. There are two departments, the advanced and the elementary. The advanced department offers to girls who have graduated from the grammar school two year vocational courses.

The school aims (1) to give the girl a thorough knowledge of the household arts to prepare for the fundamental occupation of woman, (2) to provide opportunity for training in some of the best vocations open to women.

In these courses design and vocational hand work are substituted for the foreign languages and higher mathematics included in the regular high school courses.

ADVANCED.

FIRST YEAR (GENERAL.)

	Hrs. per Week (60 min. each)		Hrs. per Week (60 min. each)
English	4	Sewing	8
Applied Mathematics	4	Cooking	4
Applied Design	4	Biology	4
Industrial Geography and Civics	3	Music	½
Physical Training	½	Study	3
		Total	35 hrs.

At the end of the first year pupils will choose one of the following second year courses:

SECOND YEAR.

DRESSMAKING.

	Hrs. per Week (60 min. each)		Hrs. per Week (60 min. each)
English	4	Textiles	2
General Science	4	Physical Training	½
Cooking	3	Music	½
Costume Design	3	Study	3
Dressmaking	15		

MILLINERY.

	Hrs. per Week (60 min. each)		Hrs. per Week (60 min. each)
English	4	Textiles	2
General Science	4	Physical Training	½
Cooking	3	Music	½
Applied Design	3	Study	3
Millinery	15		

LUNCH ROOM MANAGEMENT.

	Hrs. per Week (60 min. each)		Hrs. per Week (60 min. each)
English	4	Foods	2
General Science	4	Physical Training	½
Sewing	3	Music	½
Applied Design	3	Study	3
Cooking	15		

HOUSEHOLD ARTS.

	Hrs. per Week (60 min. each)		Hrs. per Week (60 min. each)
English	4	Textiles or Foods	2
General Science	4	Physical Training	½
Cooking	4	Music	½
Household Decoration	4	Household Economics	4
Sewing or Millinery	8	Study	4

Vocational Course for Boys

ELEMENTARY.

The elementary vocational work is open to boys who have completed the work of the sixth A grade and parallels the work of the seventh and eighth grades. Its aims are:

To awaken the boy's interest in the industrial work of the world; to acquaint him with the common materials used in the industries, with the fundamental processes of manufacture and with the elemental principles of mechanics.

To discover, if possible, his aptitudes and to guide him toward a life work.

For the realization of these aims the boy should be given simple work in joinery, pattern making, moulding, casting in soft metals for concrete and the pouring of concrete, simple electrical work and some printing, including both composition and press work.

Having tried out these various lines of work for approximately one half of the time which the boy is expected to remain in school, he is then to choose that line of work for which he seems best adapted and to specialize in it for the balance of the course.

The following list of articles is suggestive only:

WOODWORKING.

Saw Boxes.	Card Filing Boxes.	Costumers.
Saw Horses.	Kindergarten Tables.	Magazine Racks.
T Squares.	Window Screens.	Sewing Boxes.
Foot Stools.	Tool Chests.	Umbrella Racks.
Scales.	Gummed Tape Machines.	Sketching Boxes.
	Forms for Concrete Work.	

Pattern Making.

Patterns for oz. and lb. weights.
Patterns for battery zincs.
Patterns for water motor.
Patterns for hot-air engine.
Patterns for Gas Engine.
Patterns for Bench Grinder.
Patterns for Steam Engine.
Patterns for Electric Motor.

Moulding and Casting.

Castings for oz. and lb. weights.
Castings for Battery zincs.
Castings for Water Motor.
Pouring of Concrete for Flag Standards
Pouring of Concrete for Flower Pots.
Engines (mentioned under Pattern Making).

Elementary Metal Work.

Chipping, Filing, Drilling, Thread Cutting and Lathe Work on castings for
oz. and lb. weights.
Water Motor.
Engines (mentioned above).
Bench Grinder.
Micrometer.

Sheet Metal Work.

Pans for Scales.
Fire Extinguishers.
Paddles for Water Motor.
Trays for Umbrella Racks.

Plating.

Making of Electro-plating Apparatus and Plating of small articles.

Printing.

Lesson Leaflets.
Bill Heads.
Letter Heads.
Cards.
Booklets.
Stock Cards.

Electricity.

Making of Batteries.
Pocket Flash Light.
Simple Bell, Circuits.

Paper.

Balloons.
Kites.
Aeroplanes.

Drawing.

The drawing work should consist of freehand sketches, working drawings, tracings and blue prints of (1) various articles of the shop equipment; (2) the articles constructed in the shop.

(Note—Drawings should precede the construction of the article and the boy should work from his own drawing or blue print.)

Whenever possible pupils should make their sketches and drawings direct from the model itself. These models should be worked out by the teachers in advance or purchased whenever it is possible to find them on sale, the pupils making such changes as may be desirable. In the absence of models pupils may work from sketches prepared by the instructor.

Mathematics.

The principles covered in the vocational classes will be the same as those of the regular seventh and eighth grade course of study. The problems, however, will be based upon the shop work which the pupils are doing. Previous to the working out of any project each pupil should make an estimate of the materials needed and the amount of time required. This estimate should be preserved. During the construction of every article the pupil should keep a careful record of the materials used and of the time consumed. This record should be compared with his original estimate. Pupils should be required to take frequent inventories of the material in the shop. They should, also, check up materials as they are received at the school.

(Note—In the mathematics as in the drawing the pupils should go directly to the articles or to the stock bins for their data, making their own measurements; also to price lists and trade catalogs for their prices.)

Shop Theory.

Each pupil should keep an accurate and neat note book containing all the information, directions and helpful hints given by the shop teacher.

English.

The English work will follow in general the course laid down for the seventh and eighth grades. Practical work should be given

in the answering of advertisements, in the writing of letters, ordering material and in the submitting of estimates on prospective work. A number of trade magazines and papers are provided for use for both oral and written work. Composition work should be based on the various occupations and their advantages.

PENMANSHIP.

Some time should be given to penmanship for all pupils who need training in this subject.

OTHER SUBJECTS.

The course of study in geography, history, civics, physiology and hygiene will follow the regular course for the seventh and eighth grades, special emphasis being placed upon the industrial and commercial activities of the locality.

Drawing and Shop Arithmetic.....450 minutes weekly
Shop work in wood and metal.....450 minutes weekly

English, Spelling, Geography, History, Civics, Physiology, Hygiene } 900 minutes weekly

Rochester Shop School

ADVANCED.

GENERAL STATEMENT.

The Rochester Shop School is located in Exposition Park. It is a technical school offering four year courses of high school grade to grammar school graduates and also short practical two year courses for boys who cannot give four years to secondary education.

The School aims to prepare boys for the highest type of citizenship and also to teach them the fundamental principles of various industries. The chief difference between the shop school courses and high school courses is that mechanical drawing and shop work is substituted for the foreign languages. The technical courses aim to give the boys a broad enough training in science, mathematics and drawing to enable them to work up to advanced positions in the industries.

All courses are the same for the first two years.

The first year's shop work consists of Cabinet Making and Printing.

The second year's shop work consists of Elementary Machine Shop Practice and Pattern Making or Electricity.

The school sessions are from 8:15 A. M. to 12 M., and from 12:30 P. M. to 3:30 P. M.

The study periods enable first and second year students to prepare a large part of their lessons in school under the teacher's direction.

In addition to the Technical (4 year) Courses, practical courses (2 year) are arranged for those who must complete their education in a shorter time than four years.

During the second year of the practical courses students are allowed to take the kind of shop work which they choose.

		Periods per Week			Periods per Week
First Year	English and Civics	5	**Second Year**	English and Business Writing	5.
	Shop Arithmetic and Algebra	5		Physics	7
	Drawing and Elementary Science	10		Drawing and Geometrical Problems	8
	Shop Work	15 - 20		Shop Work	15 - 20
	Study	10 - 5		Study	10 - 5

AT THE CLOSE OF THE SECOND YEAR PUPILS IN THE TECHNICAL COURSE WILL CHOOSE ONE OF THE FOLLOWING COURSES

Third Year

Cabinet Making		Electrical		Mechanical Drafting		Architectural Drafting	
English and Office Practice	5	English and Office Practice	5	English and Office Practice	5	English and Office Practice	5
Geometry	5	Geometry	5	Geometry	5	Geometry	5
Science and Drawing	15	Science and Drawing	15	Science and Shop Work	15	Science and Shop Work	15
Shop Work	20	Shop Work	20	Drawing	20	Drawing	20
Printing		**Gas Engineering**		**Pattern Making**		**Sanitary Engineering**	
English and Office Practice	5	English and Office Practice	5	English and Office Practice	5	English and Office Practice	5
Geometry	5	Geometry	5	Geometry	5	Geometry	5
Science and Drawing	15	Science and Drawing	15	Science and Drawing	15	Science and Drawing	15
Shop Work	20	Shop Work	20	Shop Work	20	Shop Work	20

Fourth Year

Cabinet Making		Electrical		Mechanical Drawing		Architectural Drafting	
English and Economics	5	English and Economics	5	English and Economics	5	English and Economics	5
Indust. History and Civics	5	Indust. History and Civics	5	Indust. History and Civics	5	Indust. History and Civics	5
Applied Mathematics	5	Applied Mathematics	5	Applied Mathematics	5	Applied Mathematics	5
Furniture Design	10	Electrical Theory and Drawing	10	Mechanics	10	Mechanics	10
Shop Work	20	Shop Work	20	Drawing	20	Drawing	20
Printing		**Gas Engineering**		**Pattern Making**		**Sanitary Engineering**	
English and Economics	5	English and Ecomonics	5	English and Economics	5	English and Economics	5
Indust. History and Civics	5	Indust. History and Civics	5	Indust. History and Civics	5	Indust. History and Civics	5
Applied Mathematics	5	Applied Mathematics	5	Applied Mathematics	5	Applied Mathematics	5
Applied Design	10	Drawing	10	Drawing	10	Drawing	10
Shop Work	20	Shop Work	20	Shop Work	20	Shop Work	20

Normal Training School

COURSES OFFERED.

The School offers three courses.

a. Normal—prepares for teaching in all grades of the public schools of the State. Length of course two years.

b. Kindergarten—prepares for teaching in the kindergartens of the public schools of the State. Length of course two years.

Students who graduate from either course in this school may, by remaining a third year, receive both certificates upon passing a satisfactory examination in only such subjects as they did not pursue during their original course.

c. Primary Kindergarten—prepares for teaching in grades I to VI inclusive and the kindergarten. Length of course two and a half years.

MINIMUM REQUIREMENT FOR AN APPROVED HIGH SCHOOL COURSE.

A course of study in a high school or academy to receive the approval of the State Commissioner of Education, as required by chapter 1031 of the laws of 1895, entitled "An act to encourage and promote the professional training of teachers," must include 2880 recitation periods, of which the following subjects must be a part:

English—The course in English must be continuous throughout the four years, and must provide adequate instruction in

Literature	494 hours
Rhetoric and Composition.....	
Grammar	

History—The course in History should be continuous throughout the year, and must include

Ancient History	114 hours
English History	114 hours

American History with the development of civic institutions.....152 hours

Mathematics—The course in Mathematics must include

Algebra (through quadratics).....190 hours
Plane Geometry .....190 hours

Science—The course in Science must embrace Biology, including Physiology and Physics. The laboratory method of teaching these subjects is prescribed.

Biology and Physiology .....190 hours
Physics .....190 hours

Foreign Languages—The course in Foreign Languages must include

Latin .....380 hours
or
French .....380 hours
or
German .....380 hours

Drawing—The course in Drawing must be continuous during the four years, and must provide adequate instruction for 228 hours.

Drawing .....228 hours

Vocal Music—The course in Vocal Music must be continuous throughout the four years, and provide adequate instruction in sight singing from the staff and the use of common technical terms.

Vocal Music .....152 hours

The term "hour" as used in this course means a recitation period of not less than 45 minutes.

The number of hours required in each subject is based on a school year of 38 weeks as minimum.

The High Schools

I. LITERARY AND PROFESSIONAL

FIRST YEAR

	Hrs. per week	Credits	Points
REQUIRED :			
Latin or German	5	20	1
Algebra	5	20	1
English	5	20	1
Biology	5	20	1
Physical Training	2		
ELECTIVE :			
*Drawing, Freehand or Mechanical			
*Music, Vocal or Orchestra			
*Manual Training			

SECOND YEAR

	Hrs. per week	Credits	Points
REQUIRED :			
Latin or German	5	20	1
Plane Geometry	5	20	1
English	5	20	1
Physical Training	2		
ELECTIVE : Choose one point.			
Greek or German or French (See Note 4)	5	20	1
History (Ancient)	5	20	1
Elementary Bookkeeping and Business Writing	10	20	1
Shorthand and Typewriting	10	20	1
Commercial and Physical Geography	5	20	1
*Drawing, Freehand or Mechanical			
*Music, Vocal or Orchestra			
*Manual Training			

THIRD YEAR

	Hrs. per week	Credits	Points
REQUIRED :			
English	5	20	1
ELECTIVE : Choose three points.			
Latin or Greek or German or French (Note 4)	5	20	1
Zoology or Botany	7	20	1
Physics (Note 2)	7	20	1
Chemistry	7	20	1
Advanced Mathematics	5	20	1
History (Note 6)	5	20	1
Some Commercial Subject			
Physical Geography	5	20	1
*Drawing, Freehand or Mechanical			
*Music, Vocal or Orchestra			
*Manual Training			

FOURTH YEAR

	Hrs. per week	Credits	Points
REQUIRED :			
English and Elocution	5	20	1
ELECTIVE : Choose three points.			
Latin or Greek or German or French (Note 4)	5	20	1
Zoology or Botany	7	20	1
Physics	7	20	1
Chemistry	7	20	1
Physical Geography	5	20	1
History (Note 6)	5	20	1
Advanced Mathematics	5	20	1
Some Commercial Subject			
*Drawing, Freehand or Mechanical			
*Music, Vocal or Orchestra			
*Manual Training			

NOTE 1—REQUIREMENTS FOR ADMISSION.—Graduates of Grammar Schools in the City of Rochester are admitted without examination on the recommendation of the Principal of the Grammar School. Other students must present a Regents' Preliminary Certificate or pass an entrance examination.

NOTE 2—REQUIREMENTS FOR GRADUATION.—The successful completion of all the required subjects and enough electives to make a total of 16 units. A pupil must have earned one unit in history and one in physics, unless the pupil is preparing for a college course, in which case a substitution for physics will be allowed, if the entrance requirements make it necessary.

NOTE 3—When a foreign language is chosen, it must be pursued for two years at least, unless it is the third foreign language taken by the pupil.

NOTE 4—Pupils will not be allowed to begin two foreign languages in the same year.

NOTE 5—The tuition for non-residents is $37.50 per semester ($75 per year), payable at the beginning of each semester.

NOTE 6—Any history may be chosen for good reasons.

* The number of hours to be taken per week will be determined by the instructor. Credit will be assigned on the basis that ten hours per week for one year will be required for one unit.

COURSE 1.

Literary and Professional.

This Course is adapted to two different purposes. (a) For pupils who are not to go on to higher education, but who need the general training and development for clear thinking, cultivated appreciation and efficient citizenship. (b) It must be chosen in order to prepare for the various college courses; for engineering courses in the University, and for technical schools. It must be taken by those preparing for professional schools, either through or without a college course; such professions, for example, as teaching, divinity, law, medicine, dentistry, optometry, veterinary medicine, librarian, etc.

Specific Requirements.

Course 1 has certain subjects required of all, whatever their further purpose may be. These are:

Four years of English.

Two years of Foreign Language.

One and one-half years of Science.

Two years of Mathematics.

One year of History.

Two years of Physical Training.

The last subject mentioned is required, but credit for it is not counted, for sake of simplicity.

The required and elective subjects may be concisely summed up in the following condensed form:

The total of these required subjects is ten and a half points. The electives must make five and a half points, giving a total of sixteen points required for graduation. Any one of the courses suggested or any combination of them may be taken provided it meets the definite requirements just given.

General courses G and H, for boys and girls respectively, are suggested as designed to meet the need of students who expect to finish their formal education in the high school.

The various electives and the choice of foreign languages should be determined by the plans for future education or other work after the high school course is finished. Hence variations of Course 1 are

planned for various needs. They are distinguished as course A, course B and so on.

It must be constantly kept in mind that the order and choice of subjects in these suggested courses are *in no sense mandatory*. Some variation is possible in almost every case without detriment to the preparation for the particular college or other aim in view. It is urgently advised that parents study with their children the needed preparation for the end in view. The Principal will be especially glad to be of service to parents and pupils in giving other information and suggestions.

COURSE 2.

COMMERCIAL.

We believe that this course offers the best preparation of its kind that can be had short of a course in Finance and Accounting in college. It should be chosen by the pupil who by aptitude, or by both aptitude and necessity, is to enter the business and manufacturing world on the office side of that work. It supposes that formal education will generally end with the high school. It prepares boys and girls for immediate work in the office as bookkeepers and stenographers, and also for the later intelligent direction of such work. The pupil who can give but one or two or three years to this preparation will find himself able to gain a better position at once, even if he can not finish the four years' course, than those not so prepared.

This very fact, however, suggests the need of great caution lest it be chosen by those whose aptitudes and prospects do not require them to prepare for immediate wage earning in this line. It is a highly specialized course. Hence the student once started on it who discovers that it is not for him will find considerable difficulty in transferring from this to course 1, and then the transfer is accomplished only at some sacrifice of time in order to complete a high school course. In short, it is a much easier matter to go from course 1 into course 2 than to go in the opposite direction. Yet this should not deter the pupil in the commercial course from making a change when its advisability is plainly indicated.

In the organization of the commercial course in the Rochester High Schools, two objects were kept in mind:

First—The training of boys and girls to fill business positions immediately upon graduation from high school, and to win rapid promotion to positions of responsibility and trust by reason of the broad commercial education which they have received in the commercial department.

Second—A preparation for the new and important higher courses in commerce, accounts, finance and administration offered by many of the colleges and universities of this country. In this connection it should be said that selection of the commercial course no longer means that one must be satisfied with a high school training, as this course, while fitting for immediate usefulness and future growth, also paves the way to university study of a kind that prepares for large and important service and correspondingly large rewards.

Those who desire a business education only and have no hope of going beyond one, two, three or four years in high school, may choose the commercial course and receive, not only instruction in the technical commercial subjects, but also in many of the subjects that are considered essential to a broad, general education. All subjects, both commercial and academic, will be taught in a manner calculated to secure to the student the largest possible measure of cultural and practical benefit. Graduates of this course will receive a thorough training for business and, at the same time, a sound education in the best sense of the term.

While it is not required that students desiring a general business education enter upon and follow strictly the course here outlined, it is strongly advised that they elect the subjects that have been universally recognized as important parts of a training for business, and pursue them in the following order:

FIRST YEAR.

Subjects	Weekly Recitations	Points
English (including Simple Business Correspondence)	5	1
Commercial Mathematics	5	1
Elementary Bookkeeping, Business Practice and Business Writing	10	1
Biology	5	1
	22	4

SECOND YEAR.

English	5	1
Physical Geography (1st half)		
Commercial Geography (2nd half)	5	1
Shorthand or Foreign Language	5	1
Advanced Bookkeeping	5	1
Typewriting (Unprepared)	5	½
	25	4½

THIRD YEAR.

English	5	1
Commercial Physics	5 or 7	1
English History	5	1
Shorthand or Foreign Language	5	1
Office Practice	2	¼
	24	4¼

FOURTH YEAR.

Commercial English and Correspondence	5	1
Advanced American History and Civics	5	1
Mathematics, Industrial Chemistry or Foreign Language	5	1
Commercial Law (1st half)		
Economics (2nd half)	5	1
Shorthand, Reporting Principles, Principles of Accounting or Advertising and Salesmanship	2	¼
	22	4¼
Total	93	17

EXPLANATION.

FIRST YEAR.

It will be noted that a pupil who remains but one year in high school will make considerable improvement in English; learn the forms and principles used in writing business letters; get a thorough

training in commercial arithmetic and practical algebra; learn the fundamental principles of bookkeeping which will enable him to take charge of a simple set of books, or render valuable assistance in connection with a more elaborate set; gain a good knowledge of the more common commercial forms such as note, check, draft, invoice, receipt, bill of lading, etc.; acquire a good business hand; and secure some serviceable understanding of biologic science, including physiology and hygiene.

Those who are in doubt as to whether they can remain longer than one year in high school can enter upon this course with the assurance that they will not only be securing a fair business education, but that they will be prepared to go on through the course with no loss of time should the way open for them to do so. The year's work is a part of the full requirement for a thorough business education, and yet is, in a sense, complete in itself. No one need hesitate to take the work as regularly outlined because he has no hope of completing the entire course.

A new course in commercial mathematics has been prepared to meet the needs of those who desire to secure a business training. This course will consist of a thorough drill in those parts of arithmetic, algebra and geometry (mensuration) that are commonly used in commercial and industrial occupations. Facility in the handling of arithmetical and algebraic computations will be the chief object of the course.

Second Year.

This year's work is so planned as to strengthen the student's knowledge of English; give him a broad training in physical and commercial geography, which will help him properly to understand the commercial development apparent on every hand; train him in the science of bookkeeping so that he will not only be fitted for the simpler office positions but also for the larger opportunities that are sure to come to one who understands the more complicated principles of advanced bookkeeping embodied in modern accounting systems; to write shorthand at a moderate rate of speed and transcribe on the typewriter with a degree of facility demanded by the best offices.

Those who do not care to elect shorthand or who are advised not to do so because of irremediable weakness in English, may take up a foreign language this year and continue through two or three years.

Third Year.

Shorthand, if begun in the second year, must be continued this year unless the student is given special permission to drop it. No one is advised to take this subject with a view to its use unless he is willing to continue his study long enough in high school or elsewhere to master the system and acquire the ability to write at a high rate of speed, except college preparatory students who will find a year of shorthand of inestimable value to them both in their college work and in securing part time positions to help maintain themselves while pursuing college courses.

An additional office practice and methods course is offered in this year. While the work will be largely along the lines of advanced office practice, some valuable bookkeeping drill will be a feature of the course.

Fourth Year.

A special course in Commercial English and Correspondence has been prepared for this year.

Students may elect either additional work in shorthand or bookkeeping. Students who are proficient in shorthand and bookkeeping, or those who intend to enter business on the selling side, should take the courses in advertising and salesmanship offered this year. All business students should take these courses if possible.

Commercial law, economics, advanced American history and civics form an important group for fourth year commercial students.

The Department of Chemistry, in addition to the regular work in Chemistry, offers a course in Special Physics for Girls.

Nearly every device that is used in the home by girls and their mothers has its underlying principle of natural science. In this Special Physics the girl is brought face to face with the everyday problems of her life at home and abroad. She is trained to observe accurately and to think and act scientifically.

The construction, manipulation, and efficiency of stoves, furnaces, hot water heaters, washing machines, vacuum cleaners, refrigerators, fireless cookers, thermos bottles, electric flat irons, toasters, etc., form an important part of the course.

The study of various cleansing agents, laundry methods, removal of stains, soaps and their adulteration, bleaching, dyeing, milk and

water sanitation, cooking operations and precautions against accidents and fire give a firm grounding in the facts and applications of some principles of chemistry.

Careful instruction is given in home plumbing, heating and ventilation, methods of lighting, both natural and artificial, etc. These and other topics are also considered from the standpoint of cost and efficiency.

In all cases the direct bearing of a topic upon the health of the girl has an important place, e. g., the relation of kinds and methods of lighting to the proper conditions of the eye, the relation of health to ventilation and humidity.

Throughout the course the practical side is emphasized and the girl is trained to natural scientific methods of thinking and doing. She comes to love science as a helpful, interesting subject and tool.

The aim is to train each girl to a fuller realization of her opportunities and needs, with the view of making her a more efficient and useful woman and citizen.

Applied Physics for Boys.

Physics II.

This course is offered for boys who wish a practical understanding of physics, but who do not wish to offer physics as a requirement for courses leading to Engineering, Medicine or Law. This course is the one for boys designated as Commercial Physics in the Commercial Course of the West High School. It is also a physics recommended for boys in the classical course in cases where it is not to be offered for college entrance.

Purpose.

It is the aim of the department in this course in physics to eliminate as far as possible all purely mathematical and theoretical aspects of the subject, and to treat Mechanics, Sound, Heat, Light and Electricity in a practical manner. We shall deal directly with those physical *principles* that are most intimately related to a boy's daily experience, with a view to clarifying his mind regarding common physical phenomena, and to show their direct connection with problems confronting every man in commercial or business life.

Our equipment consists of types of all fundamental machines of the kind actually used by men in general building construction and manufacturing industries. Many of these machines are constructed and mounted by the students in this department. For the study of *electricity* we have a workable electric plant consisting of a dynamo mounted on a concrete foundation, and operated by a similarly mounted steam engine or gas engine. These engines were mounted in concrete by the students as a regular part of their work. In electric wiring the boys are required to install simple bell and lighting circuits and are taught the various kinds and uses of primary and storage batteries. They are also taught the best methods of arranging batteries for gas engine work, electro-plating, bells, telegraphing, etc. The wiring for the lights in the power plant referred to above was done by regular students in this course in Physics.

In the study of *light* the boys find the candle power and cost of operation of commercial types of gas and electric lights. They also learn the essential principles of optics as applied to eyeglasses, the camera, the simple telescope, etc.

In the study of *heat* the following topics receive special attention: Heating and ventilation of buildings, humidity of the air and its effect on climatic conditions and health, refrigeration and artificial ice manufacture, and the elementary principle of steam and gas engine operation.

The topic of *sound* receives only such attention as time will permit. It is the intention of the department to teach the nature of sound, cause of echoes, and the principles of sound as applied to telephones and phonographs, and underlying the operation of musical instruments in general.

This course covers one year's work, three periods per week of recitation and two periods per week in laboratory. The boy who completes the year's work in a satisfactory manner may offer it to meet the entrance requirements of the classical and philosophical courses in certain colleges provided he can secure a recommendation from the head of the physics department.

Book List

LIST OF BOOKS USED IN THE GRADES.

ARITHMETIC.

Title.	Author.	Publisher.
Primary Arithmetic	Smith	Ginn & Co.
Advanced Arithmetic	Smith	Ginn & Co.

ART.

Text Book in Art Education (Books V, VI, VII.)	Prang	

GEOGRAPHY.

Natural Elementary Geography	Redway & Hinman	A. B. C.
Natural Advanced Geography	Redway & Hinman	A. B. C.

GRAMMAR.

Guide Book to English	Gilbert & Harris	Silver, Burdett & Co.

HISTORY.

	Mace	Rand, McNally Co.
	Gordy	Scribner
	Fisk	Houghton, Mifflin & Co.
	Eggleston (New Century)	A. B. C.
	Montgomery	Ginn & Co.

MUSIC.

The Modern Music Series (First Book, Primer, Second Book, Third Alternate)	Eleanor Smith	Silver, Burdett & Co.

PHYSIOLOGY.

Health Lessons, Book I	Davison	A. B. C.
Elementary Physiology and Hygiene	Conn	Silver, Burdett & Co.

READERS.

Stepping Stones to Literature (Books I to VIII)	Gilbert & Arnold	Silver, Burdett & Co.

SPELLERS.

Part I, Part II	Alexander	Longmans, Green & Co.

WRITING.

Mills System

SUPPLEMENTARY BOOK LIST.

GRADE I.

Title.	Author.	Publisher.
Child Classic Primer	Alexander	Bobbs, Merrill & Co.
Brooks Primer	Brooks	D. Appleton & Co.
Brownie Primer	Banta	A. Flanagan Co.
Bender Primer	Bender	C. E. Merrill & Co.
Art Lit. Reader Bk. I	Chutter	Atkinson, Mentzer & Grover
Art Lit. Primer	Grover	Atkinson, Mentzer & Grover
Folklore Primer	Grover	Atkinson, Mentzer & Grover
Holton Primer	Holton	Rand, McNally Co.
Graded Lit. Bk. I	Judson & Bender	C. E. Merrill & Co.
Oriole Stories	Lane	Ginn & Co.
Wide Awake First Reader	Murray	Little, Brown & Co.
Sunshine Primer	Noyes & Guild	Ginn & Co.
Summers Primer	Summers	F. D. Beatty & Co.
Summers First Reader	Summers	F. D. Beatty & Co.
First Reader	Wade & Sylvester	Ginn & Co.

GRADE II.

Boy Blue and His Friends	Blaisdell	Little, Brown & Co.
Bow Wow and Mew Mew	Craik	C. E. Merrill & Co.
Around the World, Bk. I	Carroll	Silver, Burdett & Co.

Eugene Field Reader	Cooley & Harris	Chas. Scribner's Sons
Cave Men	Dopp	Rand, McNally Co.
Tree Dwellers	Dopp	Rand, McNally Co.
Work that is Play	Gardner	A. Flanagan & Co.
Banbury Cross Stories	Howard	C. E. Merrill & Co.
A Book of Plays for Little Actors	Johnson & Barnum	American Book Co.
Graded Lit. Bk. II	Judson & Bender	C. E. Merrill & Co.
Eskimo Stories	Smith	Rand, McNally Co.
Three Little Cotton Tails	Smith	A. Flanagan & Co.
Classic Fables	Turpin	C. E. Merrill & Co.
Fairy Tale and Fable	Thompson	Silver, Burdett & Co.
Lodrix	Wiley & Edick	D. Appleton & Co.
Wheeler's Graded Reader, Book II	Wheeler	W. H. Wheeler & Co.

GRADE III.

Seven Little Sisters	Andrew	Ginn & Co.
Child Lore Dramatic Reader	Brice	Chas. Scribner's Sons
Alice in Wonderland	Carroll	C. E. Merrill & Co.
Art Lit. Bk. III	Chutter	Atkinson, Mentzer & Co.
Around the World, Bk. III	Carroll	Silver, Burdett & Co.
Heroes of Myth	Gilbert & Price	Silver, Burdett & Co.
Dick Whittington and Other Stories	Howard	C. E. Merrill & Co.
Graded Lit. Bk. III	Judson & Bender	C. E. Merrill & Co.
Big People and Little People of Other Lands	Shaw	American Book Co.
Fairy Tales	Shaw	Newson & Co.
Fables and Folk Stories	Scudder	Houghton, Mifflin & Co.

GRADE IV.

Ten Little Boys	Andrew	Ginn & Co.
Good Health for Boys and Girls	Brown	D. C. Heath & Co.
Fifty Famous Stories Retold	Baldwin	American Book Co.
North America	Carpenter	American Book Co.
South America	Carpenter	American Book Co.
Adventures of Pinocchio	Collodi	Ginn & Co.
Great Americans for Little Americans	Eggleston	American Book Co.

Friends and Helpers	Eddy	Ginn & Co.
Wandering Heroes	Gilbert & Price	Silver, Burdett & Co.
Howell's Story Book	Howell	Chas. Scribner's Sons
Viking Tales	Hall	Rand, McNally Co.
Norse Stories	Mabie	Rand, McNally Co.
Exploration and Discovery	Pratt	D. C. Heath & Co.
The Beginner's Book	Pratt	D. C. Heath & Co.
Discoverers and Explorers	Shaw	American Book Co.
Children's Classics in Dramatic Form	Stevenson	Houghton, Mifflin & Co.
Grimms Fairy Tales	Turpin	C. E. Merrill & Co.

GRADE V.

Old Stories of the East	Baldwin	American Book Co.
Our American Neighbors	Coe	Silver, Burdett & Co.
Spyri's Heidi	Dole	Ginn & Co.
Amer. Life and Adventure	Eggleston	American Book Co.
The Western U. S.	Fairbanks	D. C. Heath & Co.
Story of the Greeks	Guerber	American Book Co.
Four Old Greeks	Hall	Rand, McNally Co.
Moni, The Goat Boy	Kunz	Ginn & Co.
Hiawatha	Longfellow	C. E. Merrill & Co.
Pioneers on Land and Sea	McMurray	The MacMillan Co.
First Steps in History of Our Country	Mowry	Silver, Burdett & Co.
Lads and Lassies of Other Days	Price	Silver, Burdett & Co.
Everyday Life in the Colonies	Stone & Fickett	D. C. Heath & Co.
Stories of the Ancient Greeks	Shaw	Ginn & Co.
Fanciful Tales	Stockton	Chas. Scribner's Sons
Story of the Greek People	Tappan	Houghton, Mifflin & Co.
Anderson's Fairy Tales	Turpin	C. E. Merrill & Co.

GRADE VI.

Marco Polo	Atherton	D. Appleton & Co.
Europe	Carpenter	American Book Co.
Asia	Carpenter	American Book Co.
Africa	Carpenter	American Book Co.
Nurnberg Stove	Louisa Dela-Rame	C. E. Merrill & Co.

Heroes of Chivalry	Gilbert & Maitland	Silver, Burdett & Co.
Amer. Heroes and Leaders.	Gordy	Chas. Scribner's Sons
Snow Image	Hawthorne	Newson & Co.
Tales from Shakespeare	Lamb	D. C. Heath & Co.
Stories from Chaucer	Lang	E. P. Dutton & Co.
Stories from Spencer	Lang	E. P. Dutton & Co.
Robin Hood	Lang	E. P. Dutton & Co.
William Tell	McMurray	Silver, Burdett & Co.
Black Beauty	Sewell	Newson & Co.
Boys of Other Countries	Taylor	G. P. Putman's Sons
Krag and Johnny Bear	Seton Thompson	Chas. Scribner's Sons

GRADE VII.

Last of Mohicans	Cooper	The MacMillan Co.
The Spy	Cooper	Newson & Co.
Town and City	Gulick	Ginn & Co.
Stories from 13 Colonies	Guerber	American Book Co.
Washington and His Country	Irving	Ginn & Co.
Miles Standish	Longfellow	Houghton, Mifflin & Co.
Evangeline	Longfellow	Houghton, Mifflin & Co.
Around the World in the Sloop Spray	Slocum	Chas. Scribner's Sons
Snow Bound	Whittier	Houghton, Mifflin & Co.

GRADE VIII.

Commercial Geography	Adams	D. Appleton & Co.
How the World is Fed	Carpenter	American Book Co.
How the World is Clothed	Carpenter	American Book Co.
Plants and Their Children	Dana	American Book Co.
Little Nell	Dickens	Newson & Co.
Odyssey	Homer	The MacMillan Co.
Twice Told Tales	Hawthorne	C. E. Merrill & Co.
Ninety-Three	Hugo	Newson & Co.
Tanglewood Tales	Hawthorne	Houghton, Mifflin & Co.
Franklin, His Life	Montgomery	Ginn & Co.
Treasure Island	Stevenson	The MacMillan Co.
Tales of a Grandfather	Scott	Ginn & Co.

List of Books Used in the High Schools.

Commercial.

Name.	Author.	Publisher.
Modern Illustrative Bookkeeping	Neal & Cragin	A. B. C.
Commercial Arithmetic	Van Tuyl	Ginn & Co.
Vocational Algebra	Wentworth & Smith	Ginn & Co.
Commercial Law	Gano	A. B. C.
Modern Business Penmanship	Mills	A. B. C.
Commercial Geography	Brigham	Ginn & Co.
Elementary Economics	Ely & Wicker	MacMillan
Physical Geography	Dryer	A. B. C.
Manual of Shorthand	Course of Study—63 Gos 7353	
Dictation of Exercises	Gregg	Gregg Pub. Co.
Rational Typewriting	Eldredge	A. B. C.
Introduction to Physical Geography	SoRelle	Gregg
High School Geography	Gilbert & Brigham	Appleton
Elementary Economics	Dryer	A. B. C.
Laboratory Manual in Physical and Commercial Geography	Burch & Nearing	MacMillan
	Tarr & Von Engeln	MacMillan

English.

English Language	Meiklejohn	Heath
Rhetoric	Gardner, K. & A.	Ginn & Co.
Henry the Fifth	Shakespeare	Everyman
Burke's Conciliation	Appleton Edition	
A Selection from the Great English Poets	Cody	McClurg
Ivanhoe	Scott	
As You Like It	Shakespeare	Merrill
Irving Sketch Book		
An Inland Voyage and Travels with a Donkey	Stevenson	MacMillan
Bunker Hill Orations	Webster	Merrill
Silas Marner	Eliot	
Selections from Lincoln		Merrill
Julius Caesar		Merrill

Tale of Two Cities	Dickens	
House of Seven Gables	Hawthorne	
Essay on Compensation	Emerson	Houghton, Mifflin & Co.
Burke's Speech on America		A. B. C.
Macbeth	Shakespeare	Merrill
Essay on Burns	Carlyle	Merrill
Composition-Rhetoric	Scott & Denney	Allyn & Bacon

HISTORY.

Eastern Nations and Greece	Myers	Ginn & Co.
Roman History	Myers	Ginn & Co.
Outlines of Ancient History	Morey	A. B. C.
Ancient World	West	Allyn & Bacon
The Middle Ages	Myers	Ginn & Co.
The Modern Age	Myers	Ginn & Co.
Mediaeval and Modern European History	Harding	A. B. C.
Mediaeval and Modern European History	Bourne	Longmans
Facts of English History		Ginn & Co.
Short History of England	Cheyney	Ginn & Co.
Essentials in English History	Wolter	A. B. C.
History of the British Nation	Wrong	Appleton
Student's History of United States	Channing	MacMillan
American History	James & Sanford	Scribner
Advanced Civics	Forman	Century
Actual Government of New York	Boynton	Ginn & Co.
English History	Montgomery	
Outlines of English History	Trenholme	Ginn & Co.
American History	McLaughlin	Appleton
American Republic	Forman	Century

LATIN AND GREEK.

School Iliad	Seymour	Ginn & Co.
Xenophon's Anabasis	Goodwin & White	Ginn & Co.
Greek Prose Composition	Pearson	A. B. C.
Greek Grammar	Goodwin	Ginn & Co.
First Greek Book	White	Ginn & Co.

Virgil's Aeneid	Greenough & Kittredge	Ginn & Co.
Select Orations of Cicero with Letters	D'Ooge	Sanborn
Latin Composition on Cicero only	Pearson	A. B. C.
Latin Grammar	Bennett	Allyn & Bacon
Latin Grammar	Allen & Greenough	Ginn & Co.
Caesar's Gallic War (N. Y. Ed.).	Gunnison & Harley	Silver & Burdett
Latin Lessons	Smith	Allyn & Bacon
Latin Prose Composition Parts 2 and 3 combined	D'Ooge	Ginn & Co.
First Latin Book	Hale	Atkinson
New Cicero (with quantities marked)		Mentzer & Grover, rev. ed.

MATHEMATICS.

Elementary Algebra	Hawkes, Luby & Touton	Ginn & Co.
Intermediate Algebra	Hawkes, Luby & Touton	Ginn & Co.
Advanced Algebra	Schultze	MacMillan
Elementary Geometry	Wentworth & Smith	Ginn & Co.
Solid Geometry	Wentworth & Smith	Ginn & Co.
Trigonometry, Plane and Spherical Tables	Wentworth & Smith	Ginn & Co.
Plane Geometry	Betz & Webb	Ginn & Co.
Plane Trigonometry (with tables)	Durrell	Merrill

MODERN LANGUAGE.

German Grammar	Bacon	Allyn & Bacon
Elements of German	Becker-Rhoades	Scott, Foresman & Co.
Im Vaterland	Bacon	Allyn & Bacon
Immensee, Germelhausen, Lindenbaum	Manley	Scott, Foresman & Co.
Wilhelm Tell	Schiller	Holt
Hermann und Dorthea	Goethe	Ginn & Co.
German Composition	Pope	Holt
Elements of German Syntax	Von Hageman	Holt
Complete French Course, Revised	Chardenal	Allyn & Bacon
Lectures Faciles	Lazere	Heath
Essentials of French	Francois	A. B. C.

SCIENCE.

Human Body and Health	Davison	A. B. C.
First Principles of Chemistry	Brownlee and others	Allyn & Bacon
Text Book of Physics	Linebarger	Heath
Physics	Mann & Twiss	Scott, Foresman & Co.
First Principles of Physics	Carhart & Chute	Allyn & Bacon
Essentials of Biology	Hunter	A. B. C.
Animal Life	Jordan & Kellogg	Appleton
Botany Key and Flora	Bergen	Ginn & Co.
Chemistry	Newell	Heath
Sanitary and Applied Science E. H. S.	Bailey	MacMillan