COURSE OF STUDY

PUBLIC SCHOOLS

CITY OF ROCHESTER

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Commissioner

COURSE OF STUDY

OF THE

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OF THE

CITY OF ROCHESTER

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PURPOSE.

The objects of a course of study for elementary schools are to supply the teachers with working material which they may employ in the training of the child. Its business is not to state in definite terms just what the teacher is to do each day, but rather to map out in a broad way those activities, exercises, and fields of knowledge which experience has shown to be most suitable for the elementary school, and to suggest to the teachers methods for enlarging this work and of preparing themselves to perform it. It should take into consideration such facts concerning children in general as the study of child-life has made clear, the character of the civilization in which the child is to be a factor, and the means necessary to make him a most effective voluntary factor for good in his community. It must supply such activities as will best stimulate growth, such discipline as will produce the finest culture, and must suggest such knowledge as will enable him to take hold of nature effectively, comprehend what others have done and expressed, and to express himself adequately for the benefit of others. It must involve also such a vital acquaintance with social, economic and ethical conditions as is required for perfect citizenship. It is not claimed that the present course of study meets these ends, but it is hoped that it will prove suggestive to the teachers along the lines mentioned and will stimulate in them renewed efforts to train children into the utmost possible largeness of being for the utmost possible service.

This course of study is intended to furnish the basis for work in the Rochester schools during the coming year. It will be supplemented from time to time, as the need appears, by circulars giving additional instruction, explanation, and amplification; also, by explanation and instruction given by the Superintendent and Supervisors in meetings with the teachers.

As further light is thrown upon educational principles and methods as the result of study and investigation, as teachers become more familiar with new ways, and as better text-books are made available, it is hoped that this course may be improved.

CORRELATION OF STUDIES.

In the correlation of studies in the elementary grades there should be little attempt to differentiate the various subjects taught. Together they constitute the occupation element of the child's school life. This is as true of what is called the recitation as what is called "occupation work." It constitutes in its entirety the child's rational employment. The various subjects used for the stimulation of thought and the others employed for its expression are so naturally co-ordinated that any formal separation in the primary schools is forced and unnatural.

It must be remembered that the two elements in all education are impression and expression, and that while the former is necessary as furnishing a fund of material, the latter is that upon which growth in power, facility, and adaptation depends.

As the child advances from grade to grade the differentiation of subjects necessarily becomes more evident. In the higher grades correlation, while no less real, is naturally less evident, until in the college and university it becomes the philosophical unity of human learning. But in any of the grades of the common school, the relation between those subjects which are the great sources of thought, and those which include the various forms of expression must be close.

Instead of such a correlation being unnatural, its opposite is unnatural. The divorce of the forms of expression from the subject-matter to be expressed is unnatural, and is responsible for much of the loss of interest and the failure to connect school with the realities of life which has caused the ruin of many schools and pupils. The teacher in teaching any subject should never cut loose from the base of supplies. The vital interest which connects the child's school occupations with his whole life is the artery carrying the life blood to the former.

Correlation of subjects and the introduction into the schools of varied work, interesting to the child, is not ignoring the three R.'s, but teaching them more effectively and in a better way, because it furnishes the irresistible impetus which carries the young student swiftly and easily and surely over the otherwise difficult and uncertain road of acquisition.

In the primary grades it is well to take some subject of general interest, as the cycle of the year, and relate the other subjects to it.

Such a subject as a farm or a garden, or a visit to the fields, or a story of the observance of a festival, will furnish material for a series of lessons in language, drawing, construction, writing, painting, cutting, and the various other expressional subjects, of great value because of vital interest.

A study of the immediate environment growing out into the larger environment; a study of a garment, or a food, or of any of the other many objects which suggest man's common interpendence; a study of the family or the neighborhood; all these items and many more may be made the centers of much work of various sorts.

A caution may be needed. The relations should always be vital and natural, not artificial nor superficial. They should, in so far as possible, be human rather than mechanical or scientific. They should come home to the child's own interests, and suggest the dependence of man upon man

Children should wo k in groups, each being engaged in some part of the general scheme. All of the work should bear a definite relation to the whole. The children should never be given an occupation whose sole motive is to keep them busy.

Whatever the particular subject ch sen, much attention should be given to the literature relating to it.

CORRELATED OUTLINE.

First Grade.

Impression Subjects:

(See separate outlines).
Reading (Literature).
Geography.
History.
Nature.
School Life.
Home Life.

Expression Subjects:

(See separate outlines).
Reading (Utterance).
Language (Speech) oral and written.
Drawing and Painting.
Cutting.
Construction.
Writing.
Dramatic Representation (Play).

Second Grade.

Impression Subjects:
(See separate outlines).
Reading (Literature).
Geography.
History.
Nature.
Number (actual).
School Life.
Home Life.

Expression Subjects:
(See separate outlines).
Reading (Utterance).
Writing.
Number (computation and drill).
Language (oral and written).
Dramatic Representation (Play).
Drawing and Painting.
Cutting and Construction.

Third Grade.

Impression Subjects:
(See separate outlines).
Reading (Literature).
Geography.
History.
Nature.
Number (actual).
Current Events.
Immediate Environment.

Expression Subjects:
(See separate outline).
Reading.
Writing.
Number.
Language.
Drawing and Painting.
Cutting and Construction
Play.

Fourth Grade.

Impression Subjects:
(See outlines).
Literature.
History.
Geography.
Nature.
Number.
Current Events.
Environment.

Elaboration and Expression:
(See outlines).
Reading.
Writing.
Language.
Graphic Arts.
Constructive Arts.
(Manual Training).
Arithmetic.

Fifth and Sixth Grades.

Expression:
(See outlines).
Literature.
History.
Geography.
Nature.
Number.
Current Events.
Environment.

Elaboration aud Expression:
(See outlines).
Reading.
Writing.
Language.
Graphic Arts.
Constructive Arts.
Arithmetic.

Seventh and Eighth Grades.

Impression:	*Elaboration and Expression:*
Literature.	Reading.
History.	Writing.
Geography.	Language.
Nature.	Graphic Arts.
Number.	Constructive Arts.
Grammar.	Algebra.
Civics.	Arithmetic.
Environment.	

Second Grade.

Impression Subjects:	*Expression Subjects:*
(See separate outlines).	(See separate outlines).
Reading (Literature).	Reading (Utterance).
Geography.	Writing.
History.	Number (computation and drill).
Nature.	Language (oral and written).
Number (actual).	Dramatic Representation (Play).
School Life.	Drawing and Painting.
Home Life.	Cutting and Construction.

Third Grade.

Impression Subjects:	*Expression Subjects:*
(See separate outlines).	(See separate outline).
Reading (Literature).	Reading.
Geography.	Writing.
History.	Number.
Nature.	Language.
Number (actual).	Drawing and Painting.
Current Events.	Cutting and Construction
Immediate Environment.	Play.

Fourth Grade.

Impression Subjects:	*Elaboration and Expression:*
(See outlines).	(See outlines).
Literature.	Reading.
History.	Writing.
Geography.	Language.
Nature.	Graphic Arts.
Number.	Constructive Arts.
Current Events.	(Manual Training).
Environment.	Arithmetic.

Fifth and Sixth Grades.

Expression:	*Elaboration aud Expression:*
(See outlines).	(See outlines).
Literature.	Reading.
History.	Writing.
Geography.	Language.
Nature.	Graphic Arts.
Number.	Constructive Arts.
Current Events.	Arithmetic.
Environment.	

Seventh and Eighth Grades.

Impression:
- Literature.
- History.
- Geography.
- Nature.
- Number.
- Grammar.
- Civics.
- Environment.

Elaboration and Expression:
- Reading.
- Writing.
- Language.
- Graphic Arts.
- Constructive Arts.
- Algebra.
- Arithmetic.

ARITHMETIC.

Arithmetic has always been justly regarded as one of the absolutely necessary subjects of the school course of study. Indeed, it is more important than many of its most strenuous advocates know, because it rests upon broader and firmer foundations than those commonly advanced. The usual argument in its behalf is its very great utilitarian value in that the ordinary computations necessary for even the simplest business operations require its use. But the racial instinct which demands it goes far beyond that for its ground. Common utilitarian arithmetic, necessary as it is, is little more than the art of "figuring."

Newton used merely an advanced arithmetic in arriving at the philosophic statement of his wonderful discoveries. Upon it depends all sense of proportion, of form, of relative space. It is the knowledge of number that makes possible the definite, exact, and consequently the practical comprehension of the world.

What the advocates of educational reform criticize in the old schools is not the teaching of arithmetic, but the teaching of it badly, limiting the work upon this subject to its minor and baser uses, teaching it as form and not reality, drilling upon foolish combinations of figures without giving power to perceive relations and to accurately estimate values. It was taught in the wrong way and at the wrong time. Young children were drilled to death upon what would have come later naturally, instead of being introduced to number as a vital factor in life.

Throughout this course of study, number is treated as ratio, as always indicating relation between magnitudes. In the first grade formal number is not taught separately, that is, the subject is not differentiated, but the child is being familiarized with magnitude and number to an extent unknown to the old drill teacher.

ALGEBRA.

For the coming year the course in Algebra will be that provided in Hornbrook's Arithmetic.

ARITHMETIC.

PRIMARY SCHOOLS.

First Grade.

A continuation of the incidental number work of the kindergarten.

By dealing definitely with such magnitudes as come naturally into their lives, through counting, comparing, and measuring, children will inevitably acquire considerable knowledge of number, and such knowledge will be vital and practical.

The time for drill is not yet. No attempt should be made in this grade to drill upon combinations of figures. Such drill is likely to result in suspended development, and seriously impair the mathematical powers. (See Number circular).

Second Grade.

In this grade the definite study of number may properly begin, though the time for extended drill has not yet arrived.

The work should be as fully as possible concrete in character. Measuring, computing, comparing of things, no longer indefinitely, but definitely; using the terms, pounds, ounces, feet, yards, miles, pints, quarts, gallons, bushels, and the like, should constitute the earlier part of the work.

Incidentally the children should be acquiring the tables of denominate numbers, and directly but gradually the combinations and separations known as addition, subtraction, multiplication and division.

Make use of the first pages of the Rational Arithmetic as suggestive of direct application of the steps therein evolved.

Third Grade.

Rational Arithmetic, part I.

Every subject should be developed through the handling of various concrete materials.

Each child should handle the material and should construct and do at every step of the process.

Each step must be supplemented by the introduction of many like problems, using the book as a final test of power and skill.

By the end of this year the children should be able to use the multiplication table fluently and readily and to multiply by one figure.

FOURTH GRADE.

Rational Arithmetic, part II.
Short division and long division, two figures as divisor, completed.

FIFTH GRADE.

Rational Arithmetic, part III.
Simple fractional processes completed.

SIXTH GRADE.

"B" Class. Hornbrook's Grammar School Arithmetic, Chapters I, II and III.
"A" Class. Chapters IV, V and VI.

SEVENTH GRADE.

"B" Class. Chapter VII.
"A" Class. Chapters VIII and IX.

EIGHTH GRADE.

"B" Class. Chapters X and XI.
"A" Class. Chapters XII and Review.

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 cannot 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.

The "B" Class will aim to cover about half of the assignment for the grade.

THE READING LESSON.

The objects of the reading lesson are two. First, to give the pupil the power to secure from the written or printed page an intelligent and appreciative knowledge of the thoughts of authors as recorded and expressed in literature. Second, to give the pupil the power to impart to others the knowledge thus obtained in a clear, sympathetic and pleasing manner. The teacher should always bear in mind that the content of the reading lesson is of more value than its form, and that an appreciation of good literature is worth more than the mechanical ability to read.

Careful attention should be paid in all grades to correct enunciation and pronunciation, to proper use of the vocal organs and of the organs employed in breathing. Ease, naturalness, and a clear, resonant tone should be sought. Frequent exercises in breathing and the carriage of the body and in the vocalization of both vowels and consonants should be employed when needed.

RESUME.

LEARNING TO READ.

1. The Sentence is the Unit of Expression.

"Ideas are primarily awakened in the mind by means of impressions made on one or more of the senses; thus ideas must be expressed through the medium of language."

The unit of mental action is a thought; therefore the unit of expression is a sentence.

If reading "consists in giving expression to the ideas the mind has formed,' the sentence ought to be made the basis of reading.

Think the sentence as the whole, and the word as the part.

2. Emphasize the Unit.

The sentence as a whole.

(*a.*) Awaken thoughts in the mind of the child by means of objects.

(*b.*) By skillful questioning elicit as many original statements about the object as possible. Write the most suitable sentences upon the blackboard.

(*c.*) Repetition and variety are psychologically necessary in good teaching.

(*d.*) The same words need to be presented in a great number and variety of sentences.

3. Analysis of Sentences into Words.

(*a.*) Analyze the sentences to find the words of which they are composed, and teach these words as parts of sentences.

(*b.*) Keep a list of all words presented, using them continually in review sentences until they cannot be forgotten.

(*c.*) Make every possible combination with all words taught, forming as many sentences as possible. Have all sentences arranged upon the board so as to tell a story; keep to a continuity of thought.

4. Analysis of Words into Letters and Sounds.

(*a.*) Work in phonics should be carried on in connection with oral work.

(*b.*) Introduce sounds gradually, giving general and special drill upon difficult combinations, for the following purposes:

1. To give ability to call new words without help.
2. To improve articulation.
3. To correct defective speech.

5. READING IS A MENTAL PROCESS—A THOUGHT PROCESS.

"To read aloud, we must get the thought; we must hold the thought; and we must give the thought."—*H. S. Clark.*

Necessary steps to the above end:

1. Perfect word knowledge.
2. Silent reading; to get thought.
3. Oral reading: to give thought.

A pupil should not attempt to read a sentence orally until he has the thought in mind.

Reading each word by itself is an evil never to be tolerated.

Spelling out words while reading should not be permitted.

Train children to read to their listeners, not to their books.

FIRST GRADE. "B" CLASS.

Method.—Of the different methods of teaching beginners to read, no one contains all the excellencies. The best points of all should be employed, but it is important to select the proper unit, which is not the sound of the letter, nor the word, but the sentence. Children should begin by reading the sentence. Later, the sentence should be analyzed into words, and the words into their sound elements. No one of these three methods should be neglected, but the order indicated should be carefully preserved.

Begin with the sentence. As soon as possible call attention to the words composing it, which the children will at first recognize through memory. After some weeks of such reading, exercises in the sound elements of words should be introduced and regularly continued through the primary grades. These should be systematic and thorough, leading to word building and the use of the dictionary.

Material.—The first reading lessons should be based upon observations of nature and upon poems and stories used in the same connection; also stories told for the sake of their literary or ethical merit may be employed in the same manner.

The first lessons should be script upon the blackboard. They should be carefully prepared, so as to be progressive in thought and style, and should be preserved. Each school should be supplied with a copying pad of some kind and the blackboard lessons preserved should be copied upon leaflets and put into the children's hands for review lessons.

By the end of the first semester pupils should have read at least two primers, beside much reading from the blackboard.

First Grade. "A" Class.

Lessons prepared by the teacher or selected from reading books based upon the study of plants, animals, the human body, and literature.

During this semester, Stepping Stones No. 1, and at least two other First Readers should be completed, or an equivalent amount of matter read.

The language work should be closely related to the reading during the primary grades.

Phonics: Training in vocalization. (See circular.)

Second Grade. "B" Class.

In this class pupils should read an equivalent of half of Stepping Stones No. 2 and two other readers, or an equivalent amount.

Phonics: Training in vocalization. Make lists of rhyming words. Practice in the discovery of rhymes by children.

Give blackboard exercises as preparatory to lessons from the reader. In addition, give blackboard exercises from material related as closely as possible to the child's interests and experiences.

Second Grade. "A" Class.

Pupils should complete three Second Readers and much supplementary reading matter.

Phonics: Training in vocalization. (See circular.)

Third Grade. "B" Class.

Pupils should read an equivalent of half of Stepping Stones No. 3 and two other Third Readers and much supplementary matter. The matter selected should be appropriate to the work in other subjects.

Phonics: Families of words; simple rules for the addition of participal endings and of syllabication. (See circular.)

Third Grade. "A" Class.

Lessons selected from Stepping Stones No. 3, and other Third Readers and supplementary readers such as may be readily correlated with work in other subjects, especially nature study, geography, history, and literature.

At the end of this grade pupils should be able to read readily and in pleasing style any matter whose thought and language is within their comprehension.

The sound drill should have given them power to call new words, and the use of the sentence as a unit should have enabled them to grasp the thought of the author readily.

Phonics: A continuation and extension of the work outlined for "B" Third.

Fourth Grade.

From this time on the reading matter should be carefully selected, good literature, adapted to the mental powers of the children, and material relative to the other subjects of the curriculum.

Children should now be able to read fluently and for the sake of what they read. While continued attention should be paid to the art of reading, the pupils should always realize that they are reading as adults read—to get at the thought of the author—and not for the sake of going through with the school exercise.

"B" Class.

Lessons selected from the Fourth Reader, Stepping Stones, from the supplementary readers, and from other good literature, relating to the other topics in the curriculum, particularly nature study, geography, and history.

Phonics: The standard rules for spelling and syllabication.

"A" Class.

The same as outlined for "B" Class.

Historical and mythological tales are here appropriate.

Phonics: The same as outlined for "B" Class.

Fifth Grade. "B" Class.

Fifth Reader, Stepping Stones, and matter selected from geographical, historical, and other readers, and from good literature appropriate to the work of the grade.

Fifth Grade. "A" Class.

The same as "B" Class and good literature appropriate to the work of the grade.

Sixth Grade. "B" Class.

Sixth Reader, Stepping Stones, and much reading matter selected from standard authors, and, in so far as possible, correlated with the

work of the other departments, particularly nature study and the picturesque features of geography.

SIXTH GRADE. "A" CLASS.

The same as "B" Class and much good literature appropriate to the work of the grade, especially historical tales and poems.

SEVENTH GRADE. "B" CLASS.

Seventh Reader, Stepping Stones, and other literature, especially by American authors, and relating to periods of American history.

SEVENTH GRADE. "A" CLASS.

Same as "B" Class.

EIGHTH GRADE. "B" CLASS.

Eighth Reader, Stepping Stones, and other literature selected from English authors relating to English history.

Good literature in general.

EIGHTH GRADE. "A CLASS.

The same as "B" Class.

The literary excellence of selections read should be noted.

SPELLING.

FOR ALL GRADES.

The spelling lessons are to be upon words used by the children in other subjects. In all grades above the first there must be every day a formal spelling lesson upon words selected. The list of words should be selected from the various lessons, and should include words misspelled or likely to be misspelled by the children in any written exercise.

In the primary grades these words should be classified by the teacher. Lists of words given should, in so far as possible, be preserved for review. New words occurring in any lesson which the children are not able to read at sight or by spelling should be placed before them at once, and the pronunciation clearly given, *with the divisions of the words into syllables.* In all grades, particularly in the primary, sight spelling is a most valuable exercise, and if conducted with care and frequency, will in many cases prove almost sufficient for the instruction in spelling.

In formal spelling, from the outset, children should learn to divide into syllables. The sounds of the letters should be taught, but of more value than all special drill is the correct spelling of all words in all written exercises. In one sense, every lesson is a language lesson and a spelling lesson.

Children should from the first be taught to use the dictionary. They should be instructed never to write a word unless they are sure of its spelling, but to look up the proper spelling before using.

There is no one method by which spelling may be taught. Teachers must see to it that all the methods indicated above are employed. In the fifth and eighth grades the use of the spelling book is provided for review purposes.

Oral spelling must not be neglected in any grade and must precede the written in the primary grades. Such oral spelling must include syllabication.

WRITING.

First Grade.

During the first year the writing should be wholly with white crayon on the blackboard, or with very large pencils on large sheets of paper, such as is used for newspaper, *unruled*. These sheets should be as long as the school desk and not more than six inches wide. During the first three months all the writing should be upon the blackboard, and in the "A" First most of the writing should be upon the blackboard. Large, free-arm movements should be encouraged. Exercises should be given in the air and on the board to cultivate freedom and ease of curvilinear motion.

The writing book should not be used at all in this grade.

Second Grade.

Continue writing upon the blackboard and large sheets of paper, gradually reducing the size of the letters. Allow in the "B" Class the use of a large pencil upon unruled paper. The paper used should be long, but not more than six inches wide.

Third Grade.

The most valuable writing lessons are the ordinary writing required of the child in his spelling, language, and other written work.

The Natural System of Vertical Writing, Book II., should be used for necessary drill.

In using the writing book, always begin with the bottom line, and

advance toward the top of the page. The children will thus avoid copying their own writing.

FOURTH GRADE.

All written work and Writing Book No. III. (See directions for Third Grade.)

FIFTH GRADE.

All written work and Writing Book No. IV.

SIXTH GRADE.

All written work and Writing Book No. V.

SEVENTH GRADE.

All written work and Writing Book No. VI., when needed for necessary drill.

EIGHTH GRADE.

All written work and Writing Book No. VII., when needed for necessary drill.

THE ARTS OF EXPRESSION.

In a general way, the work of the school concerns itself with thought and its expression. As man thinketh in his heart, so he is. But he may hope to impress what he is upon others, to make his thinking or himself a factor in society, only as he is able adequately and accurately to express himself in ways comprehended by others. Thought and its expression cannot in reality be separated. In a sense it may truthfully be said that thought is all important while the form of expression is wholly subsidiary. But the thought unexpressed accomplishes little, and perfect expression is necessary to the perfect fruition of the thought.

On the other hand, all attempts to consider expression apart from thought result in absurdity, though in mature years, after the arts of expression have been acquired through use, they may be studied as to their technique or method.

In the earlier years, when the power to think and the power to express are being developed together through the entire range of the child's associations and activities, any attempt to separate definitely the arts of expression from the thoughts to be expressed and consider them

as independent entities is psychologically wrong and results in hollow imitation.

Hence, in the elementary grades of school the various arts of expression should be used naturally, to express worthy thoughts which have been stimulated in the child's mind by his material and spiritual environments.

Little attempt should be made to differentiate the arts from the thought which they aim to express. The various means by which children naturally express themselves are gesture, play or dramatic representation, the graphic arts, as writing, drawing, painting, the constructive arts, generally classed under the head of manual training, and, most important of all, language or speech. This is the most nearly universal form of expression and is most characteristic of human beings. It is so inseparably connected with man's thoughts and his ideals that to study it truly is to study spiritual man.

In the earlier years of the school course the child is absorbing the spirit of his environment at every pore of his mind. He is entering into his inheritance, the world of nature about him and the spiritual achievements of the human race. He is growing at a marvelous rate. I do not mean that he is *learning about* this heritage, but he is entering into it. It is vital to him, becomes a part of him. Often the school positively interferes with this growth. It alienates the child from his spiritual heritage, diverts his mind to hollow imitations of life, deprives his activity of spiritual vitality and significance.

Especially is this true of the attempts to teach the arts of expression, notably language.

LANGUAGE.

In teaching language in the elementary school the first step is to stimulate thought. This is effected through all the activities of the school life.

The second step is to encourage the child to express his thought with perfect freedom, for perfect freedom is the prime essential of adequacy.

The third step is to impress upon his mind the importance of accuracy and fitness in the use of language.

The fourth step is to teach him how to secure such accuracy and fitness through the use of conventional forms without losing his freedom.

Hence pure technique occupies a late and inferior place in language teaching in the elementary grades.

Power to use language is acquired by its use. All language used should be correct in all respects.

The child's thought determines its form. This is at first simple, and gradually increases in complexity with advancing age and growing knowledge; hence, new difficulties will continually arise which need to be met by proper explanation and practice at the time; for example, in regard to the use of punctuation and capitals. The child first expresses himself in short, disconnected sentences. Punctuation for such expression is very simple. As conjunctions and pronouns are introduced to make the compound sentence somewhat more elaborate punctuation is required. Later, with the use of the complex sentence, which is naturally employed to express more complex thoughts, other rules of punctuation are necessary and should be given as needed. To give rules for punctuation and then compose exercises to illustrate them, before the child has need of them for the natural expression of his thought, is to begin at the wrong end and work backwards.

If no attempt is made to force technique upon pupils before it is needed, teachers will find that the difficulties have been greatly reduced in number and can be readily classified. As difficulties arise and definite instruction is required, such instruction should be given in definite lessons and repeated until the points are made perfectly clear and right habits started.

The following outline consists mainly, especially for the earlier years, of suggestions as to proper thought material to be used as a basis of language instruction, with the mention of sources in some cases. Suggestions appearing here and there that certain technical points be enforced in certain grades do not mean that they are to be ignored in other grades, but imply that in the average school teachers will find need of enforcing these points in the grades indicated.

First Grade.*

Suggested Material:

Literature—Stories and poems drawn from the Readers, the "Graded List" and other sources.

Nature—(Geography—material; environment).

Social Environment—Home Life—School Life. The child in simple economic relations—as to the various people who supply his wants.

History—Stories of Heroes. In particular, stories suitable to the celebration of national holidays and for other patriotic occasions.

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* Note.—Allow no paraphrasing of poetry in any grade.

Art—Pictures representing action, especially those illustrating some of the other subjects studied.

SUGGESTED EXERCISES: All oral in the "B" Class.

The development of words, through their use in oral sentences.

Much conversation about experiences and observations connected with the various topics suggested above, encouraging the greatest freedom.

Word games and sentence games.

Study and description of pictures telling stories.

Memorizing verses.

Retelling of stories.

Dramatizing of stories, poems and pictures.

In the "A" Class introduce a little written work.

Encourage freedom of expression.

By example rather than by precept impress upon children correct forms, especially as to the use of capitals and punctuation.

SECOND GRADE.

SUGGESTED MATERIAL:

Literature—Stories and poems drawn from the Readers, the "Graded List" and other sources.

Nature—(Geography—material; environment).

Social Environment—Home Life—School Life. The child in simple economic relations—as to the various people who supply his wants.

History—Stories of Heroes as stated for first grade and also stories of primitive people and the child life of other lands.

Add lessons on human body.

Art—Pictures representing action, also those illustrating some of the subjects studied.

SUGGESTED EXERCISES:

Development of the meanings and uses of words employed in stories, nature lessons and readers.

Telling stories for oral reproduction. Development upon the blackboard of connected stories and descriptions from sentences given in conversation by the children.

The copying of such sentences and stories by children. Mostly oral; written work on blackboard and at desks, always under the direction of the teacher.

A very limited amount of dictation and always of connected thought.

The silent reading of short selections by the children, who afterward reproduce them orally.

The co-operative illustration upon the blackboard of scenes and stories orally produced by them.

The memorizing of at least one poem each month.

Dramatizing of stories, poems and pictures.

Introduce children gradually to compound statements by the use of simple connectives and relative pronouns.

See that children use correctly inflected forms, capitals and punctuation marks.

Third Grade.

Suggested Material:

Literature—Stories and poems drawn from the Readers, the "Graded List" and other sources.

Nature—(Geography—material; environment).

Social Environment—Home Life—School Life. The child in simple economic relations—as to the various people who supply his wants.

Stories of Heroes, in particular world heroes, myths.

The study of community life, in particular, that of the early settlers of this State.

Social and industrial life of primitive people in connection with the geography.

Art.

Suggested Exercises:

The same as those suggested for the second grade and written reproductions of exercises and stories. Original written discussions and stories.

Give no technical grammar, but simply see that the correct forms required in each case are used. Lead children to use freely complex sentences.

Daily written lessons on the blackboard. Pen and ink work begun.

Letters.

Emphasis should still be on oral expression, always under the care of the teacher.

Fourth Grade.

Suggested Material:

To be drawn mainly from the outlines of other subjects as in the third grade, but somewhat more specifically used; in particular, much use of historical studies and of written and oral statements of geographical topics.

Nature study.

Stories and poems from standard authors.

SUGGESTED EXERCISES:

Continue the work of the third grade in sentence construction and in the correct use of sentences of different kinds.

Require much oral reproduction and original work, both oral and written; oral should always precede written work.

Give attention to paragraphing. Compositions may now take more definite form. Make use of the letter form, seeing that all the details of heading, subscription and address are properly used. Encourage freedom and independence of expression and avoid much use of regular outlines.

Encourage pupils to find and reproduce short anecdotes and short stories of animals.

Select and copy choice passages, descriptive of people and places.

FIFTH GRADE.

SUGGESTED MATERIAL:

To be drawn from the child's environment and other subjects of the curriculum. History, Literature, Geography, Nature Study.

SUGGESTED EXERCISES:

Continuation of the work of the third and fourth grades.

Give much writing upon varied topics.

Continue oral work.

Encourage the use of a large vocabulary.

Introduce much word study in connection with the study of literature. Incidentally use varied forms of composition, as letters, essays, newspaper paragraphs, debates, discussions, fanciful sketches, simple business letters.

SIXTH GRADE.

SUGGESTED MATERIAL:

To be drawn from the child's environment and other subjects of the curriculum. History, Literature, Geography, Nature Study.

SUGGESTED EXERCISES:

Continue the work of the fifth grade.

Give considerable attention to the exact use of the sentence.

See that written work is divided into proper paragraphs in this as in all grades.

Allow only correct inflectional and other conventional forms.

LANGUAGE AND GRAMMAR.

LANGUAGE.

Seventh Grade.

Continue the work suggested for the sixth grade, drawing upon all the available sources for material, so that the thought studies and the expression studies shall be mutually helpful.

Suggested Exercises:

Articles and stories on topics drawn from history.
Sketches of characters in books read.
Fanciful sketches and descriptions of books read.
Descriptions of journeys.
Letters of invitation, acceptance, and regret.
Business letters.

GRAMMAR.

Seventh Grade "B."

Definite, careful instruction in formal grammar should begin with this grade.

The unit of the work is the simple sentence.

Pupils should master the simple sentence thoroughly and be able to recognize subject, predicate and object, and should be drilled upon paradigms and inflectional forms as needed.

Parts of speech—Nouns, Pronouns, Verbs and Adjectives.

Seventh Grade "A."

Parts of speech.

With the simple sentence still as a unit, make a more extended study of nouns, pronouns and adjectives.

Treat fully adverbs, appositives, predicate-nominative.

Continue work upon paradigms and inflectional forms.

Grammar lessons three days in the week throughout this year.

LANGUAGE.

Eighth Grade.

Suggestions as to Material:

The whole of a child's life, particularly the other subjects of the curriculum.

SUGGESTED EXERCISES:

Much writing in various forms upon varied topics.
Much oral work.
Discussion of historical themes.
Character sketches. Reproduction.
Reproduction of stories.
Synopsis and review of books read.
Advertisements, applications, and business letters.
Business forms.

NOTE.—Allow no paraphrasing of poetry in any grade.

GRAMMAR.

EIGHTH GRADE "B."

The compound sentence. A careful study of its construction.
Analysis of simple and compound sentences.
Study of verbs and phrases.

EIGHTH GRADE "A."

Complex sentence. Study of its construction.
Analysis of simple, compound, and complex sentences.
Clauses, relative pronouns and other connectives.
Grammar lessons three times per week throughout this year.

HISTORY.

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

Such centers may be the names of great leaders, places which were the scenes of momentous occurrences or events of crucial significance. For example, Bunker Hill, Abraham Lincoln, The Dred Scott Decision. In teaching young children, the centers selected should be picturesque if possible. But they should always have a vital, causal 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.

In the following outline but few centers are named, and it is left to the teachers to name more if necessary and to cull and relate facts of minor significance in their proper places.

Send children to available sources for their information. *Do not write on the blackboard for them to copy in note-books.*

If note-books are used, it should be to record the discoveries of the children as the result of searching the available sources of information.

First Grade.

The Family:

Indian Life; Docas; the Indian Boy, or Hiawatha.
Eskimo Life; Agoonack.

World Stories:

Fairy Tales.
Nature Myths.
Stories relating to national and other festivals, particularly those having a patriotic purpose.

Second Grade.

Historic Homes (Primitive):

Cave Dwellers.
Cliff Dwellers.
Tent Dwellers.
Lake Dwellers.

Historic Homes (Ancient):

Greek.
Roman.
Saxon.
Stories suitable for the observance of National holidays.

World Stories:

Nature Myths.
Fables.

Third Grade.

Local History:

Stories associated with Rochester and with New York City and State.
Stories suitable for National holidays; in particular, stories of bravery.

During November treat of the community life of the early settlers of this state.

WORLD STORIES:

Great myths taken from the great national epics, such as Beowulf, Siegfried, Achilles, Aeneas, Rama.

FOURTH GRADE. "B" CLASS.

WORLD STORIES:

Stories of Nomads, as Abraham, Moses, Eric, Clovis, Magellan.
Stories of old Greece.

FOURTH GRADE. "A" CLASS.

Stories of the Explorers and Discoverers of the Western Continent.

FIFTH GRADE. "B" CLASS.

Stories of United States History.
Stories from Irving.

FIFTH GRADE. "A" CLASS.

WORLD STORIES:

Norse Stories.
Heroes of Conquest and Empire; as:
Alexander the Great.
Caesar.
Joshua.

SIXTH GRADE. "B" CLASS.

WORLD STORIES. (Two days in each week):

Stories of Chivalry.
Arthur and His Round Table.
U. S. History. (Use books for reference). Two days in each week). Mowry. History stories both general and of the United States.
Peter, Gustavus Adolphus, Charlemagne, Napoleon, William I.

SIXTH GRADE. "A" CLASS.

WORLD STORIES. (Two days in each week):

The Legends of Early Rome.

Historical stories of Europe, Asia and Africa.
Mohammed, Kublai Khan, Hannibal.
U. S. History. Mowry. (Suggested topics from which teachers may make selection).

This work should be largely story work, connected with geography and literature. It should be picturesque, leaving vivid pictures in the children's minds. It should not be bare memory work, but should lead to much investigation by the children and should develop much interest. Good literature should be constantly employed to enforce and vivify the history tales.

Seventh Grade. "B" Class.

United States History.
Prehistoric Period (briefly treated).
Review, explorations and settlements.
Topics suggested:
English influence on the various colonies, Dutch influence, French influence, Spanish influence.
French and Indian War.
Revolutionary Period.
Causes of Dissatisfaction.
Boston Tea Party.
Patrick Henry.
Benjamin Franklin.
Thomas Jefferson.
George Washington.
Alexander Hamilton.
Arnold and Andre.
Declaration of Independence.

Seventh Grade. "A" Class.

Battles and campaigns of the Revolutionary War:
Lexington.
Long Island.
Retreat across New Jersey.
Trenton.
Philadelphia.
Valley Forge.
Monmouth.
Burgoyne.
Yorktown.

The building of the Constitution.
Early development of the West.

EIGHTH GRADE. "B" CLASS.

United States history continued.

TOPICS SUGGESTED:

Mexican cessions.
Slavery.
American statesmen and orators—
Clay.
Webster.
Calhoun.
Development of the government.
Causes of the Civil War.
Heroes of the Civil War—
Lincoln.
Grant.
Sherman.
Sheridan.
Lee.
Important battles and campaigns of the Civil War—
Peninsula.
Mississippi.
Gettysburg.
Sherman's March.
Wilderness.
Virginia.
Appomattox—Close of the Civil War.
The growth and work of the navy.
The South—
Before the War.
The Confederacy.
Reconstruction.

EIGHTH GRADE. "A" CLASS.

Growth of the United States.
Territory.
Population.
Wealth.
Influence.
Literature.

Science.
Review.
Four days in the week, United States history by topics.
One day in the week, Civics. See Circular.

GEOGRAPHY.

The object in teaching Geography in school is to make the child acquainted with the earth as the home of man, the scene and the partially determining condition of his movements and achievements.

It should give him definite knowledge of a few important geographic facts, such as will supply him with stimulus and a key to further knowledge.

It should acquaint him with the common dependence of all men upon one another and upon their physical environment.

It should show the relation between habitat and plant and animal life, and how economic conditions are largely the product of such relations.

In particular, it should enable him to understand the triumphs of man over adverse material surroundings and put him in possession of such knowledge as will enable him to use the environing world to the best advantage.

First Grade.

Study of plants and animals and natural phenomena, as forms of water.

Study of the home life of the child: such various interests and occupations as immediately affect the home life.

Observing weather: weather vane, points of compass, making calendars.

Second Grade. "B" Class.

Calendar work.

Review of the work of the preceding grade.

Enlargement of the immediate home life in its relation to other homes.

Observations made of plant and animal life and natural phenomena by field excursions, and through the use of such material as can be brought into the school room.

Direction: Winds (vane set), physical forces (story of Ulysses).

SECOND GRADE. "A" CLASS.

The child life of the various countries of the world, as affected by climate and physical environment.

This should be given to the children simply and in sharp contrast with their own, and should include the simple phases of social life and industrial life in other countries.

At this stage "natural phenomena," "land and water forms," "points of compass," and "maps" should be more thoroughly developed.

All should be in story form.

THIRD GRADE. "B" CLASS.

Review of the work of the preceding grade.

Forms of land and water studied from local observation.

Drawing to scale.

Stories of the early settlements in Rochester and New York, with geographical reasons.

THIRD GRADE. "A" CLASS.

Work of "B" Class continued.

Local geography: Historical, Physical, Political.

To be outlined in detail to meet conditions.

FOURTH GRADE. "B" CLASS.

THE WORLD.

This study should include form and relative size of the earth, simple zone study with reference to heat and cold, trade winds of hot belt, westerly winds of cold belt, plant and animal life, etc., and a study of the chains of highlands, forming the "backbone" of the lands, simple physiographic processes and the elements of drainage.

DIVISIONS INTO CONTINENTS.

NOTE.—This study is to serve as a basis for the special study of each continent in its relation to the whole.

Continents in general should be studied as to:

1. General relief and relative size.
2. Their drainage and such features of their coast line as have an important bearing on commerce.
3. Their important political divisions.
4. The life of the people, and their important industries.

5. Their commerce, and a brief description of the plant and animal life in so far as these enter into the industries and trade.

Fourth Grade. "A" Class.

The Western Hemisphere.

North America, considered topically, as follows:
Relief.
Drainage.
Soil.
Productions.
Industries.
Facilities for transportation, and commerce.

Central America and South America studied along lines similar to those laid down for North America and in relation to it.

Fifth Grade. "B" Class.

The United States, first as a whole, then by sections, under the following heads:
Physical.
Industrial.
Social.
Historical.

Fifth Grade. "A" Class.

The Eastern Hemisphere studied along the lines laid down for the study of the Western Hemisphere.

Sixth Grade.

The world by continents and countries.
B—Western Hemisphere (excepting U. S.) and Europe.
A—Asia, Africa and Oceanica.

Seventh Grade.

The United States in connection with its history.

Eighth Grade.

Commercial Geography.
Physical Geography.

NATURE STUDY.

It should be understood that throughout all the work in Nature Study the children must have an opportunity of studying the actual living specimens. Many of the specimens will live and grow in the school room; but frequent excursions to study them in their natural surroundings are absolutely necessary. Short excursions to the school grounds and immediate neighborhood may be made often, and longer ones to the parks and country occasionally.

The teacher should require accurate observation and clear and truthful expression. The language and drawing lessons may be very profitably based on this work. Every topic should be studied in its economic relation. Nature Study is very closely connected with geography and should be correlated with it. Nature Study should also be correlated with literature. Care must be taken, however, that children do not read on any subject until after they have made their own observations.

It is not expected that the teacher will take up all of the topics suggested for each year; but she may choose those which are best suited to the needs and opportunities of her pupils.

First Grade.

Fall.

Color; fields, trees, sky, birds, flowers, charts of leaves and fruits.

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 for 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, structure, 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 butter-cup 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 algæ, 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.

Literature.

SIXTH GRADE.

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

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.

Leaves; 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 especial 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.

PHYSIOLOGY AND HYGIENE.

Instruction in Physiology and Hygiene with especial reference to the effects of narcotics must be given from the approved text-books in all grades in which it is required by law.

SUGGESTIVE OUTLINES TO SUPPLEMENT THE COURSE OF STUDY.

Prepared by ADA VAN STONE HARRIS,

Supervisor of Kindergarten and Primary Schools.

THE INCIDENTAL TEACHING OF NUMBER IN THE FIRST GRADE.

This teaching should be incidental, not accidental.—That is, such teaching should not be left to chance, but should be given whenever the use of number is necessary for the clear imaging of objects or their relations. This will be found to be the case frequently in nearly all the subjects of the curriculum.

The teacher should watch for opportunities to employ number defi-

nitely, and should even make them whenever the subject matter under consideration is suitable.

It should be remembered that most children entering the first grade, especially those coming from the kindergarten, have already a considerable stock of number ideas. The number sense is then quite alert. The teacher should see that none of this is lost, but that the development thus indicated continues rationally without break.

"Unless there is to be arrested development when the child enters school, some function must be found with reference to which he may utilize his ability to count—*the number sense becomes vitilized and truly educative at this point by being largely directed towards the definition of values in the form of measurements.*"—DR. JOHN DEWEY.

The first exercises should be *counting* and *making comparisons.* For these the children are ready. *In all cases first ascertain what the children can already do, then proceed to increase their knowledge and power.*

B CLASS—FIRST GRADE.

COUNTING.—In counting the child gets an idea of the *whole,* the *parts* and the *how many.*

Start with a whole and count by *single* things; *e. g.* Count the number of girls in the room, of boys, of children, of desks, etc. Test how far the number names are significant; *e. g.* name the number and have corresponding objects selected.

Count thus two rows of girls, of boys, of desks, of blocks; how many twos? Count pairs of eyes, how many pairs? Pairs of hands, how many pairs, etc., etc.

Count groups of three, how many threes? etc. Groups of four, etc. Count the same quantity with different units or groups, *e. g.* these twelve pupils: by twos, how many? By threes, by fours, by sixes, etc., to determine the different numbers (how many), that measure the same quantity. Count different quantities with the same unit of measure.

This lot of six (pupils, etc.,) by threes.

This group of twelve by threes.

This group of fifteens by threes, etc.

Toy money may be used with advantage for counting.

COMPARISONS.

This should be first indefinite then definite. Have pupils make comparisons involving ideas of more or less, larger or smaller, *e. g.* the length of the desk is greater than the width, etc. One child is

larger or smaller than another. One pile of books is higher or lower than the other.

A line is long or short in comparison with another, etc.

Draw lines of varying lengths on the board and have pupils measure to find number of inches long, etc.

Draw triangles, squares, rectangles, etc., and have pupils measure sides and find number of inches, etc.

A Class—First Grade.

Measurements,—Counting may be extended to exact measurements.

Count the number of inches in a foot.

Count the two inches in this foot rule (or line); the three inches, etc.

Count the number of three inches in lines, ten, twelve, fifteen, eighteen inches long, and so on.

Cut out of card board strips respectively one inch, two inches, three inches, twelve inches, etc., long by one inch wide. Ask pupils to select the three inch strip, the five inch strip, etc.

Make squares whose sides are respectively two, three and four inches.

Make oblongs two inches by three inches, three inches by four inches, four inches by five inches, etc. Divide into square inches, etc.

Make simple measurements with the foot rule and tape measure, *e. g.,* measure the width of a desk, sides of the room, length of table, height of children, the number of inches around head, around chest, etc.

Measure the distance between points with the foot rule, the yard stick.

What number do you get? How many feet? How many yards?

Measure from finger tip to finger tip.

Measure from crown of head to sole of foot, etc.

The regular occupations will suggest many similar exercises.

Employ figures naturally that children may learn their uses.

ARITHMETIC.

MATERIAL NEEDED.

Blocks, acorns, horse chestnuts, shells, etc., are valuable for counting. Every child should have a foot rule, marked in inches for measuring and objects of various sizes for comparison.

Children during the first year should learn to count by twos, threes, fours. They should also become thoroughly familiar with the proper use of terms for comparison of units or objects, and acquire a knowledge of inch, foot, and yard as units of linear measurement.

"Thought consists in the establishment of relations. There can be no relations established, and, therefore, no thought framed when one of the related terms is absent from consciousness."—H. SPENCER.

B CLASS—SECOND GRADE.

The suggestions for the first grade should be reviewed and elaborated.

Counting by 2's, 3's, 4's, 5's, 6's, etc.

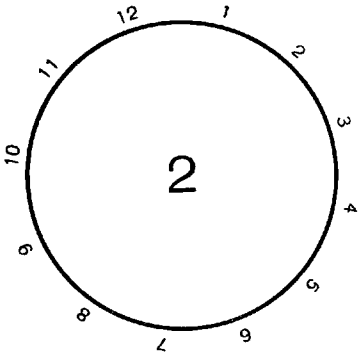
Comparisons of objects of various sizes.

Continue the use of foot, inch and yard through actual measurements.

The object in this grade, as is in the first, is to create an interest in number by dealing with familiar things, rather than abstract quantities.

Have pupils ascertain for themselves prices of various articles used in and about the home, ranging in price from one to twelve cents, or from one to twelve dollars. Make lists of such articles and have pupils evolve problems. For example:

GROCERY STORE.				DRY GOODS STORE.				FRUIT STORE.
Sugar.....	6	cents	per pound.	Calico..	—cents	per	yard.	Oranges.
Raisins....	11	"	"	Thread.—	"	"	spool.	Dates.
Lard.....	10	"	"	Needles.—	"	"	paper.	Apples.
Beans.....	7	"	" quort.	Hose.. —	"	"	pair.	Grapes.
Soap.....	3	"	" cake.	Mittens.—	"	"	"	Figs.
Starch....	4	"	" pound.	Ribbon.—	"	"	yard.	Peaches.
Tomatoes..	9	"	" can.	Pins....—	"	"	paper.	Pears.
Clothespins	2	"	" dozen.					
Crackers..	5	"	" pound.					
Currants..	8	"	" "					



The numbers around the circle are the prices of articles which the pupils have found. The figure within the circle shows the *number* of articles to be bought. Teacher points to three, and pupil buys two of something at three cents. For *example*: If a cake of soap costs three cents, two cakes will cost six cents.

This forms a practical basis for the multiplication table.

The reverse relations may also be taught—pupils readily see that "if two pounds of sugar cost twelve cents, one pound will cost six cents."

The figure within the circle should be changed when the children are thoroughly conversant with the one in use.

A list should always be kept on the blackboard, and the prices changed from time to time, according to the market.

In connection with this work the table of weights and measures should be developed. Children should handle the various measures and be allowed to measure freely.

A Class—Second Grade.

Review all the subjects previously suggested, and extend each by broader applications of the real value of things studied.

Elaborate the first pages of the Rational Arithmetic, by direct application of the steps therein evolved, in measurement and comparison, to the practical drawing and constructing of objects.

Create interest, arouse mental activity, and appeal to the sense of utility, by having children *do* at every step of the process, by allowing them to deal with familiar articles and prices.

OUTLINE FOR FIRST GRADE.

This outline contains abundant suggestions of material and occupa-

tions from which teachers should select such as they can readily follow.

DO NOT TRY TO FOLLOW THEM ALL
DO WHAT YOU CAN DO WELL

Throughout the year use *stories* and *poems* as suggested in the course of study and the graded list, suitable for the season and correlating with the other work.

SEPTEMBER—FAMILY LIFE.

General Theme.—Child's interest in things about him. Home activities leading to a comprehension of the following:

Underlying Principle.—Right relationships. Relations with other living beings. Mutual helpfulness essential for happiness.

FAMILY LIFE.

Families—Homes of children. Homes adapted to occupants.
Experiences of home life. Family relationships.

NATURE.

Other homes and families, as: Animals, insects, birds, bees, plants.

OCTOBER—INDIVIDUAL FUNCTIONS.

In the home.—The contribution of father; his occupation.
Mother; her duties in the home.
Brothers and sisters; their daily interests.

The Analogy of Nature.—The preparation for future life as observed in the care and preparation for their long winter rest.

LEAVES—Fall changes, the falling leaves.
BUDS—How formed, how protected.
FLOWERS—Their function.
SEEDS—Story of seeds, their many ways of travel.
EDIBLE FRUITS—Where and how they grow, use to nature and to man.

NOTE—Classify fruits under main type forms for comparison and discrimination.

CATERPILLARS—Color, movements, where found, food. *Cocoons*: How made, when, where. Transformation into the butterfly.
BIRDS—Migration.

NOVEMBER—HARVEST: THANKSGIVING.

General Theme.—Child's growing interest in activities about him. Winter preparation in family and in nature. Place of individual. Result of universal labor.

Underlying Principle—Relation of family to civil society. Interdependence of nature and man. Thankfulness.

WORK OF THE FARM.

GRAIN—Kinds, who planted them, where, how, for what? Who grinds them, where, into what? (Story from seed to loaf.)
VEGETABLES—Gathered and distributed for winter.
FRUITS—Gathered and distributed for winter.
SQUIRREL—Covering, movements, food, habits, home, work.

PREPARATION FOR THANKSGIVING.

The First Thanksgiving—Things for which to be thankful.
Thanksgiving Celebration.
Indian Life—Hiawatha or Docas.

DECEMBER—CHRISTMAS: DOING AND GIVING.

General Theme—Children's interest in the home as the center of social and benevolent activities. In the Christmas holidays. The joy of giving—of loving.

WINTER—Frost, ice, snow (beauties of nature).

Animal life—example:

SHEEP—Covering, movements, food, habits, home.
What the sheep gives.

Santa Claus—His work for others (how we get ready for him, how we can help him).

Our work for others. *Love*—The measure of our gift.
Story of the First Christmas.
Christmas Celebration.

JANUARY—CO-OPERATION THROUGH INDUSTRY.

General Theme—The child's interest in the home, in the activities and industries about him. A fuller development of *thankfulness* and of loving and giving, leading the child through the study of other people, to a sense of kinship with all the world.

Underlying Principle—Relation of family to civil society. Gratitude, protection, interpendence and co-operation.

TIME—New Year season, month and days.

VACATION EXPERIENCES—Toys, games, etc., what the "New Year" has brought to us.

TRADES—New things that have come to us. Where they come from. Busy father who earns the money. Busy mother who cares for the home. Brothers and sisters, what they do for us. Other people that help. Woodworking, knitting, shoemakers, bakers, etc.

ESKIMO LIFE—Agoonack. Appearance of the country. Personal appearance of the people. Dress: material; how made. Homes; how built; furniture. Food: how obtained; cooking utensils. Vehicles for travel; how made; how drawn. Occupations: hunting; weapons used. Fishing boats; kinds; how made.

WINTER—Nature's rest. Color; snow and shadows, bare fields, forests. Winter appearance of trees. Observing weather, changes in length of days and nights. Snow crystals, ice.

FEBRUARY—PATRIOTISM: RELATIONS WITH COUNTRY.

General Theme—Formation of ideas of patriotism, heroes, birthdays.

Underlying Principle—Our relation to organized society and to state, dependence.

HEROES:—LINCOLN.. The boy, his home life, games, occupation, interests, etc. Industrious, ambitious, to what he attained, etc.

WASHINGTON—The boy, his home life, games, occupations and interests. The soldier and captain.

OTHER BRAVE MEN—Policemen. Firemen. Brave children.

LONGFELLOW—The children's poet.

ST. VALENTINE'S DAY—Story of the Good Saint. Messengers of love. Postman.

PIGEON AND CANARY—Compare as to home life, habits, uses, etc.

OBSERVING WEATHER—Longer days and shorter nights. Winter observation of trees, etc.

MARCH—BEGINNING OF SPRING.

General Theme—Forces of nature, children's interest in the activi-

ties of nature as related to the home. Our dependence upon these. Wind, direction.

Underlying Principle—Unseen power behind all things. Weather vane and points of compass.

WIND—North, east, south and west wind. What each brings. Things dependent upon wind; sail boats, wind mills, kites, etc. What the wind does, effect upon nature, etc.
WATER—Things dependent upon water. How utilized by man; water wheels, mills, navigation, etc.
SUN-HEAT—Melting of ice and snow.
MAPLE TREES—Observe coming changes. Sap flowing, sugar.
LILY BULBS—Plant and observe Chinese lily bulbs.
PUSSY WILLOWS—Where grow, use.

APRIL—SPRING AWAKENING OF LIFE AND NATURE.

General Theme—Children's interest in the activities of nature as related to the home. Patience, waiting for results, continuity of development. Easter.

Underlying Principle—Right use of opportunities, reverence.

EASTER—Awakening of nature. Lead pupils to see and feel the power of the spring awakening in a few of its many expressions.
LILY BULBS—
BUDDING OF THE TREES—Observe and compare opening of buds, flowering, etc.
COCOONS—Butterflies, moths.
RETURN OF THE BIRDS—Seeking a place for homes, nests, how and where dwell, etc.
CHICKENS AND DUCKS—Food, habits, family life and care for young, etc.
RAIN—Spring showers. Observe work of rain. "Spring house cleaning."
SPRING FLOWERS—Trips to the woods and fields.
GARDENING—At home and at school.

MAY—LIFE IN NATURE—GROWTH.

General Theme—All nature is active. Freedom. Self activity, Development. Nature's expression for our benefit and pleasure.

GARDENING—At home and at school.

THE FARM—Work on the farm as related to all life. The home, etc.

FLOWERS—Trips to the fields to gather flowers; where they grow, how they grow, color, etc.

BEES—Ants, fishes and frogs, observed as to development. Where found. Activity, industry, etc.

MEMORIAL DAY—

JUNE—BEAUTY IN NATURE.

General Theme—Summer changes in the home. Preparing for vacation. Growth and beauty in environment.

Underlying Principle—Universal relationship. Love and care of flowers, birds and other animals and for each other.

CHANGES IN THE HOME—

Clothing—Why needed, what they are.

Food—How different in summer from winter. Classification.

Changes in Light and Heat—Why more light and heat. How these are used. How we protect ourselves from them.

PREPARATION FOR VACATION—

Flowers, verdure, cloud, sky, rainbow, sunshine. Excursions, means of travel, locomotives, boats, trolley cars.

"Everything is unity; everything rests upon, strives for and returns to unity."—FROEBEL.

OCCUPATION WORK.

"The busy have no time for tears."—Byron.

"To play, to build, to construct, are the first tender
flowers of a child's life."

Every school exercise should be truly educative. The function of the teacher then is to *direct* the child's energy and help him to make his activity useful. "The destiny, the privilege, the glory of man is to work, to do, to create."

It is through *expression* that the indefinite mental image takes shape and becomes a definite image. The intensity of the desire on the part of the child to *express* depends upon the intensity of the *impression.*

The school should furnish all possible means for varied expression, for the more ways in which a child can express an idea, an image, and the wider the range of expression the richer and clearer becomes the thought content.

"Occupation work" is as imperative in its claims as the recitation. It is necessary to hand and eye training, to introduce the concrete,—to remove difficulties and to strengthen weak places. No period of the school program demands more thoughtful planning and more careful preparation than this.

The material should be so adapted and presented that it will not only arouse and strengthen ideas in the child's mind, but will also provide conditions for gaining new ideas. It should be so selected as to have a definite purpose, and should either *supplement a lesson already taught, teach a lesson in itself, or aid in the preparation of a new lesson.*

All forms of expression and manual work should stimulate the child to attain some end which he feels to be good and worthy of his best effort. Work under the stimulus of the very best of motives tends to the forming of right habits.

In the various modes of expression and the manual arts, the child gains power through *doing* which enables him to construct and to

create; also to adapt all material which comes to hand for the expression of his ideas.

The child reveals his *interest*, his experiences and powers through the various modes of expression.

The material or medium of expression depends upon the nature of the subject. Such material should be used as will allow the fullest and most satisfactory expression. In all forms encourage *Large, Free Work.*

MODES OF EXPRESSION SUITABLE FOR SCHOOL USE.

I. Modeling in Sand or Clay.

Sand modeling may be used for natural land areas. The sand table is one of the most useful articles in the class room. Encourage the child to create, construct and build for the *representation* of all stories told; for example, Hiawatha, The Landing of the Pilgrims, Knights of the Round Table, Robinson Crusoe, The Three Bears, Ulysses, etc. The greatest freedom should be allowed the child in his representation. It should tell the story as *he* sees and feels it. This phase of utilizing the things the child has made tends to cultivate power in *oral language* expression. The moment a child creates something to represent *his* idea of the story, he is free to talk about it.

The sand table may be used to represent different occupations and the tools or implements used in each: as those of the farmer, carpenter, blacksmith, shoemaker, etc.

Describe and represent the work of the seasons and the implements used: as the planting of gardens in spring.

Represent the work of each day in the home, etc., and the things needed in each kind of work.

Represent the means of transportation observed on land and water, or imaged from stories and pictures: as boats, bridges, wagons, caravans, trains of cars, etc.

Illustrate inventions.

Illustrate the successive pictures represented in a poem.

Clay modeling should be used for representing objects requiring three dimensions; or in relief; for models of huts, houses or parts of architectural structures and decorative detail, for utensils, for models of animals, for all objects in nature study or history requiring a plastic medium for correct rendering.

II. Weaving, Braiding, Knotting.

Weaving, braiding and knotting: Raffia, cotton, and coarse wool-

en yarn may be utilized in the construction of mats, miniature rugs, doll hats, wall pockets, sewing cases, calendar backs, shopping and book bags.

In the study of primitive people, the child, through this material should be led to appreciate the evolution of this form of industry.

III. Making—Construction.

Cardboard and paper are good materials for the making of various articles suitable for use in the school room—such as boxes, envelopes to hold words, sentences and pictures; trays and baskets to hold small articles such as seed, shoe pegs, etc.

Also to make articles illustrating the ideas gained from regular lessons in history and literature: as, the homes and occupation of primitive people studied, weapons, utensils, modes of travel and inventions.

Articles for the use of others, simple but useful gifts, appropriate to festival occasions for those at home, or for other children who may be less fortunate.

IV. Painting—Water Colors—Ink.

Painting with water colors, ink or colored crayons should be used for illustrating those phases of life and nature that possess the color elements.

V. Paper Cutting and Pasting.

The representation in cutting should always be *free hand,* cutting first from the object and later from imagination. The child may make his story better understood by pasting the cuttings in order upon a background of some contrasting color.

VI. Drawing.

With brush, crayon or pencil illustrate a story that has been told or read, also follow carefully the outlines of the Drawing Supervisor, making use of them in connection with all other subjects, whenever it is possible.

VII. Pictures.

Encourage pupils to collect pictures connected with work being done; as pictures of people of other countries, their manners and customs of living, etc. (Carefully mount and classify them.)

Note.—In planning the hand-work with the children, take time for discussion and explanation, ascertaining that every child knows clearly

what he is to make, to what use it will be put, and also that he feels *so sure* of materials and plans that he can work freely and independently.

Criticism, Commendation and Encouragement are tools in hands of the teacher to inspire closer study and awaken enthusiasm and desire for improvement on the part of the pupils. The pupil should be allowed to be his *own critic* first.

Improvement must be noticed by the teacher. Growth will be shown in pupils' work after a just criticism has given rise to more accurate observation.

In all work the children should be trained to habits of economy in the use of materials; neatness and order in care of materials; honesty and accuracy in having the work so well done that it fulfills its intended purpose.

All work done by the child when not under immediate supervision should truly tell his power and his needs.

The child through these various forms of educational activity not only gains habits of order, skill and industry, but his powers of observation, attention, memory, association, judgment, and accurate reasoning are developed.

Dr. E. R. Shaw, in "Three Studies in Education," discussing the "Value of Motor Activities in Education," says: "Seek in every subject of study in the lower grades to provide motor activity at least as an accompaniment of study and of recitation. If possible, however, invent means which shall use up the motor tendencies, and at the same time make them a contributing part in the more purely thought work of the child. In short, let some *doing* accompany all the child's efforts to learn."

REFERENCES:

Clay Modeling for Schools.....G. S. Haycock.
Raffia and Reed Weaving.....E. S. Knapp.
Story of a Sand Pile.....G. Stanley Hall.
How to Make Baskets.....Mary White.
Paper and Scissors in Her School Room...Miller Bradley Co.
A Sand Pile (St. Nicholas Mag. Aug. 1886) H. M. Lay.
Three Studies in Education (Motor Activities) E. R. Shaw.

VOCAL DRILL.

"Once more, speak clearly, if you speak at all."
Carve each word before you let it fall.
O. W. HOLMES.

To speak or read in pure tone one must breathe deeply, stand erect, open the mouth freely, pronounce distinctly and speak clearly.

Lord Bacon said: "A man would better address himself to a stone statue than suffer his thoughts to pass in smother."

A good voice possesses *purity, strength* and compass.

SUGGESTIONS.

The following suggestions are given to aid in developing purity, strength and compass of voice on the part of the pupils. Teachers may add others to these.

Pronunciation is the utterance of syllables and words; it includes *articulation* and *accent.*

Articulation is the utterance of elementary sounds contained in a syllable or word; hence without clear and distinct articulation, there can be no correct pronunciation.

Pupils should have daily practice in repeating elementary sounds, also in pronouncing the consonant combinations composed of these sounds.

ARTICULATION.

Faulty articulation may arise from one or more of the following:

1. The omission of a sound (hist'ry for history).
2. The use of more sounds than necessary (ca'ow for cow).
3. The substitution of the wrong sound (jest for just).

NOTE.—In pronouncing words, also in the reading of sentences, see that children pronounce and *articulate every sound* distinctly.

EXERCISES FOR PURE QUALITY.

I Grade.

(1) Practice in rich, musical tones the long vowels ā, ē, ī, ō, oo, ä, a, etc.

(2) Sing each long and short vowel to the scale, ascending and descending.

(3) Repeat each voice consonant several times; first with rising, then with falling inflection.

II Grade.

(1) Sing the syllable äh to the scale up and down.

(2) Practice the vowels ē and ä together.

(3) Repeat the syllables nee, äh, nee oh, nee you, slowly then more and more rapidly.

III Grade.

(1) Sing the syllable seä to the scale, letting the under jaw fall freely.

(2) Repeat the syllables ip, it, ik, slowly, then more and more rapidly.

(3) Practice the following tables, using the mouth vigorously:

(*a*)	(*b*)	(*c*)	(*d*)
b–p–b–p	d–t–d–t	g–k–g–k	j–ch–j–ch
b–p–p–b	d–t–t–d	g–k–k–g	j–ch–ch–j
p–b–p–b	t–d–t–d	k–g–k–g	ch–j–ch–j

IV Grade.

(1) Sing the syllable fä to the scale, letting the under jaw fall freely.

(2) Repeat the scales ē, ĭ, ā, ĕ, ă, oo, o͝o, ō, a, ŏ, with pure musical tones.

(3) Practice the following tables, using the mouth vigorously:

(*a*)	(*b*)	(*c*)	(*d*)
r–f–r–f	z–s–z–s	zh–sh–zh–sh	th–th–th–th
r–f–f–r	z–s–s–z	zh–sh–sh–zh	th–th–th–th
f–r–f–r	z–s–z–s	sh–zh–sh–zh	th–th–th–th

NOTE.—Each grade should review the work of the preceding grade or grades.

SOUND DRILL.

I Grade. Long and short vowels and consonants.

II GRADE. All vowel sounds and consonants.

III GRADE. Work of preceding grades, including much drill in initial consonant combinations.

IV GRADE. Work of preceding grades. with much drill in *terminal* consonant combinations.

TABLE OF ELEMENTARY SOUNDS.

VOCALS.

ā as in ate	ĕ as in met	ū as in mute
ă " at	ẽ " her	ŭ " cup
ä " arm	ī " ice	u̇ " full
a̲ " all	ĭ " it	o̲u " our
ä̤ " care	ō " go	oi " oil
ȧ " ask	ŏ " not	o͞o " fool
ē " me	o " do	o͝o " foot

SUBVOCALS.

b as in bid	r (trilled) as in roll
d " did	v as in vine
g " gag	w " well
j " jug	y " yes
l " lull	z " zone
m " man	th " this
n " name	zh " ozier
r (smooth) as in lard	ng " sing

ASPIRATES.

p as in cap	h as in hat
t " take	s " sun
k " cake	sh " shall
ch " church	f " five
th as in their	

NOTE.—Make lists of words containing each of the above sounds, and have pupils pronounce the words containing them.

CONSONANT COMBINATIONS.

I. Initial Combinations.

	bl	as in	blow	sk	as in skill
	br	"	brave	sl	" sleep
	dr	"	drag	sm	" smell
	dw	"	dwell	sn	" snap
	fl	"	flour	sp	" spin
	fr	"	fret	st	" stone
	gl	"	gloom	sw	" swing
	gr	"	grade	shr	" shrill
	wh	"	which	skr	" scrub
(k)	cl	"	cling	spl	" splint
(k)	cr	"	crown	spr	" spruce
	pl	"	plum	str	" strong
	pr	"	pray	thr	" three

thw as in thwart

II. Terminal Combinations.

ed	as in	robbed	ffs as in cliffs
dth	"	width	ks " rocks
dths	"	breadths	ts " bats
bs	"	snobs	sk " mask
ds	"	beds	sps " clasps
lch	"	filch	st " mist
lge	"	bulged	fth " fifth
dge	"	budge	pth " depth
ld	"	fold	sts " fists
lds	"	holds	ched " filched
dged	"	budged	lged " bulged

Note.—Make list of words containing each of the above consonant combination sounds and have pupils pronounce them.

ILLUSTRATIONS.

I Grade.

pat-a-cake	rock-a-by	north
baker's	baby	wind
man	cradle	blow
cake	green	snow
just	father's	robin

I Grade—Continued.

fast	nobleman	poor
roll	mother's	thing
mark	queen	sit
brown	Betty's	barn
———	lady	keep
cock	wears	warm
doth	gold	hide
crow	ring	head
let	Johnny's	wing
know	drummer	thing
you	drums	
wise	king	
time		
rise		

Shoe the colt
Shoe the colt;
Shoe the wild mare;
Here a nail,
There a nail,
Yet she goes bare.

I had a little pony,
His name was Dapple-gray.
I lent him to a lady,
To ride a mile away;

She whipped him, she slashed him,
She rode him through the mire;
I would not lend my pony now
For all the lady's hire.

Some little mice sat in a barn to spin;
Pussy came by and popped his head in:
"Shall I come in and cut your threads off?"
"Oh, no! kind sir, you will snap our heads off."

II Grade.

If I'd as much money as I could spend,
I never would cry: "Old chairs to mend!"
"Old chairs to mend! Old chairs to mend!"
I never would cry: "Old chairs to mend!'

If I'd as much money as I could tell,
I never would cry: "Old clothes to sell!"
"Old clothes to sell!" "Old clothes to sell!"
I never would cry: "Old clothes to sell!"

Hear the sledges and the bells,
Silver bells!
How they tinkle, tinkle, tinkle,
In the icy air of night!
Oh! the bells, bells, bells, bells!

Do well, do well, do well, do well!
In mellow tones rang out a bell.

Over the hills the farm boy goes,
Cheerily calling: "Co, boss; co, boss;"
Farther, farther over the hill,
Faintly calling; calling still,
"Co, boss; co, boss; co, co, co."

III Grade.

Robert of Lincoln is gaily dressed,
Wearing a bright, black wedding coat;
White are his shoulders and white his crest;
Hear him call in his merry note:
"Bob-o-link! Bob-o-link!
Spink, spank, spink!"
Look, what a nice new coat is mine;
Sure there was never a bird so fine.
Chee, chee, chee.

Hushed the people's swelling murmur,
While the boy cries joyously:
Ring! ring! Grandpa,
Ring! O, ring for liberty—

Like a child at play,
Comes tripping along her joyous way,
Tripping along,
With mirth and song,
Laughing, loving May.

IV GRADE.

Amidst the mists and coldest frosts,
With barest wrists and stoutest boasts,,
He thrusts his fists against the posts
And still insists he sees the ghosts.

And round and round the rugged rocks, rude, ragged rascals ran.

The brightest stars are burning suns;
The deepest water stillest runs;
The laden bee the lowest flies;
The richest mine the deepest lies;
The stalk that's most replenished
Doth bow the most its modest head.

It is not what we earn, but what we save, that makes us rich. It is not what we eat, but what we digest, that makes us strong. It is not what we read, but what we remember, that makes us useful.

The following poems are especially strong for articulative exercises. Selections may be made from them:

The Cataract of Lodore.—Robert Southey.
The Old Year and the New.—Tennyson.
The Brook.—Tennyson.
The Old Clock.—Longfellow.
The Ballad of East and West (opening stanzas).—Kipling.

SENSE TRAINING.

HEARING.

1. Blindfold a child, another child raps a wooden ball; tell where it is from sound.

2. Blindfold a child; teacher taps different substances such as wood, iron, marble, glass, steel, etc. Children distinguish objects from the sound.

3. Children close eyes; some child speaks or sings or calls another child by name; children recognize child by voice.

4. Listening for musical tones and sounds of different objects in different parts of the room.

5. All children cover eyes; one child goes to a different part of the room and says, "Where am I?" The one who can tell raises his hand.

6. Have blindfolded child tell whether another child is running, skipping or walking, or whether it is a boy or a girl that is doing it.

7. Children rest. Teacher or child walks about room, stopping at one or two places. Children wake up and tell where she has walked and how many times and where she stopped.

8. Child leaves room. Small hoop of bells concealed under ONE desk. EACH pupil shakes an imaginary hoop of bells. Locate sound by ear alone.

9. Hide an object while child is out of room. He finds it by noting soft or loud singing of pupils when he is near or distant from object.

10. Eyes closed. Drop articles in different parts of room. Children locate sounds, distinguishing heavy, light, etc.

SIGHT.

1. Place a row of children in front of room. Give each an object which is to be described.

2. Child stand before class and describe another pupil, *e. g.*: I am thinking of someone who has light hair, blue eyes, wears a blue hair ribbon and a white apron, etc., etc. Who is it?

3. Finding colors. Pin squares of standard colors where they can be seen. Select a color. Tell children to find things in the room the same color.

4. Place objects on a tray or table. Children are to pass by quickly. Tell what was on it.

5. Arrange pupils in a row. Class observe. Close eyes. Rearrange. Who can arrange in original order?

6. Place a number of children in a row in front of room. Give each an object (flag, book, flower, doll, colored duster, picture, fruit, type-form, etc.) Class observe. Close eyes. Child holding object asks another (who is seated, keeping eyes closed) what he has. Pupil answers. Continue with the other children.

7. Write new word on blackboard. Erase. Child write it.

8. Raise object in sight view. Drop out of sight rapidly. Pupils give objects in order in which they were presented.

9. Pupil No. 1 touches an object. Pupil No. 2 touches that one and one more. Pupil No. 3 touches those two and one more and so on.

10. One child comes forward, then another and another quickly. Children at seats tell who was on the right, the left, in the middle. Have one, two or three groups of three children in each group, who stood at the right, the left, etc.

11. Scatter spelling words of the week all over the blackboard. Choose sides; one from each side comes forward; a word is then pronounced. The one who runs and points out the word first counts one for his side. Repeat and keep tally.

12. Place colored cards on ledge of blackboard, children name the order of colors, children close eyes, teacher removes a card or changes its position, children name the changes made.

13. Place children in a circle. Blindfold a child. A child leaves the circle; the one who was blindfolded names the child who has left the circle.

14. Send children to window, and observe quickly, then return to tell how many things they saw.

15. Have children tell all the things that they saw outside the grocery store. Different things they saw on their way to school. Things seen in the shop window as they pass.

16. Blindfold children in turn. Hang a ball somewhere in the room; have them observe quickly. All children blind; hide ball; all search; when child sees ball he takes his place in circle on the floor without touching ball or telling playmates.

17. One pupil comes forward and stands in front of the class with his face toward the school. Another writes word on board above his head resting on hands, while voyage is taken.
dren's description of it. Have one child leave the room, *e. g.* change position of several objects in room.

18. Have one child leave the room, teacher do something, *e. g.* change position of several objects in room; child describes what has been done. The children in room supply what has been omitted.

19. Write short sentence on board. Have it read, erased, and several children come to board to see who can get it written first.

20. Give children pictures to observe, then turn them over, and tell the story of the picture or what they saw in it.

SMELL.

1. Have a small bunch of sage or mint and spices of different kinds. Have children tell, blindfolded, what each is.

2. Blindfold children. Let each one name from odor:
Flowers; Easter-lily, carnation, hyacinth, violet, etc.
Fruits; Apple, quince, peach, orange, lemon, banana, etc.
Liquids; Perfumes, camphor, etc.

TASTING.

1. Blindfold child; distinguish by tasting; salt, pepper, mustard cloves, sugar, tea, coffee, flour, ginger. Also liquids, as lemon juice, orange juice, milk, water, syrup, catsup, vinegar. Also fruits, as apples, oranges, bananas, berries. Candies, molasses, peppermint, etc., etc.

TOUCH.

One child blindfolded. Teacher motions to someone to come and stand in front of blinded child. He then tells by feeling of clothes, face and hair who stands in front of him.

2. Have children put hands behind their backs. Teacher put objects in hands. Child tells what he is holding and describes it.

3. Let blindfolded child distinguish objects. Soft or hard, wet or dry, warm or cold, large or small, silk or cotton, woolen or cotton. Different kinds of paper, etc.

8. Draw oblong in which twenty-six circles are drawn, and in each

4. Handling solids. Cover eyes. Have pupil handle solid. Take it away. Pupil find solid like the one he has had. Give him another solid. Tell which of the two was the heavier, larger, longer, etc.

5. Pupil No. 1 touches an object. Pupil No. 2 touches that one and one more. No. 3 touches those two and one more and so on.

6. Shut eyes. Children walk around room. Find their own seats.

7. Shut eyes. Children feel of objects and tell form and substance. Distinguish marbles from agates; different books, as reader and arithmetic.

8. Draw oblong in which twenty-six circles are drawn and in each circle a letter of the alphabet is printed. Child spell by touching circles rapidly that hold required letters.

9. Touch water, sand, beans, etc., and have blind-folded child distinguish.

MUSCULAR SENSE.

1. Write letter of the alphabet on cards; pass to children, call different letters forming a word. The child holding the letters runs to the front of the room and stands beside the letter previously called. Have the word shown, pronounced and spelled.

2. GRAB BAG. Have a box of separate words. Place the box on

a chair in front of the room. Have one child close eyes and take out a word. Show it to the class, then give the word, or the child may call on someone to give the word.

3. Living pictures. Use one child or group of children. Let them act some experience in work or play. Other children describe what it is that is represented.

Result—Getting thought without giving words.

4. Shut-eye Voyages. Children lean forward, eyes closed, fore-

Example—"I'm black, but I'm no negro. I keep you warm but I'm no clothing. I have thousands of men working for me, but I'm no king. I run railways and factories. I've great wealth yet I own nothing. My home was once a wonderful forest, when no man was on the earth; therefore I am older than Adam, and I shall never die; yet if I should meet a certain enemy of mine I would soon change my form and disappear, yet I'm no fairy. I shine like the sun and am harder than stone. I've been buried for thousands of years and men are digging me out for many, many uses. I smoke when hot yet have no mouth. What am I?"

You are coal.

5. Follow the leader (game).

6. Multiplication game.

7. Have two children hold window stick a foot from the floor. Others form in line, and in turn run and jump over it.

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SUGGESTIVE OUTLINE FOR THE STUDY OF THE GREEKS.

CLEON, THE BOY OF ATHENS.

SECOND GRADE.

1. *Appearance*—Description of Cleon's personal appearance found in "Ten Boys." Tell especially of the Greeks' love for personal beauty and perfection of form, and of their fondness for all physical exercises and sports.

II. *Clothing*—The chiton (ke'ton) chlamys, sandals, ornaments, armor, etc., should be studied with reference to the material used, the manner of wearing, and purpose, and as compared with the clothing worn now.

III. HOME:—

1. *Environment*:—Description of the country.
2. *The House*:—(*a*) Structure. Solidity. Beauty. Provisions for cleanliness, eating, rest, reading or writing. The number and arrangement of rooms. The tiling and wall-painting of the interior. The sacred hearth.
   (*b*) *Furnishings and Utensils*:—Statues, beds, couches, dining tables, benches, chairs, lamps, vases, dishes, portable stoves.
   (*c*) *Food*:—Kinds used; how procured; how prepared; how served. The relations of food to health.
3. *Family Life*:—Customs and manners. Relation of parents and children. Duties of each. Slaves. Customs in eating, sleeping, bathing, hospitality and religion.

IV *School*—Pedagogue, place, studies, utensils (tablet, stylus), time spent in school; purpose of the school.

NOTE—For a Greek ideal of school, read about the school taught by Chiron in Baldiwn's "Heroes of the Olden Time."

V. *Social Life*—Children's games: Skipping shells, leap frog, rolling the hoop, running races, playing ball. Olympian games: Entertainments in the amphitheater, the market, the baths, feasts.

(Ideal of friendship is embodied in the story of Damon and Pythias and of Hyacinthus.)

VI. *The State*—Greek ideals of Citizenship. These ideals may be found in the stories of Leonidas, Pericles, Socrates and Demosthenes.

VII. *Industrial Life*—Agriculture, sheep-raising, spinning, weav-

ing, coloring, quarrying, metal working (armor), building, making chariots, pottery, sculpture, painting.

VIII. *The Church*—Religious processions and ceremonies in the temple. The parthenon. The oracles. Worship of nature, nymphs, dryads, gods and goddesses, worship at home.

REFERENCE BOOKS.

"Ten Boys."—*Jane Andrews.*
"Old Greek Stories."—*Baldwin.*
"Stories of the Golden Age."—*Baldwin.*
"Stepping Stones to Literature." Book IV., p. 256-312.
"The Story of the Greeks."—*Guerber.*
"Stories from Homer."—*A. J. Church.*
"Greek Life and Story."—*A. J. Church.*
"Three Greek Children."—*A. J. Church.*
"Home Life of the Ancient Greeks."—*A. Blumrell.*

THE ROMAN—HORATIUS.

Similar topics should be worked up for the study of Roman and Saxon life. Helpful books for the Roman:

"Ten Boys."—*J. Andrews.*
"The Story of the Romans."—*Guerber.*
"Private Life of the Romans."—*Preston and Dodge.*
"Stories from Virgil."—*A. J. Church.*
"Stepping Stones to Literature." Book VI., p. 188-208.

CLIFF DWELLERS.

SECOND GRADE.

I. Kind of People; describe characteristics—personal appearance.

II. Where they lived; describe region in Arizona and New Mexico, its rocks, sand, dryness, barrenness except along the rivers, etc.

III. Their Homes. Kinds (Lowland Village, Cave Dwelling, Cliff Houses). Where and how each was built, materials used, difficulties in getting material, furniture of the house. (Have pupils work out for themselves what the material would be from the character of the country. Tools used).

IV. Their Government.
    Clan or Communistic Life.

V. Food.
    What.
    How obtained.
    Implements used.

VI. Clothing.
    What.
    How obtained.
    Weaving and making of loom making clothing.

VII. Occupations.
    Farming.
    Making of Pottery.
    Weaving.
    Basket Work.

VIII. Religion.

References:

Lolani—The Little Cliff Dweller.
Webster. Among the Cliff Dwellers. Am. Naturalist, 27:435.
Schwatka. In the Land of the Cave and Cliff Dwellers.
Cliff Dwellings of Mexico. Spectator, 64:588.
Cliff Dwellings of Arizona. Science, 11:257.
Skertchly. Cliff Dwellers of the Far West.
Hardacre. Cliff Dwellers. Scribner, 17:266.
Mason. Cliff Dwellers. Sandal. Pop. Sci., 50:676-9.

THANKSGIVING.

Two or three days at most is a sufficient amount of time to devote to the topic of Thanksgiving.

In order to avoid the unnecessary repetition of work which so often occurs, the following topics are suggestive for the treatment of the subject in the primary grades:

Thanksgiving Outline.

Underlying Principle. Relation of family to civil society. Interdependence of nature and man. Thankfulness.

I Grade.

Industries of farm life in connection with the harvesting of food.

(Carry only so far as experiences of children in visiting farms will warrant.)

Recall what the children remember of Thanksgiving Day. Why celebrated.

Story of the Pilgrim Fathers told very simply.

The First Thanksgiving. Things for which to be thankful.

Thanksgiving Celebration.

Indian life—Hiawatha's childhood or Docas, The Indian Boy.

II Grade.

Recall what the children know of Thanksgiving Day.

Why celebrated?

Tell the story of the Pilgrim Fathers.

Why they left home.

The kind of homes left.

The voyage.

What they brought with them—how the ship was stored for the journey.

How they dressed.

Oceanus and Peregrine White.

The landing—season—Plymouth Rock.

First Thanksgiving—(story).

III Grade.

Recall what the children know of Thanksgiving Day. Why celebrated; tell the story of the Pilgrim Fathers. The voyage; the landing and all facts connected therewith.

PLYMOUTH—The community.
Making of homes.
Kinds of homes needed.
Material to be found.
Tools brought with them.
Hardships in building (compare with wigwams.)
Hardships of the first winter.
The meeting with Samosit and Squanto in the Spring.
The summer work and the first harvest.
The first Thanksgiving.

IV GRADE.

History stories.
Selections from Literature.

The following stories and poems may be read or told to the children in whole or in part, according to the needs:

The First Thanksgiving—Wiggins.
First Thanksgiving.
Price of a Little Pilgrim. } M. J. Preston.
Thanksgiving.
A Thanksgiving Feast.
The Pumpkin.
Mrs. Lucinda's Opinion. } M. J. Sangster.
The Pumpkin.
For an Autumn Festival. } J. G. Whittier.
The Landing of the Pilgrims.—Hemans.

Pictures should be used at every step. Models of the people, houses and ships. Make the stories real.

"STORIES OF THE CHRISTMASTIDE."

"Not what we give, but what we share."
"The gift without the giver is bare."

The celebration of festivals tends to strengthen the social element in life.

Following the Thanksgiving festival our thoughts turn to Christmas and to finding our places in the great multitude of joy-givers.

We should aim to make the mysterious elements of Christmas a living reality. It is the beautiful in literature which should be emphasized in order to develop the highest spiritual thought.

Santa Claus is a name for everyone who is either giving or doing for others. Each can be a Santa Claus. Help the children to feel that the *spirit of loving kindness* is the *real* Santa Claus. "When the sun rises the stars fade; they are neither taken away or extinguished. In the presence of a brighter light they fade out of sight. So let it be with the Santa Claus idea. Let not the fond illusion pass away until the child has in its place a higher, a truer thought, for which the old shall have served as a symbol."

The following is a suggestive outline for avoiding repetition, and for unifying the work of the grades:

KINDERGARTEN AND FIRST GRADE.

Santa Claus:

When he comes.
How he comes.
His home.
His work.
His reindeer and sleigh.
His journeys.
How he leaves happiness wherever he goes.
How we get ready for him.

POEMS:

A Visit from St. Nicholas.—*Whittier's Child L.*
Santa Claus and the Mouse.—*Child World.*
The Christmas Cat.—*F. D. Sherman.*

STORIES:

The Story of the Christ Child—*A. H. Proudfoot.*
A Bird's Christmas—*Child World.*
Legend of St. Christopher—*S. Wiltse.*
The Story of Gretchem—*Mother Stories.*
Dorothy's Christmas Eve—*Half Hundred Stories.*
Elon—A Story of the First Xmas—*Half Hundred Stories.*
The Fir Tree—*Hans Andersen.*

SECOND GRADE.

Other people with homes and Christmas and toys and games unlike ours.

Norway and Sweden:

Mountains of snow and fir forests.
Length of day.
Home: Dress of people.
Preparations for Christmas—tree, decorations, making of presents, cooking.
Length of holidays.
Feasts and dances.
Feeding cattle and birds.
Christmas offering of cakes.
Nissen: Throwing of gifts.
Church services.

Holland:

Dikes, canals, homes, dress of people, etc.
Preparation for Christmas; Date of.
Kris Kringle.
His appearance.
His mode of travel.
What the children do in return for Kris Kringle.

POEMS:

Piccola—*Celia Thaxter.*
Children's song—*See Hans Brinker.*
Kris Kringle—*T. B. Aldrich.*
Birds Christmas—*Celia Thaxter.*

STORIES:

The Story of the First Christmas—*The Story Hour.*
Christmas Cuckoo (in The Wonderful Chair)—*F. Browne.*
Christmas in the Barn—*Child World.*
A Christmas at Cafe Spaander—*Scribners, Dec. 1902.*

The Discontented Pine Tree—*Hans Andersen.*
A Story of the Forest—*K. D. Wiggins.*

THIRD GRADE.

Germany:
- Home: Dress of people.
- Preparations for Christmas::
  - City festooned with evergreens.
  - Working for the poor.
  - Christ market.
- Customs at Christmas:
  - Visit of St. Nicholas.
  - Good and bad children.
  - Nut throw.
- The Christ Child brings the gifts.
- Christmas tree.
  - Song about the tree (Holy Night).
  - Story of Christ Child.
  - A gift *from* everyone *to* everyone.

Russia:
- Home: Dress of people.
- Preparation for Christmas.
- Day of celebration (January 6).
- Mother Goose—"Baboushka."
- Christmas eve:
  - Processions in costume—dance and song at sunset.
  - Evening star feast.
- Christmas tree decorated with lights, etc.
- Gifts near by.
- Length of festival (two or three days).
  - "A happy feast to you."
  - Dinner a special feature.
  - Poor always fed.

Italy:
- Climate; city streets; homes; beggars and street musicians; outdoor bazaars.
- Christmas patron—Mother Goose—"Befana."
- Date of Christmas. January 6, because wise men gave gifts to the Christ Child at that time.
- Preparations for Christmas:
  - Great Christmas log in fire-place.
  - Children learn songs and poems.

Christmas eve:
Repeating of poetry, singing of songs.
Large vase containing gifts.
The urn of Italy is the Christmas tree of America.
Christmas feast—special feature.

POEMS:
December—*F. D. Sherman.*
The Little Christmas Tree—*S. Coolidge.*
Kris Kringle—*F. D. Sherman.*

STORIES:
The Christmas Chimes—*Alden.*
Christmas, or the Golden Fairy—*H. B. Stowe.*
The Shoemaker and the Elves.
The Carollers—*A. H. Proudfoot.*
A Christmas Festival Service—*N. A. Smith.*

FOURTH GRADE.

Christmas symbols:
The Solstice.
The date of the Nativity.
The Yule Log.
Curious Christmas customs of all lands.
Christmas trees.
The holly and mistletoe.
Christmas carols.
Santa Claus:
Ref. Christmas and Its Traditions (Kgtn. Mag., Dec., 1900).
Christmas in the British Isles.
Popular customs.
The Yule-tide.
Christmas eve.
Waits.
Ringing of church bells.
Christmas day:
Origin and purpose of the decorations.
Pastimes.
Christmas fare.
Gift giving.
Government control of Christmas celebration.
From 878 to the present in England.
American customs as derived from the English.

POEMS:

Legend of St. Christopher—*S. S. to Lit. Book IV*
Old Christmas—*Mary Howett.*
Little Town of Bethlehem—*Phillips Brooks.*
A Christmas Carol—*A. A. Proctor.*

STORIES:

Old Father Christmas—*J. H. Ewing.*
Dickens' Christmas Carol.
The Ruggles' Christmas Dinner.—*K. D. Wiggins.*
Bible Stories:
The Story of David.
The Wise Men.
The Shepherds Watching Their Flocks.
The Child of Bethlehem.
References:
The Christmas Bibliography.
Kindergarten Magazine, December, 1900.
Youth's Companion, September 5, 1895 (Christmas in Italy).
How Uncle Sam Keeps Christmas—St. Nicholas, December, 1902.
Harper's Magazine, vol. 56-1878 (Christmas in Venice).

CHRISTMAS GAMES.

AN IMAGINARY CHRISTMAS TREE.

Christmas morning the children waken early, and after much stretching, are able to rise and enjoy the presents on their beautiful Christmas tree. One by one they take off the presents, and, after discovering its mechanism, imitate it.

SUGGESTIVE PRESENTS.

A jointed doll.	Jack-in-the-box.	Jumping jack.
Musical instruments.	Toy bear.	Doll, with head that turns.

THE CHRISTMAS BAG.

Make a large bag of thin paper; fill it with nuts and candies and tie securely around the top to keep it fast, and suspend it from ceiling or door frame. Children form a circle. One child in the center is blindfolded and given a long, light stick with which he tries to tear a hole in the bag. If he succeeds, the nuts are scattered over the floor and the children scramble for them.

" 'Twas here they chased the slipper by its sound,
And turned the blind-fold hero round and round."

Blind man's buff.
Hunt the slipper.

SONGS.

Christmas Carols for Kindergarten, First and Second Grades.

Christmas Hymns (Songs for Little Children)—*Eleanor Smith.*
Christmas Carol (Gaynor's Songs of the Child World).
Christmas Lullaby (Patty Hill's Songs for Little Children).
Little Taper (Elizabeth Emerson's Songs for Children).
Away in a Manger—*Luther.*
Carol of the Flowers (Twelve Old Carols, published by Novello, Ewer & Co.)
Christmas Eve (Book I, Modern Series, p. 28).
Christmas at the Doors (Smith's Songs for Little Children).
The Bells (Louise P. Warner's "A Dozen and Two Songs").
Santa Claus (Silver Song Series No. 4)—*Leonard B. Marshall.*
A Letter to Santa Claus (Gaynor's Songs of the Child World).
Merry Christmas (Gaynor's Songs of the Child World).
The Christmas Tree (Primer, p. 106).
Father Christmas (Primer, p. 57).

Third and Fourth Grades.

Holy Night—*German.*
Nazareth (Academy Song Book)—*Gounod.*
Christmas Gloria—Old French Carol (Silver Song Series No. 4).
We Three Kings of Orient Ave. (Silver Song Series No. 3).
Father Christmas (Primer, p. 57).
Christmas Time (Primer, p. 104).
Christmas Bells (Novello, Ewer & Co.).
Merry Christmas (Fanny Snow Knowlton's Nature Songs for Children).

GEOGRAPHY FOR THE FIRST FIVE GRADES.

The work of each grade should be preceded by a careful review of the work of the previous grade or grades.

Geography is not only a description of the earth's surface, but a treatment of the people who inhabit it, and their life as related to climate and physical environment.

The lessons in Nature Study in the first and second grades form a basis for work in Geography in giving concepts which the pupils will use more or less in all geographical study.

WEATHER OBSERVATIONS.

Make a copy of month's record for future use when it is kept on the blackboard. (It is an economy of time to keep record on a large sheet of cardboard). At the close of each month the teacher should aid the child in stating general conditions of the month. For example:

September—Bright sun, rather high; warm days; days and nights nearly equal; green leaves; fruits ripening; birds still heard; crickets chirp; thistle, sunflower, aster and goldenrod in bloom.

At close of each season record general conditions of heat and moisture, lengthening or shortening of days and prevailing winds. Aim to establish clearly:

In winter—coldest, shortest days; low sun, very slanting rays, long shadows.

In summer—warmest, longest days; high sun, rays nearly vertical, shadows short.

In spring and autumn—mild days and nights, nearly equal in length; sun's arch between highest and lowest; rays not so slanting as in winter; shadows not so long. (Length of shadow taken at noon on the same day of week if possible.) A post in the yard may be taken to measure shadow. Notice the change in the place where sunlight falls in the room each week during the year.

Thermometer record—same hour each day.

Moon phases—when seen and where; sunrise and sunset; evening star.

Sun—form, apparent size and color, rising and setting, apparent change of place in different seasons.

Sunrise—dawn; noon; sunset; twilight; night. (See picture and story of Aurora in "Brooks and Brook Basins," page 2).

Stars—many: some twinkle; others shine steadily; some brighter than others; evening star, north star and dipper. Myths and poems given.

Wind—direction, how named; which are warm winds; which cold; which bring storms. Uses.

Weather-vane and weather signals should be made and used for weather study.

FORMS OF WATER.

Rain—drops, varying in size, form clouds; showers; storms, which season has most rain; measure rainfall; use to man, plants and animals; power to cleanse; to float objects, to carry soil and to dissolve.

Snow—flakes, etc., as above.

Hail—ice, balls of different sizes and shapes; falls from clouds.

Dew—drops, collect on objects; when formed; when seen; heavy or light.

Frost—crystals; form on objects; when seen; heavy or light.

Clouds—mass of water in tiny drops; colors; forms; moved by the wind; seen all the year.

Fogs—clouds near the ground; dampen objects; seen occasionally.

Mist—

Ice—crystal; how formed; when made; effect on object holding it; light or heavy; season.

NOTE.—Many beautiful poems may be connected with this study.

POINTS OF COMPASS.

Cardinal and semi-cardinal points taught out of doors from the sun.

Teach relative positions.

How to find directions at sunrise; sunset; noon.

Mark lines in yard showing chief directions.

1. Locate pupils with reference—
   a. To different parts of the room.
   b. To other pupils.
   c. To objects in the room.
2. Locate room with reference—
   a. To other rooms on the floor.
   b. To other parts of building.

3. Locate buildings with reference—
   a. To parts of yard.
   b. To child's home.
   c. To objects of interest near by.
   d. To part of city.

Locate adjoining streets and state directions in which they extend.

MAPS.

a. Of school room.
b. Of school house.
c. Of yard, square, district.
d. Of city.

NOTE.—While drawing maps, children should face the north when possible.

Measure sides of room; compare lengths.

Draw line representing north side of room and mark it, follow with the east, then south, then west.

REVIEW THESE POINTS.—While facing north, hold a child's paper against the blackboard on north side of room and draw similar plan on board. DRILL, and have children continue to draw plans until it is clear that north is at the top of the map, south at the bottom, etc. (Thus develop map idea).

FIELD LESSONS.

Children should be led to see the wonderful beauty around them, to acquire facts and form habits of personal investigation.

The field lesson may be for one or all of three purposes: For plant study, for animal study, or for land study. (Always collect specimens when possible).

Collect different kinds of soil. Sand, pebbles; clay or loam are near the surface and easily collected.

Observe characteristics of each.

Arrangement of soil can be observed by a brook, if banks have been worn to any depth.

Any excavation into the natural soil, as a sewer or a cellar, is a good place for observation. Drawings can be made and samples collected and marked as to layers. Find kinds of soil near a spring as water leaves hillside.

Observe how often the gutters fill with debris.

Observe work of small rills wearing away the soil, carrying fine material to low places near the mouth.

Observe a brook after a rain and watch a stream with its load worn from the banks. Lead children to see where this load is deposited. (Small rills everywhere doing the same work).

In the study of streams, a suitable rill may often be found near the school. Trace its course from source to mouth if possible. Observe windings; where it flows most rapidly, most slowly—why? Direction it flows. Bed; bank.

Examine the valley—the slopes down which the water runs to form a stream. Draw the course of the stream—the profile of the valley.

What becomes of water after a rain?

Lead children to see that after a rain, some of the water evaporates; much sinks into the ground, and part flows off in streams; from rills to gutters, gutters to sewers, sewers to rivers, rivers to lake.

Trace course of surface drainage in your district—then in the city. Why does it flow in certain directions?

Note the kinds of soil which take up most water; if one kind takes it more slowly than another, etc.

Note how frost and worms prepare soil for water to enter. (See Sea Side and Way Side, Part II). The depth water sinks; what stops it?

Hill—Summit; base; slopes, long, gradual, short, abrupt. Find ranges of hills, groups, peaks.

Read good descriptions; show pictures.

Valley—Among hills; shape; slopes forming the valleys; length and steepness; where meet; compare depth of valley with height of hills.

Plain—length and breadth.

References:

Frye's Brook and Brook Basins.
Shaler's First Book in Geology.
Dana's Geological Story Briefly Told.
Clapp's Observation Lessons on Common Minerals and Rocks.
Hyatt's About Pebbles.
Darwin's The Earth Worm.

HOME LIFE.

Homes—materials needed (for building and furnishing).

Lumber—Transportation. From lumber-yard (distributing center).

From saw-mill (transformation of lumber).

From forest (Lumbering. Appearance of forest, life and work of lumbermen).

Work of *each stage* shown by *use of pictures,* if *excursion is impossible.*

NOTE.—The same plan for other materials used in construction, etc., as stone, brick, lime and the like. Comparisons should be made throughout with primitive life; also with the construction of homes of the children of other lands.

Needs of daily life.

a. Food.

Bread: Transportation from bakery; from wholesale house, from mill. (Work of the mill and work of the farm considered briefly). Need of each shown.

Milk: Transportation, milk depot, milk farm.

Butter: Transportation, store, wholesale house, creamery, dairy farm.

Vegetables.

c. Fuel.

Wood: Wood-yards, forest.

Coal: Coal-yards, mines.

NOTE.—Same plan should be followed for each topic; and former methods of manufacture should be compared with methods of to-day.

d. Occupations of different members of the family and their relation to each other.

NOTE.—All stories of children of other lands are contributions to the study of Geography. Children may get a fair knowledge of people, their relations and their homes (different zones) in the study of the "Seven Little Sisters," "Each and All," and "Big People and Little People of Other Lands."

Each section with its race of people should be studied from the same plan in the mind of the teacher. Given to the children in the most picturesque story form followed by much oral and written work.

The thoughts, concepts, of the children must be realized in actual things; things made and done. The clay and sand tables are fruitful means. Construct roads, bridges, houses, tents, boats, etc.

Children should know locality, plant life, animal life, home, food and occupation, with reference to themselves; compare and contrast with others.

CITY—ROCHESTER.

I. HISTORY.

Give a picture of the early life of the community—the homes, manner of living, industries and resources of the people, the field, the forest, the sea, dress, education, religion, government and social life.

Show that animals, plants and minerals are in general useful to man, and that to obtain them man must work. Certain occupations require numbers of people to be gathered together and work in large

companies; thus towns and cities are formed. Discover the occupations that led to the city's growth; show the growth to present population as due to resources, etc.

II. Location.

1. Position in reference to neighboring towns and cities (this point includes distance and direction).
2. Position in regard to river lake and bay,
3. Extent, boundaries, size.
4. Make a map or plan or original city when possible, and develop to present boundaries.

Note.—The teacher should be provided with large map of city before attempting to teach it.

III. Physical Features.

Surface features of the immediate locality.

1. Highlands and lowlands.
   - School and homes in relation to surface, slopes and highlands.
   - Slopes followed from school to home; steepness; relation of traffic to slopes. Length, direction.
   - Extent, attitude and air of highlands.
   - Extent, attitude and air of lowlands.
   - Distribution of people in reference to highlands and lowlands.
   - Beauty of one in contrast to the other.
2. Drainage.
   - Stream (caused by showers). Its course, its origin, condition, and work of water.
   - Brook: Work of the brook, its course, width, volume, origin, use and relation to the river.
   - River: Work of the river, its course, obstructions; causing falls, rapids, lakes, etc., width, volume, origin, use and relation to the lake.
3. Hills: Slopes, steepness, length, varying size and shape, altitude and vegetation.
4. Valleys: Slopes, steepness, length, altitude compared with hills, varying size and shape of valleys.
5. Climatic conditions recorded.

Note.—Have pupils discover the *why* for each of the above topics.

IV. Organization.

1. Productive Occupations.

Note.—Be sure before you leave this subject that each instance of occupation studied stands to the child as a type of that occupation.

a. Agriculture.

1. Gardening.

Notice what gardening is, why people make gardens.

Make a list of the products of the garden, and show what becomes of them.

2. Truck raising.

Notice how much like gardening this is as regards process—how it differs in purpose. How extensive the truck area is; what truck is raised; what becomes of it.

3. Farming.

Notice that farming is truck raising of a more extensive and less intensive sort—that in connection with this the farmer raises stock.

b. Manufacturing industries.

Factories—kinds and location, reasons for these? Where is raw material obtained? Where the market for finished products?

What becomes of all these products: food products, clothing products, wood—kinds and for what purposes used.

Note.—Study a manufacturing establishment first, for what it is; second, in its relation to producers of raw materials; and third, in its relation to the consumer. Factory studied should always be visited if possible.

2. Commercial Occupations.

Note.—Show the relation of the following to the manufacturer, the agriculturist, and the child.

a. Transportation.

1. Primitive modes used in the city.

2. Present modes.

a. City car lines—uses, advantages of, extent, kind of service, how regulated.

b. Hack lines, delivery wagons, bicycles, country wagons.

c. Roads and railroads—name principal lines and cities with which they connect.

d. Canal and river.

e. Aids to commerce, as harbor, telephones, cables, letter service.

f. Protection to commerce, as lighthouses, life-saving stations.

NOTE.—Emphasize all the above as furnishing means of communication between distant points and individuals, by being of service in the exchange of commodities and as being related to the development of other methods of communication, such as traveling, letters, telegraph, telephone, etc.

b. Stores, as markets—furnishing the best opportunities for exchange, barter or trade.

1. Principal dry goods stores.

Make a sort of inventory of goods; show where the different articles come from, manner of transportation and the demand for them. Where do the people who buy these things get their purchasing money? Develop the idea of reciprocity; mutual dependence.

2. Grocery stores.

Notice home grown products and canned goods and other products shipped in. Where do these products come from? Where packed or canned, as the case may be? How shipped, etc.

3. The market place.

The things seen there. Give an accurate idea of home grown products, and this leads to a study of farming in the surrounding country.

4. Furniture stores.
5. Hardware stores.
6. Shoe stores.
7. Drug stores.
8. Jewelry stores.
9. Book stores, etc.

NOTE.—These should be studied in a similar manner to dry goods and grocery stores, and in connection with each one studied take some typical manufactory interest.

c. City or village.

As being merely a larger market or store with greater opportunities in the way of trade.

3. EDUCATIONAL AND SOCIAL INSTITUTIONS.

a. Schools.
b. Libraries.
c. Churches.

d. Social life—opera houses, clubs, charitable organizations, industrial societies (our duties as members of a community).

e. Letter delivery (Post Office).

4. GOVERNMENT.

NOTE.—Lead pupils to get an idea of government from the rules in games, in the school yard, school room, and in the home. Lead them to discover the purpose for which all such rules are made, for the comfort and happiness of all.

a. In the home.

b. In the city.

City officials: duties; City Hall—uses of.

1. The Mayor.
2. The Board of Aldermen and other Boards.
3. Policemen, etc.

V. MATHEMATICAL OBSERVATIONS.

a. Sun rising and setting; moon; stars; day and night—their varying length; seasons; their change and order of recurrence, as observed in our own city.

b. Globe lessons.

c. Maps and mapping.

The map work should develop clearly in the minds of children the following points:

1. The map idea.
2. Fixedness of position.
3. Scale—(necessary to teach the idea of relative size of countries and continents).
4. Symbolism—(coloring cities, rivers, etc. Teach symbols as you need them and use symbols as you teach them. After a symbol has once been taught, always require the pupils to call to mind a picture of objects represented by the symbol).

NOTE.—In the study of Rochester the *historical* and *physical* should be emphasized with such of the political as particularly relates to your particular district.

OUTLINE FOR THE STUDY OF ANY COUNTRY.

1. POSITION. (a) In hemisphere. (b) In zones. (c) From continents. (d) From oceans.

ACTUAL POSITION. (a) Between parallels. (b) Between meridians.

2. FORM.
   1. Relative.
   2. Actual. (a) As shown by map. (b) Indentations. (c) Prolongations.

3. SIZE.
   1. Relative. (a) In relation to other continents. (b) In relation to ocean areas.
   2. Actual. (a) Number of square miles.

4. RELIEF.
   1. Primary highlands. (a) Position. (b) Extent. (c) Elevation.
   2. Secondary highlands. (a) Position. (b) Extent—width. (c) Elevation.

5. CLIMATE.
   1. Winds. (a) Over ocean or land, from warm to cold or cold to warm latitudes. (b) Prevailing direction; whence it came.
   2. Rainfall. (a) Where and why. (b) Where not and why.
      a. Drainage. (a) Rivers. (b) Seas. (c) Lakes.
      b. Vegetable life (zones of).
      c. Animal life (distribution of).
      d. Mineral resources.

6. The above outlines are conditions of:—(1) Temperature as dependent upon (a) Latitude. (b) Altitude. (c) Ocean currents. (d) Proximity to large bodies of water. (2) Rainfall. (3) Character of soil.

7. Zones of waste as dependent upon:—(1) Lack of moisture. (2) Altitude. (3) Latitude. (4) A supply of moisture giving: (a) swamp. (b) jungle. (c) eroded lands.

8. Distribution of population as dependent upon possibilities of productive occupation.

9. Productive occupation as dependent upon:—(1) Resources. (2) Supply and demand. (3) Occupation. (4) Commercial advantages.

10. Development and location of centers of population; as expressions of necessities of the people for:—(a) Collecting stations. (b) For manufacturing stations. (c) Commercial stations. (d) Governmental stations.

11. Development of commercial and trade routes as dependent upon the necessities which a people are under of obtaining the productions and patronage of the other peoples of the world.

SUGGESTIVE BIBLIOGRAPHY.

Carl Ritter's Comparative Geography; American Book Co.
Carl Ritter's Geographical Studies; American Book Co.
Guyot's Earth and Man; Charles Scribner's Sons.
Keith Johnston's Physical, Historical and Political Geography; Stanford, London.
Guyot's Physical Geography; American Book Co.
Appleton's Physical Geography; American Book Co.
Eclectic Physical Geography; American Book Co.
Houston's Physical Geography; Elbridge & Bro.
Maury's Physical Geography; University Publishing Co.
Maury's Physical Geography of the Sea; Sandon, Lowell & Son; London.
Reclus' Earth; Harper & Bro.
Reclus' Ocean; Harper & Bro.
Reclus' History of a Mountain; Harper & Bro.
Stanford's Compendiums of the Continents. 6 vols.: Stanford, London.
Brown's Countries of the World; Cassell & Co.
Brown's Peoples of the World; Cassell & Co.
Reclus' Earth and Its Inhabitants. 17 vols.; D. Appleton & Co.
Europe. 5 vols.
Asia. 4 vols.
Africa. 4 vols.
Oceanica. 1 vol.
North America. 3 vols.
South America—being prepared.

NOTE.—Reclus' is the most exhaustive work on this subject published in English.

Methods:—

Parker's How to Study Geography; Appleton & Co.
King's Methods and Aids in Geography; Lee & Shepard.
Fry's Child and Nature; Ginn & Co.
Crocker's Method of Teaching Geography; Boston School Supply Co.
Geikie's Teaching of Geography; The MacMillan Co.
Redway's Manual of Geography; D. C. Heath & Co.
Trotter's Lessons in the New Geography; D. C. Heath & Co.
C. McMurray's A Teacher's Manual of Geography. (Note, Bibliography); MacMillan Co.
Nichol's Topics in Geography; D. C. Heath & Co.

The Journal of Geography.

Articles in the Encyclopedia Britannica and in the bound volumes of Harper's Century, Scribner's, and Popular Science Monthly Magazine.

ADA VAN STONE HARRIS.

SUGGESTIVE OUTLINE FOR THE STUDY OF THE WORLD.

FOURTH GRADE.

(a) General shape.
(b) Relative size.
(c) Relative position of the more important countries and continents.
(d) Life, occupations and exports of the people.
(e) Our relation to and dependence upon the whole world.

In treating the above topics, the children should gain a general idea of zones with reference to heat and cold of the various continents, of highlands and lowlands forming the "back bone" of lands, of simple physiographic processes, of the elements of drainage, of leading cities, and of the relation of its parts in direction and distance.

The following are suggestive topics chosen with reference to illustrating various phases of life, extremes of life conditions, various methods of transportation and commerce. Of these, the first only (sealskin) is developed.

1. Northern Section, North America.
   - Sealskin.
     - Its use.
     - Location of region from which this product is obtained (direction from home).
     - Seal fisheries. Method of obtaining.
     - Climate.
     - Plant and animal life.
     - People.
     - Home.
     - Habits of life.
     - Transportation.
       - Methods in country.
       - Routes to New York.
       - (Time required).
       - Note all barriers or difficulties in routes of travel.
       - Scenery.
2. Southern Section, North America.
   - Coffee.

3. Northern Section, South America, Valley of Amazon.
   India Rubber.
4. Southern Section, South America.
   Hides and wool.
5. Northern Eurasia.
   Sable.
6. West Central Europe (Switzerland).
   Cheese.
7. Southern Europe. France and Spain.
   Wine.
8. Southeastern Asia.
   Tea.
9. Central Africa.
   Ivory.
10. South Africa.
    Diamonds.

This suggestive outline of articles of commerce belonging to various countries is quoted from the topics arranged by Richard E. Dodge, Teachers' College Record.

SUGGESTIVE OUTLINE FOR GEOGRAPHY.

SIXTH GRADE.

Around the World from San Francisco.
Points visited.

Tokio—call at Philippines enroute.
Seoul (Korea). Cross Yellow Sea to—
Peking.
Tientsin.
Shanghai.
Nanking.
Grand Canal.
(Compare calm, peaceful, blue Yangtse-Kiang with boisterous, mad, and capricious yellow Hoang Ho).
Hong Kong.
Bangkok (Siam), Gulf of Siam.
Singapore.
Strait of Malacca.
Calcutta.
Bay of Bengal.
(Contrast rivers Ganges and Brahmaputra).
Colombo.
Island of Ceylon.
Bombay (Hindustan).
Across Arabian Sea, through Gulf of Aden and Strait of Babel-Mandeb, stopping at
Mocha.
Red Sea.
Suez.
Isthmus of Suez—Suez Canal.
Alexandria.
(Contrast rivers Nile and Niger).
Constantinople (Turkey).
Athens (Greece).
Naples, Italy.
Rome, Italy.
Marseilles, (France).
Barcelona, Spain.

Malaga, Spain.
Gibraltar—Strait of Gibraltar.
Across the Atlantic to New York; or from Rome by land to—
Venice.
Berne, Switzerland.
Vienna, Austria.
Berlin, Germany.
Side trip here to Copenhagen, Stockholm, St. Petersburg.
Brussels, Belgium.
Paris—Havre.
London, Edinburg, Glasgow, Dublin.
New York.

Study causes producing differences of climate; its effect in different countries upon habits and customs of people and upon industries.

Each city visited should stand as a type of the country, and should be studied under the following points:

1. Geographical conditions—favorable to development.
2. Important industries; whether agricultural, grazing and lumbering, manufacturing, mining.
3. Commerce.
4. Manners and customs of people.
5. Scenic Centers.
6. Historical places of note.
7. Notable places in Literature.
8. Art of Country.

NOTE.—Compare peculiar manners, looks and customs of peoples studied. For example: Blacks and Arabs, Hindus and Malays, Chinese and Japanese, etc.

ADA VAN STONE HARRIS,
Supervisor of Kindergartens and Primary Schools.

VI GRADE GEOGRAPHY.

B CLASS.

1. Europe:
   The physiography of Europe compared with North America as to relief—climate—drainage.
2. British Isles.
   (a) England and Scotland.
   The coal fields.
   Iron manufactures.
   The textile manufactures.
   (b) Ireland's agriculture and manufactures.
   (c) Important fisheries about the British Isles.
3. France.
   Grape culture.
   Silk manufactures.
   China manufactures.
4. Germany.
   The Rhine River.
   Iron manufactures.
   Beet Sugar industry.
5. Holland and the Lowlands.
   Life, character and occupation of the Dutch people.
6. The Austrian Empire.
   Life and occupation of the people.
   Vienna—Capital city.
7. Switzerland.
   Swiss manufacturing and grazing.
   Dairy products.
8. Norway and Sweden.
   Surface, products and people.

Russia.

The Volga and the great plain of Russia—Compare with Mississippi Valley.

10. The peninsulas of Southern Europe.

NOTE.—There should be constant comparison of every topic with North America as to mountains, rivers, cities, climate, people and industries.

See McMurry's Special Methods in Geography, pages 191 to 195.

A Class.

1. Asia.
   The physiography of Asia compared with Europe and North America.
2. Colonial possessions of the British Empire.
   India.
   Australia.
   New Zealand.
   The English in Africa.
   The Congo Free State.
   Other lesser colonies of England.
2. Dutch possessions in England.
   Java.
3. Russia in Asia.
   The great physical features.
   Vast deserts.
   Trans-Siberian Railway.
4. The Chinese Empire.
   (a) Life, character and occupation of the people.
   (b) Tea culture.
   (c) Manufactures.
5. The Empire of Japan.
   Comparison with British Isles.
   Life and character of people.
   Artistic manufactures.
6. Smaller states of Asia.
7. Comparison of the East Indies and the West Indies and Madagascar.
8. Comparative physiography of the Continents.
9. The controlling influence of Europe and North America.
10. Location and distribution of races of the earth.

Note.—Comparison should be made of each topic studied with similar topics in other parts of the world.

Aim to constantly bring out the cause and effect idea.

See McMurry's Special Methods in Geography, pages 195-197. Reference book, pages 214-216.

HISTORY.

SEVENTH GRADE.

Period of Discovery and Exploration.

I. Landing of the Norseman.
   1. Naddod.
      Iceland.
   2. Eric the Red.
      Greenland.
   3. Lief the Lucky.
      New Foundland.
      Nova Scotia.
      Sighting New England.
   4. Thorwald.
      Explored the coast of Rhode Island, Connecticut and Long Island.

II. Meeting of Norsemen and Indians.

III. Legends of other and still earlier discoverers of the New World.
   Buddist Monks in the 5th century.
   Arabian sailors in the 12th century.

IV. Columbus.
   His boyhood.
   In the service of Portugal.
   Agreement between the Queen and Columbus.
   His departure.
   His voyage.
   Landing.
   Other discoveries.
   Subsequent voyages.

V. The English Explorations.
   John Cabot's.
   Sir Humphrey Gilbert's.
   Sir Walter Raleigh's.
   Gosnold's.

VI. Spanish Explorations.
   Balboa.
   Ponce de Leon.

De Ayllon.
De Narvaez.
De Sota.
De Luna.

VII, French Explorations.
Verrazani.
Cartier's Ascent of the St. Lawrence.
Menendez.
First permanent European settlement in U. S.—St. Augustine.

Period of Settlement.

VIII. The colonial history of Virginia.
IX. The colonial history of New York.
X. The colonial history of New England.
XI. The colonial history of New Jersey, Pennsylvania and Delaware.
XII. The colonial history of Maryland, the Carolinas and Georgia.
XIII. The French and Indian War.
XIV. Revolutionary Period.

NOTE.—In teaching each of the above topics, the geographical aspect of the subject should be considered as to the line of travel—the character of the country—the people, their habits and customs, etc. It is the cause and effect idea, which should be kept in mind. Maps and the globe should always be before the history class. Places and movements of the people located.

Character study in history is an important element in this grade. Thus lead pupils to form moral judgments of right and wrong doing.

Pupils should fill in topical maps in history as well as in geography.

Pictures illustrating the life of the people of the various colonies should be collected and used to illuminate the subject.

SUGGESTIVE OUTLINE FOR COMMERCIAL GEOGRAPHY.

EIGHTH GRADE.

Introduction.

I. Physical conditions.
   1. Review of climate, relief, drainage, cost, as regards their influence on products, occupations, etc.
   2. Political Divisions.
      States—groups of, as determined by physical conditions and products.

II. Products—where found and why.
   1. Agricultural products.
   2. Lumber and other forest products.
   3. Mining products.
   4. Animal products.
      Mats, Leather, etc.
      Furs and skins.
      Fisheries.

III. Industries—Location of.
   1. Agriculture.
   2. Manufactures. (See IV).
   3. Mining.
   4. Lumbering.
   5. Fishing.

   Commercial pursuits.

IV. Manufacturing Centers.
   1. For clothing materials; cotton, woolen, silk, leather.
   2. For wood; building purposes, furniture, etc. (paper pulp).
   3. For food materials; vegetable, animal, etc.

V. Commerce.
   1. What is it?
   2. Why needed?
   3. Means used for carrying it on?
   4. With what countries?

VI. Principal Seaports.
   1. Why located where they are?

(a) New York.
(b) Boston.
(c) San Francisco.
Gulf port—New Orleans.

VII. Small Seaports.

1. Why situated as they are?
2. Why not so important as those above?
3. What has made them?
   (a) Norfolk.
   (b) Savannah.
   (c) Charleston.
   (d) Galveston (gulf).
   (e) Baltimore.
   (f) Portland, Me.

VIII. Lake Ports.

1. Why located as they are, and what about their position makes them important?
   (a) Buffalo.
   (b) Cleveland.
   (c) Detroit.
   (d) Duluth.
   (e) Milwaukee.
   (f) Chicago.

IX. River Ports.

1. Why located as they are?
   (a) St. Paul.
   (b) St. Louis.
   (c) Pittsburg.
   (d) Cincinnati.
   (e) Portland, Ore.

X. Railroad Centers.

1. Why good ones?
   (a) Buffalo.
   (b) New York.
   (c) Chicago.
   (d) Omaha.
   (e) Denver.
   (f) Kansas City.
   (g) St. Paul and Minneapolis.
   (h) Detroit and San Francisco.

XI. Commercial routes.
    1. Railroad routes from above railroad centers.
    2. Inland water routes.
        (a) On the Great Lakes.
        (b) On the Mississippi and its tributaries.
        (c) On the canals.
        (d) On the Atlantic system of rivers.
        (e) On the Pacific system of rivers.
    3. Ocean routes from—
        (a) New York.
        (b) Boston.
        (c) New Orleans.
        (d) San Francisco.
        (e) Other ports.

SUGGESTIVE PROGRAMS.

First Grade.

Morning Class

HOUR	TIME	GROUP I.	GROUP II.	GROUP III
9.00— 9.05	5	Opening Exercises		
9.05— 9.20	15	Introductory Exercises or Morning Talk	Nature Lesson Telling of / Reproduction of } a story Conversation Lesson Poems	
9.20— 9.35	15	Reading	Occupation Table	Blackboard
9.35— 9.50	15	Seats	Reading	Seats
9.50—10.05	15	Blackboard	Seats	Reading
10.05—10.10	5	Games—Rhythm		
10.10—10.20	10	Music		
10.20—10.30	10	Reading	Blackboard	Occupation Table
10.30—10.40	10	Seats	Reading	Seats
10.40—10.50	10	Occupation Table	Seats	Reading
10.50—11.00	10	Free Play—Games—Rhythm		
11.00—11.10	10	Sense Training Exercises and Vocal Drill		
			Drawing—the formal lesson	
			Learning Rote Song	
			Reproduction of Stories	
11.10—11.30	20	Expression		Language
			Dramitization of Stories	
			Memory Gems	
			Manual Training	
11.30—11.35	5	Put away work—Dismiss		

Second Grade.

Morning Class.

HOUR	TIME	GROUP I	GROUP II	GROUP III
9.00— 9.05	5	Opening Exercises		
9.05— 9.20	15	Introductory Exercises or Morning Talk	Nature Lesson / Reproduction of / Telling of / Poem / Conversation Lesson — a Story	Language
9.20— 9.40	20	Reading (Slow Group)	Blackboard	Occupation Table
9.40— 9.55	15	Seats	Reading	Seats
9.55—10.10	15	Blackboard	Seats	Reading
10.10—10.15	5	Games—Rhythm		
10.15—10.27	12	Music		
10.27—10.40	13	Number (Best Group)	Occupation Table	Blackboard
10.40—10.55	15	Occupation Table	Number	Seats
10.55—11.10	15	Seats	Seats	Number
11.10—11.15	5	Games—Rhythm		
11.15—11.20	5	Sense Training—Language		
11.20—11.30	10	Literature—Story Work—Language		
11.30—11.35	5	Put away work—Dismiss		

Afternoon Class.

1.30— 1.35	5	Opening Songs		
1.35— 1.50	15	Reading	Seats	Occupation Table
1.50— 2.05	15	Blackboard	Reading	Seats
2.05— 2.15	10	Seats	Blackboard	Reading (Best Group)
2.15— 2.20	5	Games—Rhythm		

Second Grade—Continued.

HOUR	TIME	GROUP I	GROUP II	GROUP III
2.20— 2.30	10	Spelling		
2.30— 2.45	15	Group I—Geography / History } Language		
2.45— 3.00	15		Group II—Geography / History } Language	
3.00— 3.30	30	Drawing two days Written Work two days (Copying Poems and Stories) Manual Training two days		
3.30— 3.35	5	Put away work—Dismiss		

Third Grade.

Morning Class.

9.00— 9.05	5	Opening Exercises		
9.05— 9.20	15	Introductory Exercises or Morning Talk	Nature Lesson / Reproduction of / Telling of } a Story / Poem / Conversation Lesson	} Language
9.20— 9.40	20	Reading (Slow Group)	Blackboard	Occupation Table
9.40— 9.55	15	Seats	Reading	Seats
9.55—10.10	15	Blackboard	Seats	Reading
10.10—10.20	10	Games—Rhythm		
10.20—10.32	12	Music		
10.32—10.52	20	Number (Slow Group)	Occupation Table	Blackboard
10.52—11.10	18	Occupation Table	Number (Best Group)	Seats
11.10—11.30	20	Seats	Seats	Number (Med. Group)
11.30—11.35	5	Put away work—Dismiss		

THIRD GRADE—Continued.

AFTERNOON CLASS.

HOUR	TIME	GROUP I	GROUP II	GROUP III
1.30— 1.35	5	Opening Songs		
1.35— 1.50	15	Language { Literature / Reading	Blackboard—Language	Occupation Table
1.50— 2.05	15	Blackboard—Language	Language { Literature / Reading	Blackboard—Language
2.05— 2.15	10	Occupation Table	Occupation Table	Language { Literature / Reading
2.15— 2.20	5	Games—Rhythm		
2.20— 2.30	10	Spelling		
2.30— 2.45	15	Geograghy / History } Language	Seats (Illustration)	
2.45— 3.00	15	Seats (Illustration)	Geography / History } Language	
3.00— 3.30	30	Drawing (two days) Writing (two days) (Copying Poems, Gems and Writing Book) Manual Training (one day)		
3.30— 3.35	5	Put away work—Dismiss		

Ten minutes of the Writing Period should each day be devoted to rapid number work, games, to sense training, also to vocal drill.

Fourth Grade.

Morning Class.

Hour	Time	Group I	Group II
9.00— 9.15	15	Opening Exercises { Songs; Poems and Memory Gems; Reproduction of Stories; Conversation Lessons on current events, excursions, etc. }	
9.15— 9.40	25	Arithmetic	Seats—Occupation—Arithmetic
9.40—10.05	25	Seats—Occupation—Arithmetic	Arithmetic
10.05—10.30	25	Geography / History } Language	Seats—Brush Work or Blackboard—Illustration
10.30—10.40	10	Games—Rhythm	
10.40—11.05	25	Seats—Brush Work or Blackboard—Illustration	Geography / History } Language
11.05—11.17	12	Music	
11.17—11.27	10	Spelling	
11.27—11.40	13	Literature—Reproduction of Silent Reading	
11.40—11.45	5	Put away work—Dismiss	

Afternoon Class.

1.30— 1.55	25	Reading	Seats—Free Construction Work
1.55— 2.20	25	Seats—Free Construction Work	Reading
2 20— 2.40	20	Language—Oral 1. Stories (a) History (b) Literature (c) Nature	Blackboard—Written Language

Fourth Grade—Continued.

HOUR	TIME	GROUP I	GROUP II
2.40— 3.00	20	Blackboard—Written Language	Language—Oral 1. Stories (a) History (b) Literature (c) Nature
3.00— 3.30	30	Drawing (two days) Manual Training (one day)	
3.00— 3.15	15	Written Work (two days) (a) Copy Book (b) Written Language on Paper. 15 or 20 minutes is long enough for written work of this character. (c) Copy Poems	
3.15— 3.30	15	Nature Work	
3.30— 3.35	5	Put away work—Dismiss	

Fifth Grade.

Morning Class.

9.00— 9.15	15	Opening Exercises: Songs; Poems and Memory Gems; Reproduction of Stories; Conversation Lessons on current events, excursions, etc.; Nature Study	
9.15— 9.40	25	Arithmetic	Seats—Occupation—Arithmetic
9.40—10.05	25	Seats—Occupation—Arithmetic	Arithmetic
10.05—10.30	25	Geography	Seats—Brush Work or Blackboard Illustration, or Blackboard Written Work

HOUR	TIME	GROUP I	GROUP II
10.30—10.40	10	Games—Rhythm	
10.40—11.05	25	Seats—Brush Work or Blackboard—Illustration or Blackboard Written Work	Geography
11.05—11.17	12	Music	
11.17—11.27	10	Spelling	
11.27—11.40	13	Literature—Reproduction of Silent Reading	
11.40—11.45	5	Put away work—Dismiss	
		AFTERNOON CLASS.	
1.30— 1.55	25	Reading—Literature	Seats—Free Construction Work
1.55— 2.20	25	Seats—Free Construction Work	Reading—Literature
2.20— 2.45	25	Language—Oral 1. Stories (a) History (b) Literature (c) Nature (d) Geography	Blackboard—Written Language
2.45— 3.10	25	Blackboard—Written Language	Language—Oral 1. Stories (a) History (b) Literature (c) Nature (d) Geography
3.10— 3.15	5	Games—Rhythm	
3.15— 3.45	30	Drawing (two days) Manual Training (one day) Written Work (two days) (a) Copy Book	

HOUR	TIME	GROUP I	GROUP II
		(b) Copy Poems (c) Written Language on Paper. 15 or 20 minutes is long enough for written work of this character. Ten minutes may profitably be saved here for drill exercises of different kinds.	
3.45		Put away work—Dismiss	

SIXTH GRADE.

MORNING CLASS.

9.00— 9.15	15	Opening Exercises { Songs; Poems and Memory Gems; Reproduction of Stories; Conversation Lessons on current events, excursions, etc.; Nature Study	
9.15— 9.40	25	Arithmetic	Seats—Occupation—Arithmetic
9.40—10.05	25	Seats—Occupation—Arithmetic	Arithmetic
10.05—10.30	25	Geography	Seats—Brush Work or Blackboard Illustration, or Blackboard Written Work
10.30—10.40	10	Games—Rhythm	
10.40—11.05	25	Seats—Brush Work or Blackcoard Illustration, or Blackboard Written Work	Geography
11.05—11.17	12	Music	
11.17—11.27	10	Spelling	
11.27—11.40	13	Literature—Reproduction of Silent Reading	
11.40—11.45	5	Put away work—Dismiss	

AFTERNOON CLASS.

1.30— 1.55	25	Reading—Literature	Seats—Free Construction Work

HOUR	TIME	GROUP I	GROUP II
1.55— 2.20	25	Seats—Free Construction Work	Reading—Literature
2.20— 2.45	25	Language—Oral 1. Stories (a) History (b) Literature (c) Nature (d) Geography	Blackboard—Written Language
2.45— 3.10	25	Blackboard—Written Language	Language—Oral 1. Stories (a) History (b) Literature (c) Nature (d) Geography
3.10— 3.15	5	Games—Rhythm	
3.15— 3.45	30	Drawing (two days) Written Work (two days) (a) Copy Book (b) Copy Poems (c) Written Language on Paper. 15 or 20 minutes is long enough for written work of this character. Ten minutes may profitably be saved here for drill exercises of difierent kinds.	
2.45— 3.45	60	Manual Work	

On the day when the manual work occurs omit the exercise which your pupils as a class are strongest in, in order to give your full hour.

In *this* grade there should be emphasized the inter-relation of the *Art* and *Manual Work* with the Geography, History and Literature.

Seventh and Eighth Grades.

Morning Class.

HOUR	TIME	GROUP I	GROUP II
9.00— 9.15	15	Opening Exercises: Songs; Poems and Memory Gems; Reproduction of Literature; Conversation Lessons on current events, excursions, etc.; Nature Study; Art	
9.15— 9.45	30	Arithmetic	Seats—Occupation—Arithmetic
9.45—10.15	30	Seats—Occupation—Arithmetic	Arithmetic
10.15—10.40	25	Geography (two days) History (three days)	Study, Brush Work or Blackboard Illustration, or Blackboard Written Work
10.40—10.50	10	Games—Rhythm	
10.50—11.15	25	Study, Brush Work or Blackboard Illustration, or Blackboard Written Work	Geography (two days) History (three days)
11.15—11.27	12	Music	
11.27—11.42	15	Spelling	
11.42—11.45	3	Put away work—Dismiss	

Afternoon Class.

1.30— 1.55	25	Reading—Literature	Seats—Study and Free Construction Work
1.55— 2.20	25	Seats—Study and Free Construction Work	Reading—Literature
2.20— 2.45	25	Language—Grammar	Blackboard—Written Language
2.45— 3.10	25	Selections from History and Literature Blackboard—Written Language	Language—Grammar Selections from History and Literature
3.10— 3.15	5	Games—Rhythm	

SEVENTH AND EIGHTH GRADES—Continued.

HOUR	TIME	GROUP I	GROUP II
3.15— 3.45	30	Drawing (two days) Written Work (two days) (a) Copy Book only when necessary (b) Written Language on Paper. 15 or 20 minutes is long enough for written work of this character. Ten minutes may profitably be saved here for drill exercises of different kinds.	

NOTE.—The above program is suggestive for days when there is no Manual Work.

1.30— 3.30	2 Hours	Manual Work	

NOTE.—*On the day when the manual work occurs omit the exercises which your pupils as a class are strongest in,* in order to give your full two hours.

In *this* grade there should be emphasized the inter-relation of the *Art* and *Manual Work* with the Geography, History and Literature.

General suggestions for all grades in program making.

Theoretically each group should perform a different line of work during each group period.

SEAT WORK or Study periods, before and after recess, should be of a different nature.

WATER colors should be used at least twice a week for expression work—illustrative purposes, other than in the regular drawing lesson.

The hygienic conditions of the pupils and room should be considered at every exercise.

FREE CONSTRUCTION work may be done in school during the seat or study period. There should be an opportunity for every pupil to express himself in such exercise, thereby making more definite mental pictures. The formal lessons in manual work should aid *this* work.

All pupils should have a written lesson upon the blackboard daily.

Children should often be required to read aloud what they have written upon the blackboard.

In first grades the same order may be followed for the afternoon class—by reducing each 15 minute period to 10 minutes, the 20 minute period to 15, and the second GAME period to five minutes.

If fourth and fifth grades exceed thirty pupils there should always be more than two groups.

If the class is slow three groups should be made of the thirty pupils and the time arranged according to the mental ability of the group.

There should always be at least two groups in the sixth, seventh and eighth grades.

If the class numbers more than 35 pupils and is slow, it is often advisable to make a third group of the slow pupils, arranging the time for each group, according to the mental ability of the group.

In the afternoon the teacher should arrange her work to save a minute or two from each group so as to allow at least five minutes for active games, placing such an exercise where children show signs of fatigue.

SUGGESTIONS FOR WORK DURING THE PERIOD WHEN CHILDREN ARE NOT DIRECTED BY THE TEACHER.

PRIMARY GRADES.

BLACKBOARD	OCCUPATION TABLE AND SAND TABLE	SEATS
Imaginative Drawing	Clay modeling	Copying sentences
Copying sentences	Card board modeling	Original sentences about pictures
Original sentences	Free construction work	Word building
Written language	Brush work	Number problems
Spelling	Cutting and pasting	Dissected pictures
Number problems	Block building	Games
		Construction work
		Sewing
		Brush work
		Braid and wool weaving
		Raphia

GRAMMAR GRADES.

BLACKBOARD	SEATS
Imaginative drawing	Clay modeling
Written language	Card board modeling
Spelling	Free construction work
Arithmetic problems	Brush work
	Cutting and pasting
	Sewing
	Weaving
	Raphia

ADA VAN STONE HARRIS,
Supervisor of Kindergartens and Primary Schools.

MANUAL TRAINING.

First to Eighth Grades Inclusive.

The aim of the manual training course is purely cultural. And it is intended that the work shall be employed solely as a means of utilizing the child's deep-lying motor instincts for self-development.

The plan includes a series of lessons for each grade from the first to eighth inclusive. However, while the scope of the system is continuous and covers the entire ground between the kindergarten and high school, this period falls into three natural divisions: the primary, intermediate, and grammar grades. Now, because of these divisions, and the needs and conditions growing out of them, it is necessary to provide separate equipment and separate supplies for each division; then, too, owing to the fact that the teachers of the primary grades oversee the construction work of their own classes, and because that of the intermediate and upper grades is taught by the special teachers, there must be separate outlines. This separation is, of course, necessary; still, a teacher should not allow it to influence the plans for the work of his grade. He should keep in mind the fact the work of a grade is but a part of a system.

Moreover, it should be understood that the course is not an end, but that it is a method; and that it has taken its place in the curriculum of our schools for the purpose of supplementing the other subjects. For this reason, as well as many others, it is just as important to place and keep manual training upon an educational basis as it is to have graded lessons in reading, writing, and arithmetic; and to this end, the teachers are earnestly requested to co-operate with the supervisor. Furthermore, the gradation should be such as will lead the pupil along by easy stages "from the known to the unknown and from the easy to that which is more difficult." Again, unless the work is kept upon an educational basis there is a waste of time and material; besides, it becomes hap-hazard and aimless.

However, this does not mean that the pupils should be obliged to follow a formal and fixed course of models, to merely imitate and reproduce objects designed by others; but it means that the carefully planned and arranged course of lessons is necessary as a basis and guide for the teacher's work.

It is expected that the teacher will adapt the course to the needs of the pupils; that is, to encourage individual expression, and to use the work as a means of throwing light on difficult problems and to supplement related subjects.

The teachers' models should be used solely for the purpose of teaching correct application of principles of construction, for illustration, and for creating high standards concerning accuracy, neatness, and finish.

The objects suggested in the various groups of an outline need not be taken up in the same order in which they are named for the reason that the plan of the object selected, as well as the ideas suggested by pupils, may be modified, if necessary, to suit their capabilities. For instance, the pupil may be led to modify his plan, or the teacher may suggest such changes as will add to the difficulty of the work and at the same time enhance the value of the work, and the finished piece. This method permits of great freedom and it insures a progressive sequence in the work of a system of hand-work.

It is important that the pupils originate and develop ideas to satisfy a felt need in themselves, to fill a place in their play, home, or school life *now*. This will bring the work into closer relations with local conditions.

Teachers should respond promptly to requests from principals for such apparatus, pieces of furniture, and other school conveniences as are within the pupils' capabilities and for the construction of which there are the facilities in the manual training room.

It is very desirable that all requests coming in to the manual training room for assistance or work to be undertaken by a pupil, should come direct to the pupil, and then, when he asks his teacher for permission to take up the work, it becomes simply a question of granting the pupil a privilege.

In the intermediate and grammar grades the first step in drawing should be the free-hand sketch. Then, after this has been approved by the teacher, the pupil will use it as data for the more accurate instrumental drawing which must be completed before the pupil undertakes the construction of the object.

For details concerning methods, correlated work, and suggestions for the decoration of the pupils' work, etc., outlines will be sent to the teachers from time to time. Water colors, pyrography, and carving will be employed for the decoration of surfaces. However, care and tact must be exercised with reference to the means of decoration and the class of articles that are to be decorated. All questions pertaining

to decoration should be determined before the pupil undertakes to construct an object.

Manual training should develop the child's ability along creative lines. And the first step in that direction is to teach the child that function is the basis of form and size, and that these things are not left to chance or guess-work.

Beginning with the first lesson and all through the course, when planning an article for construction or when demonstrating the development of an idea, teachers should show the reasons for the general form of the piece, the size, proportion of various parts, and why the material used in its construction was selected for the purpose. Then such important matters as durability, simplicity, decoration, and finish should be taken up. Teachers should place due emphasis upon each of these problems in order that the judgment of the pupil may be trained to perceive and appreciate that which is best and essential in design, as: good proportion, beauty, and adaptability of an object to its intended use.

It is expected that the primary-grade teachers will give careful attention and emphasis to the drawing for the construction work of the second, third and fourth grades.

Great care and tact should be exercised in criticising and in approving the pupils' finished work. Lead them to criticise their own work as early as possible. Teachers should aim to create high ideals and standards regarding neatness, accuracy, symmetry, and all matters pertaining to honest and conscientious work; and yet, one standard should not be set for all, as is done in a trade school, but no child can give more than his best effort and this must be our aim.

It must be remembered that even painstaking care will not insure any great degree of truth and accuracy in the work of a beginner. It requires time to develop the muscles and to acquire the dexterity necessary to perform with any degree of certainty even the various simple exercises involved in cutting out and fastening together little paper boxes. Therefore, in order to succeed, teachers should be able to distinguish between a lack of skill and carelessness.

From the manual-training point of view, the material things,—the objects made by the pupils,—are of especial interest only when the conditions or methods under which the work was executed are known. That is, in order to judge the value of the work of a teacher it is necessary to go behind the visible things and study the methods. The true manual-training teacher emphasizes the invisible or the educational side, and will not allow himself to be misled by the temptation to make an attractive showing; therefore, an exhibition of construction work is

not, in the best sense, a demonstration of the worth of a teachers' work.

For the construction work in the primary grades the children will use clay, raffia, reed, white-ash splint, yarn, cotton carpet warp, cloth, rags, strawboard, tag-board, manilla paper, colored wrapping paper, colored cover-paper, remnants of wood from the manual training rooms, and such "waste material" as may be brought in from time to time by the children.

In the intermediate and grammar grades pupils are provided with the following:: basswood, white pine, whitewood, cherry, maple, reed, white ash splint, bamboo, cloth, leatherette, gummed binding, pressboard, colored cover-paper, a variety of hooks, hinges, locks, etc., mirrors, shellac, paint, varnish, stains, etc.

In addition to that which is a necessary part of the presentation of the principles and the demonstration, the theoretical work will include talks on forestry, the methods of converting the tree into lumber; information pertaining to the sources of material used in the pupils' work; the "evolution of tools," their care and methods of sharpening; the manufacture of screws, nails, paints, stains, varnishes; methods of finishing and preserving woodwork and metal-work, etc. Suggestions for this work will be given to the teachers from time to time by the supervisor.

Teachers should give especial attention to the opportunities for adding to the vocabulary of the child the words that are new to him.

And, whenever possible, take advantage of opportunities for applying the pupils' theoretical knowledge of mathematics.

SUGGESTIVE WORK FOR THE PRIMARY GRADES.

FIRST GRADE.

TAG BOARD or OLD PASTEBOARD: A tag for labelling the pupil's unfinished work; a yarn winder, formed like a Greek cross; an easel or mount for picture or calendar, made to suit size of object to be mounted upon it; a locomotive and train of cars (a R. R. station house may be made of manilla paper, see group of folded models).

CLAY MODELLING: For instruction and suggestions relating to the clay modelling, see supplemental outline.

RAFFIA AND CARPET WARP.

A SQUARE RAFFIA MAT: This is to be woven on a simple straw-board loom. The mat should be made 5 in. or 6 in. square.

RAFFIA WINDING: A penwiper made of a pasteboard disc about 2½ or 2¾ in. in diameter with a ½ or ⅝ in. hole in the center. Cover with raffia. Fasten circular piece of tissue paper or chamois skin to under side of disc. Finish by sewing raffia bow in center.

RAGS OR YARN AND CARPET WARP

A HOLDER: Weave a holder 6 x 6 in. or 5 x 7 in. Use rags or Germantown yarn for the woof and cotton carpet warp. Make and fasten a loop at one corner for hanging. For loom use the backs of old writing pads.

MANILLA PAPER.

(Folding Exercises.)

This is a heavy wrapping paper with a smooth, glossy surface. It can be folded and creased without breaking, therefore it is not necessary to score it before folding.

For the models named in the first grade series that are formed by folding and creasing, the pieces of paper will be delivered to the schools cut to the required forms and sizes, ready for folding.

A FAN: This fan requires a sheet of paper 8 x 11 in.

A CORNUCOPIA: The paper for this is 6 x 6 inches.

A BUTTON BOX: For a button box 3 x 3 in. inside, a piece of paper 4½ x 4½ in. is required.

A MAY BASKET: A small basket may be made of a sheet 8 x 8 in. The handle should be ½ in. or ⅝ in. wide.

A SEED BOX (with a cover): This requires two squares of paper 6 x 6 inches.

A COLONIAL HAT: The paper for this should be 12 x 18 in. or less, according to the size of head for which it is intended.

A TOY LANTERN: A piece of paper 6 x 6 in., and two strips of dark paper about ⅜ in. wide for bands at top and bottom edges. For the handle cut a narrow strip of the same color as is used for the bands.

A RAILROAD STATION HOUSE: This may be made in connection with the train of cars, use manilla paper. A piece 6 x 9 inches will be needed.

COLORED WRAPPING PAPER.

AN ENVELOPE: This may be made in connection with a language lesson or for St. Valentine's Day.

Other suggestions for the use of pasteboard and raffia: A pin cushion, box for buttons, pin tray, two pasteboard disc with ¼ in. hole in center of each. Join flat faces, wrap over both with raffia, finish with bow at center and hang with strand of raffia, the pieces are placed around the edge; double, and triple picture frames may be made by joining the frames at the back after each has been wrapped.

Old mailing tubes may be used to good advantage for making hair-pin box, with cover; pencil cases; toy rattle, make handle of dowel rod, ⅜ or ½ in. sticks which may be made round by pupils of the fifth or sixth grades.

A model of a raffia doll may be seen on the model board at the office.

There are several forms of serviceable and attractive picture frames that can be made of mounting board and raffia. But instead of covering the entire surface of a frame with raffia it is finished and decorated by punching holes at short intervals about ½ or ⅝ of an in. from the outer edge or that distance in from both edges and then, with a needle threaded with raffia, sew through these holes and over and over about the edges. After sewing once around the frame, repeat it in the opposite direction. This will form a V-shaped decoration. Fasten bows of raffia at the points where the hanging strand is attached to the frame.

Many useful and interesting pieces may be made by using old boxes, the backs of writing pads, ribbon bolts, and old mailing tubes.

To render the raffia pliable and easy to wrap, braid, and tie it should

be wet and then allowed to become partially dry before attempting to work it. However, if the raffia is very damp it will shrink and expose the surface of the foundation upon which it is wrapped. When convenient, it is a good idea to have a small moist cloth through which the strand of raffia may be drawn, so as to moisten and flatten it.

When wrapping with raffia be careful to hold the strands firmly and wind closely. There should be just enough lap to cover and allow for shrinkage.

In order to insure the complete covering of the surface of the foundation, begin, on a circular piece, by wrapping the strands around the surface of the disc in such a manner as to leave broad spaces between the strands at the outer edge, that is, the result of the first wrapping should resemble the spokes of a wagon wheel. Then go over it again so as to cover the bare spaces. This method must be followed in wrapping discs, in order to be successful.

To cut such things as mailing tubes into the desired length, bind a piece of strong paper around it and then use the edge of the paper as a guide for cutting with a knife.

SECOND GRADE.

TAG BOARD AND OLD PASTEBOARD.

A TAG: Make a tag about 1½ x 2½ or 3 inches. This is to be used by the children for labelling unfinished work.

A "YARN WINDER": If convenient, use a piece of old pasteboard as it is stronger than tag board. For this model draw the form of a Greek cross based on a 3 x 3 in. square. As soon as it is completed let the children wind it with their fastening material, yarn or raffia.

The tag board or pasteboard will be used for the foundation of picture frames and a number of other models.

WEATHER VANE: This may be made in connection with lessons relating to direction, weather, etc.

The wheel should be made of a square of colored wrapping paper or manilla paper 6 x 6 inches. For the vane, use a strip of tag board about 2½ x 7 or 8 inches, and a piece of thin wood ⅜ in. or ½ in. wide by 12 in. long, fasten the wheel to the end of the vane.

The post upon which the vane revolves may be about ½ x ½ in. square and 15 in. or 16 in. long.

To hold it in an upright position, the lower end of the post should be fastened to a piece of thin wood four or five inches square.

These small pieces of wood may be secured through one of the special teachers of manual training.

CARPET WARP.

TOY HORSE REINS AND WHIP: This piece of work will introduce the yard stick and the one-foot measuring rule, for definite work in measuring.

The long piece for the reins should be made three yards long. Make the "breast piece" one foot long. Use four strands of warp.

After the reins are completed let the children make a lash for a toy whip one-half of a yard long. Use two strands for the lash. Let the children provide pieces for the whip handle about sixteen inches long.

These pieces are made by means of the ordinary "loop-chain stitch," as in crochet work, but it is done without the aid of a needle.

MANILLA PAPER.

BOX FOR CHRISTMAS PENNIES: A box made by folding. It is made of a piece of paper cut 9 x 9 in. Make slot for pennies in a side that will be covered on the inside by one of the loose flaps.

ENVELOPE (for written work): A sheet of paper 7 x 9 in. This size will make an envelope about 3½ x 4½ in.

All construction lines in this are made by folding and creasing.

COLORED WRAPPING PAPER.

A BOOK MARK: Make a bookmark for use in school room. When cut and ready for folding the paper for this should be 2 x 4 inches.

A MAY BASKET (projecting lips): This requires a square of paper 6 x 6 inches. Mark off three two-inch spaces on each of the four sides. Connect points with oblique lines. Cut out V-shaped pieces. Punch and fold. Fasten corners with raffia. Roll lips down without moistening. Make handle about ½ or ⅝ inch wide.

COLORED COVER PAPER.

A WALL POCKET: This may be used for cards or for letters. It is made of a square piece 8 x 8 inches. Decorate the surface.

A BOOK MARK: For Christmas, the folded book mark may be made. Draw and cut an oblong 2 x 4 inches. Mark for holes. Punch, score and fold. Tie with colored raffia.

COLORED WRAPPING PAPER.

FREE WEAVING: As the term implies, free weaving is weaving with loose strips only. The narrow strips are so interlaced as to form mats, frames, etc.

YARN.

TOY KNITTERS: The small spool-like knitters for the second grades may be made in the manual training shops by the seventh or eighth grade boys.

This knitting may be used for making mats, doll hats, spreads for doll beds, etc. For instructions concerning the different forms of web, see "Directions for Use of Knitter" on separate leaflet.

RAFFIA.

A CIRCULAR MAT: Make circular mats of braided raffia. Use plain raffia.

CIRCULAR AND ELLIPTICAL MATS: Circular and elliptical mats may be made of braided raffia with a stripe of color about the width of two braided strands.

Then make a simple circular "loom" and weave mats with plain and colored raffia. Finish edge with fringe. See loom and mat at the office of the supervisor.

BASKETS: The braided raffia may be used for making toy baskets and bags.

DOLL HATS AND CAPS: Let the children make these hats and caps to suit the size of dolls for which they are intended.

HANDKERCHIEF BAG: This is usually made of two mat-like pieces sewed together at the edge, a little more than half-way around.

In braiding the raffia for this bag use at least one colored strand.

A slender handle may be made about ten inches long if the bag is hung from the belt. If it is to be hung from the neck, make it about a yard long.

A NAPKIN RING: For the foundation of this use a piece of ash splint about ½ inch wide. Make it about 2 inches in diameter. Cut the splint long enough to double and have the ends lap about one inch.

A SQUARE MAT WITH FRINGE: Use raffia for both warp and woof. For this a simple loom will be made by the boys in the manual training shops.

THIRD GRADE.

TAG BOARD.

A TAG (for labelling work): Make tag about 1½ x 2½ inches. Let children mark and cut corners to resemble an ordinary commercial tag.

YARN WINDER (X-shape): This should not be made until it is needed.

Draw a square 3 x 3 inches. Mark points ¾ inch from each corner, on all sides. Connect corresponding points with oblique lines. Cut out V-shaped piece on each side. Wind with yarn or raffia.

MANILLA PAPER.

AN ENVELOPE: This may be made in connection with the work of St. Valentine's Day or at any time during the school-year when it can be used to the best advantage.

The drawing is based on an 8 x 12 inch rectangle.

A "CIRCLE MAKER": Cut out a strip of tag board or heavy paper about ⅝ or ¾ inch wide and 10 or 12 inches long. Draw a center line the full length of the strip. On this center line place dots 1 inch apart, the first should be about ½ inch from the end. On each dot punch a small hole with a pin.

This circle-maker will be used by the pupils in place of a compass and should be made in connection with the first piece of work that involves the use of curved lines.

COLORED COVER PAPER.

BOOK MARK (a simple disk): Describe circle 3 inches in diameter. Mark points ½ inch each side of center of circle. From these points erect perpendiculars cutting the circumference. Cut out circle. Cut along the perpendicular lines to the diameter of circle.

BOOK MARK (fan-shaped): Describe a circle 2 inches in diameter. Each side of center mark half the width of "ribbon" (½ inch wide). Draw lines for the ribbon 2¼ inches beyond circumference of circle.

PYRAMID CANDY BOX (based on equilateral triangle): Draw base line. Mark length of base 8½ inches. With ends of base line as centers, and 8½ inches as radius draw intersecting arcs. Complete the triangle. Bisect each side and draw inner triangle. From the base lines mark height of sides. Punch, score and fold. Fasten with colored raffia.

CATCH-ALL (conical form): Draw base line 9 or 10 inches long. From center of line, with a radius of 4½ inches, draw semi-circle. Mark width of flap (½ inch) below straight line, one side of center Cut out. Roll into form. Paste. Near the flap and ½ inch below top edge punch two holes 2 inches apart, through these holes fasten a piece of raffia or yarn for hanging the catch-all.

A WALL POCKET (for letters): The parts of this model will be fastened together through projecting flaps. Decorate the surface.

A COMPOSITION BOOK (for St. Valentine's Day): For the leaves cut two pieces of writing paper 3½ x 10½ inches. Cut a piece of colored cover paper for cover 3¾ x 11 inches. Fold the cover and punch the holes. Fold the leaves, place them inside of the cover and mark for holes. Decorate the cover.

MATCH BOX AND SCRATCH (crescent shape): Draw a center line. Describe outside curve. Mark width. Then find center and describe inside curve. Make box to suit length of match. (See model at the office.)

RAFFIA.

A CIRCULAR OR ELLIPTICAL MAT WITH OPEN BORDER (made of braided raffia): This mat should have a narrow stripe of color near the outer edge. The open border may be of plain raffia or colored.

A RAFFIA COIN BOOK: The coin book is made of several strands of braided raffia sewed together so as to form an oblong-shaped piece with semi-circular ends, about 2½ inches wide and 8 inches long. One end is folded over and the parts are sewed together along the edges to form a pocket. The other end is folded down to form a flap. This flap is held in place by means of a metal fastener.

A narrow strap-like piece is made of raffia and its ends sewed to the back of the book in order that it may be fastened to a belt. (See model at the office.)

A RECTANGULAR PICTURE FRAME: In making frames for pictures from 2 to 4 inches long the foundation or frame work should be made of strips of pasteboard or tag board 1 inch wide. The strips should be cut, glued together and filled in between laps so that the surface of the frame will be even. Let the child make the frame to fit the picture.

A CIRCULAR PICTURE FRAME: For small pictures the band should be about 1¼ inches wide. Draw and cut out four semi-circles of tag board or old pasteboard. Glue them together so that the points overlap. Wind this frame work with plain raffia.

The frame may be left plain or it may be finished by sewing a strand of braided raffia around the edges of the outer and inner circles. If this is done the strand around the outer edge should be looped directly over the center of the frame, for hanging.

A NAPKIN RING (raffia and splint): For the foundation of this ring use white ash splint, cut it about ½ inch wide and long enough to make a ring 2 inches in diameter, of double thickness and so that the

ends will lap an inch. Wrap with raffia and finish edges with buttonhole stitch.

Let the pupils determine length of splint.

A KNOTTED WORK BAG: This should be made of selected raffia, strands of medium width and strong.

A light, attractive material of harmonizing color will be used for the lining (a cotton crepe).

A TWINE BAG: This is a bag for holding a ball of twine. Its construction is very similar to that of the work bag.

WOVEN RAFFIA MATS: Mats with fringed edges. Looms may be made by the boys of the seventh and eighth grades.

This loom is adjustable in both width and length; and each is fitted with a heddle and a shuttle.

FOURTH GRADE.

TAG BOARD.

A TAG: This tag may be made of the same form and size as that for the third grade.

PENCIL BOX: Construct the tray first and then make the cover to fit it. Make it about ¾ or 1 inch deep, 2½ inches wide and ¼ of an inch longer than the length of a new, unsharpened pencil. For such work as this the pencils used by the pupils for the drawing must be kept very sharp.

COLORED COVER PAPER.

A BLOTTING PAD: The surface of the pad is to be decorated (see sample on model board at office). The size of this model should not exceed 2⅞ x 5½ inches, because the blotters are cut into rectangles about 3⅛ x 5¾ inches before they are delivered to the schools.

HAIR PIN TRAY: This should be made to suit the length of a hair pin, between 3 and 3½ inches inside; in depth it may be made ¾ or 1 inch. In this piece, as in the drawing of all the work of the grade, the children are to make the entire drawing; that is, they are to bisect, locate centers from which to describe the arcs, etc.

WOVEN TRAY (card tray): Select two harmonizing colors. For a tray 4 x 4 inches inside it requires a square of paper 8½ x 8½ inches, when cut to the finished size. For a tray of above size weavers should be ½ inch wide by about 17½ inches long. Other forms may be made, circular or octagonal.

WALL BRACKET (for a corner): This bracket requires a piece of

paper 6 x 6½ inches; this allows for cutting. Let pupils find centers for curves.

AN EASEL: Because of the converging-lines, the first step in the drawing of this easel is the center line, the base line, then the arc at top. Roll the projecting lip without moistening.

A FAN (circular or elliptical): For the handle use a thin piece of wood about ⅜ or ½ inch wide by 12 inches long, and three small tacks for fastening together. Make the fan about 6½ inches in diameter and decorate the surface. See the forms on the model board at the office.

WHITE ASH SPLINT, RAFFIA AND REED.

BOOK *MARK*: This is made of splint, plain and colored raffia. The splint spokes should be moistened and the ends folded back and tied with a slender strand of raffia to hold them in place while weaving. The weaving should cover the ends that are turned back about ½ inch.

A SPLINT AND RAFFIA MAT: Use splint for the spokes, plain raffia for weaving the body of the mat, and a short distance in from the outer edge weave in a stripe of color about ¼ inch wide.

A REED MAT WITH OPEN BORDER: This should be planned to suit the size of the object for which it is made. Use plain and colored reed or two harmonizing colors. The construction of this piece should precede the basket.

A REED BASKET: The foundation of the basket will be the same as that of the mat preceding this. The new exercises are the turning of the spokes to form the side and finish at the upper edge. Use colored reed.

WOOLEN MATS: In the fourth grades of those schools that have looms, woolen mats may be woven. For the purpose of weaving stripes, checks or other patterns, two colors should be used. This weaving must be done from a drawing made by the pupil.

The loom and attachments for this weaving is the same as that described for the third grade work.

In basketry and weaving, as well as in other forms of hand-work, the general plan and all details of an object must be worked out and decided upon before the pupil undertakes its construction.

In addition to the manual work indicated in this outline, teachers may find many helpful suggestions in the course of models arranged on the model board at the office of the supervisors. It includes such things as weather signals, Dutch windmills, toy boats, carts, wigwams, canoes, tents, doll houses, furniture, clock dials, sun dials, simple me-

chanical apparatus, and ideas for the festivals, as Thanksgiving Day, Christmas, Lincoln's Birthday, St. Valentine's Day, Washington's Birthday, Easter, May Day, etc. Besides the models, there are books in the office of the supervisor that teachers may use during office hours.

A SUGGESTIVE COURSE FOR THE FIFTH AND SIXTH GRADES.

A Mount, for "A Good Place to Light."
String-Winder, a frame of four pieces.
Hanging Shelves.
Train of Cars and R. R. Station House.
Match Box and Scratch, horizontal.
A Key Board, with brass hooks, decorate.
Necktie Holder, to be decorated.
A Blotting Pad, decorated.
Toy Boat.
Mount for Needle Book and Scissors, decorate.
Whisk-Broom Case, small; to be decorated.
Corner Shelf.
Spool and Thimble Holder.
Match Safe, semi-circular box.
A Coffee-Pot Rest, open work.
A Paper Knife, carved.
Whisk-Broom Case, large size; decorate.
An Easel for a Calendar or Pen Wiper, to be decorated.
Frame for Lamp Screen, applied art work.
Brush and Comb Case.
A Reed Tray, a rectangular wood base, and woven sides.
A Splint or Reed Work Box.
Self-Propelling Boat.
Wall Bracket, decorate.
A Bric-a-Brac Shelf, decorate.
An Insect Spreader, for Nature Study work.
"Windmill," with circular hub.
Three-panel Screen, hinged; for applied art work.

Many of these pieces afford opportunity for decoration in water colors. To avoid "spreading" of the colors when applied to the wood they should be used as thick as possible and at the same time be easy to apply.

SUGGESTED WORK FOR THE SEVENTH AND EIGHTH GRADES.

Mount for Calendar and Match Scratch, ¼ x 2¾ x 8 in.

A Necktie Rack.
Flower-Pot Rack, oblong.
Dish Drainer, square or oblong.
Desk Tray, to hang on side of desk for pencils, etc.
A Scouring Board, for kitchen knives.
Rack for Tooth Brushes, horizontal.
Knife Strop, jackknives, etc., 3/8 in. stock.
Bench Hook, a bench tool; 1/2 in. and 7/8 in. stock.
Match Safe, vertical back; circular box, 1/4 in. stock.
Flower-Pot Rest, halved joint; 5/8 in. stock.
A Weather Vane, halved joint.
A Bread-Cutter Guide. A Cart.
Paper File, brass wire; carved base.
A Corner-Rack, for kitchen cloths.
Window-Garden Box, with trellis.
A Savings Box, decorated with carving.
Box Kites. Toy Knitter, for Second Grade use.
A Tool Rack, to suit pupils' tools at home.
Blue-Print Frame, for Nature work.
A Coat and Hat Rack, chamfered; 7/8 in. stock.
Sleeve Board, circular ends; 7/8 in. stock.
A Broom Holder, 5/8 in. and 7/8 in. stock.
Corner Shelf, 1/2 in. stock.
Coat Hanger, formed to fit coat.
Nail Box, with several compartments.
A Simple Foot Stool. A Wagon.
Bird House, shed or gable roof.
A Wall Bracket, hard wood.
A Paper Knife, cherry. A Simple Bicycle Holder.
Lamp Screen, Venetian iron base.
Windmill Motors. A Wheelbarrow.
Clock Shelf. Bicycle Rack.
Bric-a-Brac Shelf.
Work Box, on bamboo legs, box made of reed.
Desk Tray, of reed.
Shoe Polishing Stool.
Clock Case, to hang on wall.
Book Stall, hinged.
Book Stall, housed standards.
Book Stall, framed base.
A Wall Bracket, of hard wood.

Venetian Iron Candle Sticks.
" " Coffee Rest.
" " Picture Frame.
" " " Easel.
" " Sconce.
" " Flower-Pot Holder, etc.
Tabouret, circular top, triangular shelf.
" square top.
" octagonal or hexagonal top, with sloping standards.
Ornamental Box, for gloves, handkerchiefs, or neckties.
A "Strong Box," metal corners.
Wood and Bamboo Shelves.
Drawing Board. Picture Frame, halved joint.
T-Square and Triangles.
Foot Stool, rectangular form; ⅝ in. stock.
Stool with splint seat.
Picture Frame, mitred corners.
A Loom and Shuttle, for large cushion covers.
Simple Cabinet, straight line design.
Toilet Cabinet, with mirror.
Small Table, with bamboo legs.
Metre Measure, for school use.
Hanging Shelves, braided-reed rope.
School Apparatus: Measuring rulers, insect spreaders, window gardens, simple picture frames, simple looms for bead work, etc.
An Adjustable Loom with heddle and shuttle for use in the grades from the third to sixth.

Because of the importance of the many opportunities for teaching the proper use and care of tools and material, as well as demonstrating the correct applications of principles of construction, it is expected that the teachers will consult freely with the supervisor.

DIRECTIONS FOR CLAY MODELLING.

It is not intended in this to map out a graded course of lessons for the children, but merely to present some directions concerning the preparation and care of clay in the school; and a few suggestions with reference to the methods of modelling. This is to be used *solely as a guide for teachers.*

As a rule, the clay work undertaken by the children of the primary grades will be incidental to or the outgrowth of one of the other subjects. They should be allowed to model whatever they undertake in their own way. Of course the results will be very crude; but as it is intended that they shall use clay as a means of expressing their own ideas and thoughts, rather than imitating or reproducing the teacher's work, they must have full freedom. Clay is one of the most plastic and responsive materials that can be placed in the hands of school children; and yet, because of the lack of experience and skill, the efforts of beginners result in some very grotesque representations. However, if the teacher will look upon the work as a means to an end, instead of an aim or end in itself, she will not be discouraged with results.

If a teacher desires to arrange a course of models in a progressive order as a foundation for the work of the upper grades, the following suggestions will serve as a guide: Select familiar objects and begin with one of the simplest forms; that is to say, forms that involve the least number of exercises, and then arrange the group according to the number and difficulty of the exercises involved in forming each model. This method insures a progressive sequence of problems and exercises,—a course based upon problems and physical difficulties. Still, as a formal course of models to be imitated by the children, it is isolated and lacks motive, therefore its educational value is small as compared with that which is related to the regular subjects.

In clay modelling as in other forms of manual work, purposeful effort should be the key-note.

How to Prepare the Clay: To prepare dry clay for use, place the small lumps or powder on a strong piece of cloth, bring the corners of the cloth together and tie like a bag. Now place it in a box or can, then pour water over the bag and allow it to remain two or three hours, or until it softens. Remove the bag and while the clay is in the cloth, knead it as you would dough. After it has been worked into a plastic

mass, and it is free from lumps, remove from the bag. If it is too wet allow it to dry out, if too dry, moisten it.

To avoid waste, lumps of dry clay should be broken up fine by wrapping one or more large pieces in a cloth and then pounding it with a mallet or heavy stick.

Before giving the clay to the children, see that it is of the consistency of stiff bread dough. It should yield easily to slight pressure of the finger and not stick, but, if lightly rubbed, it should have a smooth, glossy, surface. Hard, stiff clay cannot be worked successfully, and it will not hold together.

DISTRIBUTION OF CLAY: To divide the wet clay, use a slender wire or strong thread, and cut it as you would a bar of soap.

Neatness and economy in the use of the clay should be inculcated from the start.

In the elementary work of the small children be liberal in the distribution of the clay, allow each child to have a piece as large as he can conveniently handle, that is, if it is consistent with the work in hand.

It is not always advisable, and, of course, in many cases it is not possible, for the children to model objects the same size as the originals. The teacher must decide such questions and divide the clay accordingly.

In the work of small children discourage the modelling of such pieces as require minute work in fine details.

TOOLS AND APPLIANCES: Use no tools except as the children find use for and make them.

For the pupil to work upon, there is nothing better than a table covered with oil cloth. But when the modelling must be done at the child's desk, either of the following will be found satisfactory: a smooth board; a school slate; a roofing slate; piece of oil cloth; or a pad of cheap paper from which a sheet may be torn for each child, and when the lesson is closed, the paper may be thrown into the waste basket.

GENERAL DIRECTIONS.

Discourage the tendency to over-emphasize details.

LIFE AND ACTION: Whenever consistent with the purpose of the work in hand, the children should be led to express life and action. This may be done by means of the arrangement of body, head, arms or legs, for example: walking, lifting, digging, oxen or horse hauling, dog or cat with ears turned to catch sound, an open door, etc.

TO FIND RIGHT PROPORTIONS OF AN OBJECT: First, decide upon the size of the body, or principal part, and model it. Then find the

right proportion of a detail by comparing the corresponding part in the model with its body and make the piece in hand of the same relative size. For example, in forming the head of a little chick, it is made about one-third or a fourth of the size of the body to which it is to be joined because in the model the head appears to be that proportion of the body. The proportion of and distance between the various parts may be found in the same manner.

When comparing objects talk *with* the children and lead them to see where the pieces are alike; how they differ, etc. Let them name or show the forms and lines they find in other things about the school or home that are similar to those in their work.

KEEP THE FINGERS CLEAN: A sponge or moist cloth for each child is a great convenience in keeping the fingers clean and free from the particles of clay that interfere with occasional smoothing of a surface with the fingers.

RAPID DRYING OF THE CLAY: The warmth from the hands cause evaporation of the moisture in the clay, and it dries rapidly. Therefore, the children should be cautioned with reference to trouble caused by the rapid drying of clay.

THE MODEL TO BE FINISHED IN ONE LESSON: The children should undertake nothing but what can be completed in one period. Objects requiring longer time must be kept wrapped in moist cloths until taken up again for completion.

MODELS FOR MODELLING: When forms or models are placed before the children, they should be the best obtainable.

INCONGRUITIES: Eschew such incongruities as the use of feathers, sticks, string or wire except as they may be needed inside of the day for the purpose of strengthening a piece of work.

BREAKING UP MODELS: When breaking up clay models made by the children, do not allow it to be done in their presence.

TO PRESERVE: Models may be preserved by coating them with gum arabic and then varnish or shellac. But they should be thoroughly dried before doing so. The time required for drying depends on the size of the object. They may be placed in a drawer or cupboard until dry, or, after a day or two they may be baked in a slow oven.

FINISH OF LINES AND ANGLES IN ADVANCED WORK: In curved objects the "point of union" between two parts usually forms a concave line, and, after pieces are joined this concave line should be carefully smoothed out with thumb or finger, leaving a graceful curve. Still, when the joined parts form a sharp angle, the lines should be true and the angle as well defined as the children can make it with finger nail or sharp stick.

TOY DISHES FOR DOLLS' HOUSEKEEPING: Miniature dishes should be made from single pieces of clay,—large dishes are "built-up." For a small cup, bowl, or any deep toy dish, roll a piece of clay into the desired form. Now with the thumb or finger make a hole in it about two-thirds its length. Then the sides should be made thinner by pinching it all the way around near the top and as far down as may seem necessary, at the same time the outside should assume a general shape; and then finish forming the outside. The form of the outside depends upon the manner of pressing and pinching the sides.

ANOTHER METHOD FOR SHALLOW DISHES: (Advanced work of upper grades). A method of forming a shallow dish is to roll a piece of clay into a roll a little thicker than a pencil and long enough to make a dish of the size desired, either square, round or oval. Form a ring with the roll and fasten the ends together. Fill the space within the ring with small pieces of clay and carefully work them together. For the rim, make another roll and place it around the edge on the top side. Now finish.

BUILT-UP WORK: The sides of deep dishes like cups, bowls, and flower-pots, in advanced work: First the bottom is formed and then a roll of clay about as thick or thicker than a pencil is placed around even with the edge of the bottom. This is fastened in place and flattened by means of a little pressure. Successive rolls are added until the desired depth is reached. Stick each roll fast to the one preceding it. The rolls must be made quickly and used immediately. Both the inside and outside must be made smooth as the work proceeds, and the top should be parallel with the bottom.

By making the rolls shorter or longer, the shape of a dish may be changed at any point.

In some work it is better to take off and put on again rather than attempt to compress or rub a piece into shape. This method is sometimes termed "building-up."

EXAMPLE OF BUILDING UP: A beehive may be built up with the rolls of clay by making each successive layer a little shorter than the one preceding it so that it would gradually finish out to a point at the top of the hive.

The other method of modelling a beehive is to make a ball, taper it by rolling in the hands, and flatten the base end. Draw a spiral groove with a sharp pointed stick, beginning at the apex. Mark to represent rolls of straw.

PUEBLO INDIANS' METHOD: The Pueblo Indians still practice the earliest method of making pottery for domestic purposes, that is, hollow pieces are formed by coiling ropes of clay around in successive

layers until the right depth is reached. As the work progresses, the outside and inside surfaces are smoothed by means of curved scrapers. These scrapers are made of the hard rind of the gourd. The ware is fired in the open air. The articles are arranged in a circle, between two fires, one inside of the circle and another outside.

In the early days of pottery making, jars and pots for domestic purposes were hardened by baking before the fire or by means of a fire made of bark and light pieces of wood so arranged as to cover the clay ware.

It is probable that the old Egyptians were the first people to use a kiln.

POTTERS' WHEEL: The potters' wheel was one of the earliest industrial inventions.

A sketch and description of a potters' wheel will be sent to the teachers. One of these wheels can be made for each school by the boys in the eighth grades.

DECORATION: If there is any decoration let it be simple; in this elementary work, intricate design is not appropriate; use straight line and dot units. One method of applying the decoration is to cut or scratch it in the moist clay with a pointed stick. Another is to use dry color and paint the design on the surfaces after the clay has become thoroughly dry. In work similar to that made in connection with the study of primitive Indian life, it may be decorated by means of such lines and characters as were used by the people whose life and work the children are studying.

DRAWING.

FIRST GRADE.

MEDIUMS—Water colors, ink with brush, scissors.

TYPE SOLIDS—Make children familiar with type solids through handling, comparing, building, etc., whenever applicable to the daily work.

PICTURE STUDY—Pictures showing life and action, and illustrating home incidents are advisable for this grade; such as Feeding Her Birds and First Steps, by Millet; Sistine Madonna and Madonna of the Chair, by Raphael; Baby Stuart and Children of King Charles, by Van Dyck; Children of the Shell, by Murillo, etc.

BLACKBOARD WORK—Encourage blackboard illustration of lessons and the practice of free circles, loops and straight lines.

SEPTEMBER

COLOR—Discover through conversational lessons, what the children know about color. Lead them to note color in soap bubbles, flowers, fruits, vegetables, birds, trees, sky, fields, etc. Encourage them to bring in examples of color,—bits of anything that show good color.

Have children observe and become familiar with the proper order of the prismatic colors thrown through glass prism.

Introduce color-box, giving particular attention to the use of water and handling of brush. Paint flat washes of red, yellow and blue.

Teach color mixing, i. e., red and yellow make orange, blue and yellow make green, and red and blue make violet.

Paint rainbow or prismatic colors in proper order, allowing colors to overlap.

Paint blue sky and green fields, taking colors direct from cakes of paint.

OCTOBER

Give class instruction on painting a large specimen from nature, showing pupils how to proceed with work.

Paint sedges, grasses, seed-pods, grains, etc.

Paint autumn flowers and fruits, selecting large, vigorous specimens from which to work.

Paint autumn landscape, noting color changes.

Paint trees with foliage. See Nature Study Course for selections.

Illustrate home and school experiences, language and reading lessons, nature myths, etc. See Course of Study.
PICTURE STUDY.

NOVEMBER

Paint autumn fruits and vegetables.
Paint in ink, dried sedges, seed pods and bare trees.
Paint objects used to illustrate daily work.
Illustrate Thanksgiving stories and songs. For selections see Graded List of Poems and Stories for First Grade.

DECEMBER

Paint winter landscape in ink.
Paint Christmas trees in color.
Paint or cut objects used to illustrate daily work.
Teach unit and border in decoration,using straight lines or simple spots as units. Apply to articles made,—such as clay, pottery, book covers, Christmas cards, etc.
Illustrate Christmas stories.

JANUARY

Paint Christmas toys.
Paint in ink, a child posed in action.
Paint in color, winter wearing apparel, such as caps, mittens, etc.
Illustrate winter sports, Mother Goose rhymes, daily lessons, etc.
Practice free drawing of circles, loops and straight lines.

FEBRUARY

Illustrate childhood stories related to the lives of Lincoln, Washington, Longfellow, etc.
Paint or cut objects used as illustrative material in daily work.
Make valentines, applying some of the principles of decoration taught in the December lesson.
PICTURE STUDY.

MARCH

Illustrate windy weather.
Pose drawing from child in action and from animals studied in Nature Course.
Paint squares, oblongs and circles as related to number work or for any decorative purpose.
Paint bulbs, bare trees and budding branches,

April

Illustrate a rainy day, using ink on moist paper.
Illustrate spring occupations and sports.
Paint or cut objects related to the work.
Paint flat washes, graded washes, sprouting bulbs and branches.
Picture Study.

May and June

Review oral color lessons from September outlines.
Paint spring landscape.
Paint spring flowers and grasses.
Paint trees in spring foliage.
Illustrate spring and summer sports,—what you would like to do in vacation, etc.
Paint the American flag and illustrate incidents of May Day, Decoration Day, Flag Day and Fourth of July.

SECOND GRADE.

Mediums—Water colors, ink with brush, scissors.
Type Solids—Make children familiar with type solids through handling, comparing, building, etc., whenever applicable to the daily work.
Picture Study—Pictures studied in this grade ought to show action and represent occupations or the supply of wants. Such pictures as The Mowers, by Dupre; Village Blacksmith, by Herring; End of Labor, and The Gleaners, by Breton; Returning to the Farm, by Troyon; etc.
Blackboard—Illustration of lessons and free drawing of circles, straight lines and loops.

September

Lead pupils to talk about colors observed in fields, flowers, trees, sky, etc., and what they learned about color in the previous grade.
Review standards, tints and shades.
Paint graded washes illustrating standards and tints.
Paint flat washes in tints and save for backgrounds for plant studies.
Paint stained glass effects to illustrate color blending on moist paper.
Paint blue sky and green field, showing middle distance or bushes.

October

Paint sedges, weeds, seed-pods, etc.
Paint autumn flowers and fruits, selecting large, vigorous specimens, including stems and foliage to show growth.
Paint trees with foliage. See Nature Course for selection.
Illustrate Nature myths, incidents from the school life and the homes of the pupils, and from Historic and Primitive homes. See Course of Study.
Picture Study.

November

Paint autumn fruit and vegetables.
Paint in ink, dried sedges and seed-pods.
Paint autumn landscape showing middle distance or bushes.
Paint bare trees, observing growth of main branches.
Paint objects used as illustrative material in daily lessons.
Illustrate Thanksgiving stories and poems. See graded list of Poems and Stories for Second Year pupils.

December

Paint winter landscape in ink, showing white ground, gray sky and black trees.
Paint Christmas trees in color.
Paint or cut objects used in daily work.
Teach borders for decoration, using simple spot combinations, animal or bird forms as units, and apply to made articles such as clay pottery, calendars, bookcovers, Christmas cards, etc.
Illustrate Christmas stories and songs.
Make Christmas cards.

January

Paint Christmas toys and winter wearing apparel.
Paint in ink, child posed in action.
Illustrate winter sports, daily lessons, Nature myths, etc.
Blackboard practice of circles, loops and straight lines.
Picture Study.

February

Illustrate incidents of bravery of the great men whose birthdays occur during this month.

Represent objects connected with daily lessons, working from the object in every case.

Make valentines. Apply principles of decoration taught in December lessons.

PICTURE STUDY.

MARCH

Illustrate March weather.

Pose drawing from animal life and from child posed in action.

Represent objects connected with daily work, such as articles of use and ornament related to the people and countries studied.

Teach surface covering and apply to made articles.

Paint bulbs, bare trees and budding branches.

APRIL

Paint sprouting bulbs, branches and growing plants.

Paint umbrellas, open and shut, rubbers and objects related to work.

Pose child with umbrella.

Illustrate a rainy day, spring occupations, spring sports, etc.

PICTURE STUDY.

MAY AND JUNE

Review oral color lessons from September outline.

Paint spring landscape.

Paint budding branches, spring flowers, trees in foliage. See Nature Course for selection of trees.

Illustrate spring and summer sports.

Paint the American flag and illustrate incidents of May Day, Decoration Day, Flag Day and Fourth of July.

THIRD GRADE.

MEDIUMS—Water colors, ink with brush, scissors and pencil.

TYPE SOLIDS—Make children familiar with type solids through handling, comparing and building whenever applicable to the daily work.

PICTURE STUDY—Pictures studied in this grade ought to show action and represent incidents of community life, such as Primary School in Brittany; Children at Work, by Geoffroy; Pilgrims Going to Church, by Boughton, etc. Pictures of animal life also will be of great interest to pupils.

Blackboard illustration of lessons and free drawing of circles, loops, reversed curves and straight lines.

SEPTEMBER

Conversational lessons reviewing knowledge of color gained in previous grade.

Paint standards, tints and shades, using color charts for comparison.

Paint flat and graded washes for backgrounds for plant studies.

Paint stained glass effects to illustrate color blending on moist paper

Paint blue sky and green fields showing middle distance and a tree in foreground.

OCTOBER

Paint autumn flowers and fruit on branch.

Paint sedges, seed-pods or flowers within a vertical oblong or circle, noting good spacing.

Paint trees with foliage. See Nature Course.

Paint autumn landscape, noting color changes.

Illustrate daily lessons, such as Geography, History, etc., i. e., stories relating to Rochester, New York City and State, etc.; nature myths, fables, etc. See Course of Study.

NOVEMBER

Paint autumn fruits and vegetables.

Paint in ink, dried sedges, seed-pods, rose-berries, etc., within oblongs or circles, and use for book-covers.

Paint November landscape.

Paint or cut objects used as illustrative material in other lessons, such as objects of use and ornament related to the lives of the early settlers of Rochester and New York.

Illustrate daily lessons, Thanksgiving stories, etc. See Graded List of Poems and Stories for Third Year.

PICTURE STUDY.

DECEMBER

Paint a winter landscape in three values, showing sky, land and bare trees. Use ink on moist paper.

Teach border, surface and rosette for decoration, using simple spot combinations, small plant forms, animal, bird or insect forms as repeats. Apply to made articles such as clay pottery, book covers, Christmas cards, calendars, etc.

Illustrate daily lessons.

January

Paint Christmas toys.
Paint a group of objects related to daily work.
Paint lanterns, on and above the eye level.
Illustrate winter sports, daily work, etc.
Blackboard practice of circles, loops, reversed curves and straight lines.
Picture Study.

February

Illustrate stories of bravery related to the national holidays.
Draw from objects related to daily lessons.
Make valentines—applying principles of decoration taught in previous lessons.
Make book-cover for a language lesson.

March

Paint March landscape in ink.
Illustrate March weather,—what the wind does, etc.
Pose drawing from children in action and from animals studied in Nature Course.
Draw or cut objects related to daily work.
Paint bulbs, bare trees and budding branches.
Paint circles, squares, oblongs, triangles, etc.
Picture Study.

April

Represent in pencil-massing, ink and color, sprouting bulbs, branches, growing plants, etc.
Represent in pencil-massing, objects related to spring occupations or to daily work.
Illustrate a rainy day, using ink on moist paper.
Paint spring flowers with foliage, arranging in vertical oblong or circle.

May and June

Review oral color lessons from September outlines.
Paint spring landscape, showing middle distance or bushes, and tree trunks in foreground noting good spacing. The principles of spacing taught in the plaids ought to precede this lesson.
Represent spring flowers in color and in pencil-massing.

Paint trees in foliage. See Nature course for selection of trees.
Illustrate spring and summer occupations and sports and incidents of the national holidays that occur during these months.
PICTURE STUDY.

FOURTH GRADE.

MEDIUMS—Water colors, ink with brush, pencil.
TYPE FORMS—Pupils of this grade ought to be familiar with all of the type forms and be able to recognize them in familiar objects.
PICTURE STUDY—Make pupils familiar with works of art by acknowledged masters. Landseer, Rosa Bonheur, Dupre, etc.
History pictures also are suggested for this grade, such as The Return of the Mayflower, Pilgrims Going to Church, Pilgrim Exiles, etc., by Boughton.
BLACKBOARD illustration of daily work as frequently as possible.
Children should be required to constantly apply all principles of Art taught during the drawing period to all of the free illustrative work.

SEPTEMBER—FEBRUARY

Review standards, tints, shades; and teach intermediate hues, warm and cool colors, broken colors. Use color charts and paint box to illustrate.
Paint flat and graded washes and stained glass effects. Save papers for future use.
Paint autumn landscape, showing middle distance or bushes, and trees in foreground.
Paint a color scale of four tones including a standard, two tints and one shade. Paint a standard and its two neighboring hues. Paint two standards and their two intermediate hues.
Paint in ink, three or four kinds of simple leaves in different foreshortened positions.
Paint autumn flowers, weeds, rose-hips, seed-pods, etc., studying the lines of growth and trying to see their beauty.
Paint in ink, one of the above subjects in a vertical oblong working for good spacing. Use for book-cover or any other suitable purpose.
Represent a plant form in pencil-massing and one in color.
Paint autumn fruit on branch.
Paint a single vegetable.
Represent in a horizontal oblong, a group of two vegetables in pencil-massing, showing two values and good composition.

Make sketches in ink, of animals studied in Nature Course.

Make a pencil scale of neutral gray showing three values, i. e. light, medium and dark, and apply to a simple landscape composition showing sky, middle distance and foreground.

By the use of simple spot combinations or plant forms, teach the principles involved in decorative borders, surface coverings and rosettes. Apply to some made objects, such as pottery, book-cover, keyboard, calendar or any Christmas work.

Teach pencil testing for measurements in obtaining proportions.

Teach the drawing of the ellipse representing the circle above and below eye level.

Illustrate daily lessons with color, ink or pencil-massing. Avoid line-drawing in this kind of work.

PICTURE STUDY.

FEBRUARY—JUNE

Draw an object based on cylinder below eye level.

Draw an object based on hemisphere below eye level.

Draw a pleasing vase form below eye level.

Draw a group of objects based on cylinder and sphere below eye level. Compose space and show color values with pencil.

Paint lanterns above eye level in a horizontal or vertical oblong showing good spacing.

Make sketches from child posed to represent some action or character related to other school work. Use ink or color.

Teach trefoil and quatrefoil and apply to stained glass window, book-cover or any other purpose applicable to the work.

Make a simple landscape composition including sky, land, bushes and trees, in four pencil values, placing scale at side of paper.

Practice good lettering and apply to book-covers.

Design book-cover for daily work, applying flower, landscape or pose decorative drawing. Use lettering placed horizontally across the sheet.

Paint a color scale of four tones including a standard, two tints and one shade.

Review the oral color lessons from the September outlines.

Represent spring flowers in color and in pencil-mass.

Paint spring landscapes noting the spring coloring in nature.

PICTURE STUDY.

FIFTH GRADE.

MEDIUMS—Water colors, ink with brush, pencil.

TYPE FORMS—Keep the type forms fresh in the pupils' minds by constantly referring to them whenever applicable to the work.

COMPOSITION—In decorative composition, work for flatness and good arrangement of shapes. Flower composition is not the mere picture of a flower, but an irregular pattern of lines and spaces. The whole space should be cut by main lines; and all lines and shapes must be related one to the other by connectings and placings so as to form a beautiful whole. The same is true of any piece of composition.

PICTURE STUDY—Make pupils familiar with works of art by acknowledged masters, such as Lerolle, Millet, Turner, Schreyer, Bonheur, etc.

Children should be required to constantly apply all principles of art taught during the drawing period to all of the free illustrative work.

SEPTEMBER—FEBRUARY

Review standards, tints, shades, intermediate hues; and teach warm and cool colors, broken colors, contrasted and dominant harmonies. Use color charts and paint-box to illustrate. Apply the harmonies to the plaids, reviewing good spacing at the same time.

Paint flat and graded washes and stained glass effects. Save papers for future use.

Paint autumn landscape, including sky, middle distance, trees in foreground.

Paint a color scale of four tones, including a standard, two tints and one shade; and make a pencil scale of five tones from very light to very dark.

Make ink silhouettes of three or four kinds of simple leaves in different foreshortened positions.

Represent autumn flowers, weeds and seed-pods in pencil-mass, ink and color, studying the lines of growth and noting their beauty.

Make a decorative arrangement, in ink or color, of one of the above subjects in a vertical oblong.

Paint autumn fruit on branch.

Represent, in pencil-mass or color, two vegetables placed in a pleasing group. Suggest table.

Make sketches, in ink or color, of animal life studied in Nature Course.

Make a scale showing four pencil values, including white and black, and apply to simple landscape composition, including sky, land, bushes and water or trees.

Design a bilateral unit, using simple spot combinations or plant forms, and apply to some made work, such as clay pottery, book-cover, key board, blotter or any Christmas work.

PICTURE STUDY.

Review pencil testing for measurements in obtaining proportions.

Represent, in pencil or color, an object based on the cylinder below the eye level; and the same or another object above eye level.

Illustrate daily lessons.

FEBRUARY—JUNE

Draw an object based on the hemisphere placed below eye level.

Draw a pleasing vase-form placed below eye level.

Draw a group of two objects, showing rough and smooth surfaces and express these qualities in the rendering.

Pose child in action. Use ink or color.

Design a bowl, vase or basket-form on eye level, and decorate with a pleasing border, using spot combinations or plant forms as motifs. Place at side of paper a color scheme derived from some textile or from nature, and apply to design made.

Practice good lettering and apply to book-cover for a written lesson on Egyptian ornament.

Make a simple landscape composition in four pencil values, including sky, land, bushes and trees or water.

PICTURE STUDY.

Review September color lessons.

Paint spring flowers.

Illustrate daily lessons with color, ink or pencil-massing. Avoid line drawing in this kind of work.

SIXTH GRADE.

MEDIUMS—Water colors, ink with brush, pencil.

TYPE FORMS—Keep the type forms fresh in the pupils' minds by constantly referring to them whenever applicable to the work.

COMPOSITION—See Fifth Year outline.

PICTURE STUDY—Make pupils familiar with works of some of the best artists, such as, Rembrandt, Troyon, Corot; or select some special group as painters of the same subject; for example, Animal Life, by Bonheur, Landseer, Dupre, Troyon, Lambert, etc.

Children should be required to constantly apply all principles of Art taught during the drawing period to all of the free illustrative work.

SEPTEMBER—FEBRUARY

Review standards, tints, shades, intermediate hues, warm and cool colors, broken colors, contrasted and dominant harmonies, and teach analogous harmony. Use color charts and paint box to illustrate.

Paint flat and graded washes and stained glass effects. Save papers for future use.

Paint autumn landscape, from out-of-door observation if possible, noting the harmonious blending of the colors in Nature.

Paint color scale of five tones, including a standard, three tints and one shade. Make a pencil scale of five tones from very light to very dark.

Make ink silhouettes of several kinds of simple leaves showing different foreshortened positions.

Represent autumn flowers, sedges, seed-pods, etc., in pencil-mass, ink and color, studying lines of growth and noting their beauty.

Make a decorative arrangement in ink of one of the above subjects. Arrange in a circle or vertical oblong and use for an initial letter, considering letter with flower in breaking space. Apply to book-cover, paragraph or any other suitable purpose.

Paint autumn fruit on branch.

Treat the above subject decoratively in a square, oblong or circle to be used for a lamp-shade. Derive color scheme from specimen and color in flat washes, using tints of colors.

Represent in pencil-mass or color two vegetables placed in a pleasing group. Suggest table-surface.

Make a pencil scale showing four values including white and black, and apply to landscape composition including sky, land, bushes and tree trunks.

Design a bilateral unit from spot combinations or plant forms. Use contrasted, dominant or analogous harmony, and apply to some made object such as pottery, book-covers, Christmas cards, etc.

PICTURE STUDY.

Review pencil-testing for measurements in getting proportions.

Compose, in vertical or horizontal oblong, lanterns above the eye level. Use pencil-mass, ink or color.

Illustrate daily lessons with color, ink or pencil-massing. Avoid line drawing in this kind of work.

FEBRUARY—JUNE

Draw a pleasing vase form below eye level.

Draw a group of objects based on the cylinder and hemisphere. Compose space and finish in pencil values.

Teach principles involved in parallel and angular perspective.

Draw in outline, an object based on the cube or square prism below eye level and in angular perspective.

Draw a large book below eye level in angular perspective.

Draw an object placed partly above and partly below eye level in angular perspective.

Practice good lettering and apply to book-cover for a written lesson on Greek Ornament.

Pose child for poster, book-cover design, or any other suitable purpose. Render in pencil, ink or color.

Compose a landscape in vertical oblong and color in flat tones.

PICTURE STUDY.

Review September color lessons.

Paint spring flowers.

Illustrate daily lessons.

SEVENTH GRADE.

MEDIUMS—Water colors, ink with brush, pencil.

COMPOSITION—See Fifth Year outline.

PICTURE STUDY—In picture study the elements of beauty should be sought, i. e., the rythmic lines, the relations of areas, the harmony of mass-composition, and as a whole the blending of all these, giving us the sense of ideal beauty. Make pupils familiar with the works of a few of the best artists, treating them individually or in groups; for example, Fontainebleau, Group, Corot, Dupre, Rousseau, Diaz and Daubigney as landscape painters, etc. See The World's Painters by Hoyt, pages 150-152.

Pupils should be required to constantly apply all principles of art taught during the drawing period to all of the free illustrative work.

SEPTEMBER—FEBRUARY

Review standards, tints, shades, intermediate hues, warm and cool colors; and teach active, passive or non-colors; contrasted, dominant, analogous and complementary harmonies. Use color-charts and paint box to illustrate.

Paint autumn landscape, from out-of-door observation if possible. Use blue or violet gray in the distance and carry out the middle-distance on the horizontal so as to help the retiring effect.

Paint color scale of five tones, including a standard, three tints and one shade.

Make a pencil scale of seven tones, including white and black.

Paint a pleasing color scheme from some textile or from nature.

Paint in ink or color, several kinds of simple leaves showing different foreshortened positions.

Represent autumn flowers, sedges, seed-pods, etc., in pencil-mass, ink and color.

Make a decorative arrangement in an oblong or circle of one of the above subjects and use for an initial letter for some purpose applicable to the daily work.

Represent autumn trees in pencil and color, and suggest a distant hill, a roadway or some other out-door feature to complete the picture.

Paint autumn fruit on branch.

Paint a pleasing group of vegetables, tinting background and table. Compose space in horizontal oblong.

Treat the vegetable study decoratively in pencil-mass or ink and use as tail-piece.

Make a pencil scale showing five values, including white and black, and apply to landscape composition, including land, sky, bushes and trees.

Design a bilateral or a balanced unit from spot combinations or plant forms and apply to some made work. It may be used as a single unit or as a repeat for border, surface or rosette.

Design a stained glass window and color harmoniously.

PICTURE STUDY.

Draw a pleasing vase-form in a vertical oblong, showing three pencil values.

FEBRUARY—JUNE

Draw a group of curved objects, composing space and showing pencil values representing color, light and shade.

Paint a simple vase-form, tinting background and table.

Review principles involved in parallel perspective.

Draw a large object based on the cube or square prism placed below eye level and in angular perspective.

Teach shading of angular objects.

Draw a pleasing group of objects containing one angular object. Compose space and show light and dark, and light and shade.

Draw a large object placed partly above and partly below eye level, and in angular perspective.

Make window sketches of towers above eye level, teaching the cone and square pyramid above and below eye level.

Practice good lettering and apply to book-cover to be used for a written lesson on Roman art. Make pupils familiar with some of the best examples of Roman art.

Pose child for poster, book-cover or any other suitable purpose.

Compose a landscape composition in flat tones of color and outline masses with black.

PICTURE STUDY.

Review September color lessons.

Paint spring flowers.

EIGHTH GRADE.

MEDIUMS—Water colors, ink with brush, pencil.

COMPOSITION—See Fifth Year outline..

PICTURE STUDY—In picture study the elements of beauty should be sought, i. e., the rythmic lines, the relations of areas, the harmony of mass-composition, and as a whole the blending of all these, giving us the sense of ideal beauty. Select some special group or subject and compare the interpretations of the same subject by different artists, for example, The Madonnas, portraits, animals, landscape painters, etc. The Madonna has been a favorite theme for artists and poets for many centuries. It can be treated as the type of mother-love that surrounds all childhood, and the different treatments of the subject may be classified and studied by schools, etc. The pupils of this grade should have a fair knowledge of our best American artists, Sargent, La Farge, Whistler, Blashfield and others of note.

Pupils should be required to constantly apply all principles of art taught during the drawing period to all of the free illustrative work.

SEPTEMBER—FEBRUARY

Illustrate with color charts and water colors the following terms:—standards, tints, shades, intermediate hues, warm and cool colors, broken colors, active and passive or non-colors; contrasted, dominant, analogous and complementary harmonies.

Paint autumn landscape from out-of-door observation if possible. Use blue or violet gray in the distance and carry out the middle-distance on the horizontal so as to help the retiring effect.

Paint color scale of five tones including a standard, three tints and one shade. Paint a pleasing color scheme from some textile or from

Nature. Make a pencil scale of seven tones including white and black.

Paint in ink or color, several kinds of simple leaves showing different foreshortened positions.

Represent autumn flowers, sedges, seed-pods, etc., in pencil-mass, ink and color.

Make a decorative arrangement, in an oblong or circle, of one of the above subjects and use for an initial letter for some purpose applicable to the daily work. Use ink or color.

Paint autumn fruit on branch.

Make a decorative arrangement in a horizontal oblong, of the fruit study and use for tail piece. Use color scheme found in specimen.

Paint a pleasing group of vegetables, tinting background and table. Compose space in horizontal oblong.

Make a pencil scale showing five values including white and black, and apply to landscape composition including sky, land, trees, etc. Treat the above composition in color, selecting color scheme from Nature and using a different enclosing form.

Design a balanced or a bilateral unit from spot combinations or plant forms and apply to made articles. It may be used as a single unit or as a repeat for border, surface or rosette.

PICTURE STUDY.

Make a design for a lantern based on cylinder, cube or square prism. Color harmoniously.

Draw a pleasing vase-form in vertical oblong, showing pencil values.

FEBRUARY—JUNE

Draw a pleasing group of curved objects showing pencil values in light and shade, and light and dark. Compose space in oblong.

Paint a group of curved objects showing light and shade. Tint harmoniously the table and background.

Review principles involved in parallel and angular perspective.

Draw an object based on the cube or square prism placed below eye level and in angular perspective.

Draw a large object based on the triangular prism placed below eye level and in angular perspective.

Teach shading of angular objects.

Draw a group containing one angular object. Compose space and render in light and shade.

Pose child for poster, book-cover or any other suitable purpose.

Practice good lettering and apply to book-cover for a written lesson

on the Renaissance. Make pupils of this grade familiar with some of the best examples of Egyptian, Greek and Roman art, and with the characteristics of ancient, mediaeval and modern schools of ornament.

Compose a landscape composition in flat tones of color.

PICTURE STUDY.

Review September color lessons.

Paint spring flowers.

Design an initial letter using a group of objects, flower or landscape composition to balance letter in the enclosing figure.

HELEN E. LUCAS,
Supervisor of Drawing.

Approved, Sept., 1904,
CLARENCE F. CARROLL,
Supt. of Schools.

MUSIC.

Inasmuch as the study of music representation has been a part of the course of study for three years only, the following outline is but temporary, subject to change each year. At present, but an hour a week is given to music in each grade. Individual singing is insisted upon in the first five grades and encouraged in the upper grades. Each lesson begins with a few minutes devoted to breathing exercises and pure vocal drill, standing position.

First Grade.

The gaining of musical experience and development of the rythmic and tonal sense. Aim for inspirational singing and spontaneous expression.

Material: Modern Music Primer and supplementary rote song books in the hands of the teacher.

I. Work with monotones. Individual attention and endeavor to train each child (for method, see Outline I) to sing single tones and simple phrases accurately as to pitch.

II. Vocal exercises: Sustained tones and descending scale with humming and with *no* and *loo,* training from high tones downward. The ideal is to use only the pure, sweet light tones natural to childhood. For compass see Outline I.

III. Rote Songs: These form the largest part of the work. For method of teaching see Outline I. The songs chosen are simple and present a large variety of subjects to correlate with the child's other interests.

IV. Invention of songs correlating with other interests: Poetic motives for melodies given and vice versa or both words and melodies.

V. Observation work on the songs learned:

1. By the ear (see Outline XI, exercises 1 to 17). Pupil notes the emotional characteristics; the rhythm; the length of tones; their relative highness; the rapidity of movement. In the last half of the year, several of the simplest songs, already known, are learned by rote with the Italian syllables as another verse. Among these are several scale songs.
2. By the eye (see Outline XI, exercises 18 to 23 or 31). In the last part of the year simple pictures of the songs are

drawn on the board for recognition. These may be in any form which gives an idea of the relative pitch and length of tones.

Second Grade.

From sense perception to mental conception. Aim to increase the child's musical experience and observe the rythmic and tonal elements which enter into song.

Material: Same as First Grade.

I. Continue individual work with monotones. Few should be left uncured by the end of this year.

II. Breathing exercises in form of game or play. Vocal exercises same as first grade and add singing of sustained tones on several vowels, passing from one to another without break or additional breath; also descending scale passages with *no, nee, loo,* and *lah.*

III. Rote songs: See First Grade.

IV. Invention of songs: See First Grade.

V. Observation work on rote songs. Certain simple songs representing a variety of rhythms and keys and tonal problems are selected as "work" songs. These are learned by rote, first with words, then with Italian syllables, then used for observation lessons by ear and eye (see Outline XI, exercises 1 to 51). This study of the representative of songs learned by ear, forms the connecting link between rote songs and sight singing and by the end of the second year twelve songs should have been thus thoroughly studied from the blackboard staff. Keys are not mentioned—a cross being placed on the degree representing *do.* Particular attention is paid to the position of the tonic chord in each key. The meaning of the upper figure of the meter signature is made clear.

VI. Written work on the board: Copying music and writing portions from memory.

Third Grade.

Observation of rhythmic and tonal elements as they enter into known songs and application to sight singing.

Material: Modern Music Primer and Manuscript Series copy book I in hands of the children. Supplementary rote songs.

I. Monotone work completed. There should be no monotones after the third year in school except children who enter from schools not doing this work.

II. Breathing and vocal exercises as in Second Grade with some

added ones for variety. Tuning exercises and chord work as preparatory to part singing.

III. Rote songs: See First Grade.

IV. Invention of songs as in First Grade and also writing original melodies.

V. Observation work: See Second Grade. The alteration reading and writing work occupies more attention.

VI. Sight singing. This begins in this grade and always follows observation work on rote songs in the same key and rhythm. For method of procedure, see Outline XI, exercise 54 etseq. The singing is done with words at first sight or with *loo* or with syllables according to difficulty. The individual sings first, then the class. This develops responsibility on the part of each child. In this grade the children interpret at sight all kinds of simple rhythms the equally divided pulse and common intervals. No keys are learned definitely, a cross being placed on the degree representing *do*. The children count all kinds of measures and tap different rhythmic forms. Simple melody forms are drilled upon in each key. The names of the lines and spaces are learned.

VII. Written work: This work is closely related to the sight singing then in progress and tends to make each child responsible for the facts of representation studied.

Fourth Grade.

Technical forms studied, compared and analyzed in rote songs and applied to sight singing.

Material: Modern Music First Book and Manuscript Series copy book I in hands of children. Supplementary rote songs.

I. Breathing and vocal exercises as in Third grade and add more formal and elaborate ones. They should, however, be correlated with other interests as far as possible and grow out of the particular needs of the class, preparing for any difficulties in tone production or enunciation in songs to be studied. Deep, quiet breathing, sustained breath with economized emission, high, sweet, light, ringing tones are the ideals before the teacher. The chord work is continued.

II. Rote songs are taught in this grade both for their aesthetic value and for use in observation work leading to sight singing in the same key, following Outline XI, exercise 1 to 53.

III. Sight singing: This now assumes a very important place in the work. See VI, Third Grade, but the class now learns nine keys

definitely as keys with their signatures. The rules for recognizing key signatures is learned and applied. The meaning of the entire meter signature is learned. The sharp chromatics are taught by rote. All dynamic signs and movement words are explained as they occur in songs studied and learned through use. A beginning is made in the study of the lives of composers. The unequally divided beat is the new time problem. Two part work is begun in rounds, canons and a few simple two part studies.

IV. Written work as in VII, Third Grade. Relative and absolute pitch names are placed beneath all notes written by children above the Third Grade.

V. Ear training in rhythm and pitch is a constant factor in the work.

VI. Invention of melodies as in First Grade but more elaborate.

Fifth Grade.

Material: Same as Fourth Grade.

I. Breathing and vocal exercises: See Fourth Grade. Tuning exercises in minor chords are added and the normal minor scale.

II. Rote songs: See Fourth Grade.

III. Sight singing: See Fourth Grade. The flat chromatics are added. The more difficult work in the First Book is studied and more attention given to two part work, every child being able to sing either part. The rules for recognizing and writing key signatures in major and minor keys are learned through much use.

IV. Written Work.

Sixth Grade.

Material: Modern Music Second Book and Manuscript Series copy book II in hands of pupils. A few supplementary rote songs.

I. Breathing and vocal exercises same as in Fourth and Fifth Grades with the addition of more formal ones such as are given adult private vocal pupils. A chromatic scale study and the harmonic minor scale are added. Care is taken of changing voices.

II. Rote songs: See Fourth Grade.

III. Sight singing: See Fourth and Fifth Grades. The easier work in the Second Book is selected for this grade. There is considerable two part work and work in the minor mode. All the common dynamic signs and movement words are learned through use and com-

posers studied in connection with their songs. Major and minor seconds are drilled on for instant recognition by eye and ear.

IV. Written work.

V. Ear training: There is constant work in this in both pitch and rhythm.

Seventh Grade.

Material: Same as Sixth Grade.

I. Breathing and vocal exercises same as for Sixth Grade, adding the melodic minor scale.

II. Rote songs: See Fourth Grade.

III. Sight Singing: See Fourth, Fifth and Sixth Grades. The more difficult work in the Second Book is given; unison two part and three part songs and studies, pupils alternating in singing alto. Major and minor thirds are drilled upon for instant recognition by ear and eye.

IV. Written work.

Eighth Grade.

Material: Modern Music Third Book and Manuscript Series Book II in hands of pupils.

I. Breathing and vocal exercises: See Seventh Grade. Classification of voices for permanent parts.

II. Sight singing in all keys and rhythms, unison, two and three part songs and work from the bass staff.

III. Written work.

Alice C. Clement,
Supervisor of Music.

Approved April 13, 1905,
C. F. Carroll,
Supt. of Schools.

DOMESTIC ART.

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.

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 distinctly educational and not primarily to meet an immediate personal need or to prepare for future trade work although it will in a measure react on both. To be of educational worth the course should stimulate thought and train judgment and taste as well as hands. It fails in its purpose if increasing thinking power and greater social efficiency do not follow its use.

CORRELATION WITH OTHER SCHOOL SUBJECTS. Domestic Art affords an opportunity for fixing much of the knowledge gained through geography, history, arithmetic, drawing and nature study. As a part of Manual Training it enriches language work by making definite through construction ideas which may otherwise be vague. The more diversified the opportunities a child has to express himself, the clearer his thought and the better his written page.

To get the largest result the economic and the art side of the subject should be taught hand in hand with the stitches. The last stand in relation to Domestic Art as technique to music—a means rather than an end.

Through the teacher's guidance habits of orderliness, care in the selection of material and taste in decoration can be secured as well as a knowledge of sewing.

To induce the child to express her own thought and taste, to enable her in her own daily living so to see and appreciate good color and suitability of material that she will instinctively avoid tawdry display is a fundamental part of Domestic Art work.

Through a growing knowledge of textiles and a trained appreciation of the beauty of simplicity when expressed in correct line, form and color, the life of each individual is enriched and the community

educated. For this reason, design which makes for freedom and originality in contrast to the unquestioning acceptance of prescribed standards of excellence, so-called, cannot be too strongly emphasized. The purpose is not to teach decorative work but to encourage independent thinking. The school room during the sewing hour should be a laboratory in which the creative tendency is ever active. To create—to feel —to appreciate are vital to the subject.

THE CHILD'S INTEREST KEPT ACTIVE. The sewing in all the grades is based partly on original design which is to be applied to something the pupil likes to make. It is hoped by this method to stimulate thought and keep active the child's interest in needlework until a recognition of the necessity for the plainer kinds is developed. Skill in the niceties of plain needlework, usually a matter of mechanical drill, tends to come spontaneously if the child has put some of her own individuality into the work. The desire to make articles which the child can put to immediate personal use and as much as possible within a limited time—materials selected, and prepared by the teacher endangers the educational side of the subject. One is apt to consider the product rather than the child—the age limitations and larger social aspect of the work being overlooked. With such a standard before us, we work for trade skill instead of giving our girls a training which will touch life and character and at the same time aid in the solution of future individual problems.

THE NEED OF FREE EXPRESSION. In this course technique is subordinated to free expression. Careful workmanship is desired but that the child should have a clear conception of the use of her work and express it appropriately is the chief aim. Uniformity of stitch is more to be desired than fineness.

The teacher should act as leader in the various exercises, but a margin of freedom should be left to the child. Such work does not present to the average mind the appearance of excellence seen when work is carefully dictated, but there is promise of larger and more lasting results therefrom.

GENERAL PLAN OF THE WORK. The work for the four grades is planned to advance from coarse to fine with emphasis on the free rather than the formal side.

No formal drafting will be taught. Instead, there will be free pattern cutting and the enlargement or reduction of simple, cut patterns by a study of relative proportions.

No stamped work is to be used for decorative purposes—simple designs executed by the children will be substituted. There will be re-

peated applications of the color harmonies and principles of design studied in connection with the drawing.

The principles of weaving begun in the kindergarten and the primary grades are to be further developed.

Textile raw materials and manufactures will be studied in their relation to the geography and history courses.

Number work will be utilized in calculating the quantity of material needed for the various exercises.

A book for notes is to be used in connection with the course.

General Directions.

The course is flexible and may be modified at the discretion of the teacher so far as the articles to be made are concerned. There should, however, be a uniformity in the preparation and the development of the lessons. The articles suggested for practical work in each grade cover a rather wide range. No class is expected to make all, but those made should meet the needs of the pupils in their present environment.

The lessons should consist of

(1) Study or thought-work.
(2) Practical applications.
(3) Written notes.

It is requested that a specimen of the object to be made be exhibited in the class-room a lesson or two before the time for the practical application. During this preparatory lesson the pupils should be encouraged to examine the article carefully in order to become familiar with its construction and to prepare themselves for providing suitable materials for their own work. A few minutes should be taken at the beginning of each lesson for class discussion, the questions of the teacher being few, direct and well-chosen, avoiding detail.

An outline of the points developed in the class discussion should be written on the blackboard and at the same time by the pupils on paper.

The following outline is suggestive:

1. Name of the article made.
2. Purpose.
3. Materials that can be used.
4. Measurements of materials or pattern.
5. Names of stitches used.
6. Further remarks.

Some of the written notes will precede the practical work and some will follow. After the article is completed, these notes should be neat-

ly copied in ink in a note-book. They will be of use in the solution of succeeding problems.

Pupils should at all times be encouraged to illustrate their notes applying the principles underlying the course in drawing.

In almost every household are short lengths of left-over materials—silks, cottons, woolens, bits of ribbon, lace, etc., which can be utilized under the guidance of the teacher. By suggestion these can find their way to the schoolroom to become the common property of the class and to be utilized by those who have time for additional exercises.

The variety of materials, colors, etc., furnishes an excellent opportunity for the development of taste and judgment in their relation to textile products. While at the same time the pupil is being prepared through co-operative drills for a share in the large work and fuller life about her.

Textile subjects furnish material for compositions and themes. The knowledge of textile raw materials gained through language exercises enriches the thought of the child and leads to more intelligent constructive work.

Special Directions.

Require oral description of the work done previously.

To develop habits of clear thinking and correct expression require complete sentences in question and answer.

Encourage blackboard illustration by the pupils.

Train the pupils to prepare their work in a thorough manner, but the age possibilities should be kept in mind and overfine work avoided.

For rather difficult constructive work prepare the child by practice with paper or on coarse canvas first.

Be careful of the children's eyes, especially on dark days.

Grade 5 B.

Course of Study.

Weaving and sewing; instruction on fibres and textiles; simple design; applications; written notes.

Time—one hour per week.

This course presupposes a training in the lower grades of the muscles of the hand through the kindergarten and the manual training exercises in knotting, braiding, simple weaving and coarse stitches on canvas.

In this grade pupils should be led to see the connection between the braiding and the weaving they have previously done and the more ad-

vanced work of weaving textile raw materials into cloth. The intricacies of manufacture are too difficult for comprehension, but the lessons on warp and woof, heddle, shuttle and batten will arouse the interest of the children in the materials used.

Syllabus.

Exercises: Weaving; basting; running; back-stitching; overcasting; hemming; overhanding; sewing on buttons; outline or stem stitch.

Applications: Bag initialed; simple pen wiper of original form; rugs, needle-books, blotters and table mats as exercises in weaving and design; book marks, napkin rings of raffia; face cloths; dish towels; simple costumes for dolls (basted work,—an exercise in free cutting, calculation of the quantity of material needed, and selection of appropriate colors).

Extra work: Dolls' hats; original or co-operative exercises.

Design: (correlated with nature study and drawing):

(a) Simple lettering to be applied to some article made.

(b) Simple space division for a border.

Textile Study (correlated with geography and history):

(a) Brief study of textile raw materials—cotton, flax, wool or silk.

(b) Their relation to the woven fabric.

(c) Contrasted and dominant color harmonies studied by means of textiles.

Grade 5 A.

Course of Study.

Instruction on textile raw materials continued; cutting at sight; repairing garments; simple design; applications; notes.

Syllabus.

Exercises: Review of previous stitches; sewing on snaps, hooks and eyes; sewing on tape; patching; chain stitch; rope stitch.

Applications: Simple needle-book (study of form); pen wiper (exercise in accurate cutting); ribbon napkin ring; duster; holders; button bag; doll's kimono; note-book cover; hemmed towel.

Supplementary work: Woven pillow cover (co-operative exercise); original work.

Design:

(a) Simple form for a needle-book.

(b) Line or border decoration for a table mat or a note-book cover.

Textile Study:

Children's clothing.

Materials for different seasons and climates.

Shapes of garments to avoid restriction.

Grade 6 B.

Course of Study.

Free pattern cutting; darning; simple design; textile study; notes.

Syllabus.

Exercises: Review of previous stitches; gathering; putting on band; placket; dress darning; catch stitch; blanket stitch.

Applications: Doll's skirt; pinafore; laundry bag; work basket; scrap basket; dust cap; sash curtains; repairing of rents in clothing; doilies; bean bag.

Supplementary work: Sewed baskets; knotted bags; original work.

Design:

Simple design for doily, tray cloth or bureau scarf (conventionalization of plant, flower or leaf form).

Textile study:

Textile manufactures of European countries.

Tartans and tapestries.

Grade 6 A.

Course of Study.

Free pattern cutting continued; design; textile study; notes.

Syllabus.

Exercise: Review of stitches, French seam; practice in cutting by thread; simple decorative stitches; loops for buttons.

Applications: Pin case (original design); doll's kimono and dress; child's apron; coarse decorative stitches for waste basket; pillow case.

Supplementary work: Sewed baskets; fancy bags; original exercises;

Design:

(a) Design for a circular enclosing form.

Textile Study:

(a) Oriental fabrics and dyes. Fast and fugitive colors.

(b) Contrasted, dominant and analagous color harmonies studied by means of textiles.

Grade 7 B.

Course of Study.

Advanced stitches; design; textile study; notes.

Syllabus.

In order to make an article well it is necessary to think, to plan; to be accurate.

Exercises: Hem-stitching; cutting and use of bias strips; tucking; marking towels; herring bone stitch; simple feather stitch.

Applications: Collars; collar case; underskirt; towel hemstitched and initialed; bibs; flags.

Supplementary work: Basket lined and furnished; traveling case; original work.

Design:

(a) Simple design for collar or collar case.

(b) Initial for towel.

Textile Study:

(a) Fabrics considered from the standpoint of durability and good taste.

(b) Line and spot in relation to dress.

(c) Removal of ink, iron-rust, and grease spots.

Grade 7 A.

Course of Study.

Advanced stitches; design; textile study; notes.

Syllabus.

The decoration of an article should always be planned with thought of its suitability to the material and the purpose.

Exercises: Different kinds of basting; darning on stockinet; marking stockings; button holes and loops.

Applications; Sleevelets; glove mending; stocks; apron planned by

pupil; table scarf or cover; sachets; bed-slippers; linen book-cover.

Supplementary work: Hemstitched handkerchief; damask darning, original work.

Design:

Design for linen book-cover.

Textile Study:

(a) Review of prehistoric methods of weaving.
Home processes in the Colonial Period.
The development of home processes into our present industries.

(b) Study of simple trimmings for costumes.

Grade 8 B.

Course of Study.

Talks on drafting; use of patterns; design; textile study; notes.

Syllabus.

Exercises: Napery darning, rolling and whipping ruffles; skirt binding; mitring corners; linen marking.

Application: Shoe-bag; sewing apron planned by pupil; infants' sachet; kimono (machine sewed); illuminated texts.

Supplementary work: Samples of embroidery stitches; original work.

Design:

Design for pillow cover.

Textile Study:

(a) Growth and manufacture of raw materials—cotton, flax, wool, silk.

(b) Textile illustrations of warm and cool colors.

Grade 8 A.

Advanced stitches; adaptation of bought pattern; design; talks on dress and the home.

Syllabus.

Exercises: Damask or French hemming; sewing on lace; review.

Applications: Kitchen apron, cuffs and cap; underwaist; shirtwaist (machine sewed); table napkins and doilies; linen portfolio.

Supplementary work: Matching and joining embroidery and lace.

Art and Design:

(a) Design for portfolio for drawings—dominant harmony.

(b) Dress:

Simplicity of style and color.
Over-elaboration of ornament and trimming.
Harmonious and inharmonious color combinations.
Appropriate apparel for different occasions.
Beauty of neatness and cleanliness.

(c) The Home.

Rugs.
Furniture.
Pictures.
Picture hanging.
Beauty of orderliness and cleanliness.

Textiles:

Study of relative values and widths.
Amount of material required of differing widths.
Economics of purchase.
Judicious planning and cutting.
Laundering—shrinkage, effects of water and sunlight.

EAST HIGH SCHOOL, ROCHESTER, N. Y.

COURSE OF STUDY OUTLINED.

	CLASSICAL.	LATIN—GERMAN.	LATIN—SCIENTIFIC.	GERMAN—SCIENTIFIC.
"D" or FIRST YEAR.	Latin.....5 Algebra.....5 English.....5 Physiology.....5 English History.....5 or Elem. Drawing.....5	Latin.....5 Algebra.....5 English.....5 Physiology.....5 English History.....5 or Elem. Drawing.....5	Latin.....5 Algebra.....5 English.....5 Physiology.....5 English History.....5 or Elem. Drawing.....5	German.....5 Algebra.....5 English.....5 Physiology.....5 English History.....5 or Elem. Drawing.....5
"C" or SECOND YEAR.	Greek.....5 Cæsar.....5 Geometry.....5 English.....4 Elocution.....1 Adv. Drawing (optional) 3	German (or French).....5 Cæsar.....5 Geometry.....5 English.....4 Elocution.....1 Adv. Drawing (optional) 3	Zoology or Botany.....4 Cæsar.....5 Geometry.....5 English.....4 Elocution.....1 Adv. Drawing (optional) 3	Zoology or Botany.....4 German.....5 Geometry.....5 English.....4 Elocution.....1 Adv. Drawing (optional) 3
"B" or THIRD YEAR.	Greek.....5 Cicero.....5 English.....4 Ancient and } 1st Greek History } sem. } 5 Roman " 2d sem. } Elocution.....1	German (or French).....5 Cicero.....5 English.....4 Elocution.....1 Ancient and } 1st Greek History } sem. } 5 Roman " 2d sem. } or French.....5	Chemistry.....5 Cicero.....5 English.....4 Elocution.....1 And one of the following: Ancient and } 1st Greek History } sem. } 5 Roman " 2d sem. } or French.....5 or German.....5	Chemistry.....5 German.....5 English.....4 Elocution.....1 Ancient and } 1st Greek History } sem. } 5 Roman " 2d sem. } or French.....5
"A" or FOURTH YEAR.	Greek.....5 Virgil.....5 English.....4 Elocution.....1 And one of the following: Algebra, review, 1st sem. } 5 Geometry, review, 2d sem. } Advanced Mathematics..5 Physics.....5 German.....5 Adv. U. S. History 1st sem. } 5 Civics, 2d sem. } Arith. review, 1st sem. } 5 Vocal Music, 2d sem. }	German (or French).....5 Virgil.....5 English.....4 Elocution.....1 And one of the following: Algebra, review, 1st sem. } 5 Geometry, review, 2d sem. } Advanced Mathematics..5 Physics.....5 French.....5 Adv. U. S. History, 1st sem. } 5 Civics, 2d sem. } Arith. review, 1st sem. } 5 Vocal Music, 2d sem. }	Physics.....5 Virgil.....5 English.....5 Elocution.....1 And one of the following: Algebra, review, 1st sem. } 5 Geometry, review, 2d sem. } Advanced Mathematics..5 French.....5 German.....5 Adv. U. S. History 1st sem } 5 Civics, 2d sem } Arith. review, 1st sem. } 5 Vocal Music, 2d sem. }	Physics.....5 German.....5 English.....4 Elocution.....1 And one of the following: Algebra, review, 1st sem. } 5 Geometry, review, 2d sem. } Advanced Mathematics..5 French.....5 Adv. U. S. History, 1st sem. } 5 Civics, 2d sem. } Arith. review, 1st sem. } 5 Vocal Music, 2d sem. }

REQUIREMENTS FOR ADMISSION.—Graduates of grammar schools in the city of Rochester, are admitted without examination on the recommendation of the Grammar School Principal. All other pupils must pass an entrance examination or present a Regents' Preliminary Certificate and a pass card in elementary U. S. History.

The tuition for non-residents is $25 per semester ($50 per year), payable October 1 and March 1.

Pupils who intend to enter college, a normal school, or the Normal Training School, should consult the Principal as to their course of study.

REQUIREMENTS FOR GRADUATION.—The satisfactory completion of one of the above courses of study.