

STATE COURSE OF STUDY

FOR THE

PUBLIC SCHOOLS OF COLORADO

1893

SCHOOL LIBRARIES,

COLLEGE PREPARATORY COURSES OF STUDY,

SUGGESTIVE SYLLABUS OF WORK

FOR THE

STATE NORMAL INSTITUTES.

APPROVED AND PUBLISHED

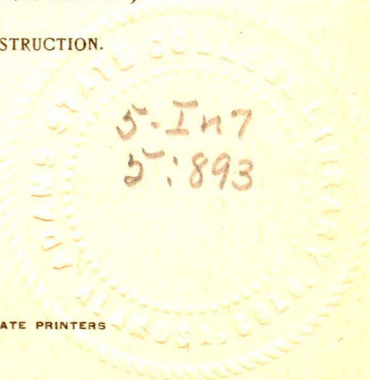
BY

JOHN F. MURRAY,

SUPERINTENDENT OF PUBLIC INSTRUCTION.



DENVER, COLORADO:
THE SMITH-BROOKS PRINTING CO., STATE PRINTERS
1893



STATE COURSE OF STUDY

FOR THE

Public Schools of Colorado.

This Course was Prepared in 1890 by a Committee of County Superintendents, consisting of J. S. EAGLETON, S. T. HAMILTON and P. H. HAMMOND, appointed by State Superintendent of Public Instruction, FRED DICK,

AND WAS ADOPTED BY

The State Association of County Superintendents,

MAY, 1890.

REVISED IN 1893

By a Committee consisting of S. T. HAMILTON, J. P. JACKSON and E. T. FISHER, appointed by the State Association of County Superintendents.

APPROVED AND PUBLISHED BY

JOHN F. MURRAY,

STATE SUPERINTENDENT OF PUBLIC INSTRUCTION,

1893.

COURSE OF STUDY.

FIRST GRADE—FIRST YEAR.

Text Books—First Reader, several kinds.

Apparatus—Slate, pencil, sponge, rule.

READING.

Teacher should familiarize herself with all methods of teaching reading. Sentence, word, phonic and synthetic methods are commended for study. Use the method or methods with which you are most successful. Do not be a slave to any method. Use two or more first readers and suitable supplementary reading. Associate name words with the objects. Make free use of objects and pictures. Teach groups; using as early as possible such groups as, *a boy, the big rat, the boy and his dog ran*. Pronounce the articles, *a* and *the* in connection with the word that follows and not separately. Use the blackboard and chart freely. Remove embarrassment of young pupils by frequent and familiar conversations. Insist on distinct articulation. Take words from the readers used by the pupils. When the class shall have become familiar with one hundred new words then take the text book. First reader completed. Pupils should be able to read at sight any selections from the first reader before they are promoted to the second reader.

PENMANSHIP.

Rule slate on half of one side. Use long pencils and teach correct methods of holding. Write all words learned. The pupil should be taught to write his name and residence.

SEAT WORK.

Write words in reading lessons. Build words and sentences with letters on small blocks or pieces of paste-board. Put objects into combinations for number-work ; make tables, using proper signs. Make free use of Kindergarten material. The teacher should vary seat work to prevent its becoming tiresome, but should always avoid aimless employment.

SPELLING.

Teach spelling in connection with reading as soon as readers are used. Use both oral and written exercises. Pupils should be taught to spell by sound and to indicate by diacritical marks.

NUMBERS.

Teach all possible combinations and separations of numbers from 1 to 10. The fractions $\frac{1}{2}$, $\frac{1}{3}$ and $\frac{1}{4}$ should be developed. Teach the simple facts in denominate numbers, as foot, yard, pint, quart and gallon. Teach circle, square, triangle and other simple geometrical forms. Teach pupils to make neatly all figures used, and teach words representing numbers. Use in the work such objects as beans, pebbles, buttons and shoe pegs. Have pupils give original problems. Teach the use of signs +, -, \times , \div , =. Counting from 1 to 100. Insist upon written work being neat. Teach such Roman numerals as are found in the reading lessons.

Consult Wentworth's, Baldwin's and Appleton's arithmetics, Ginn's Number lessons and the Grube method.

LANGUAGE.

Lead pupils to talk freely in recitations. Ask questions requiring more than "yes" and "no" for an answer. Read short stories and have the pupils reproduce them orally. Lead pupils to tell what they see on their way to school, or to describe a plaything or pet. Correct all errors of speech whenever made, without embarrassing pupils.

GENERAL LESSONS.

Hygiene—Oral lessons once a week. Talk to the children on everyday matters of health and of the pernicious effects of tobacco and alcohol on the system, giving special attention to cigarettes.

PHYSICAL EXERCISES.

Calisthenic exercises or motion songs should be given at least twice a day.

MUSIC AND DRAWING.

Teachers should give such instructions in these subjects as time and ability will permit.

Sciences—Teachers should give general lessons on plants, animals, minerals and other subjects from elementary sciences. Let these lessons be prepared with care and given with a purpose and in logical order. Teach color and form. Such topics can be used as a basis for language lessons.

SECOND GRADE—SECOND YEAR.

Text Books—Second reader, several kinds.

Apparatus—Slate, pencil, sponge, rule.

READING.

Second Reader—Teach correct pronunciation of all words before attempting to read. Have pupils define words by using them in original sentences. Insist upon distinct articulation and natural expression. Have lessons reproduced both orally and in writing. Be sure that pupils get the thought in reading. Teacher should read to pupils from suitable books. Have pupils commit short selections. Pupils should be able to read at sight any selection in the second reader before they are promoted to the third. Second reader completed. Use more than one reader if possible. Supplementary reading, Seaside and Wayside No. 1, Wood's Natural History Reader No. 1 and Nature Stories for Young Readers.

SEAT WORK.

Make tables in number work. Reproduce reading lessons. Copy words in spelling from the black board. Study of reading lessons. Write original stories.

PENMANSHIP.

Analyze the letters, taking one at a time, following groupings. Call attention to proper forms and point out common errors. Have some write on the board and let the class point out errors in formation, shading, slant and curve. Give a short time each day to theory, but remember that writing depends upon practice mainly. Give constant attention to position; to the manner of holding the pen and to free and easy movements. Before taking

copy books, give about one-half the time of each lesson to practice on paper. Give much attention to forearm and muscular movement. Use pen and ink. Fools-cap or legal-cap paper required in all grades for practice work. Require neat writing in all work of the grade and notice the movement and manner of holding the pen or pencil. Habits formed in other classes are hard to break up in the short time given to the writing class. Aim at legibility, neatness and rapidity.

NUMBERS.

Review first grade work rapidly. Develop numbers from 10 to 30. Continue work in fractions, denominate numbers and simple geometrical forms. Omit the use of objects except in problems. Do mental work as much as possible. Continue work in original problems, but use small numbers. Count by twos and threes to 50, and by fives and tens to 100. Do not allow counting on the fingers. Aim at accuracy and rapidity in adding and subtracting numbers. Give daily drill in such work. Write and read numbers to 1,000. See reference books given in First Grade.

LANGUAGE.

Combine language with other subjects. Insist on pupils speaking in complete statements. Teach use of capitals at the beginning of sentences, in proper names and in the words I and O. Write short letters. Fill elliptical expressions. Read short stories for reproduction work. Write stories from pictures. In preparing oral work for the first three grades of this course, consult such books as Reed's Introductory Language Work, Metcalf & Bright's Language Course, Hyde's Lessons and Powell's Language series.

GENERAL LESSONS.

Hygiene—Once a week. These lessons should be simple and practical. Do not give them at hap-hazard, but as in all oral lessons, prepare them before hand, developing a logical and systematic course. Impress them upon the children in such a way that they will observe and obey the teaching. Care of the teeth, diet, exercise, bathing, ventilation, tobacco, cigarettes and alcohol are the character of topics. Consult Pathfinders and other works on this subject. Use chart. Do not require definitions and technical terms. See instructions given in First Grade.

THIRD GRADE—THIRD YEAR.

Text Books—Third reader, copy book and arithmetic.

READING.

Third Reader—Require the pupils to give the substance of every reading lesson in their own language. Explain meaning of all new words. Supplementary reading, Juvenile history and geography, Seaside and Wayside No. 2, Fabels and Folk Lore and King's Geographical Reader No. 1

PENMANSHIP.

The copy book is introduced in this grade. Continue the work by the aid of principles. Have copies reproduced on the blackboard. Secure good position and accuracy. See Second Grade.

Adams^D

SPELLING.

Increase the work of written spelling. Have all proper names spelled as they occur in the reading lessons. Give spelling of words in classified groups, as the names of different articles used in the schoolroom, the names of common animals, the names of different fruits, etc. Continue the work with diacritical marks.

ARITHMETIC.

Use elementary arithmetic. Numbers from 30 up. Teach combinations, separations and comparisons of fractions. Give drill constantly for rapid work. Give practical examples, such as are met with in business life. Illustrate these with toy money, weights and measures. Make all analyses simple. Count by twos, threes and sixes to 100. Give special attention to learning multiplication tables.

LANGUAGE.

Continue the work from the second grade. Give attention to the use of singular and plural forms in writing. Teach the use of "be" in its different forms, also "have" and the possessive form of the noun. Teach the correct use of words having the same sound but different spelling, as right, write; there, their. Give special attention to the use of capitals in writing, and also to the proper ending of sentences, by teaching different forms of sentences. Have pupils write frequently original sentences of these four forms. Teach use of the comma in a series and in direct address. Teach the use of the period in abbreviations, such as Mr., Dr., Colo., and with initials. Give the use of the comma in contractions, as "I'm" stands for "I am," "don't" for "do not." Teach the use of quotation marks. Give letter writing considerable attention. Teach the proper forms before the pupils write a

letter. Much attention should be given to writing short stories, whether by the aid of pictures or as reproductions. From the first insist on such work being done in the proper form; subject at the top, margin, indentation for paragraph, use of hyphen, when necessary at the end of a line, capitals, terminal marks and pupil's name below.

GEOGRAPHY.

Do not use text books for this year, but geographical readers. Read to pupils from books of travel. Bayard Taylor's *Views Afoot*, *Seven Little Sisters*, King's *Geographical Readers*, Hall's *World Readers* are excellent books for this purpose. Tell them of places you have visited. Teach directions: east, west, north and south. Use these terms in describing position in the school room and on the play ground. Teach the distance of near places and the probable distance of those more remote, using the terms inch, foot, rod, yard and mile. Develop the idea of maps by representing the school room on the black board. Draw map of the school grounds and surrounding country. Develop the idea of hill, mountain, streams of water, etc. A globe should be had if possible. Aim in these lessons to give a clear outline of the image of the earth's surface, continents and oceans.

GENERAL LESSONS.

Continue as indicated in previous course.

FOURTH GRADE—FOURTH YEAR.

Text Books—Third reader, copy book, speller, arithmetics, language and geography.

READING.

Supplement with Hooker's Child Book of Nature No. 1, Seaside and Wayside No. 3, Stories of Our Country or similar books. Teach use of the dictionary and require pupils to use it. Keep up the practice of phonetic spelling and diacritical marks through this and all following grades. Supplementary reading, Our World Reader No. 1.

PENMANSHIP.

Continue as in previous grades.

SPELLING.

Begin with the book and complete about forty pages; use spelling blanks and insist on neat work. Give words from geography and other studies. Use words in sentences to illustrate their meaning.

ARITHMETIC.

Elementary arithmetic completed. Review the fundamental rules. For the first four years in arithmetic, endeavor to secure accuracy and rapidity in addition, subtraction, multiplication and division of numbers rather than analysis and solution of problems. The reasoning faculties develop late.

LANGUAGE.

Begin with the language book. Reproduction of stories and lessons, oral and written. Letter writing. Punctuation marks as used in lessons. Give work in abbreviations and contractions.

GEOGRAPHY.

Finish primary book. Read from books of travel. Use wall maps and globes. In map drawing use free hand method. In this grade do not require minute knowledge of the subject, but require a thorough knowledge of the general and most important subjects. Make free use of modeling board and clay modeling. Give special attention to local geography. Teacher should consult King's Geographical Aids and Parker's How to Teach Geography.

GENERAL LESSONS.

Continue the work of hygiene, physical exercises, music, drawing and sciences as indicated in first grade. Give lessons on topics of the day, morals, manners, government and history. Read selections from good books and endeavor to create a taste for good reading. Call attention to suitable books found in the school library.

FIFTH GRADE—FIFTH YEAR.

Text Books—Fourth reader, copy book, speller, arithmetic, geography, language, hygiene.

READING.

Complete first half of fourth reader. Give attention to articulation, pronunciation, emphasis, inflection and pauses, but make the *thought* in the lesson of the most importance. To enable the pupils to become possessed of the thought, a system of questioning is often necessary. Call for the meaning of all new words, and then have them used in original sentences. Encourage

pupils to look up biographical allusions, and make free use of the dictionary. Historical readers should be used for supplementary reading. Stories of Our Country, Boston Tea Party and Eggleston's First Book in American History are good; also Montgomery's Beginners' American History and Information Reader No. 1.

PENMANSHIP.

See Fourth Grade.

SPELLING.

Continue in the speller to page 80. Pay attention to homonyms.

ARITHMETIC.

Practical arithmetic begun. Pupils should be able to apply practically the knowledge acquired in this grade, hence, give them much supplementary work in business problems, both mental and written. Lead pupils not only to state what they do, but why they do it. The pupil will have had much drill in mechanical operations, and he should now be able to apply principles. Make factoring important, teach greatest common divisor and least common multiple thoroughly. Use short rules for determining when a number is exactly divisible by 2, 3, 4, 5, 6 and 9. See that pupils make a practical use of these rules. Give close attention to analysis. Give frequent drill in the practice of solution of problems by inspection. Construct original problems in G. C. D. and L. C. M.

LANGUAGE.

Continue with the language book. Supplement the book with oral work. Give drill on the proper use of verbs often used incorrectly, such as lie, lay, teach, learn. Continue the work in

letter writing and reproduction stories. Pay strict attention to the use of capital letters and the simple rules of punctuation, sentenceing and paragraphing.

GEOGRAPHY.

Begin with complete book. Make a thorough study of North America, United States and Colorado. Lead the pupil to observe closely as regards relief, life and home. From this, by the inductive process, have him build up the world as the dwelling place of men and the lower animals, productive of various kinds of vegetation and minerals. In studying the human family, animal life and resources, give philosophical reasons for their particular natural location. Omit the thousands of villages and small streams, but place considerable stress on physical features, agricultural products, etc. Study each continent briefly, and include outline maps, showing relief, drainage and relative position. Give elementary instruction in mathematical geography. Study elevation, drainage systems and mineral locations as a basis for the study of climate, productions and industries. Teach topically. Encourage pupils to search out different matters on each topic. Give attention to the spirit of the subject, creating an interest. Do not waste time on unimportant map questions. In map drawing aim at fixing the outlines and general features rather than to produce a work of art.

HYGIENE.

Use Pathfinder No. 2 or some similar book. Study and recite; complete the book. Make use of charts. Make use of experiments when convenient. If preferred, this book may be used in connection with the reader and alternating with it.

GENERAL LESSONS.

Lessons under this head continued as in previous course.

SIXTH GRADE—SIXTH YEAR.

Text Books—Fourth reader, copy book, speller, arithmetic, grammar, geography.

READING.

Complete fourth reader. Supplement with historical and other reading. Continue work indicated in Fifth Grade. Study the authors of selections used, and endeavor to instill a love for good reading.

Supplementary reading, same as Fifth Grade, with the addition of *Grandfather's Chair*, by Hawthorne.

PENMANSHIP.

As in previous grades.

SPELLING.

Continue with the speller, complete about forty pages more. Use dictation exercises. Follow instructions of previous grades.

ARITHMETIC.

Complete decimals and denominate numbers. Give much drill in the use of the decimal point and in writing decimals. Give practical work in bills and accounts. Give practical examples relating to the measurement of plastering, papering, carpeting,

land, bins, boards, walls, cellars, areas and solids of all kinds. Construct and solve original problems, continuing until pupils are familiar with such work. Pay strict attention to mental problems and analysis in denominate numbers.

LANGUAGE.

Complete elementary grammar. Study parts of speech. Analyze sentences. Use some good form of diagramming, but do not depend on diagrams alone; use thorough analysis in connection. Make lessons practical and inductive. Lead pupils to see the benefit of the study. Show with illustrations, for example, that past participle instead of past indicative, is always used after an auxiliary, hence necessity of learning principal parts of irregular verbs. Continue language work by compositions, reproductions and stories, paraphrasing, committing memory gems and punctuating.

GEOGRAPHY.

Complete the book. Use instructions given in previous grades.

GENERAL LESSONS.

The same as in previous grades.

SEVENTH GRADE—SEVENTH YEAR.

Text Books—Selections for reading, copy-book, speller, arithmetic, grammar, geography, United States history.

READING.

Reading from Sketch Book, Snow Bound, Evangeline and such other masterpieces of literature as there may be time for.

Use selections from fifth reader if other books cannot be secured. These books are to be used primarily for reading, but incidently, they should be made a study in literature. Study authors, point out the beauties of style and figures in speech. Inculcate a love for good literature. Pupils should be lead to appreciate the beautiful passages of these selections. Most reading is silent and mental. Pupils should be trained to think while reading, to recognize the thought while recognizing and calling words. Make thought govern expression. "A mistake in emphasis is the mind's mistake."

PENMANSHIP.

Continue as in previous grades.

ARITHMETIC.

Before beginning percentage give review lessons in decimal and common fractions. Solution of problems in percentage should be based upon analyses familiar to the pupils, in operations in common and decimal fractions. Give special attention to the "hundred per cent. method." Insist on the work being accurately and neatly arranged, each step being indicated. Apply the principles of percentage to profit and loss, commission, taxes, stocks, insurance, interest and discount. Make the writing of business forms prominent. Drill pupils on the different forms of notes, receipts, bank drafts and checks. Have many practical problems bearing directly upon these subjects.

GRAMMAR.

Complete one-half of the book. Develop originality of thought. Accept only good letter writing and good composition work.

GEOGRAPHY.

Make a complete general review of geography by topics during the first four months of this year. Associate geography and history.

HISTORY.

Begin the history of the United States as soon as geography is completed. Associate history and geography. Use many books for reference, and endeavor to have pupils investigate subjects and get information from other sources than the text books. Recite mostly by topics. Constant reviewing is necessary to fix these facts firmly in the memory. Make topical outlines to be put on the board by the class. Select a few dates. These should be the most important, and focal dates upon which other events may be grouped. These dates and the events which they mark should be fixed in the mind by repetition until they will cling through a lifetime. Do not waste much time on unimportant battles. Study causes and results. Better get the chief things well, than to undertake much and have nothing retained. Review by subjects, such as the slavery question, acquisition of territory, exploration of the Spanish, etc. Study the origin and views of the different political parties. Teach constitution and government incidentally. Endeavor to create an interest and get pupils to consult other authors and read biography. Occasionally have compositions on historical subjects. Explain allusions to the contemporaneous history of the particular period under consideration.

GENERAL LESSONS.

Rhetoricals—Each pupil should recite a good selection at least once a month, and oftener if the teacher so desires. Require the selection to be committed one or more weeks before it is given. Essays or compositions may occasionally be read instead.

If the teacher desires, the time from last recess of each Friday, or alternate Friday afternoons may be devoted to general rhetorical exercises, consisting of songs, readings, recitations, compositions, debates, and an occasional dialogue, if simple and it does not require a great deal of time and attention to prepare it. If preferred, the pupils may form literary societies and conduct these exercises under supervision of the teacher. Instead of taking this special time, the rhetorical may be made a part of the morning exercises, having two or more give exercises each day in turn as their names come on the roll. This method is thought better for the higher grades at least. Quotations should be taught in connection with rhetorical exercises. This applies to all grades prepared to do the work.

EIGHTH GRADE—EIGHTH YEAR.

Text Books—Selections from literature, copy-book, speller, arithmetic, grammar, history, civil government and physiology.

READING.

Read selections from English literature, *Lady of the Lake*, *Miles Standish*, Hawthorne's *Wonder Book* and *Lamb's Tales* from Shakespeare are recommended. "Master Pieces of American Literature," which includes selections from a dozen of the best American prose and poetic writers is an excellent book to use in this grade. Continue the subject of authors and literature as indicated in the Seventh Grade.

PENMANSHIP.

Continue as before, also use business forms.

SPELLING.

Complete the subject. Teach primitive, derivative and compound words. Give special attention to the analysis of words; first having taught the meaning of most common prefixes and suffixes. Every teacher should have some good work on word analysis. References—Kennedy's *What Words Say* and Swinton's *Word Analysis*.

ARITHMETIC.

Complete the subject. Omit alligation, progressions and equation of payments. Give special drill in practical problems to supplement the book. Review the entire course.

GRAMMAR.

Complete the course and review the book. Require close analysis both oral and written, and by means of diagrams. Pupils should be able to recognize and explain simple figures of speech. Selections from literature may be used for additional study in grammar.

HISTORY.

Continue work as outlined in Seventh Grade. Complete and review the book.

CIVIL GOVERNMENT.

Use elementary text book. Take sufficient time to ground the pupils thoroughly in the elements of the subject. Let the subject follow history or physiology, depending upon which may be completed first. If preferred, the teacher may alternate civil

government with history. Supplement with much work on local government. Study the school districts, city, county and state governments. Develop patriotism.

PHYSIOLOGY.

Complete the subject. Give special attention to that particular part of physiology, including hygiene.

SUPERINTENDENT OF PUBLIC INSTRUCTION.

RULES AND REGULATIONS.

First—Each teacher will be required to have a copy of the course of study, at all times, in the school room.

Second—Teachers are expected to conform to the rules and regulations, and the plan of this course of study, and to see that the provisions therein set forth are properly carried out.

Third—Examinations. At the close of each month of the school term, or at convenient times during the month, teachers shall require the pupils of the fourth and following grades, to take written examinations or reviews, in which they shall be graded on a scale of 100 per cent. The monthly report cards, showing standing of pupils, shall be sent to the parents for their examination and signature, and returned to the teacher. The teacher shall be required to forward monthly statements of enrollment, average daily attendance, and such other information as may be required, to the County Superintendent and Secretary of the District, upon blanks furnished by the County Superintendent.

Fourth—At the close of the school term, or year, the record in each branch studied, the number of days present, as shown by the daily register and by report cards, shall be recorded in the annual register by the teacher and filed with the Secretary of the District.

Fifth—Examinations for promotion. The County Superintendent of each county will prepare a uniform list of questions for the fifth, sixth and seventh grades. No pupil should be promoted to a higher grade unless he make an average of seventy-five, nothing below sixty; *Provided*, That a teacher may promote a pupil with his class after passing a part of the examination, on condition that he make up the studies he failed in and pass an examination at some future time. The Superintendent will provide certificates of promotion to be given by the teacher to all who have completed the work of the grade.

Sixth—Final examinations. The County Superintendent of each county shall prepare a uniform list of questions for pupils preparing to complete the course. These examinations shall be conducted by the teacher and the papers forwarded to the County Superintendent. Pupils completing the course are required to make an average of eighty, no branch below seventy. Those who pass will receive a certificate that they have completed the course, signed by the County Superintendent, teacher and president of the board. No pupil shall receive a certificate who has not finished the complete course.

Seventh—Arrangements will be made whereby pupils who have completed the course of study may be admitted to the high schools of their counties without examination.

SUGGESTIONS TO TEACHERS.

I. In this revision you will notice that the number of grades is raised from *five* to *eight* to correspond to the "eight years" work in the original course. The course now harmonizes with the eight grades in the city schools. The arrangement of classes

will depend upon the conditions in your school. Combine grades wherever possible so as to *reduce the number of recitations to the minimum.*

2. It is expected that all work outlined in the course of study will be done as outlined, but teachers are expected to leave *their mark* in the result. Teachers are not expected to surrender their individuality. The course of study is simply intended to help—to guide—and your success will, as heretofore, depend upon the ingenuity and energy that you display.

3. Read the course of study with particular reference to what is required of each grade, and with reference to the amount of *thought* and *activity* on your part that is necessary to complete the work required. There is no "royal road" to learning. Teach by example that "work wins."

4. If any of the work outlined in the course of study is not thoroughly understood by you, do not hesitate to ask for information. The County Superintendent will gladly write to you or visit your school, if necessary, in order to render you assistance. "How to Organize and Classify a Country School," by W. M. Welch, should be consulted.

5. Ascertain in which grade of the course each pupil has *most* of his work and classify him in that grade. If he has not all his studies in this grade, mark the number of the grade in which such other studies are found under the headings for these respective studies. For example, if a pupil is classified in the fourth grade, but has arithmetic in the fifth grade, mark 5 above the figures indicating the pupil's standing, and in ink of a different color, in arithmetic column opposite his name in the register.

6. The *first* classification of any school is most difficult, and should be made with much care. Succeeding teachers will not change the classification left by their predecessors without good reasons.

7. The classification as left by each teacher, in the register, should show the *status* of each pupil at the *close* of the term, each being classified in the grade which he has just finished.

8. A pupil changing from one school to another in this state should receive from his teacher a certificate of his standing, which will enable the teacher whose school he enters, to classify him without examination.

9. In case a pupil wishes to be excused from the performance of the work outlined in the course of study, talk the matter over with the parents, and, if possible, convince them of their mistake in permitting the child to omit any portion of the work. If the parent presents a reason which seems to you valid, refer him to the School Board, as they alone have power to excuse. The work in physiology with special reference to the effects of narcotics and stimulants on the human system cannot be omitted, even by the School Board.

10. Parents should visit the schools, but if they do not, their negligence *in no manner excuses teachers from visiting parents*. Prove to them that you are really interested in the progress of their children and you will have their sympathy and support. Many misunderstandings may be avoided by visits to parents.

11. In all your labors with pupils and parent, be kind, courteous and just. "System, self-possession, energy and kindness on the part of the teacher are the best disciplinary agents."

12. It is a teacher's duty to care for the property, apparatus and supplies of the school. The fences and outbuildings should bear no marks that children should not see. Shield the innocent and virtuous from the vicious as far as possible. Do not fail to give due attention to character building, the primary object of

education. Cultivate a love for home and country. Teach respect for the flag. Teach its history and have it floating from the school house whenever possible.

Aim at thoroughness, it is easier to promote a pupil than it is to put him back. A serious criticism on many of our schools is that children are in classes too high for them. This is a serious detriment to the children.

13. Discourage high school studies unless the pupil is well grounded in the lower studies and has passed the common school examination given by the county superintendent. It is unfair to the primary pupils to spend a large part of your time with one or two advanced pupils, even if you do like to teach the higher classes.

14. Be accurate and critical. Mistakes made in pronunciation and the use of language will be followed by pupils. It takes much more time to correct these errors afterward than to teach correctly at first. If you do not know a thing, say so frankly, and then take pains to find out. Refer pupils to the dictionary and consult it often yourself. Do not allow pupils to "guess." Good results are not obtained by urging pupils to tell what they are positive they do not know.

15. At all times furnish plenty of *work* for your pupils. Do not mistake innocent amusement for work. Profitable and constant occupation is the true preventive of disorderly conduct.

16. Ornament your school-room with pictures and flowers and make it as attractive to pupils as possible.

17. Every teacher should own and *read* two or more good works on teaching. No teacher has any right to learn methods at the expense of the pupil.

18. In dismissing your school or in calling classes, use a signal and thus avoid confusion and save time.

19. Never allow your pupils to use forms for work that you would not use yourself. Your ideas of how work should be done are shown to parents and to others by your pupil's work.

20. Do not teach a single branch at a time, but teach all the branches at all times, *i. e.*, never lose sight of language, history, orthography, etc., in any recitation.

21. Ask your questions in such a way that the pupil *cannot* mistake your meaning, and require a complete statement for an answer.

22. Tell *little* and develop *much*. Teach your pupils to *think*. It is what a pupil *does for himself* that benefits him.

23. Too much attention cannot be paid to articulation; a word mispronounced is almost certain to be misspelled.

24. If any grade has not completed the work for the year, state in your "remarks" how much has been completed. By making a record of the standing of the different grades, succeeding teachers can, by examining the daily register, go to work without the usual review or examination consequent upon a change of teachers.

25. In order that the record, as shown by the register, may have any value, we insist that all work passed over be done thoroughly. No *true* teacher will try to mislead parents, or her successor, by hastening over the work. It is hoped that this course of study and record of the standing of pupils will do away with this constant beginning at the "first of the book" at the beginning of each term, thereby discouraging both pupils and parents. If the subjects are properly presented, and the pupils

are given sufficient time on each subject, there will be no necessity for this annual experiment. Do not be in a hurry in the beginning. Lead the pupil to know *when* he knows a subject and when he *does not know it*.

S. T. HAMILTON,
J. P. JACKSON,
E. T. FISHER,
Committee on Revision.

SCHOOL LIBRARIES.

Every school should have a library, if but a small one. It aids the regular school work and develops a love for reading good books of much value to boys and girls in after life.

Below is given a list of books suitable for school libraries. To aid in selecting books adapted to age and ability of pupils, this list is classified. Those marked "c" are easiest and can be read by pupils in third and fourth grades; those marked "b" are for fifth and sixth grades and those marked "a" are for seventh and eighth grades.

The first fifty books on the list make an excellent collection for a library of that size. The first ten or first twenty-five are recommended for beginnings of small libraries. It will be noticed that the list is especially rich in easy and interesting books for young pupils and in books valuable as aids in history and geography. A mistake is often made in selecting books, faultless in a literary sense, but difficult and unattractive to young readers.

- 1 *b* Uncle Tom's Cabin, Harriet B. Stowe.
- 2 *b* Little Women, Louisa M. Alcott.
- 3 *c* Little Lord Fauntleroy, Mrs. F. H. Burnett.
- 4 *c* Silver Skates, or Hans Brinker, Mary Mapes Dodge.
- 5 *c* Nellie's Silver Mine, H. H. Jackson.
- 6 *b* Whittier's Poems.
- 7 *c* King of the Golden River, John Ruskin.

- 8 *a* Ben Hur, Lew Wallace.
- 9 *a* Young Nimrods, vol 1, Thomas W. Knox.
- 10 *c* Fairy Tales, Hans Andersen.
- 11 *a* Longfellow's Poems.
- 12 *a* Ivanhoe, Walter Scott.
- 13 *a* Tale of Two Cities, Charles Dickens.
- 14 *a* Ramona, Helen Hunt Jackson.
- 15 *b* Selections from Sketch Book, Washington Irving
- 16 *b* Wonder Book, Nathaniel Hawthorne.
- 17 *c* U. S. History in One Syllable, Pierson.
- 18 *c* Young Folk's Robinson Crusoe, Mrs. Eliza Farrar
- 19 *c* Stories of American History.
- 20 *b* Little Men, Louisa M. Alcott.
- 21 *c* Story of a Bad Boy, T. B. Aldrich.
- 22 *c* Seven Little Sisters, Jane Andrews.
- 23 *c* Black Beauty, A. Sewall.
- 24 *c* Cat Stories, H. H. Jackson.
- 25 *a* Arthur Bonnicastle, Dr. J. G. Holland.
- 26 *b* Zig-Zag Journeys in India, Butterworth.
- 27 *b* Old Times in the Colonies, C. C. Coffin.
- 28 *a* Alexander the Great, Abbott.
- 29 *a* Cudjo's Cave, Trowbridge.
- 30 *b* Life of Washington, Wm. M. Thayer.
- 31 *b* Life of Lincoln, Wm. M. Thayer.
- 32 *b* Tom Brown at Rugby, Thomas Hughes.
- 33 *c* Twelve Fairy Tales, Henry C. Lodge.
- 34 *a* Rasselas, Samuel Johnson.
- 35 *b* Rose in Bloom, Alcott.
- 36 *c* Queer Little People, H. B. Stowe.
- 37 *c* Swiss Family Robinson, De Montolieu.
- 38 *c* Stories Mother Nature Told Her Children, Jane Andrews.
- 39 *b* Fairy Tales, Grimm.
- 40 *c* Little Folks in Feathers and Fur, Jas. Johonnot.

- 41 *b* Stories Told at Twilight, Moulton.
 42 *c* Aunt Martha's Corner Cupboard, Miss Kirby.
 43 *b* Prince and Pauper, Mark Twain.
 44 *b* Lion of the North, Henty.
 45 *b* Madam How and Lady Why, Chas. Kingsley.
 46 *a* Talisman, Walter Scott.
 47 *b* Tales from Shakespeare, Charles and Mary Lamb.
 48 *b* Being a Boy, Charles Dudley Warner.
 49 *c* Pictures and Stories of Quadrupeds, Mrs. Tenney.
 50 *c* Neighbors with Wings and Fins, Johonnot.

-
- 51 *c* Noble Deeds of Our Fathers.
 52 *a* Queen Victoria, Grace Greenwood.
 53 *b* Donald and Dorothea, Mary M. Dodge.
 54 *c* Those Dreadful Mouse Boys.
 55 *b* Ethics for Young People, Stowe.
 56 *b* Boys' Heroes, Edward Everett Hale.
 57 *b* Tales of a Grandfather, Walter Scott.
 58 *a* Pilgrim's Progress, John Bunyan.
 59 *a* Child's History of England, Chas. Dickens.
 60 *a* Ten Times One is Ten, E. E. Hale.
 61 *a* Peter the Great, Jacob Abbott.
 62 *a* Last Days of Pompeii, Bulwer-Lytton.
 63 *b* Building a Nation, Coffin.
 64 *b* Boys of '61, Coffin.
 65 *b* Æsop's Fables.
 66 *a* Peasant and Prince.
 67 *b* Autobiography of Benjamin Franklin.
 68 *a* Lady of the Lake, Walter Scott.
 69 *a* Hoosier School Master, Eggleston.
 70 *b* Hoosier School Boy, Eggleston.
 71 *a* Tom Brown at Oxford, Hughes.
 72 *b* Eight Cousins, Alcott.

- 73 *b* Under the Lilacs, Alcott.
74 *c* Juan Juanita, Baylor.
75 *b* Greek Heroes, Kingsley.
76 *b* Tanglewood Tales, Hawthorne.
77 *c* Sara Crewe, Burnett.
78 *a* Scottish Chiefs, Jane Eyre.
79 *a* With Wolfe in Canada, Henty.
80 *b* Views Afoot, Bayard Taylor.
81 *a* Romola, George Elliot.
82 *a* John Halifax Gentleman, Miss Mulock.
83 *a* Alice and Phoebe Carey's Poems.
84 *a* We Girls, Mrs. Whitney.
85 *a* The End of the World, Eggleston.
86 *a* Last of the Mohicans, Cooper.
87 *b* Boy Travelers in China and Japan, Knox.
88 *b* Boy Travelers in South America, Knox.
89 *b* Vassar Girls in England.
90 *a* David Copperfield, Dickens.
91 *a* Nicholas Nickleby, Dickens.
92 *b* Lessons on Manners, Wiggins.
93 *a* Conquest of Mexico, Prescott.
94 *a* First Steps in Scientific Knowledge, Bert.
95 *b* Adventures of Ulysses, Lamb.
96 *b* Stories of the Old World, Church.
97 *a* Seven Oaks, Holland.
98 *a* Kathrina, Holland.
99 *a* Lucile, Owen Meredith.
100 *c* My Pets, Grace Greenwood.
101 *b* Our Boys in China, H. W. French.
102 *b* Knockabout Club in the Antilles, Ober.
103 *b* A Family Flight Through Mexico, Hale.
104 *b* Forest Glen, Elijah Kellogg.
105 *b* Wolf Run, Elijah Kellogg.

- 105½*a* Henry Clay, Statesmen Series.
106 *b* Camping Out Series, 6 vols., Stevens.
107 *c* Dottie Dimple Series, 6 vols., Sophia May.
108 *b* Story of a Short Life, Mrs. Ewing.
109 *b* Ten Boys, Jane Andrews.
110 *b* Each and All, Jane Andrews.
111 *b* Boys of Other Countries, Bayard Taylor.
112 *a* Leonard and Gertrude, Pestalozzi.
113 *a* Dred, Harriet B. Stowe.
114 *b* Four Girls at Chautauqua, Pansy.
115 *c* Pictures and Stories of Animals, 6 vols., Mrs. Tenney.
116 *c* Stories of Mother Nature.
117 *b* Pilgrims and Puritans, Moore.
118 *a* Ten Nights in a Bar-Room, T. S. Arthur.
119 *a* Poor Boys Who Became Famous, Sarah Bolton.
120 *b* Boy Travelers in Great Britain, Knox.
121 *b* Birds Through an Opera-Glass, Merriam.
122 *b* Lessons in Right Doing, Ballou.
123 *b* Up and Down the Brooks, Mary Bamford.
124 *a* The Throne of David, Ingram.
125 *b* Zig-Zag Journeys in the South, Butterworth.
126 *b* New Bed-Time Stories, Moulton.
127 *a* Girls' Book of Famous Queens.
128 *b* Jam of the Windmill, Mrs. Ewing.
129 *a* Kit Carson, Abbott.
130 *b* Little Biographies, Amanda Harris.
131 *c* Little Miss Weezy, Penn Shirley.
132 *c* Sea Shore Chats, Fannie A Dean.
133 *c* Little Tales About Plants, Fannie A. Dean.
134 *a* Education, Spencer.
135 *a* Life of Columbus, Irving.
136 *b* Ziz-Zag Journey in the Occident, Butterworth.
137 *c* Seaside and Wayside Series, Wright.

- 138 *a* Geological Excursions, Winchell.
139 *b* Grandfather's Chair, Hawthorne.
140 *1 and 2 grades.* Nature Stories for Young Readers, M.
Florence Bass.
141 *c* Leaves and Flowers, Mary A. Spear.
142 *c* My Saturday Bird Class, Margaret Miller.
143 *a* Old South Leaflets, D. C. Heath & Co.
144 *a* Dole's The American Citizen, Chas. F. Dole.
145 *c* The Child's Book of Stops, Leinstein.
146 *a* Fifteen Decisive Battles, Creasy.
147 *b* Literature for Beginners, Swineford.
148 *a* Andrews' Manual of the Constitution.
149 *a* Farm and Workshop (mathematics), Hall.
150 *a* Initiative and Referendum, J. W. Sullivan.

S. T. HAMILTON,

J. P. JACKSON,

E. T. FISHER,

Committee.

[Adopted by the Colorado State Teachers' Association, Dec. 30, 1891.
For further particulars address,

P. W. SEARCH, Secretary, Pueblo, Colo.]

REPORT OF COMMITTEE ON COLLEGE PREPARATORY COURSES OF STUDY.

Presented to State Teachers' Association, Dec. 30, 1891.

In December, 1889, the College and High School Section of the Colorado State Teachers' Association appointed a committee to prepare courses of study that, in essentials, would make uniform the high school courses of the state and recognize the same as adequate preparation for admission to Colorado colleges. Report of progress was made at the meeting one year ago, the work approved, and the committee enlarged and continued for further consideration.

A careful investigation of the educational opinion of the country reveals the following principles recognized as essentially determinative in the formation of the courses of study :

1. The course of study that best prepares for higher education should also be, in the essentials, the best preparation for intelligent citizenship and the active duties of life.

2. There should be no point in the primary or secondary courses of study where the student may not go on to higher education; *i. e.*, the primary school, the grammar school, the high school, the college and the university should all be in line, as integral parts of one common system; so that the student desiring to advance may do so, with economy of work and time, whenever opportunity presents itself.

3. As regards secondary education, the high school represents a distinctive idea. Work that belongs essentially to the grammar grades should not be carried into the high school, excepting as applied study.

4. The university and college courses of study should be adapted so as to continue, without interruption, the work of the approved high schools.

Recognizing the determining value of the preceding principles, the Committee is unanimous in recommending the adoption of the following courses of study :

CLASSICAL COURSE.

Mathematics—Algebra, through Quadratics; Plane Geometry.

Latin—Latin Lessons with Grammar; Cæsar's Commentaries, 4 books; Virgil's Æneid, 6 books; Cicero, 7 orations; Prose Composition.

Greek—Greek Lessons with Grammar; Xenophon's Anabasis, 4 books; Homer's Iliad, 3 books; Prose Composition.

Modern Languages—German or French, one year.

Science—Physics, one year.

History—Ancient History.

English—Equivalent of the requirements of the New England Association of Colleges.

LATIN SCIENTIFIC COURSE.

Mathematics—Algebra, through Quadratics; Plane Geometry.

Latin—Latin Lessons with Grammar; Cæsar's Commentaries, 4 books; Virgil's Æneid, 6 books; Cicero, 7 orations; Prose Composition.

Modern Languages—German or French, one year.

Science—Physics, one year; Chemistry, one year; Biology, Botany and Geology, alternative with Astronomy.

History—General History.

English—Equivalent of the requirements recommended by the New England Association of Colleges.

Drawing—Free Hand Mechanical.

SCIENTIFIC COURSE.

Mathematics—Algebra, through Quadratics; Plane Geometry; Plane Trigonometry or Solid Geometry.

Foreign Languages—Three years of either Latin or German or division of the three years between the two languages, as schools may prefer.

Science—Physics, one year; Chemistry, one year; Biology, one year; (or Biology, one-half year, and Botany, one-half year; or Physiography, one-half year, and Geology, one-half year, alternative with one full year of Biology).

History—General History.

English—Rhetoric; and also the equivalent of the requirements of the New England Association of Colleges.

Drawing—Free Hand and Mechanical.

Science work, as recommended in these courses of study, needs definition. Mere knowledge of scientific facts is not the desired end, and will not answer the requirements of scientific study. The pupil should be led to investigate and thus arrive at conclusions as a result of his own, but properly guided, efforts. For that purpose he should be given opportunity for laboratory practice, not necessarily involving expensive equipment. The work in each of the sciences, physics, chemistry and biology should cover one year, by daily lessons, for such study and investigation; and in the alternative studies, biology, physiography, botany and geology, half of one year.

The following text books, implying a thorough experimental course, will illustrate the plan of work recommended :

Physics—Worthington's Physical Laboratory Practice ; or the Harvard Course of Preparatory Experiments ; or Chute's Physics. Reference books : Deschanel, Ganot, or Stewart and Gee.

Chemistry—Smith & Keller's Experiments ; or Shepard's Chemistry ; or Reynold's Experimental Chemistry. References : Richter's Inorganic Chemistry ; Barker's Chemistry ; Mixter's Chemistry ; Remsen's Advanced Chemistry.

Biology—Huxley and Martin, for full year's course ; or, for half year, Sedgwick & Wilson, or MacGinley.

Physiography—Thornton's Physiography, or Guyot's Physical Geography, or Young's Elements of Astronomy, or the equivalent of any of these.

Botany—Gray or Campbell, with analysis of fifty specimens.

Geology—Shaler's First Book, or LeConte's, with actual field work.

It should be distinctly borne in mind that the science work as outlined is not required in detail. The remarks on methods and text books are intended as suggestive merely, in order that the various schools may understand the character of work that will be the more acceptable to the higher institutions. That which is asked is high standard of work, in which equivalents as to details will be equitably considered.

Equally important, but perhaps better understood, is the character of the preparation required in Greek, Latin, Mathematics, and the other specified studies. Quantity of work, without attendant high quality, cannot constitute adequate preparation.

The committee recommend the adoption of one, at least, and all, if possible, of these courses of study by the individual high schools of the state, and the addition of such teaching force and

equipment as will enable all communities to have the advantage of superior recognition; and, also, the adoption of some plan, similar, perhaps, to that used by the University of Michigan, whereby graduates of approved high schools may be admitted to the higher institutions on diploma, without examination.

It is also suggested that a standing committee be appointed to continue the work of the present committee as far as may be hereafter needed; provided, no change in requirements adopted shall be made without a year's notice, in advance, to the high schools and colleges of the state.

Signed for, and with the unanimous endorsement of, the committee by

P. W. SEARCH,
Secretary.

COMMITTEE :

JAS. H. BAKER, Denver High School,

President-elect of University of Colorado.

ISAAC C. DENNETT, University of Colorado.

H. A. HOWE, University of Denver.

CHAS. S. PALMER, University of Colorado.

WILLIAM F. SLOCUM, JR., Colorado College.

P. W. SEARCH, Public Schools of Pueblo.

RESOLUTIONS.

Passed by the Faculty, University of Colorado, December 17, 1891:

Resolved, That the President and Faculty of the University of Colorado, subject to the endorsement of the Board of Regents, pledge themselves to adopt these courses of study for the Preparatory School, if they are adopted by the College and High School Section of the State Teachers' Association.

Resolved, further, That the University will give one year's notice to the High Schools of the State, before making any material change in the requirements for entrance to college.

The Board of Trustees and Faculty of Colorado College have voted to adopt, for Cutler Academy, the courses of study recommended by the Committee on "College Preparatory Courses of Study," if they are accepted at the next meeting of the State Teachers' Association.

WILLIAM F. SLOCUM, JR.,
President of Colorado College.
AUGUSTUS T. MURRAY,
Principal of Cutler Academy.

COLORADO COLLEGE, December 23, 1891.

The faculty of the University of Denver will accept these courses of study as a preparation for College, if they are adopted by the State Teachers' Association.

WM. F. MCDOWELL,
Chancellor.

December 29.

SUGGESTIVE SYLLABUS OF WORK FOR THE STATE NORMAL INSTITUTES.

This suggestive syllabus of work for State Normal Institutes is not sent out to supplant any work that has been prepared by the different executive committees or conductors, but to supplement and re-enforce it, and to be used in the absence of a better one.

Select only such work as the teachers can do and do well. Many conductors allow teachers to attempt more work than can be done in a creditable manner.

If the institute is large and there are many teachers representing different grades of work, it would be well to divide the institute into two classes, one in which the academic work should receive special attention, and the other the professional work.

The work of the reading circle should be explained, and the teachers urged to pursue the full course the coming year. It would be well to devote some time to the new "State Course of Study for the Public Schools of Colorado."

Many teachers attend the institute as a matter of duty, desiring to set the proper example before the younger teachers. But all should attend, because they will be very much benefitted. This is the first step towards professionalizing our work.

Instructors, as well as teachers, should make special preparation for the work of each day.

The instructor should have his work well outlined. "He should be able to see the end from the beginning." He cannot carry out any systematic course of instruction if his program is made out only from day to day.

Let no institute become a course preparatory for examinations.

Not so much time should be given to subject matter, only a sufficient amount to fully illustrate the latest and best natural methods.

We should have more knowledge of the principles of teaching, more skill in class work, more tact in school management, more liberal views of education, more knowledge of how to organize and conduct a school.

The interest manifested by the county superintendents is a true index to the interest of the teachers in the institute work.

Hoping this brief syllabus will aid you in your efforts for a high standard of education, I am

Very truly yours,

J. F. MURRAY,
State Superintendent.

GRAMMAR.

I. Scheme for sentence.

1. Elements.

1. Subject, (noun or its equivalent).

1. Modifier.

1. Adjective.

1. Form—Word, phrase, clause.

2. Predicate, (a verb or its equivalent.)

1. Modifier.

1. Form—Word, phrase, clause.

2. Object.

I. Form--Word, phrase, clause.

Any parsing or analysis that is done mechanically or from memorized lists does violence to the reason and defeats the most important object of the study.

II. With the study of technical grammar should be connected regular, systematic practice in composition. Illustrate fully.

III. Definitions, how and when to teach them; are verbatim definitions advisable? Does learner use his own definitions or those of the book?

IV. Diagrams: Their *proper* use; how to teach children to diagram; lesson material.

V. The text: Why it was written; uses to be made of it.

VI. The verb.

1. Classes with respect to form.
2. Classes with respect to use.
3. Voice; its use.
4. Mode; methods of distinguishing.
5. Tense; the division of time.
6. Person and number; why applied to verbs.
7. Conjugation of irregular verbs.

VII. Careful study of infinitives and participles.

VIII. Course of study in language lessons.

ORTHOGRAPHY AND READING.

I. The organs of speech.

1. Names, location and use of each.

- II. Divide the letters into vowels and consonants.
Give the sounds and diacritical markings of *a*; of *e*.
- III. Drill on *i*, *o*, *u*, giving sounds and diacritical markings.
- IV. First steps in reading should be by means of interesting conversations about objects and pictures. Make free use of blackboard.
- V. Full discussion of the different methods of teaching beginners to read, viz: the *word* method, the *phonic* method, the *sentence* method, the *a b c* method, the *synthetic* method, the *object* method, the *picture* method and the *eclectic* method. A modification of the *word* method is used with excellent results. The child learns the word as a whole by sound, and it seems reasonable that the written word should be learned in the same way.
- VI. Teach one word well before taking another new word.
- VII. Do not make a fad of "so-called elocution." The test of oral reading should be: Does he read as he speaks.
- VIII. The primary object in reading should be to acquire thought. The *understanding* of the paragraph is the basis for the *expression* of it.
- IX. The word is the basis of our language and the unit of the sentence. The sentence is the unit of discourse.
- X. The psychology of reading.
- XI. Teach reading from the literary standpoint. Pupils should be led to appreciate the beauties of good literature and to acquire a taste for good reading.

- XII. Each teacher should prepare and discuss a list of good books suitable for supplementary reading.
- XIII. The dictionary, and how to use it.

ARITHMETIC.

- I. Addition and subtraction.
1. Careful attention to form and grouping.
- II. Multiplication and division.
1. Show relation to addition and subtraction.
 2. Associate multiplication and division.
- III. Factoring.
1. Principles of numbers.
 2. Prime—odd.
 3. Composite—even.
 4. Methods—
 1. By inspection.
 2. Drill with small numbers.
 3. Divide into largest factors first.
 4. First steps in involution should be developed here in in a primary way.
- IV. Greatest common divisor and least common multiple.
1. Give thorough drill, making application of the principles developed in the first steps of factoring.
- V. Common fractions.
1. Terms.
 2. Value of.
 3. Classes as to.

1. Kinds.
2. Value.
3. Form.
4. Reduction.

1. Lowest terms.

1. Apply factoring.

$$\frac{75}{120} = \frac{5 \times 5 \times 3}{5 \times 3 \times 8} = \frac{5}{8}$$

Always employ cancellation.

2. Mixed numbers to improper fractions.

1. $3\frac{1}{2} = ?$

$$1 = 3 - 3.$$

$$3 = 9 - 3.$$

$$9 - 3 + 2 - 3 = 11 - 3.$$

3. Common denominator.

1. Reduce to least common denominator.

$$\frac{1}{2}, \frac{1}{3}, 5-6, 7-12.$$

$$L. C. M. \text{ of } 2, 3, 6, 12 = 12.$$

$$1 = 12 - 12.$$

$$\frac{1}{2} = 6 - 12.$$

$$\frac{1}{3} = 4 - 12.$$

$$5 - 6 = 10 - 12.$$

$$7 - 12 = 7 - 12.$$

4. Applications.

1. Addition and subtraction.

1. Close attention to the form of the work.

2. Multiplication.

$$2-5 \times \frac{3}{4} = 6-20 = 3-10.$$

$$1-1 \times \frac{1}{4} = \frac{1}{4}.$$

$$1 \times 2$$

$$\frac{\quad}{1} \times \frac{1}{4} = 2-4.$$

$$1 \times 2 \quad 1 \quad 2$$

$$\frac{\quad}{1 \times 5} \times \frac{\quad}{4 \quad 20}$$

$$\frac{1 \times 2}{1 \times 5} \times \frac{1 \times 3}{4} = \frac{6}{20} = \frac{3}{10}$$

$$\frac{3}{8} \text{ of } 40 = 15.$$

$\frac{3}{8}$ of a number equals three times one-eighth of the number, or one-eighth of three times the number.

Give many problems involving cancellation.

3. Division.

1. Common denominator.

$$7-9 \div \frac{3}{8} = ?$$

$$\text{L. C. M. of } 9, 8 = 72.$$

$$1 = 72 \cdot 72.$$

$$\frac{3}{8} = 27 \cdot 72.$$

$$7-9 = 56 \cdot 72. \quad 56 \cdot 72 \div 27 \cdot 72 = 2 \cdot 2 \cdot 27.$$

2. By inversion.

$$7-9 \div \frac{3}{8} = ?$$

$$7-9 \times 8 \cdot 3 = 56 \cdot 27 = 2 \cdot 2 \cdot 27.$$

$$1 \div 1 = 1.$$

$$1 \div \frac{1}{8} = 8.$$

$$1-9 \div \frac{1}{8} = 8 \cdot 9.$$

$$7-9 \div \frac{1}{8} = \frac{7 \times 8}{9}$$

$$7-9 \div \frac{3}{8} = \frac{7 \times 8}{9} \div \frac{3}{9 \times 3} = \frac{7 \times 8}{9 \times 3} = \frac{56}{27} = 2 \cdot 2 \cdot 27.$$

Do not lose sight of the analysis.

In division of fractions, the divisor is inverted to determine how many times it is contained in one.

This work in common fractions should all be developed by means of objects.

VI. Denominate numbers.

1. By use of objects.
2. Discourage mechanical work.
3. Have a reason for all work.
4. Do not commit tables—develop them.

VII. Percentage.

1. Terms.

1. Percentage.
2. Sign of per cent.
3. Base.
4. Rate.
5. Amount or difference.

2. Ignore the formulas.

3. Cases.

1. Find 2% of 45.

$$100\% = 45.$$

$$1\% = .45.$$

$$2\% = .9.$$

2. 9 is what per cent of 45?

$$45 = 100\%.$$

$$1 = 100 - 45\%.$$

$$9 = 900 - 45 = 20\%.$$

3. 15 is 5 per cent of what number?

$$100\% = \text{base.}$$

$$5\% = 15.$$

$$1\% = 3.$$

$$100\% = 300.$$

4. 120 is 20% more than what number?

$$100\% = \text{base.}$$

$$100\% + 20\% = 120\% = 120.$$

$$1\% = 1.$$

$$100\% = 100.$$

80 is 20% less than what number?

$$100\% = \text{base.}$$

$$100\% - 20\% = 80\% = 80.$$

$$1\% = \quad \quad 1.$$

$$100\% = \quad \quad 100.$$

Pay close attention to the analysis and form of work.

Give some attention to mental arithmetic.

UNITED STATES HISTORY.

I. Subdivision of subject.

a Era of preparation—1492-1775.

1. Period of exploration—1492-1607.
2. Period of colonization—1607-1689.
3. Period of unification—1689-1775.

b Era of formation—1775-1829.

1. Period of separation—1775-1783.
2. Period of organization—1783-1789.
3. Period of nationalization—1789-1829.

c Era of reformation—1829-1893.

1. Period of agitation—1829-1861.
2. Period of emancipation—1861-1865.
3. Period of re-nationalization—1865-1893.

II. Discuss other sub-divisions prepared by the teachers.

III. Pictorial history and aids.

IV. Territorial development of the United States.

V. Why the United States came to be an English speaking nation.

VI. Political and financial movements traced in their development and effect upon the national life.

VII. Principles.

1. First steps—narrative.
2. Oral instruction.
3. Biographical at first.
4. Facts and philosophy.
5. Induction.

VIII. Essentials.

1. General reading.
2. Associate with literature.
3. Biography.
4. Leading events.
5. Historical centers.
6. Peace.
7. Cause and effect.

IX. Methods.

1. Topic.
2. Question.
3. Essays.
4. Discussion.
5. Geography combined.
6. News of the day once a week.

CIVIL GOVERNMENT.

I. The preamble.

II. Legislative branch.

1. Senate.
 1. Qualifications.
 2. Classes.
 3. Presiding officers.
 4. General provisions.
2. House of Representatives.
 1. Number of members.
 2. Qualifications.
 3. Apportionment.
 4. Vacancies.
 5. Officers.
3. Powers of Congress.

4. Powers denied the United States.

1. Habeas Corpus.
2. Bill of attainder.
3. Direct taxes.
4. Commerce.
5. Money drawn.
6. Nobility.

5. Powers denied the states.

1. Treaties.
2. General.

III. Executive branch.

1. President.

1. Qualifications.
2. Powers.
3. Term.
4. Manner of choosing.
5. Oath.
6. Duties.
7. Message.
8. Impeachment.

2. Presidential electors.

1. Number.
2. Nomination.
3. Election.
4. Meeting.
5. Signing lists.
6. Action in Congress.
7. House of Representatives.
8. Joint-high Commission.

9. President's cabinet.
 1. How chosen.
 2. Organization.
 3. Presidential succession.
 3. Vice-President.
- IV. Judicial branch.
1. Supreme Court.
 1. Organization.
 2. Jurisdiction.
 2. Inferior courts.
 3. Circuit Court.
 4. District Court.
 5. Territorial court.
 6. Supreme Court of D. C.
 7. Court of claims.
 8. Consular courts.

GEOGRAPHY.

- I. Methods.
- a* Synthetic.
 1. Familiar objects.
 2. Knowledge of home surroundings.
 3. Go from facts to cause.
 - b* Analytic.
 1. Globe used first.
 2. Comparative size.
 3. Causes of day and night.
 4. Whole to parts.
 - c* Stages of progress.
 1. Perceptive.
 1. Oral instruction.
 2. Modeling board.

2. Constructive.
 1. Idea gained beyond that known.
 2. Land, desert, plain.
 3. Animals.
3. Faculties.
 1. Perceptive.
 2. Conceptive.
 3. Memory.
 4. Imagination.
 5. Judgment and reason.

II. United States.

1. Surface and divisions.
2. Climate and agriculture.
3. Cities and what have made them.
4. People.
5. Commercial routes.
6. Government.
7. Points of special interest.

III. When the study of geography should begin.

IV. Our purpose in teaching it.

V. Course of study in geography.

VI. The part supplementary reading should sustain in the study of geography.

SCHOOL LAW.

I. School officers mentioned in the state constitution.

II. Duties of Superintendent of Public Instruction.

III. Duties of County Superintendent of Schools.

IV. Duties of School Directors.

V. Duties of Teachers.

VI. Arbor Day.

VII. Kindergarten.

MANAGEMENT.

I. Teacher's qualifications.

1. Common sense.
2. Realize difficulty of the work.
3. Recognize position as one of highest dignity.
4. Labor for higher standard.
5. Adapt one's self to circumstances.
6. Not to overtask pupils.
7. Not to refer to personal defects.
8. The teacher should cultivate cheerfulness, select proper companions, form good habits, have no hobby and avoid sectarianism.
9. Knowledge of subjects taught.
10. General knowledge.
11. Teaching power.
 1. Securing attention.
 2. Power in analysis and synthesis.
 3. Facility of expression.
 1. Well-chosen words.
 2. Ready use of best words.
 4. Facility of illustration.
 1. Artistic.
 2. Practical.
 3. Scientific.

II. Whispering.

1. Secure co-operation of pupils.
2. Be cheerful.
3. Intelligent work is the best preventive.
4. Treat as a disease.
5. In extreme cases, have no work until all is quiet.
6. Coaxing or rewards will not do.
7. Silence is golden—cultivate a spirit for right doing.

III. Tardiness.

1. Attractive exercises early in the day.
2. Special reports on interesting subjects from those who have the habit.
3. Have lesson they think most of early.
4. Teach by example.
5. Apply to recitations.
6. Read short lessons illustrating the effect of tardiness.

IV. Carelessness.

1. See that seats and books are in good condition.
2. Be careful in all your work.
 1. Walking.
 2. Talking.
 3. Class work.
3. Divide your work.
4. Give pupils drill in walking, talking and handling books and slates.
5. Cultivate the taste for quiet, simple ways.

V. Difficulties.

1. Bad predecessors.

2. Good predecessors.
 1. Commend good points.
 2. Never disparage his work.
 3. Present your methods.
3. General prejudices.
 1. Gossip.
 2. Critics.
 3. Against new ideas or methods.
4. Bad habits.
 1. Whispering, tardiness and carelessness.
5. Indifference of parents.
6. Amount of labor.
 1. Study.
 2. Recitation.
7. Self-difficulties.
 1. Lack of preparation ; special, general.
 2. Dislike.
 3. Love for certain branch.

VI. Object teaching.

1. Uses.
 1. Object lessons afford first efforts of gaining an empirical knowledge of things.
 2. They train the mind to habits of connected thought.
 3. They stimulate curiosity, the motive power of the mind.
2. Exercises.
 1. Numbers.
 2. Reading.

3. Composition.
 1. Flower.
 1. Where found.
 2. Name.
 3. Kind.
 4. Shape.
 5. Color.
 6. Parts.
 7. Use.
 2. Apple tree.
 1. Class.
 2. Where found.
 3. Soil best adapted to growth.
 4. Uses.
3. Cat.
 1. Class of animal.
 2. Parts of body.
 3. Structure of body.
 1. Bones.
 2. Muscles.
 3. Blood vessels.
 4. Nerves.
 5. Blood.
 6. Brain.
4. Sciences.
 1. Botany.
 2. Physiology.
 3. Geology.
 4. Philosophy.

VII. Recitations.

1. Objects.

- a* To test pupil's preparation.
- b* To connect past lessons with the present.
- c* To see resemblances and contrasts.
- d* To reward the faithful and arouse the dull.
- e* To incite to a love of painstaking work.

2. Length of time.

- a* In primary classes.
- b* In advanced classes.

3. Division of time.

- a* Review.
- b* Advanced lesson.
- c* Criticisms.
- d* General information.

4. Assignment of next lesson—subjects and pages :

How to prepare as well as what to prepare; what should be written and what should be oral. A first-class teacher works the class to the full measure of pupils' ability, but does not over-tax them. (Ogden, Greenwood and Baldwin.)

5. The recitation. The unprepared. Why should the pupil never be discouraged? Why should the cause of failure be ascertained? Of what use is it to have pupils know you expect good lessons? How can you impress the importance of close application? How can you make the pupil, in the case of chronic failure, feel the loss?

VIII. Art of questioning.

1. Principles.

1. Question must be adapted to capacity of pupil.

a What is it? For small children.*b* How is it? For boys and girls.*c* Why is it? For youth.*d* Whence is it? For manhood.

2. Questions are better than telling.

a Learner is led to discover for himself.*b* Learner is trained to independent work.*c* Learner is incited to greater mental effort.

3. Questioning a great mental force.

a It directs effort.*b* It awakens thought.*c* It leads to close observation.*d* It trains pupils to analyze and synthesize.

4. Questions should follow in natural order.

a Must have a well-defined object in view.

5. Questions carried too far are injurious.

a They confuse.*b* Cause dependence on question.

2. General statements.

1. Teacher should be master of questions.

a Should construct his own questions.*b* Should adapt question to subject and learner.*c* As to subject matter.

1. What is this or that?

2. How is this or that?

3. Why is this or that?

4. Whence is this or that?

- d* Teacher must remember pupil gains knowledge.
 - 1. Of objects—by sense perception.
 - 2. Of subjects—by consciousness.
 - 3. Of relation—by thought and imagination.
 - 4. All knowledge is reproduced by a well trained memory.
 - e* Learners may ask for aid when unable to advance.
3. Objects of questioning.
- 1. To direct effort properly.
 - 2. To incite pupil to think for himself.
 - 3. To arouse the dull and startle the inattentive.
 - 4. To bring out the important details of a subject.
 - 5. To test correctness and correct errors.
4. Questions in class.
- 1. Question the whole class.
 - 2. Let each one who can answer raise the hand.
 - 3. Each member held responsible for his answer.
 - 4. Teacher listens to each answer.
 - 5. Discussion.
5. Objectionable questions.
- 1. The world is round, is it not? Yes.
 - 2. Questions that indicate the answer.
 - a* Did Columbus discover America?
 - 3. Questions of alternate form.
 - a* Is the world round or square?
 - 4. Questions that quote the answer.
 - 5. Questions that suggest the answer.
 - a* By language.
 - b* By emphasis.
 - c* By inflection.
 - d* By expression.

6. Questions to be avoided.
 1. Include too much.
 2. Pointless or silly.
 3. Kill time.
 4. Pert.
 5. Pedantic.
 6. Hap-hazard.
7. Answers.
 1. To point.
 2. Clear.
 3. Direct.
 4. Concise.
 5. Definite.
 6. Complete.
 7. Original.

KINDERGARTEN.

PREPARED BY LAURA E. TEFFT.

Work for ten lessons.

Subjects: Paper folding, paper cutting, parquetry work, modeling, science work.

Paper folding—three lessons.

Material—Paper squares 4x4.

First lesson: Twenty-four life forms to second fundamental.

Second lesson: Forms of beauty from second fundamental and table cloth ground form.

Third lesson: Geometrical folding to illustrate plane figures.

Paper cutting—three lessons.

Material—folding paper, white and colored. Scissors, paste, pencil, mounting sheets, rule.

Series of designs from triangular ground.

Cuts to be perpendicular, horizontal, slanting, half slanting, circular.

Combination of cuts.

Original designs.

Parquetry work—two lessons.

Material—gummed paper, squares, triangles, circles, mounting sheets ruled.

Series of designs with circles, squares, right angled triangles, obtuse and right angled scalene triangles.

Lessons in colors.

Pure tones, shades, tints.

Combinations of colors.

Modeling—two lessons.

Material—Clay. Modeling boards. Models.

Objects to be modeled—sphere, cylinder, cube.

Typical life forms based on these three solids.

Primary science—one lesson.

Typical lessons in plant and animal life.

The relation between the science work and busy work.

FROM COURSE OF STUDY, STATE NORMAL SCHOOL.

- I. Philosophy of education.
 1. Stages of development.
 - a* Undeveloped.
 - b* Self-estrangement.
 - c* Generalization.
 - d* Actualization.
 2. Educational forces.
 - a* Internal.
 1. Evolving.
 2. Directive.
 3. Volitional.
 - b* External.
 1. Earth.
 2. Man.
 3. Spirit.
 3. Natures to be educated.
 - a* Physical—living.
 - b* Mental—cognitive.
 - c* Spiritual—volitional.
 4. Processes in education.
 - a* Enlargement—growth.
 - b* Strengthening—exercise.
 - c* Skilling—manipulation.

5. Results.
 - a* Development.
 - b* Participation.
 1. Actualization.
 2. Transfiguration.
 3. Transformation.
6. Education as a science.
7. Education as an art.
8. Systems of education.

II. History of pedagogy.

1. Civilizations.
 - a* Oriental.
 1. Egypt.
 2. China.
 3. India.
 4. Persia.
 5. Hebrew.
 6. Greek.
 7. Roman.
 - b* Jewish.
 - c* Christian.
2. Educational systems growing out of these civilizations.
 - a* National.
 1. Passive.
 - a* Family (China).
 - b* Caste (India).
 2. Active.
 - a* Military education (Persia).
 - b* Priestly education (Egypt).
 - c* Industrial education (Phœnicia).

3. Individual.

a Aesthetic education (Greece).*b* Practical education (Rome).*b* Theocratic.*c* Humanitarian.

1. Monkish Education.

2. Chivalric Education.

3. Civic Education.

4. Church Education.

5. Free Education.

6. Ideal Education.

III. Psychology.

a Subject matter.

1. Object, body, mind.

2. Body, sense, nerve, brain.

3. Relation of object, body, mind.

4. Movements of—inward, outward.

5. Energies of—mechanical, nervous, mental.

6. Body a medium; inward movement, quickening of mind, sensation, outward movement, expression of mind, perception.

7. Sensations, percepts.

8. Organization of percepts, concepts, conception.

9. Building concepts in geography, history, literature, number, geometry, reading, language, science, etc.

10. How concepts are compared; thinking.

11. How they are related; association.

12. How they are recognized; memory.

13. How they are modified and re-arranged; imagination.

14. Learning; thinking, knowing, expressing.

15. Clear, distinct and comprehensive thinking.

16. Expression; tongue, hand.

17. Tongue ; speech, music.
 18. Hand ; gesture, writing, drawing, constructing.
 19. Generalizing, concepts.
 20. Powers ; conception, memory, imagination.
 21. Their processes ; reproductive, recognitive, reconstructive.
 22. Thought concepts.
 23. Syllogism.
 1. Activity ; feeling, interest.
 2. Intensity, content and tone of feelings.
 3. Feelings and sensation.
 4. Feeling and perception.
 5. Personal, sympathetic, sentimental feelings ; intellectual, æsthetic, ethical and spiritual sentiments.
 6. Relation of feeling to thinking.
 7. Education of feelings.
 1. Desire, impulse, choice, action.
 2. Automatism ; habit, character, man.
 3. Education of the will.
 4. Moral training.
 5. Law of habit.
 6. Law of accommodation.
- b* Methods of study.
1. Observation of self.
 2. Observation of other persons.
 3. Observation of lower animals.
 4. Psychology and language.
 5. Psychology and history.
 6. Psychology and literature.
 7. Special observation of children.

IV. Science of Education.

1. Agencies involved in education.
 - a* Child—being to be educated.
 - b* Teacher—person who directs.
 - c* Nature—earth and man.
2. Requisites of the teacher.
 - a* Knowledge of self.
 - b* Knowledge of the child.
 - c* Knowledge of nature.
 - d* A knowledge of the inner relation of self, the child and nature.
3. Ends to be reached in the education of the child.
 - a* Development of
 1. Body.
 2. Mind.
 3. Spirit.
 - b* Participation.
 1. Actualization.
 2. Transfiguration.
 3. Transformation.
4. Requisites to the accomplishment of these ends.
 - a* Body must have
 1. Food.
 2. Exercise.
 3. Training.
 - b* Mind must have
 1. Knowledge.
 2. Thought.
 3. Training.
 - c* Spirit must have
 1. Duty—virtue.
 2. Conscience—good.
 3. Love—spirituality.

5. Necessary conditions in the education of a child.
 - a Self-activity is fundamental in all development, whether physical, mental or spiritual.
 - b Self-activity results, primarily, from energies acting from without.
 - c All the natures of the child are inter-dependent.
6. Educational principles.
 - a The physical body is quickened through the muscles; is trained through them.
 - b The mental nature is quickened through the senses, the intellect and the sensibilities.
 - c The spiritual nature is quickened through the senses and conscience.
 - d The order of thinking, by a child, is from wholes to parts, thence to classes.
 - e The order of learning is thinking, knowing, expressing.
 - f To know a thing is to think it into its proper place. It is thought into its proper place by the aid of the known.
 - g That which is being learned, passes from the unknown to the known or better known. Hence, the content of a word, a phrase, or a sentence is variable.
 - h Teaching is causing a human being to act—physically, mentally and morally.
 - i Education consists in *development* and *participation*.

ART OF EDUCATION.

I. Organization of school.

- a Parts.
 1. Children.
 2. Teacher.
 3. Directors.
 4. Patrons.

b Functions.

1. Of children.
2. Of teacher.
3. Of directors.
4. Of patrons.

c Harmony.

1. Government of school.

a Object—preservation.*b* Aim—discipline.*c* End—freedom.

2. Instruction of school.

a Process.

1. Teach—develop.
2. Drill—fix.
3. Test—discover.