DEPARTMENT OF EDUCATION

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Programme of Studies

for the

Elementary Schools

of

British Columbia

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PROGRAMME OF STUDIES.

ELEMENTARY SCHOOLS.

NOTE.—The work prescribed for elementary schools is divided into eight grades, each of which will, as a rule, occupy one year of a pupil's time. The brighter pupils will be able and should be given an opportunity to complete the course in six or seven years. They should be transferred to a higher grade whenever their individual interests require it without regard to the reorganization of classes which is held regularly at the close of each term.

GRADE I.

1. Language.

Effective training in this subject should enable the children to gain such control of oral and written language that they may use both as a means of communicating and acquiring ideas.

Language and manual activities are closely related. The teacher should select material from this course to meet the needs of her class. She should provide the type of work most likely to develop initiative in the children and should create situations that will stimulate oral expression. The child's education should begin with a study of his interests and activities. Many problems arising from these activities may be solved through projects affording opportunity for representative play.

In language-training in the primary grades full and intelligent use should be made of the project method and the socialized recitation in order that the school-work may be motivated, that initiative in children may be developed, and that there may be training in free oral expression. Each child is expected to participate in representative and dramatic play. By the end of the term he should have made some gain in his power of oral expression and should have completed at least two project books.

PROJECT-WORK AND CONVERSATIONAL LESSONS.—The following topics are suggested as the type of material to be used for project-work and conversational lessons:—

(*a.*) *Home Life.*—The family; pets and toys; helping father and mother; taking care of baby; keeping clean; work in the garden.

(*b.*) *Farm Life.*—Animals and poultry; making butter; ploughing, planting, and harvesting; taking produce to market or store. The teacher should show pictures of various farm activities, such as ploughing, making hay, picking apples, feeding the chickens. Children will be interested in making a scrap-book of pictures relating to farm life. A farm project may be worked out on the sand-table or the children may play store. They may make butter and flour for their store and may collect peas, beans, candy-eggs, and fruits and vegetables. They may also make cardboard boxes for holding supplies, market-baskets, and delivery-wagons.

The home table as supplied from garden, farm, and store.

(*c.*) *Health Talks.*—Illustrative charts may be made of magazine pictures advertising dental cream, toilet-soap, bath-room furnishings, etc. Correlate with reading.

(*d.*) *Our School.*—Lessons and games; courtesy; co-operation.

(*e.*) *Our Flag.*

(*f.*) *Story-telling, Story-playing, Story Reproduction.*—Cultivate the æsthetic sense by means of nursery rhymes, folk-lore, fairy-tales, and poems. (Omit such stories as " Bluebeard " and " Babes in the Wood.") Intense interest in stories may be secured by dramatization. The children should be allowed to select the characters and to arrange the setting when possible. Dramatization should precede reproduction.

(*g.*) *Other Types of Stories.*—Tales of Primitive Life—Tree-Dwellers, Cave-Men, Early Sea People, Eskimos, Indians, Child Life in Many Lands, Bible Stories, Poems, Nature Stories, Stories and Poems Relating to Child Life, Nonsense Stories.

Study of good pictures, including those used in text-books and for school-room decoration.

Correction of errors of speech.

ORAL AND WRITTEN WORK (FIRST TERM).—Memorization of one poem in addition to nursery rhymes in the reader; name of school, city, and days of the week; complete answers to questions; children should write their Christian name, the pronoun " I "; copy descriptive phrases and write easy phonic words on the blackboard from dictation.

ORAL WORK (SECOND TERM).—Recitation of two poems; reproduction of two or three paragraphs in a simple story; description of a common object in two or three sentences.

WRITTEN WORK (SECOND TERM).—Pupil's full name and name of school; spelling and dictation as prescribed; words, phrases, and short sentences to accompany illustrations upon language or reading lessons on the blackboard or on paper.

READING.—Thought-getting should be emphasized from the beginning. The teacher should also aim to give the children a mastery of the mechanics of reading and to develop in them an appreciation of good literature. As many of the children have little opportunity for hearing correct speech outside the class-room, it is highly important that careful attention be given to clearness of articulation and enunciation.

The teacher should try to create in every child a genuine love of reading. Difficulties with word-recognition begin to disappear as children learn to read for the sake of the story. Appreciation of the reading lessons may be developed through free illustration, action, pantomime, dialogue, and dramatization. The rate of reading may be increased by giving children access to a large variety of easy reading material. For word and phrase drill the use of flash-cards, which can be easily made by the teacher from heavy paper or light cardboard, will be found particularly effective. Considerable rapid blackboard drill upon short sentences is also essential for the development of speed. Habits of pointing, word-calling, and lip-moving should not be formed as they tend to retard the rate.

For action-work the Short Exposure Phrase Cards (*see* Bibliography) are very useful.

BLACKBOARD-READING.—Exercises in group composition upon stories, health and nature topics, school experiences, and home and farm life should frequently be used as the basis of chart or blackboard lessons. Poems and short stories for

reproduction may also be read from the blackboard. Children will enjoy searching the magazines for material to illustrate these lessons.

ORAL READING.—In oral work the child should read for the purpose of sharing with others his pleasure in the story. The best pupils in a group require much less practice in oral reading than the slow pupils. They should be kept well supplied with material for silent reading.

SILENT READING.—This will include action-work, incidental reading, and study of the reading lesson.

The children should be trained to read for thought and the teacher should seize every opportunity for providing this type of reading for her class. The following devices are suggested for the purpose:—

(1.) Children find questions upon the blackboard when they arrive in the morning. "Did you sleep with your window open?" "What did Jack Frost do last night?"

(2.) Items of special interest are found upon the bulletin board: Notice of holiday, meeting in the assembly-room, folk-dancing.

(3.) Certain duties are assigned: Study your spelling lesson. James may clean the blackboard.

(4.) Directions for dramatization, drawing, or construction-work may be written on the board (*see* First Journeys and Twentieth Yearbook on Silent Reading).

(5.) Desks, books, and boxes are labelled with the child's name. Various objects in the school-room are also labelled. Children are encouraged to read labels on articles at home, also signs and advertisements in store windows, on buildings, and in magazines and newspapers.

(6.) Children arrange descriptive phrases or sentences beneath their own illustrations or those cut from old readers or magazines.

(7.) The teacher asks questions that bring out the main thought of the reading lesson. Questions may be written on the board to assist the children in studying the lesson. They may be asked to write the names of the characters or the places mentioned in the story and to illustrate them.

(8.) Cards containing questions to be read silently and answered aloud may be prepared by the teacher.

Specific exercises to increase rate and comprehension in silent reading should be in accordance with the technique illustrated in any modern Silent Reader.

Children should attach meaning to printed words in the first lessons. Begin the study of reading with action-words—come, go, run, jump, sit down, etc. Use games freely and try to socialize your work. Frequently, allow a child to lead the group. CHILD: "What can you do, Mary?" "I can jump." Mary jumps and afterwards points to the word she has acted. Other reading lessons grow out of conversations upon home or school experiences (*see* Language Outline). These stories should be printed upon charts or upon the blackboard and drills given upon the various word groups. The children will read the stories with greater interest if they are illustrated. Each child should make his own reading-book containing printed copies of the lessons and illustrations of imaginative drawings and free cuttings or suitable pictures cut from magazines. This method helps to establish a desirable attitude towards books. Three or four weeks will probably be sufficient for this kind of work. It may then be used as incidental reading during the remainder of the term. Drill-work with phonics and perceptive cards should be kept apart from the reading lessons. Train the

children to apply their knowledge of phonics to the recognition of new words in the reading lessons as soon as possible. After the text-books are placed in the children's hands, a marker may be given them to aid them in finding and following the line.

PHONICS.—The study of phonics should enable the child to acquire the power of independent word-recognition and to develop habits of word production.

The initial blend method is recommended, although the family method may be employed to a certain extent. Drills upon meaningless phonograms—as pa, fa, ca—are very mechanical and are of little value unless final consonants are added to make complete words. New sounds are first obtained from familiar words through ear-training and phonic analysis. The new sound is then blended with known sounds, to form words. Words beyond the children's comprehension should not be studied.

In all phonic lessons emphasis should be placed upon correctness and distinctness of utterance. The teacher should also try to eliminate habitual mispronunciations, as lil for little; or for our; jist for just, etc. Many helpful suggestions for teaching this subject will be found in the chapter on phonics in "Teaching Children to Read" (Klapper).

PHONICS (FIRST TERM).—Consonants, except q, v, x, and z. Short and long vowels, phonograms that are commonly used—ee, oo, sh, th, ch, ar, or, ing, ea, oa, ai, ay, ow, wh. Words of three sounds, blending the vowel with the initial and final consonants. Words of four sounds containing a blend of two consonants either preceding or following the vowel—clap, frog, stain, sand, left, toast. Copying and spelling at blackboard of easy phonetic words of three or four letters.

The suggested order of teaching the vowels is as follows: a, o, u, i, e. The consonants, m, n, r, s, f, l, h, should be taught first as initial sounds, as they are more easily blended with the vowel than p, t, d, b, c, g, j, k. Many of the latter sounds should be used for the first time as finals.

The Receiving Class teacher may prepare her own word-lists from any modern phonic manual. Words should be presented in both written and printed forms, but it is advisable to use only one form—preferably script to correlate with writing—until the children have gained some skill in blending. Transition to print is a very simple matter and the children will sound printed words as easily as written ones after a few days' practice.

PHONICS (SECOND TERM).—Review of previous work. Consonants q, v, x, and z. New sounds—wa, ir, er, ur, oy, oi, aw, au, ew, ie, qu, ng, nk, c (soft), g (soft), a in all, a in care. Name of letters in phonograms.

Children are expected to sound for themselves unknown phonetic words within their comprehension as they find them in their reading lessons.

PRESCRIBED TEXT-BOOK:

*The Canadian Readers, Book I. (Gage & Nelson).

SUPPLEMENTARY READERS:

Baker & Thorndike: Everyday Canadian Primer (Macmillan, Toronto). Price, 40c.

Young & Field: Literary Readers, Book I.—A Primer and First Reader (Ginn).

Winston Primer (Winston Co., Toronto). Price, 60c.

* Supplied free to public schools by the Department of Education.

Story Steps—Progressive Road Series (Gage, Toronto). Price, 70c.
Progressive Road to Reading, Book I. (Gage, Toronto). (For Grade I., second term.) Price, 60c.
Horace Mann Readers, Primer and First Reader (Longmans, Green, Toronto).
Hiawatha Primer (Houghton, Mifflin & Co., Boston). Price, 85c.
Work-a-Day Doings (Gage, Toronto). Price, 68c.
Work-a-Day Doings on the Farm (Gage, Toronto). Price, 68c.
LaRue: The F-U-N Book (Macmillan, Toronto). Price, 50c.
LaRue: Under the Story Tree (Macmillan, Toronto). Price, 50c.
Winston First Reader (Winston Co., Toronto). Price, 60c.
Gertrude Jackson Wright: The Silent Reading Book, Book I. (Nelson, Toronto).

NOTE.—The Department is endeavouring to make arrangements for the printing and publishing in Canada of any Supplementary Reader appearing in these lists which is now being manufactured in the United States of America.

TEACHERS' REFERENCE BOOKS:

Dickie: Learning to Speak and Write, Book I. (Gage). Price, 50c.
Child Education (Evans Bros., Ltd., London).
Klapper: Teaching Children to Read (D. Appleton & Co., New York).
Studies in Reading for First Grade (University Publishing Co., Chicago).
Twentieth Yearbook on Silent Reading (Public School Publishing Co., Bloomington, Ill.).
O'Brien: Silent Reading (Macmillan, N.Y.). Price, $1.55.
Huey: Psychology and Pedagogy of Reading (Macmillan, N.Y.). Price, $2.
Stone: Oral and Silent Reading (Houghton, Mifflin & Co., Boston).
Wheat: The Teaching of Reading (Ginn & Co., Boston).
Parker: Types of Elementary Teaching and Learning (Ginn & Co., Boston).
Bryant: How to Tell Stories to the Children; Stories to Tell to the Children (Houghton, Mifflin & Co., Boston).
Angela Keyes: Stories and Story Telling (D. Appleton & Co., New York).
Coleman: A Rhyme for a Penny (Macmillan, Toronto).
Haliburton & Smith: Teaching Poetry in the Grades (Houghton, Mifflin & Co., Boston).
Gesell: The Normal Child and Primary Education (Ginn & Co., Boston).
Twentieth Year Book on New Materials of Instruction (Public School Publishing Co., Bloomington, Ill.).
Young & Memmott: Methods in Elementary English (D. Appleton & Co., New York).
Watkins: How to Teach Silent Reading to Beginners (J. B. Lippincott & Co., Philadelphia).
Krackowizer: Projects in the Primary Grades (J. B. Lippincott & Co., Philadelphia).
Stevenson: The Project Method of Teaching (Macmillan, N.Y.). Price, $2.
McMurry: Teaching by Projects (Macmillan, N.Y.). Price, $1.75.
Jenkins: Reading in the Primary Grades (Houghton, Mifflin & Co., Boston).
Short Exposure Phrase Cards for Increasing Rate and Comprehension in Silent Reading, Series A, B, C, D, and E (W. H. Wheeler Co., Chicago).

2. Writing.

During the first year, the pupils should be taught correct writing habits of posture, pencil-holding, and movement and the forms of all the small letters and figures and a few simple capitals. Letter and word formation must be taught from the blackboard before any attempt is made by the pupil to write with pencil. The lower part of the blackboard should be ruled with permanent lines, 2½ to 3 inches apart. By this means form, slant, and proportion are easily and quickly taught. Detailed instructions for ruling blackboards and for the conducting of blackboard and pencil writing lessons are given in Chapter XI. of the MacLean Method Teachers' Complete Manual, which teachers must use as their guide. *Compendium No. 1 of the MacLean Method of Writing should be used by the pupils.

Seat-work during the first term should consist of profitable forms of busy work, but little, if any, pencil-writing should be done. The aim should be to develop correct writing habits. Pupils should be taught to sit in a healthful posture, to hold the pencil correctly, and to use a free, rhythmic, writing movement.

During the second term, the pupils should be taught to write on pencil paper with large pencils, having a soft, black lead, all the letter forms and words which they have previously written at the blackboard. All pencil-writing should be done under the supervision of the teacher.

3. Arithmetic.

Number facts in this grade should be taught orally and through concrete presentation. Materials such as the following should be used as aids: Pegs, nuts, beads, beans, clothes-pins, cubes, study-cards, paper rules of different lengths, perceptive cards; 1-cent piece, 5-cent and 10-cent pieces in real or toy money.

The best objective materials are those of the natural environment, and the manipulation of this material must be made as natural as possible in connection with playing store, baker; class and community activities, playing games, etc. All the problems should be related to the experiences and activities of the children. For example, the pupils may be supplied with empty egg containers for 6 eggs; or these may be made as a manual arts exercise in a higher grade. Using the coloured blocks, and pretending that they are eggs, they can play at helping the grocer. The pupils can find out in this way that two 3's or three 2's are 6, and that there are two 3's or three 2's in 6.

"First Journeys in Numberland," which is recommended for the use of teachers, contains games for the motivation of number drills.

COUNTING.—Counting various objects in the class-room, also groups of objects, taps of a stick, strokes of the bell, steps taken in walking across the room; number of books, pencils, or papers required for children in the various rows of desks, etc. At the end of the year the pupils should be able to count to 100, to name the number following or preceding any number up to 100, to add and subtract 1 from any number up to 100 (oral), and to read the numbers on the pages of their readers.

GROUPING.—Giving the number of dots in a group and also the total number of dots in two groups—thus, : :, . ˙ ., 4, 3, 7. Dividing a number of objects, up to at least 50, into groups of 10's, 5's, 2's, 4's, and 3's, and counting the number of groups.

* Supplied free to public schools by the Department of Education.

Study of the numbers 1 to at least 10 (25 or more combinations).

When teaching pupils to read and write numbers, associate the number picture, the symbol, and the written name—thus, : : :, 6, six.

The first 25 sets, at least, of the combinations and their separations should be carefully taught to all pupils. The brighter pupils should be given an opportunity to complete the 45 sets. The following indicates the order in which the combinations should be presented:—

Number 2.
1+1=
Number 3.
2+1=
Number 4.
3+1=
2+2=
Number 5.
4+1=
3+2=
Number 6.
5+1=
4+2=
3+3=
Number 7
6+1=
5+2=
4+3=
Number 8.
7+1=
6+2=
5+3=
4+4=

Number 9.
8+1=
7+2=
6+3=
5+4=
Number 10.
9+1=
8+2=
7+3=
6+4=
5+5=
Number 11.
9+2=
8+3=
7+4=
6+5=
Number 12.
9+3=
8+4=
7+5=
6+6=

Number 13.
9+4=
8+5=
7+6=
Number 14.
9+5=
8+6=
7+7=
Number 15.
9+6=
8+7=
Number 16.
9+7=
8+8=
Number 17.
9+8=
Number 18.
9+9=

After number facts have been presented concretely, give rapid drills until the children can give the answers at sight. Motivate the drill with games; develop the four simple relations of each set. For example, after they find out that 8 and 2 are 10, they should be asked what must be added to 2 to make 10? to 8 to make 10? 10 is how many 2's? How many 2's are in 10?

Deal in the same way with the other sets of combinations (avoid fractional relations at this stage).

Give abundance of such drill as the following, using blackboard, chart, or flash-cards:—

$$4 + 2 = \qquad \begin{array}{r} 4 \\ +\,2 \\ \hline \end{array}$$

Measure with a foot rule. Children should make paper rules of different lengths which they can use in their constructive work and in measuring the dimensions of books, desks, chairs, floor, etc. Introduce other simple measures, as pint, quart, week, dozen.

4. Manual Arts.

(*A.*) Stick-laying, Paper-folding, Plasticine Modelling, and Paper-cutting.—The hand-work outlined below will provide profitable seat-work for

beginners, which can be accomplished without the direct supervision of the teacher. It is advisable, however, in order to obtain the best results, that the work be planned in advance for each day of the week and that some one of the occupations outlined below or drawing be given each day. The aim of the teacher should be first to teach the simple forms of each, and then to correlate, as much as possible, the hand-work lessons with the nature, language, and reading lessons.

Stick-laying.—This is the simplest form of hand-work and may be given to the child on the first day of school. The apparatus consists of sticks or pegs of bright colours, such as supplied by the Milton-Bradley Company, San Francisco.

(*a.*) Outlining simple straight-lined familiar objects, such as table, chair, bed, pennon, window, door, picture-frame, flower-pot, ladder, steps and stairs, saucepan, house, ship.

(*b.*) Outlining figures and letters in correlation with other lessons.

(*c.*) More difficult outlines (by means of short pegs), as of clock, Indian canoe and wigwam, pine-tree, "scooter," bird, steamer, automobile.

(*d.*) Geometric and regular forms, which may be worked into border designs after the pupils have grasped the idea of border design through blackboard instruction and the examination of such designs on books, baskets, towels, etc. Afterwards opportunity should be given the pupils to originate designs.

(*e.*) Illustrating rhyme or story. Perfect work is not to be expected, but by sympathetic criticism the pupil should, eventually, be able to produce good, well-balanced work. The best illustrations should be kept and made permanent by gluing on stiff paper and hanging up on the school wall.

Paper-folding.—This is an occupation that teaches neat finger-work; it also provides training for the hand and eye, but it does not provide much opportunity for self-expression. About a dozen simple designs should be sufficient.

While engaged in this occupation the pupils should gain a knowledge of the forms, triangle, square, oblong, and should learn to know right side, left side, front, back, edge, corner, angle, and such terms as turn, fold, etc.

"Educational Handwork" (T. B. Kidner), published by the Educational Book Co., Canada, will furnish suggestions for this occupation.

Paper-folding material: No. 204 Engine, assorted colours; size 5 by 5 inches, Milton-Bradley Company, San Francisco.

Plasticine Modelling.—Plasticine modelling is an occupation that is enjoyed by the child, for in it he finds much scope for self-expression. It strengthens and educates the hand, provides excellent finger-training, and compels observation of the smallest details.

Each member of the class should be given a small lump of plasticine for his own use—to be kept in a small box which he can provide for himself.

After the child has been taught to use his fingers rather than the palms of his hands, he may be set to work while the teacher is engaged with other classes. The work will be crude, but much good will have been accomplished if it has opened the eyes of the child to the details of the object before him, and if he has expressed his image of it by means of his hands.

(1.) Simple forms: (*a.*) Round, such as ball, orange, apple, onion, pumpkin, cherries.

(*b.*) Oval, such as egg, lemon, carrot.

(*c.*) Rolled forms, such as worm, log, snake, cigar, a rope of twisted strands, anchor and rope.

(*d.*) Hollow shapes, starting from ball shape, such as nest, cup and saucer, any hollow vessel, vase, etc.

(2.) Various forms, correlating nature-study lessons, such as snowdrop, crocus, pussy-willow, twig, tulip, Easter lily, frog, meadow-lark, pea-pods, fish, starfish, crab.

(3.) Bas-relief on stiff cardboard or on the ordinary modelling-board. The illustrating of rhymes and stories should be in "bas-relief," which is better suited for illustrative work and requires less plasticine.

Freehand Cutting.—For this occupation common white or manila paper and a pair of scissors are required. No outline should be made on the paper, but a solid white drawing is shown on the blackboard, or some simple object is placed before the class.

(*a.*) Simple forms, such as the circle to represent dollars, quarters, etc.; the oval—cutting out an apple, a pear, a Japanese lantern, etc.

(*b.*) Symmetrical objects which can be cut with the paper folded, such as a fan, a kite, a milk-bottle, an open umbrella, a butterfly, etc.

(*c.*) Illustrate songs, reading lessons, and stories, such as "Little Red Hen," "The Gingerbread Boy," "Chicken Little," etc.

There should be frequent reviews, but the work becomes monotonous when the class is held to one model until it is perfected. Coloured crayons may be used for decorative purposes, and the most praiseworthy attempts should be mounted and hung on the class-room walls.

Teachers' reference books: Kidner—Educational Handwork (Educational Book Co., Canada); price, $1. B. Helen Beckwith—Story Telling with the Scissors (Milton-Bradley Company, S.F.). Polkinghorne—Toymaking in School and Home (George G. Harrop & Co., Ltd., London, England); price, 10s. 6d. J. S. Lay—Handwork for the Classes (Evans Bros., London, England); 2 vols.; price, 3s. 6d. each.

(*B.*) Drawing.—Drawings may be in soft pencil, pastel, crayon, or water-colour, from objects, from memory, or from imagination.

Pupils should be taught to handle materials in a correct way and to sit and draw in a healthful posture. Drawings in pastel should be made on neutral tinted paper. Names of the primary and secondary colours and the method of mixing them should be taught and demonstrated.

Correct representative drawing cannot be got at this stage and teachers should try to see the child's mind as expressed in the drawing instead of looking for an adult concept. Imaginative drawing is especially good at this stage and should be used in conjunction with the literature lessons. In representative drawing the hand and eye may be trained to an appreciation of good relationship in form. Memory drawing is a powerful aid in stimulating observation. Advantage should be taken of fête days, seasons, Hallowe'en, Christmas-time, etc., for the purpose of correlating drawing with other mental activities (*see* Teachers' Manual of Drawing and Design).

5. Nature Lessons (to be correlated with the Language and Drawing Lessons).

Autumn (September, October, November).

General, Industrial, and Social.—The children's food-supply, clothing, and shelter; comparison of primitive with modern conditions; effects of approaching winter on plant and animal life and in people's activities.

Animal Life.—(*a.*) Children's pets and domestic animals—cat, dog, horse. (*b.*) Birds—canary, pigeon, robin. (*c.*) Insects—butterfly, larva and cocoon, beetle.

Plant Life.—(*a.*) Food-plants—local fruits and nuts; garden vegetables and grain. (*b.*) Wild plants—the maple tree, fall dandelion, fireweed. (*c.*) Garden flowers—nasturtium, sweet pea, sunflower.

WINTER (DECEMBER, JANUARY, FEBRUARY).

General.—Effects of cold; wind, cloud, snow.

Animal Life.—(*a.*) Domestic animals—the cow, our meat and milk supply; the sheep (clothing); rabbit. (*b.*) Wild animals—animal stories and pictures. (*c.*) Birds—sparrow, chickadee, bluejay.

Plant Life.—(*a.*) Food-plants—pop-corn, imported nuts. (*b.*) Wild plants—contrast of leafless trees, form of branches, and evergreen (Christmas tree).

SPRING (MARCH, APRIL, MAY, JUNE).

General.—The spring awakening; sun, wind, rain, weather chart, swollen streams, and new activities of the people.

Animal Life.—(*a.*) Pet and domestic animals—baby animals (calf, lamb, pig, chickens, ducklings). (*b.*) Birds—meadow-lark, crow, song-sparrow. (*c.*) Insects—life-history of moth or butterfly, housefly, and ant-hill.

Plant Life.—(*a.*) Wild flowers—dandelion, buttercup, dog's-tooth violet, trillium or spring beauty. (*b.*) Garden flowers—pussy-willows, pansy, bulbs (crocus, narcissus, and tulip). Window plants, seed-planting.

6. Music.

The music period should be one of pleasure and enthusiasm for both teacher and pupil. A careful and wise training will inculcate a love for good music, produce competency in sight-reading, and result in better singing.

A few children—far fewer than is generally supposed—have what is called a "bad ear" for music. That is, they do not readily distinguish between one musical sound and another; but it can safely be said that quite 99 per cent. of children can with patience and perseverance cultivate a "good ear" and learn to sing with pleasing voice.

Too much stress cannot be laid on the importance of "soft" singing. When the singing is soft, there is no risk of straining or injuring the voice.

Children should be trained to sing alone. It is a great mistake always to practise children collectively. If they were so taught to read and recite it would be hopeless to expect correct articulation and intelligent phrasing.

To sing intelligently, it is necessary, first, to phrase correctly; secondly, to sing with expression. To phrase correctly, means, roughly speaking, to take breathing in the proper places. To sing with expression children must be encouraged to put themselves into their music; for if they sing what they feel, those who listen will feel what they sing.

Each of the sections into which this work is divided deals with one particular branch of the child's musical education, but all sections must be used concurrently.

SECTION I.—SONG-SINGING.—Object: To introduce music as "literature."

Method: Nursery rhymes and songs should be chosen containing short, clear phrases; words and music should be taught by rote and the task should be made easy and enjoyable.

(1.) *Songs with Accompaniment.*

(2.) *Songs without Accompaniment.*—(*a.*) Teacher to play or sing a song to the pupils.

(*b.*) This to be repeated, the children joining in quite freely.

(*c.*) It may now be necessary to take the song in phrases to get the children to sing the song more accurately—time, tune, words, character, etc.

(*d.*) The song to be continued for some time, but other songs to be studied concurrently.

Suggested Songs for First Term.—Baby Bunting; Jesu, Tender Shepherd; Pussy Willows; Polly, put the Kettle on; We are Babies, Good as Gold; Now the Sun is Sinking; Dolly's Lullaby; Humpty Dumpty; Hush-a-by; I've a Little Dolly; Jack and Jill; Little Bo-Peep; Little Boy Blue; Little Miss Muffet; Mary, Mary, Quite Contrary; See-Saw, Margery Daw; Little Jack Horner; Baa, baa, Black Sheep; Goosey, Goosey, Gander; Twinkle, Twinkle, Little Star.

Suggested Songs for Second Term.—Sleeping Daisies; Mary and the Lamb; Hickory, Dickory Dock; I love Little Pussy; The Little Nut Tree; Girls and Boys Come Out to Play; London Town; Time to Rise; The Spider and the Fly; Up the Ladder; The Squirrel; Ride a Mile; Falling Snowflakes; The Birdie; The Owlet Song; Merry Bells; I saw Three Ships; Little Robin Redbreast; The Fairy Folk; A Sweet Little Birdie; Falling Rain; Sleep, Baby, Sleep; Choo-Choo-Choo; Dolly's Lullaby; June; Harebell Song.

SECTION II.—SONG GAMES.—Method: These singing games must afford the opportunity for spontaneous expression by the children and not degenerate into mechanical action songs. The teacher must not expect all gestures and actions to be exactly alike.

Song Games, First Term.—Six Little Mice; Poor Mary sits a-weeping; Ring-a-ring o' Roses; London Bridge; The Mulberry Bush; Three Blind Mice; The Farmer; Round and Round the Village.

Song Games, Second Term.—Creep, Mousie, Creep; Cock-a-doodle-do; The Marching Song; Mayday Song; Five Little Birdies; Sleeping Beauty; Oranges and Lemons; Nuts in May; The Muffin Man; Sing a Song of Sixpence.

SECTION III.—PULSATION AND RHYTHM.—Object: To develop the child's musical activity.

Method: Clapping, tapping, walking, skipping, running, and the use of percussion instruments if possible.

First Term.

Step 1.—To feel the Pulse or Beat.—(*a.*) Children to clap with teacher, marking moderate, fast, and slow time.

(*b.*) Children to use instruments while teacher claps.

(*c.*) Teacher to play a simple march, using quarter-notes only; e.g., "Mountain March."

(*d.*) This repeated, children to clap or use instruments.

(*e.*) Children walk and clap—moderate time, quickly, slowly.

(*f.*) Use other simple marches concurrently with other steps, breaking away from the quarter-note.

First and Second Terms.

Step 2.—The Skipping Step.—Use the following songs: O Dear! What can the matter be?; Mary and the Lamb; Jack and Jill; Hickory, Dickory, Dock;

Mary, Mary, Quite Contrary; Cock-a-doodle-doo; Humpty Dumpty; See-saw; Boys and Girls Come Out to Play; The Squirrel; When Fairies Dance and Sing; Ride a Mile; Grasshopper Green; Keep the Ball A-rolling; Mulberry Bush; Little Bo-Peep; Maypole Dance.

First Term.

Step 3.—Loud and Soft Beats.—Use " Soldiers' March " by Schumann or any other suitable march.

(*a.*) Play the exercise loudly, letting the children clap loudly.

(*b.*) Repeat the exercise played *piano,* children to clap softly.

(*c.*) Repeat this with instruments and marching.

(*d.*) Repeat with alternate loud and soft beats. Use instruments, clapping and marching.

(*e.*) Repeat, but teacher to cease playing piano half-way through exercise, children to continue.

(*f.*) Repeat, letting children march to tune, beating time with both hands; use instruments. Use the following songs and other suitable music you may have: We are Babies, Good as Gold; We are Merry Little Soldiers; The Marching Song; We are Soldiers Brave and Gay; Pussy Willows; Buttercups and Daisies; The Cow; Poppies; Baby Bunting; Bed in Summer; London Bridge; Ring-a-ring o' Roses.

Second Term.

Step 4.—Responding to ¾ Time.—(*a.*) Divide class into two groups. Let one group follow the teacher's right hand (showing strong accent) with loud clapping or drum, and the second group follow the left hand (showing two weak accents) with soft clapping or triangles. Teacher to hum a tune in ¾ time, marking well the first beat.

(*b.*) Teach songs in ¾ time; e.g., The Farmer; Poor Mary sits a-weeping; The Bee and The Dove.

(*c.*) Use piano. Children to clap or make any rhythmical movement that will mark the correct rhythm. Cuckoo; Mountain March; Waltz; Evening.

Step 5.—The Running Step.—(*a.*) Teacher to clap a rhythm containing quarters and eighths.

(*b.*) Children to reply either by clapping or using instruments.

(*c.*) Children to run a bar of eighth notes to the left and walk a bar of quarter-notes to the right.

(*d.*) Repeat this, running two bars to the left and walking two bars to the right.

Introduce games, e.g.: (1.) Running eighths in a circle; at hop run a bar of eighths outside circle and pose for two bars; return to circle running eighths. One bar—continue running in a circle.

(2.) Run two bars to left; two bars to right; two bars to centre; two bars back.

Take the following songs and step them and where there is a half-note let children stand still: Baby Bunting; We are Babies, Good as Gold; We are Merry Little Soldiers; Pussy Willows; Poppies; Ring-a-ring o' Roses.

Children should now be ready to take part in simple rhythmic plays.

SECTION IV.—While work at this stage should be quite non-technical, the scale can easily be taught by means of song sentences. It should be the aim of the teacher to eradicate the monotones during the first year at school. Song sentences should be taken individually, with the hand signs.

Sentences for First Term.

The Roll-call—

"Children." d d′ (by teacher).
"We are here." d′ d′ d.
"Mary." d d′ (by teacher).
"I am here." d′ d′ d.
Down falls the rain.
d′ s m d.
Kites fly up high.
d m s d′.

Sentences for Second Term.

Humpty Dumpty got a fall.
d′t d′s m r d.
Will you come and play.
d′ s r m d.
Tulips bright all close at night.
d′l d′ d f l d′.

Imitation phrases should be given to quicken the children's aural perception.

Short time-pattern phrases should be imitated by children either by clapping or by instruments. Children should be able to detect the difference between the sound of high and low notes on the piano and be able to imitate any sound given to them within their singing compass.

SECTION V.—(1.) Mood in music. (2.) Music interpretation.

Object: To cultivate the child's sensibility to music.

(1.) Suggested pieces: Melody; Soldiers' March; Evening; Jesu, Tender Shepherd.

(2.) Children to dramatize while pieces are played on piano or sung by other members of the class or by another class in the school. Nursery songs can be taken; e.g., Polly, put the Kettle on.

Reference book: Wickett—Rote Songs and Singing Games (Gage, Toronto). Price, $1.

7. Health Education.

(*a.*) HYGIENE. (*See* pages 103–109 for a general note on method and for a list of suitable reference books.)

Aim.—To help the children to establish good health habits, to develop self-control and proper safety responses in danger situations, and to feel a measure of responsibility for his own good.

NOTE.—Health education for young pupils is not a matter of acquiring up-to-date information pertaining to healthful living. It is a matter of motivated activity in a good daily programme which finally becomes habitual and natural. These habitual responses on the part of the children result from much repetition of such activities as the child engages in at home as well as at school. The child must become vitally interested in his own health achievement as well as in that of his group. He must be encouraged and in every way helped in the carrying-out of a good health programme. Every possible device must be used to ensure his whole-hearted participation in this programme. Good stories, pictures, dramatization, games, ★ daily inspection, regular measuring and weighing, etc.,

★ Daily inspection should start in this grade and should be continued throughout the first four or five grades. It should be made pleasurable, not disagreeable, encouraging and interesting, avoiding discouragement and monotony, and should be made a part of the health-teaching and not an unrelated activity. The points covered in the inspection should be those which can be checked by the teacher and pupil immediately, with emphasis on those for which the child has some share of responsibility.

should be used to this end. A great deal can be done incidentally and in conjunction with the teaching of other subjects as well as in the regularly planned health lesson. Health lessons in the primary grades will of course have relation only to such activities as fall within the child's ability to perform or to control. The teacher must discover at an early date those health habits that her particular pupils are deficient in and seek to emphasize these. The keeping of health records, and especially of height and weight, from month to month acts as a great stimulus to earnest effort and watchfulness on the part of the pupils. The teacher should frequently consult the school doctor's or nurse's report on each child in her class and endeavour to enlist the hearty support and co-operation of the parents as well as of the children themselves.

(1.) *Cleanliness.*—Cleanliness in eating and drinking; avoidance of food handled or sampled by other children or picked up from the floor, ground, or sidewalk; danger of borrowing or exchanging cups, food, etc.; the value of the individual drinking-cup; washing of hands before and after eating, after going to the toilet, after having been soiled with playing or working, and especially after playing games requiring the holding of other children's hands; general cleanliness before coming to school; ★ use of handkerchief; use of toothbrush, use of door-mat and waste-paper basket; cleanliness and good order of books and desks; keeping fingers, pencils, etc., out of nose, mouth, and ears; cleanliness of body and clothing. Regular daily inspection. Use of posters; rules of the health game.

(2.) *Nutrition.*—Encourage the use of cooked cereals, whole-wheat bread, fresh fruit, vegetables, milk and cold water, and the avoidance of tea, coffee, and other artificial drinks. Emphasize best methods of eating and drinking, politeness, thoughtfulness, etc.; constant observance of these methods in daily life.

(3.) *Clothing.*—Care and proper handling of wraps, caps, coats, boots, rubbers, etc., at home and at school; avoidance of unnecessary exposure to cold and wet. Stories and pictures dealing with clothes and clothing materials.

(4.) *Rest and Sleep.*—Importance of frequent change of position and exercise for young children; correct posture in sitting and standing; relaxation through group games and frequent change of exercise without disturbance to others; twelve hours' sleep with windows open.

(5.) *Play Activities.*—Games for home and school—indoor and outdoor; the play spirit expressed in constructive activities and expressional work—building, drawing, modelling, number-work, etc., free running and skipping games; quiet standing and sitting games; rhythmic and dramatic play; organized group games; use of playground equipment.

(6.) *Fresh Air, Sunshine, and Ventilation.*—Help children to love the out-of-doors as their most healthful and happiest environment, to enjoy the sunshine, and to work or play in the midst of growing things. Encourage them to sleep in the open or in bedrooms with windows open.

(7.) *Elimination.*—Habits of regularity a matter of great importance. Training at school should carry over into a good home programme. Children must be excused from the class-room immediately on request. Close supervision and daily inspection of toilets required.

(8.) *Accident-prevention.*—Adjustment to those particular danger situations that young pupils are most likely to encounter (1) at their homes; (2) on the streets or highways going to or from school; (3) in the school-room or on the

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★ NOTE.—Procedure for handkerchief drill: Each pupil displays a clean handkerchief, folds same loosely in hand, blows gently but suddenly one nostril and then the other—never both at once—folds soiled part inside and returns to pocket. This exercise may be given once or twice a day for a week, when the proper method will have been sufficiently learned.

playground. The prompt and efficient response of children to the fire-drill signal should be secured through frequent practice. The necessary practice can be secured first by the teacher commanding her own pupils, then combining them with those of an adjoining room, and finally (and less frequently) with all of the pupils in the general fire-call.

(*See* common danger situations and note on Safety Education, pages 105–107.)

NOTE.—The most efficient method of teaching the proper use of the toothbrush is to have each child bring his or her own toothbrush to school, securely wrapped in clean paper, together with a cup for water; but this method should not be followed unless the strictest precautions are taken to prevent the unwrapping of brushes previous to the actual beginning of the toothbrush drill. The proper method of brushing the teeth and gums should be demonstrated, never brushing crosswise on the teeth, but always moving the bristles of the brush, with a turning movement of the hand, from the base towards the crown of the tooth. A slight rotary movement of the brush also helps to dislodge particles from between the teeth and to improve the condition of the gums.

A tooth-wash consisting of lime-water, not too strong, is recommended as a valuable cleansing agent and may be used in place of tooth-paste. It can very easily be made as follows: Take a lump of stone-lime (quick or unslaked lime) about the size of a hen's egg, and crush it with a hammer; put into a clean quart jar and fill with cold water, shake and allow the lime to settle; pour this water off and throw it away; fill the jar up again with cold water, allow it to stand overnight, and then pour the clear lime-water off into a clean bottle for use. The lime-jar may again be filled up with cold water and covered so as to keep out all dust. This second supply can be used in a few days. Lime-water should be diluted at first and the strength gradually increased as the gums become accustomed to it. The toothbrush should be carefully rinsed after using—occasionally in very hot water—and allowed to dry thoroughly. A new brush should be soaked in strong salt water for a couple of hours before using. This cleanses it and sets the bristles. Using salt in water for rinsing the mouth is a good practice.

(*b.*) PHYSICAL EXERCISES AND GAMES.—Syllabus of Physical Training for Schools.

GRADE II.

1. Language.

Language-training in the Second Grade differs from that of the First Grade in degree rather than in kind. As in Grade I., by far the greater portion of the time must be devoted to the development of power in oral language. In this grade, as in all grades and in all subjects, it is essential that there be a definite aim to each lesson, giving direction and meaning to the various steps in the development of the lesson. In order that the pupil may have the proper "set," "attitude," or "adjustment," he should be conscious of this aim (*see* Thorndike's "Laws of Learning"). This may be attained by the methods outlined for Grade I.

(1.) Conversational lessons on such topics as: A birthday party; an automobile ride; a school picnic; a visit to the fall fair; playing a favourite game, etc.

(2.) *Projects.*—(*a.*) Primitive Life—Tree-Dwellers and Cave-Men; Eskimos; Indians.

(*b.*) Neighbourhood studies—Going to town; streets and cars; principal buildings in neighbourhood or city—churches, library, banks, post-office, railway-station, factories, stores, the fire and police departments, the sea, boats in the harbour, a visit to the beach, park, the circus, the fall fair.

(*c.*) How we travel.

(*d.*) Preparation for winter—How mother prepares for winter; how the farmer prepares for winter; how animals prepare for winter.

(3.) Reproduction and dramatization of stories.

(4.) Memorization of short poems.

(5.) Relating an interesting experience in three or four sentences.

(6.) *Written Work.*—(*a.*) Capitals—Names of persons, places; days of the week; months; pronoun "I."

(*b.*) Punctuation—Period at the close of statement; question-mark at close of question; period after abbreviation.

(*c.*) Abbreviations—Simple abbreviations that occur in readers.

Children's names and addresses; name of city; spelling and dictation exercises as prescribed; list of materials required for a project; names of characters in a story; three or four easy sentences upon some topic of interest; special words to be used in sentences.

READING.—Oral and silent reading according to methods outlined for Grade I. Standardized tests to measure rate and comprehension in silent reading should be given periodically in the Second Grade (*see* list under Grade VIII.).

The First Reader of The Silent Study Readers, Sherman, Reid, MacKenzie (Dent & Sons), will be found very suitable for giving definite and specific exercises in rapid silent reading.

PHONICS.—Grade I. work reviewed. Additional work—igh, ough, tion, k and g before n (knock) (gnaw), w before r (write), dg in bridge, ea in head, o in love.

Phonics applied to the recognition of new words in the reading lessons.

SPELLING.—Pupils should at the end of Grade II. be able to spell all words of Grade II. minimum and supplementary lists with 100 per cent. accuracy, whether words are given in lists, sentences, or paragraphs. Follow carefully directions to teachers given in prescribed spelling-book.

PRESCRIBED TEXT-BOOKS:

*The Canadian Readers, Book II. (Gage & Nelson).

*Spelling for the Grades.

SUPPLEMENTARY READERS:

Hiawatha Primer, Continued (Houghton, Mifflin & Co., Boston).

Progressive Road, Book II. (Gage, Toronto). Prices, 60c. and 70c.

Manly, Rickert, Leubrie: Good Reading, Second Reader (Gage, Toronto).

Blaisdel: Child Life, A Second Reader (Macmillan, Toronto).

Horace Mann Readers, New Second Reader (Longmans, Green, Toronto).

Young & Field: Literary Readers, Book II. (Ginn).

Sherman, Reid & MacKenzie: The Silent Study Readers, Book I. (Dent, Toronto). Price, 55c.

Winston Second Reader (Winston Co., Toronto). Price, 70c.

Lewis & Rowland: The Silent Readers, Second Reader (Winston Co., Toronto).

Dickie: Canadian History Readers; All About Canada for Little Folks and All About Indians (Dent, Toronto). Prices, 50c. and 55c.

Dickie: Canadian Geography Readers; Letters to Grade I. (Dent, Toronto). Price, 50c.

The Andrew Lang Readers, Blue Series, Books I. to VII. (Longmans, Green, Toronto). (Fairy Stories.)

TEACHERS' REFERENCE BOOKS:

As for Grade I.

2. Writing.

*Compendium No. 2 of the MacLean Method of Writing is to be used by the pupils. Teachers will use the Teachers' Complete Manual as their guide. All new capital letters should be taught at the blackboard. The pupils' writing, with pencil or pen, should be the same size as that shown in the Compendium. Pen and ink should be introduced when the child has developed a light touch and can write with a free, rhythmic movement as outlined in the Teachers' Manual.

3. Arithmetic.

STUDY OF THE NUMBERS TO 100.—Review thoroughly work of Grade I. Drill from blackboard and flash-cards until pupils can recall automatically the facts which they learned from the concrete work the previous year. Teach the combinations not already mastered in Grade I. Give rapid drills until the children can give answers at sight. Stress should be laid on the addition and subtraction facts and various devices should be used to secure the mastery of the new combinations. Make frequent use of such games as "I am thinking of two numbers whose sum is 9 or 13, etc. Name them"; similarly with differences.

Drill from blackboard or chart with such problems as:—

8	6	8	7	5	8	7	8	8	9
+7	+5	+9	+8	+6	3	4	4		
					4	2	5	+	+
								17	17

* Supplied free to public schools by the Department of Education.

Seat-work should be closely supervised, otherwise pupils are likely to get results by counting rather than by combinations.

NOTATION AND NUMERATION.—Teach the location of the units', tens', and hundreds' places. Reading and writing, in figures and words, numbers to 100:—

74=7 tens and 4 units. 63=6 tens and 3 units.
4 tens and 9 units=49. 3 tens and 1 unit=31, etc.

Teach the meaning of the following (no formal definitions): Plus +, minus —, add, subtract, sum, difference.

Extensions of the combinations up to 100 and reverse, thus: 27+4=31; 31—4=27. Emphasize the terminal figure.

Drill from blackboard or chart with such problems as:—

17	27	37	19	29	39	
+ 5	+ 5	+ 5	— 4	— 4	— 4	
7+5=12		22+7=29		43+5=48		
12—5= 7		29—7=22		48—5=43		
10	10	10	10	20	13	13	14
1	4	8	10	—10	— 3	—10	—10, etc.

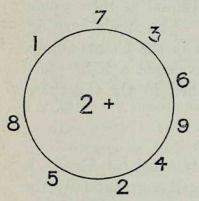
Add and subtract 2's, beginning at any number, thus: 2, 4, 6, 8, etc.; 27, 25, 23, 21, etc.

Add and subtract 4's, beginning at any number, thus: 13, 17, 21, 25, etc.; 38, 34, 30, 26, etc.

Add and subtract 3's, beginning at any number, thus: 16, 19, 22, 25, etc.; 32, 29, 26, 23, etc.

Count by 10's and 5's, up to and back from 100. Thus:—

10, 20, 30, 40, 50, etc.; 100, 90, 80, 70, etc.
5, 10, 15, 20, etc.; 100, 95, 90, 85, etc.



Drill, using some such device as is shown on the circle: Add 2 to each figure on the circle until pupils can recall results automatically; then substitute 12, 22, 32, for the 2. When 2 and its extensions are completed, use 3 and its extensions. In the same way continue with 4, 5, 6, 7, 8, 9, and their extensions. A few minutes should be spent each day on such drill until the pupils completely master the combinations and extensions (figures should not be arranged consecutively on the circle).

Add first orally, then silently, such columns of figures as the following. Time tests should be given frequently, about 10 columns at each test.

6	5	9	4
7	9	2	5
5	2	1	8
4	8	8	2
9	4	4	7
8	7	6	3
2	3	3	6

Pupils should not be allowed to count. They must be taught to add each column without hesitation and to proceed thus: 10, 19, 23, 28, 35, 41. Then add, beginning at the top, thus: 13, 18, 22, 31, 39, 41.

Continued subtraction:—

20—6—5—4=
41—8—4—9—6=

Give such problems as the following in subtraction (no borrowing). The additive method or "take away" method with equal additions, or the "take away" decomposition method may be used. It is recommended, however, that the same method be followed throughout all divisions of each school.

THE FRACTIONAL PARTS, ½, ¼.—The work should be presented objectively and should include such consideration as one-half or one-fourth of an apple or other object; ½ or ¼ of a group of objects, as ½ or ¼ of 12 apples, 16 oranges, etc.

CANADIAN MONEY.—The meaning of $, c. Coins: Cent, 5c., 10c., 25c. (quarter), 50c. (half-dollar).

MEASURES.—Teach the use and relation, by actual measurement, of inch and foot, pint and quart.

Children should make paper rules and use them in their constructive work. They should solve simple problems such as the following:—

How many inches in 1 ft. 5 in.? In 1 ft. 9 in.? 1 ft. less 2 inches = ; 1 ft. less 5 inches = .

How many pints in 1 qt. 1 pt.? In 3 qt.? In 4 qt. 1 pt.?

One dozen = how many? I doz. and 4 = how many? 1 doz. less 5 = how many?

Show the relation of day, week, and month.

Telling time, using both the Arabic and Roman notation.

Roman numerals to XII.

4. Manual Arts.

(*A.*) STICK-LAYING, PLASTICINE MODELLING, PAPER-CUTTING.—The directions given for hand-work in the course prescribed for Grade I. are equally applicable for Grade II.; the work, however, should be of a more advanced and better-balanced character, and much opportunity should be given the pupils to express themselves freely in design and illustration.

Where pupils have not received instruction in hand-work in Grade I., the teacher should follow the course as set forth under that grade; but in schools where instruction was given during the first year, the chief attention should be devoted to the following parts of the work as outlined under Grade I.:—

Stick-laying.—(*a.*) Geometric and regular forms to be worked into border designs.

(*b.*) Illustration of rhyme and story.

NOTE.—By speaking of the sticks as the "one-inch stick," the "two-inch stick," etc., the child will be helped to form a definite notion of the "inch" as a measuring unit.

Plasticine.—(*a.*) Various forms correlating nature study.

(*b.*) Illustration of rhyme and story in bas-relief.

Paper-cutting.—(*a.*) Symmetrical forms with paper folded.

(*b.*) Illustration of song, reading lesson, and story.

Teachers' reference books (*see* Grade I.).

(*B.*) DRAWING.

First Term.

As in Grade I., but with more attention to form, better handling of materials, and more power of illustration (*see* Teachers' Manual of Drawing and Design).

Second Term.

Object Drawing.—Drawing of simple rectangular flat forms in pencil, outline, or outline plus flat wash. Objects to be simple in shape and proportion. Method of drawing the vertical, horizontal, and oblique line to be taught in conjunction with object drawing.

Nature Drawing in pencil, crayon, or colour, etc., from flowers or leaves.

Design.—Borders and simple geometric areas, such as squares, rectangles, to be coloured in monochrome and complementary harmonies. Ruler to be used in design-work when necessary and correct measurement obtained (*see* Teachers' Manual of Drawing and Design).

5. Nature Lessons and Geography (to be correlated with the Language and Drawing Lessons).

(*A.*) NATURE LESSONS.

Autumn (September, October, November).

General.—Materials and sources of same which enter chiefly into our clothing, building and furnishing of our homes, etc. Again contrast modern conditions with primitive; preparation of plants and animals for winter, seeds ripening, leaves falling, hibernation of animals, migration of birds.

Animal Life.—(*a.*) Domestic animals and pets; a comparison of familiar animals based upon observation along the following lines: method of eating and drinking, sleeping, running, playing, calling, fighting, etc. (*b.*) Wild animals —deer, bear. (*c.*) Insects—cabbage butterfly, grasshopper, collecting and storing of cocoons.

Plant Life.—(*a.*) Food-plants, more careful study of the corn and pumpkin. Food-storage. (*b.*) Wild flowers—daisy, yarrow, aster. (*c.*) Garden flowers —aster, cosmos, planting of bulbs. (*d.*) Trees and shrubs—alder, birch, vine-maple.

Winter (December, January, February).

General.—Winter conditions, value of ice and snow, sports, home duties. Heating our homes—fire, fuel, etc. Primitive methods compared with modern.

Animal Life.—(*a.*) Wild animals—fox, squirrel, chipmunk. How wild animals spend the winter. Stories of animals in the wild. (*b.*) Birds—wood-pecker, owl, towhee. (*c.*) Insects—spider (in contrast with insects already studied).

Plant Life.—(*a.*) Food-plants—potato, onion, carrot, celery. Note part of plant used for food. (*b.*) Trees—evergreens (Douglas fir, spruce, or balsam); contrast with pine.

Spring (March, April, May, June).

General.—Seasonal characteristics as spring advances. Weather chart. Spring work and spring games.

Animal Life.—(*a.*) Domestic animals; visit to a farmyard; kindness-to-animals week. Stories of animal fidelity and the proper treatment of dumb creatures. (*b.*) Wild animals; small animals in the pond—frogs and toads. (*c.*) Birds—bluebird, wren, humming-bird, record of first appearance of species. (*d.*) Insects—life-histories continued; the cricket; distinguish moth from butterflies.

Plant Life.—(*a.*) Garden plants—plant seeds in gardens or window boxes, and observe development of germination. (*b.*) Wild flowers—flower calendar; marsh marigold, bleeding-heart, tree blossoms, such as maple, cherry, and horse-chestnut. (*c.*) Trees and shrubs—spring condition of species already studied; dogwood, red-flowering currant, and spiræa.

(*B.*) GEOGRAPHY.

(*a.*) *Direction.*—The cardinal points of the compass; these to be related to the rising and setting of the sun, the school-room, rows of desks, fences, and streets.

(*b.*) *Time.*—(1.) Sunrise to sunset; daylight and darkness. Teach morning or sunrise, midday, evening or sunset, midnight. These terms to be related to the life of the child. (2.) The days of the week and the names of the months should be taught.

(*c.*) *Weather and Seasonal Changes.*—Pictorial records should be kept for the different months, showing such weather ideas as sunny days, cloudy days, rainy days. Note the direction of the wind.

6. Music.

SECTION I.—SONG-SINGING.—Songs should continue to be taught by ear (rote-singing).

Suggested Songs for First Term.—Good Morning, Merry Sunshine; Morning Bells; Ding, Dong, Bell; Lightly Row; Lady Goldenrod; Come Little Leaves; Jolly Old Saint Nicholas; Buttercups and Daisies; The Cow; Little Water Wagtail; The Bee and the Dove; I'm a Little Busy Bee; Trip and Go; Bed in Summer; Little Drops of Water; Now the Sun is Sinking; The Little Dustman; Gentle Jesus; Poppies; Baby-Bye.

Suggested Songs for Second Term.—Hop, my Pony, Hop; The Fox and the Grapes; The North Wind doth blow; A Valentine for Me; The Fairies; O Sing with Cheery Voices; Buttercups; Summer Joys; All the World is gaily Dancing; O dear, what can the matter be?; Dapple Grey; There was a Little Woman; Where are you going to?; Old King Cole; When Fairies dance and sing; The Woodpecker; Golden Slumber; White Caps; Wynken, Blynken and Nod; Jesu, Tender Shepherd; Angels Sweetly Singing.

SECTION II.—SONG GAMES.—The song games suggested for Grade I. will still appeal to children of Grade II. The following might be added: A frolic; Little Bo-Peep.

SECTION III.—RHYTHM AND TIME EXERCISES.

First Term.

Children should be able to respond to the value of the quarter-note (walking step), the eighth-note (running step), and the half-note. (The foot movements for the half-note will be taught later. At present the children can make the quarter-step and *hold* for the second beat.)

Method.—(*a.*) Play a piece of music containing quarter-notes only; e.g., Mountain March.

(*b.*) Let the children step the following songs: Lightly Row; Jolly Old Saint Nicholas; Little Robin Red-breast; Pussy Willows; Buttercups and Daisies; The Cow; Falling Rain; Poppies; Harebell song; Baby-Bye; I'm a Little Busy Bee.

Second Term.

In addition to the rhythms for First Term the following should be taken: The whole note, the dotted half-note, and the response to 6/8 time (skipping step).

Suggested Songs.—O dear! What can the matter be?; When Fairies dance and sing; Grasshopper Green; Ding, Dong, Bell; Old King Cole.

N.B.—The foot movements for the half-note should be taught, but the whole note and dotted half-note will be taught later. At present the children can step one beat and *hold* for the remaining required beats.

SECTION IV.—VOICE-TRAINING.—Children should be encouraged to sing sweetly and softly. Only the simplest breathing exercises are necessary. The smelling of a flower for deep inspiration, the blowing of a feather for slow expiration are happy suggestions.

The descending scale of Key D should be taken to loo, moo, noo, lo, mo, no.

SECTION V.—TUNE: LEADING TO SIGHT READING.

First Term.

Definite preparation should be made here in connection with the Tonic Sol-fa Modulator for Staff reading in Grade III. It requires all the ingenuity of the teacher to give the necessary drill on the intervals, and yet to avoid monotony by repetition. Children should be able to sing from the Modulator and from hand-signs to syllables and "laa" all notes of the scale in stepwise succession and the notes of the Doh Chord in any order; e.g.:—

Keys C, D, and E, d d′ ; d s ; d′ m ; d′ s .
Keys F, G, and A, d s, ; m s, ; s s, ; d s .

Second Term.

(*a.*) The notes of the Doh Chord taken to "laa" in any order and the other notes of the scale in stepwise succession.

(*b.*) The notes of the Doh and Soh Chords to syllables taken in any order, and "fah" and "lah" in stepwise succession.

(*c.*) Staff Notation to be introduced towards the end of the term. Children should be able to sing the notes *of the Doh Chord in all Keys.*

Suggested intervals in the Tonic Sol-fa Modulator, in addition to those of the first term:—

Keys C, D, E, s r ; s r′ ; s t ; s t, ; t r ; t r′ .
Keys F, G, A, s r ; s t, ; s s, ; s, r ; s, t, ; r t, .

Suggested exercises for pitch-lessons, various keys:—

d d d d : s s s — :
m m m m : d d d — :
d m s s : d′ d′ s — :
m s m d : s s d′ — :

N.B.—*Rules for Modulator Drill.*—(1.) Let the voluntary have an object; e.g., (*a*) to "fix" a new tone; (*b*) to test skill; (*c*) to teach a new song.

(2.) Let the voluntary have *shape,* making it correspond to some hymn tune or song form, with cadences or points of rest.

(3.) Mix leaps with stepwise movement.

SECTION VI.—EAR-TRAINING.

First Term.

To recognize the notes of the Doh Chord.

Second Term.

To recognize all notes of the scale. The hand-signs should be used in connection with the ear-training. This necessitates individual work. Imitation phrases either sung or played should be taken in both terms.

SECTION VII.—Concurrently with the above exercises, children should hear good music played if possible. The gramophone makes a good substitute for the piano. The music suggested for Grade I. can be used. Schumann's "Album for the Young" is an excellent book for children. Rhythmic Plays can be used in the second term. "Feeding the Birds," "The Hungry Mice," from Kathleen Mortimer's book, are suitable and enjoyable.

Reference books: Wickett—Rote Songs and Singing Games (Gage). Kathleen Mortimer & Gwynne Davies—Rhythmic Work (J. Curwen & Sons, Ltd., London).

7. Health Education.

(*a.*) HYGIENE. (*See* pages 103–109 for a general note on method and for a list of suitable reference books.)

Aim.—To strengthen and develop correct health habits and attitudes, placing emphasis on personal health.

NOTE.—Read carefully the note under Health Education for Grade I. If it is true that habitual responses result from much repetition, then the teacher in Grade II. must constantly hark back to the outline given for Grade I. and must seek to establish a growing satisfaction in the minds of her pupils through a more perfected and harmonious performance of all those health responses. This means that ever-changing motives—to suit the gradually changing interests of the pupils as they grow older—must be resorted to. Besides the more deliberate and specific training given in health behaviour at stated times in accordance with the time-table, much valuable work can be accomplished through what might be termed incidental teaching and continuous application. With all of the children in the lower grades this principle of frequent recall or "continuous" application of health knowledge can be exercised in connection with lessons in reading and oral language, in writing, drawing and manual arts, in singing and story-telling, in games and drills and in nature-study. The making of simple posters and booklets and the collecting of pictures having special significance from the standpoint of health and safety, the use of slogans and mottoes—all tend to "stamp in" these beneficial ideas and responses. Thus all school exercises and experiences will come to have an important bearing on the physical as well as on the mental and social development of the child. In other words, *all of the child is being trained all the time* and unity is being conserved in normal growth.

(1.) *Cleanliness.*—Daily practice of everything mentioned under this heading in Grade I. The simplest and most obvious reasons for the more common health practices may be given. Washing and bathing; reasons for keeping hands clean and occasions for washing; a full bath at least twice a week, reasons both personal and social; reasonable care in keeping clothing and shoes clean; helping to keep the class-room halls, basement, and grounds clean.

(2.) *Nutrition.*—Continue the exercise of everything indicated under Grade I. Value of drinking plenty of pure water between meals and before going to bed; importance of eating slowly; value of plain foods and vegetables rather than pastry and sweets; value of milk and fruit; weighing and measuring of pupils.

(3.) *Clothing.*—Vigilance and daily practice in proper management of clothing as indicated in Grade I. Use of pictures and stories pertaining to the clothing of people of other lands; clothing for different seasons; sources of materials; emphasize value of neatness.

(4.) *Rest and Sleep.*—Review and continue this topic as indicated for Grade I. Why we sleep; how much sleep is needed for children at this age; benefits derived under proper sleeping conditions; value of short rest periods in forenoon and afternoon.

(5.) *Exercise and Fresh Air.*—*See* topic (5) under Grade I. Value of playing and working out-of-doors; how fresh air helps in the school and in the home (have the pupils observe how air moves when a room is being ventilated—match-flame or smoke can be used); use of play and relaxation periods with open windows or out-of-doors; outdoor games before or after school (three to four hours of free play daily for children of this grade).

(6.) *Attitude towards Health.*—An aggressive, *positive* attitude towards good health is better than a negative, warning attitude towards ill-health; aim to give the children a positive interest in their own well-being by enlisting their co-operation in all health-developing activities—proper eating and drinking, cleanliness, ample sleep, regularity of elimination, and by playing in the open air. Emphasize the idea that every pupil should look his best and feel his best preparatory to the day's work.

(7.) *Accident-prevention.*—Practice regularly everything indicated under Grade I. Special danger situations observed and clearly understood—crossing streets, playing on streets, traffic signals, etc.

(*See* common danger situations and note on Safety Education, pages 105–107.)

(*b.*) PHYSICAL EXERCISES AND GAMES.—Syllabus of Physical Training for Schools.

GRADE III.

1. Language.

OBJECTIVES.—(1.) To have children share their experiences through oral expression in a free and ready manner.

(2.) To eliminate wrong forms of speech actually used by the children and to habituate correct forms and the use of the usual courtesies of speech.

(3.) To develop in children the power to write correctly four or five short sentences on a given topic and the ability to criticize their own work.

(4.) To develop ear-training so that there shall be a sensitiveness to correctness of speech.

(5.) And, generally, to aid the children through conversation and literature in acquiring a reading and speaking vocabulary sufficient for their needs.

ORAL COMPOSITION.—The methods outlined for Grades I. and II. may be followed closely; the greater portion of the time devoted to language-training must still be given to oral work.

(1.) *Conversation.*—Opportunities for language-training arise in every one of the school subjects or activities. This is especially true of the work in history, geography, and nature study, where the need for conversation or language constantly arises. This conversation should be employed, however, to meet the needs of the occasion and should not be conversation merely for conversation's sake. Such topics as are listed below are also suggested as suitable, not as a list to be worked through, but as being of value when a proper motive for discussing them has been found. Other topics, if based upon native or acquired interests, may furnish motive equally well. These oral conversations will be the most effective when the pupils discuss them from their interest in the topics themselves without having it in the focus of consciousness that the lesson is a language lesson.

(*a.*) A motor ride.
(*b.*) Topics arising out of seasonal changes; e.g., the first robin; the first flower; the budding of the leaves; weather conditions, etc.
(*c.*) Some game of local interest recently played.
(*d.*) Events of local interest as they occur.
(*e.*) Local visitors.
(*f.*) Berry-picking.
(*g.*) The school picnic.
(*h.*) The last school holiday.
(*i.*) A picture I like.
(*j.*) A story read recently.

(2.) *Reproduction of Short Stories.*—In the reproduction of such stories the pupils should be trained to speak in a natural tone of voice.

(3.) Original story-telling to keep the imagination of childhood continuously active: (*a*) By making original fables on studied models; e.g., "The Fox and the Grapes" changed to "The Mouse and the Cheese," "The Cat and the Bird," etc. (these to be suggested by the children); (*b*) by telling the story from different points of view; e.g., "The Frog and the Ox" told, first, by a crow who saw it all; second, by the ox; etc.

(4.) *Dramatization.*—The children enjoy this part of the work to a greater degree if they select the players and do the directing themselves.

NOTE.—While it is not advisable in all oral work to hamper the flow of thought by excessive criticism, the children may be encouraged to correct each other's errors; e.g., "Excuse me, Jean, I think you said *done* for *did*," etc. This is a form of socialized lesson.

(For suggestions regarding dramatization *see* index in Parker's "Types of Elementary Teaching and Learning"; also Freeland's "Modern Elementary School Practice," Chapter 7; "The Dramatic Method of Teaching"—Finlay-Johnson (Jas. Nesbit & Co., Ltd., 22 Berners Street, London, W.).)

(5.) *Pronunciation and Enunciation.*—Careful drill should be given on correct production of words which children habitually pronounce or enunciate in a faulty manner, as catch, window, eleven, picture, have to, etc.

WRITTEN COMPOSITION.—(1.) Answering questions written on the blackboard; filling in blanks in sentences to illustrate correct use of was, were; have, has, etc.; and simple homonyms, such as hear, here; to, two, too, etc.

(2.) Following oral preparation, to write compositions of not more than four or five sentences on well-known topics, a simple personal experience, or a story read.

(3.) *Capitalization.*—At the beginning of sentences and lines of poetry; names of persons, places; days of the week; months of the year; pronoun "I"; name of school; class-teacher; principal.

(4.) *Punctuation.*—Period at the end of assertive sentence; question mark at end of question; correct punctuation of child's name and address; period after abbreviations used; apostrophe to indicate possession.

(5.) *Abbreviations.*—Mr., Mrs., St., days of week, months of year, pupil's initials, B.C., ft., yd., qt., pt.

(6.) *Grammatical Forms.*—Drill to correct errors occurring in pupil's composition, such as the following: "My book is tore" (torn); "It was me" (I); "that there," "them books," etc. Teachers should compile list of daily errors.

(7.) *Letter-writing.*—As children in this grade in actual life activities outside of school frequently write letters to absent relatives and friends, it is necessary to give due attention to instruction in the writing of the friendly letter as a part of the work at this stage.

It should be carefully noted, however, that this work must be motivated. The need for writing such a letter must arise. Mere formal teaching of letter-writing from a model is not sufficient. The children may wish to write: (1) To a classmate who is absent on account of illness; (2) to a former teacher; (3) to another class or school extending an invitation to attend a school concert. Occasions determined by local conditions will frequently arise to furnish a need for, or an interest in, letter-writing.

A Project.—Making a book and copying in it the best compositions written during the term is a very helpful way of getting children to take interest and pride in written work.

READING AND LITERATURE.

Oral Reading.—Canadian Reader, Book III., and recommended supplementary readers.

Silent Reading.—From this grade on an ever-increasing portion of the time devoted to reading must be given to silent reading. Provision should be made in the time-table for specific exercises to increase rate and comprehension in silent reading. (*See* Bibliography for this grade.) The regular readers prescribed and recommended should be used for this work. The Second Reader of The Silent Study Readers, Sherman, Reid, MacKenzie (Dent & Sons), will be found most suitable for giving definite and specific exercises in rapid silent reading.

Spelling.—Words of Grade III. minimum and supplementary lists with 100 per cent. accuracy.

PRESCRIBED TEXT-BOOKS:

*The Canadian Readers, Book III. (Gage & Nelson).
*Spelling for the Grades.

SUPPLEMENTARY READERS:

Progressive Road to Reading, Book III. (Gage, Toronto). Price, 70c.
Heart of Oak Books, Book II. (Gage, Toronto). Price, 70c.
Mary Gay Stories (Gage, Toronto). Price, 68c.
Manly, Rickert, Leubrie: Good Reading, Third Reader (Gage, Toronto).
Sherman, Reid & MacKenzie: The Silent Study Readers, Book II. (Dent, Toronto). Price, 55c.
Lewis & Rowland: The Silent Readers, Third Reader (Winston Co., Toronto).
Dickie: Canadian History Readers; How Canada was Found (Dent, Toronto). Price, 65c.
Dickie: Canadian Geography Readers; The Book of Wonders (Dent, Toronto). Price, 55c.
Reading and Thinking, Grade II. (Nelson, Toronto).
The Andrew Lang Readers, Blue Series, Books I. to VIII. (Longmans, Green, Toronto. (Fairy Stories.)
Horace Mann Readers, New Third Reader (Longmans, Green, Toronto).

FOR TEACHERS' USE:

Chubb: The Teaching of English (Macmillan, N.Y.). Price, $1.75.
Carpenter, Baker, and Scott: The Teaching of English (Longmans, Green & Co., London).
Deming: Language Games in all Grades (Beckley-Cardy Co., 312 W. Randolph Street, Chicago).
King: Language Games (Educational Book Co., Boston).
Bulletin, 1923, No. 43, Games and other Devices for Improving Pupils' English (Bureau of Education, Department of Interior, Washington, D.C.).
Freeland: Modern Elementary School Practice (Macmillan, N.Y.). Price, $1.75.
Wilson & Wilson: Motivation of School Work (Houghton, Mifflin & Co., Boston).
Klapper: The Teaching of English (Appleton, New York).
Parker: Types of Elementary Teaching and Learning (Ginn, Boston).
Bryant: How to Tell Stories to Children (Houghton, Mifflin & Co., Boston).
Jenkins: Reading in the Primary Grades (Houghton, Mifflin & Co., Boston).
McMurry: Teaching by Projects (Macmillan, N.Y.). Price, $1.75.

2. Writing.

*Compendium No. 3 of the MacLean Method of Writing is to be used by the pupils. Teachers will use the Teachers' Manual as their guide. Legibility and freedom should be emphasized in all written work.

* Supplied free to public schools by the Department of Education.

3. Arithmetic.

Prescribed Text-book: *Sheffield and Brown—New Canadian Arithmetics, Primary Book, Part I. (Dent), omitting difficult problems and work not related to the topics outlined below.

AIMS.—The emphasis in Grade III. should be on the mastery of the addition and subtraction facts, and on the learning of the facts of the multiplication tables up to 12 times 12, and the parallel facts of division. The year's work should include a thorough review of the number facts taken in the previous grades. Continue daily drill on combinations and extensions.

NOTATION AND NUMERATION:

Reading and writing of numbers to 10,000.
Reading and writing of Canadian money to $1,000.
Reading and writing of Roman numerals to L.

COUNTING:

By 10's, 5's, and 2's to 100, beginning at any number.
By 3's and 4's to 50, beginning at any number.
By 6's to 72, beginning 6, 12, 18, etc.
By 7's to 84, beginning 7, 14, 21, etc.
By 8's to 96, beginning 8, 16, 24, etc.
By 9's to 108, beginning 9, 18, 27, etc.

ADDITION within number limit of 10,000.

Single column to 50.
Multiple column within number limit.
Broken column with as many as five addends, including one or two with four digits.
Dollars and cents, sums not to exceed $100.
Addition by constant endings, as in:

$2+4=$; $22+4=$; $32+4=$; etc.
$12+4=$; $42+4=$; $62+4=$; etc.

Give practice in adding horizontally.
Teach checking of addition by adding in reverse order.

SUBTRACTION within number limit of 10,000.

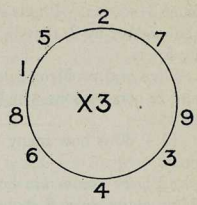
Either the additive method or "take away" method with equal additions, or the "take away" decomposition method may be used. It is recommended, however that the same method be followed throughout all divisions of graded schools.
Minuends of 2, 3, or 4 digits.
Dollars and cents, minuends not greater, than $100.
Examples with zero in the remainder, in the subtrahend, in the minuend, or in both subtrahend and minuend.
Teach checking of subtraction by addition.

MULTIPLICATION:

Multiplication facts of tables to 12×12, with special emphasis on facts to 9×9.
Short multiplication with multiplicands of three figures, 10, 11, and 12 to be regarded as one-figure multipliers.
Short multiplication of dollars and cents, products not to exceed $1,000.
Teach checking of multiplication by repetition.

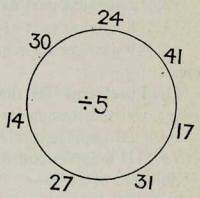
* Supplied free to public schools by the Department of Education.

Give drill involving the use of the different multiplication tables, using circles, etc., on blackboard or floor, as in annexed diagram; require pupils to start anywhere on the circle and name the products.



Use similar drill for division and introduce numbers involving remainders.

Give such examples as:—
Oral work: $4\times7+3$; $4\times7-3$; $5\times9+7$; $5\times9-7$.
Written work: $295\times8+290$; $295\times8-290$.



Oral drill on the facts of the multiplication tables should be given in abundance.

DIVISION:

Even division facts corresponding to multiplication facts of tables to 12×12, with special emphasis on facts of tables to 9×9.
Even division with dividends of four figures and with divisors not greater than 12; 10, 11, and 12 to be treated as one-figure divisors.
Short division with remainders.
Division of dollars and cents, dividends not to be greater than $1,000.
Check division by multiplication.
Fractional parts, $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, etc., to $1/12$.

It is recommended that the multiplication tables be taught as the families of 2, 3, 4, etc. The order of work with each family should be:—

(1.) Facts of multiplication table of, say, 3's.
(2.) Short multiplication by 3.
(3.) Facts of division table of 3's.
(4.) Short division by 3.
(5.) The fraction $\frac{1}{3}$.
(6.) $\frac{1}{3}$ as a fractional part; $\frac{1}{3}$ of 24; $\frac{1}{3}$ of 69; $\frac{1}{3}$ of 942.

FRACTIONS:

Meaning of $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, to $1/12$; $\frac{2}{3}$, $\frac{3}{4}$.
$\frac{1}{2}$ in., $\frac{1}{2}$ doz., $\frac{1}{2}$ hr., $\frac{1}{2}$ lb., $\frac{1}{4}$ doz., $\frac{3}{4}$ doz.
Addition and subtraction of like fractions up to and including fourths.

FRACTIONAL PARTS.—Develop from division of lines, rectangles, etc.

Associate with grouping and division. Thus: If 24 articles are placed into 2 groups of 12 each, a pupil can see that one of the groups of 12 is $\frac{1}{2}$ of 24. If 24 articles are divided into 3 groups of eight each, he sees that one group of 8 is $\frac{1}{3}$ of 24, etc.

Teach the idea, the reading and writing of $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$, etc., to $1/12$.

Teach the pupils to find one equal part of any quantity within these limits where the result is a whole number, as $\frac{1}{2}$ of 12 inches, $\frac{1}{3}$ of 18 miles, $\frac{1}{4}$ of 3572,

⅕ of 3145, etc. Pupils should be taught that ½ of a number is found by dividing the number by 2, that ⅓ of a number is found by dividing it by 3, ⅕ by dividing by 5, etc.

Give oral problems such as the following (confine to multiplication-table facts and to comparisons which produce whole numbers or fractions with a numerator of 1):—

(1.) 30 is how many times 3? How many times 5? How many times 10?; etc.

(2.) 24 apples are how many times 4 apples? How many times 6 apples? How many times 8 apples?; etc.

(3.) 7 is what part of 14? of 35? of 56?; etc.

(4.) 8 is what part of 24? of 40? of 56? of 72?; etc.

(5.) 9 oranges are what part of 27 oranges? of 45 oranges? of 72 oranges?; etc.

Give problems like the following (oral work first seven months of the school year; written statements and oral during the last 3 months):—

(*a.*) If 6 apples cost 30c., what will 18 cost?

(*b.*) If 6 apples cost 30c., what will 2 cost?

Solution of (*a*):—

6 apples cost 30c.

Therefore 18 apples cost 3×30c.=90c. (× should be read "times.")

Solution of (*b*):—

6 apples cost 30c.

Therefore 2 apples cost ⅓ of 30c.=10c.

PROBLEMS:

In the beginning, pupils should be required to give the answer only. As the year progresses, an understanding of the steps in the analysis of problems should be built up. The problem material should be drawn from the activities and experiences of children.

Types: Simple oral one-step and two-step problems.
Simple one-step and two-step problems.
Problems originated by pupils.
Problems without numbers.

The processes involved should include:
Addition.
Subtraction; remainder, difference, and additive types.
Multiplication.
Division; measuring, and fractional or partitive types.

Written work: The order of progression in written work during the year should be:—

(1.) Teacher dictates problem; pupils write answer only.
(2.) Pupils read problem from book or blackboard and write the answer.
(3.) Pupils write the answer and a statement.
(4.) Pupils write computation, statement, and answer. The written statements should be as simple as possible.

MEASURES: Review previous work.

Minute, hour, day, week, month, year; inch, foot, yard; pint, quart, gallon; ounce, pound; dollars and cents.

Establish the relation of the units in denominate numbers, where possible, by actual use of the units. Thus: The pupils should measure their books in inches, their desks in feet and inches, and the blackboard, etc., in yards, feet, and inches. Give one-step problems in reduction. For example, 6 feet=how many yards? 2 yards=how many inches? etc.

VOCABULARY:

Teach the meaning and use of the following terms (no formal definitions): Add, addition, sum, plus, column, subtract, subtraction, less, minus, remainder, difference, times, multiply, multiply by, multiplication, product, multiplier, divide, divide by, division, divisor, dividend, quotient.

4. Manual Arts.

(*A.*) CARDBOARD MODELLING.

Materials.—Thin card, paste, paper-fasteners, string, rivets, pins, thin sticks (matches or kindling), match-boxes, corks.

Tools.—Rule, set-square, scissors (cutting-board, knife, and awl, optional).

Method.—A series of simple objects should first be made by the pupils that they may acquire some skill in the use of drawing instruments and tools, and in the method of laying out the work on the card, and that they may gain a knowledge of the geometrical figures, and ascertain the limitations of the material. Afterwards, the pupils should be encouraged to suggest ideas for toys. Some of these might be worked as class projects while the brighter pupils are engaged in the execution of individual models. Finally, more ambitious work might be attempted, such as illustrations of historical scenes and incidents, models of noted buildings, bridges, etc. For these attempts the class should be broken up into several groups, each group having its own particular part in the general project.

"In all the occupations taken, one dominant factor should be the *thought* behind the 'making' and the 'doing,' the relation between what is made and the life around, the little chats about the things made, their use and purpose, the frequent play of fancy and imagery, and so on. Only in this way can exercises, so often degenerating into mere pastimes or mechanical processes, become enriched with thought and meaning, and so fulfil their purpose in all-round development."

Course.

Cardboard Construction.—(1.) Square tray; box with lid; triangular tray; money-box; waste-paper basket.

(2.) Toys suggested by pupils; e.g., boats, motor-cars, wheelbarrows, trains, carts, trucks, wagons, etc.

(3.) Doll's house and furniture.

(4.) Models of houses, churches, public buildings, with which the children are familiar.

(5.) Historical scenes; e.g., early settlement days, Indian camp-life, etc.

(6.) A sand-table project for such subject as "An Indian boy before the white man came," for which cardboard and plastic models should be used.

Plastic Models.—These should be correlated with the Nature and Geography lessons and should include various fruits, vegetables, leaves, etc.; boats, lighthouses, etc.

Reference books for teachers' use: Toymaking in School and Home—Polkinghorne (George G. Harrap & Co., Ltd., London, England); price, 10s. 6d.

Handwork for the Classes—J. S. Lay (Evans Bros., London, England); 2 vols.; price, 3s. 6d. each.

(*B.*) DRAWING.

Object Drawing.—Flat forms of varying shapes in upright and oblique positions; in outline and outline plus flat wash. Method of drawing oblique lines and art-curves.

Nature Drawing.—Simple leaves, flowers, fruits.

Design.—Borders, squares, triangles, rectangles, subdivided with straight lines and arcs. Designs to be coloured in monochrome, complementary colours, or harmony of two secondary colours.

Lettering.—Roman alphabet in skeleton capital letters. Lettering applied to simple verse, card, or poster (*see* Teachers' Manual of Drawing and Design).

5. Nature Lessons and Geography (to be correlated with the Language and Drawing Lessons).

(*A.*) NATURE LESSONS.

(*See* note on Nature Study, page 100.)

Autumn.

General.—Earth materials and their uses to mankind in furnishing food, clothing, and shelter—soil, rocks, gravel, sand, peat, etc. Food-plants; review of locally produced foodstuffs, with processes and by-products.

Animal Life.—(*a.*) Domestic animals; review of local animals already studied and extend the study to take in their intermediate usefulness to man—food, clothing, labour, transportation, sport, etc. (*b.*) Wild animals—racoon, porcupine, skunk. (*c.*) Birds—distinguish young from old birds; observe preparations for migration; examine abandoned nests of birds. (*d.*) Insects—the silkworm; collect cocoons of moths; examples of the work of insects.

Plant Life.—(*a.*) Food-plants; seed production of food-plants in field and garden—annuals, biennials, and perennials. (*b.*) Wild plants and weeds—thistle, burdock, observational study of how seeds travel. (*c.*) Trees and shrubs—local deciduous trees in woods, parks, or boulevards; shapes of trees, shapes and location of leaves, buds, and fruit.

Winter.

General.—The home grocery cupboard as representing foodstuffs of foreign production—samples, methods of production, countries and peoples involved, and transportation.

Animal Life.—(*a.*) Wild animals—wolf, coyote; animal-life stories continued. (*b.*) Birds—winter visitors, junco, grosbeak; plan and make bird-houses for spring use.

Plant Life.—(*a.*) Food-plants; study from samples all cereals grown in district and articles of food for man and beast made from each. (*b.*) Trees—evergreen trees not already studied, compare with those previously studied; study of winter buds on fruit-trees.

Spring.

General.—Water on the earth and its great value to mankind; source, forms, work, uses in daily life: (1) To all animal and plant life; (2) to people for daily use; for transportation, pleasure, sports, etc.

Animal Life.—(*a.*) Wild animals—beaver, muskrat, mink; stories, pictures, value. (*b.*) Birds—bird calendar, feeding and nesting, habits of summer residents. (*c.*) Insects—the honey-bee, life-history; ants, work, social life, etc. (*d.*) Pond life; water-beetles, larvæ, etc.

Plant Life.—(*a.*) Garden and house plants; window boxes, house plants, seed germination, seed sowing and transplanting. (*b.*) Wild plants—flower calendar, the clovers, lupines, and broom; enemies (weeds) in the lawn. (*c.*) Trees and shrubs—study of fruit blossoms in tree and bush fruits.

(*B.*) OUT-OF-DOOR GEOGRAPHY.

(*a.*) *Direction and Distance.*—Teach the semi-cardinal points of the compass. Give practice in locating objects, introducing the idea of distance.

(*b.*) *Time.*—Review and extend the work of Grade II.

(*c.*) *Weather Observation.*—Pictorial records continued. Learning to use the thermometer. When is the day the hottest? Cold days, warm days, differences in room and out-of-door temperatures. Note also the wind and its influence, breeze, gale, etc. What will the weather be to-morrow? Correlate with Nature Study as in dispersal of seeds.

(*d.*) *Seasonal Changes*—which affect the life of the pupil. Note, in this connection, preparations for winter, spring activities, summer recreations, and the beauties of autumn.

(*e.*) *How We Live.*—(1.) An Indian boy before the white man came. Simple project activity should be undertaken at this stage, reproducing on the sand-table the British Columbia Indian home-life and customs of other days.

(2.) Our school district of to-day. What has the white man done? Felling of trees, opening of roads, making of fields, mines, wharves, houses, stores, etc. Striking features which the home district provides by way of contrast with the early days.

(3.) The principal land and water forms of the school district should be studied. Simple human use ideas stressed. Advantages or disadvantages of hills, streams, lakes, etc., occurring in the school district. The work of running water forms an admirable field of approach to the acquirement of simple but basic geographic concepts. Various projects may be attempted, such as a plan of the school-grounds, a map or model of the school district or of some prominent feature of that district. The occupations of the people should at all times receive adequate stress, while the more simple transportation facilities and methods of communication should be studied.

At the end of Grade III. the pupils should have acquired a fair groundwork in simple geographical terms and concepts. These to be learned as far as possible from actual observation, from pictures and modelling. Interpretation of simple map forms based upon the home district will give the child a grounding in the "representation" side of geography study.

6. Music.

SECTION I.—VOICE-TRAINING.—The breathing exercises and voice exercises should still be of the simplest nature. The vowels oo, o, and aw should be used, prefixed by m, n, l.

SECTION II.—TUNE.—(1.) Children are expected to be able to sol-fa from the Modulator and sing to "laa" exercises containing any ordinary intervals of the Major Scale.

(2.) To learn to " fe " and " ta."

(3.) To have Staff Modulator drill in all keys.

SECTION III.—TIME.—The symbols for the quarter-note, half-note, eighth-note, and dotted quarter with the eighth-note to be taught. Time ear-tests should be taken. Teacher to tap a phrase, children to clap or step it and give time-names. Well-known tunes with rhythms suitable for tapping might be used; e.g., O dear, what can the matter be?; Auld Lang Syne.

SECTION IV.—TIME AND TUNE.—The work of this section will be practically a test of what has been accomplished in Sections II. and III. Too many difficulties should not be presented at once, although there should be at least one little difficulty to test the initiative powers of the class. The aim is to get children to attack the exercise so that it will not have to be repeated for correction.

SECTION V.—EAR-TRAINING.—In addition to the work in Grade II., children should be required to write on the blackboard (the position of the key-note must be located by the teacher) the note sung or played by the teacher. Hand-signs will continue to be used for the testing. Imitation of phrases of three or four notes to be taken.

SECTION VI.—SONG-SINGING.—The songs should now be generally taught by sight, but where difficult intervals occur in a song it is better for the children to get them by imitation rather than by laboured work on the Modulator. The song is the thing, not the ability to master a difficult interval.

SECTION VII.—THEORY.—Children should be able to answer simple questions on the following terms of notation: Leger line; a bar or measure; bar lines; a beat; double bar; clefs; phrase mark; a tie; repeat sign; a dot; the slur; the pause; marks of expression.

SECTION VIII.—RHYTHMIC WORK.—(1.) Rhythmic plays; e.g., " Snow-balling," " The Sleep Fairies," " Spinning Tops," etc., from Kathleen Mortimer's book.

(2.) Music interpretation from Schumann's " Album for the Young."

(3.) Rhythmic games; e.g., " Gathering Flowers."

Text-book: Coney & Wickett—New Canadian Music Course, Book I. (Gage, Toronto). Price, 25c.

Reference book: Kathleen Mortimer & Gwynne Davies—Rhythmic Work (J. Curwen & Sons, Ltd., London).

NOTE.—All necessary exercises and songs for the year's work will be found in the New Canadian Music Course, Book I.—Coney & Wickett.

7. Health Education.

(*a.*) HYGIENE. (*See* pages 103–109 for a general note on method and for a list of suitable reference books.)

Aim.—To stimulate further an interest in the forming of good health habits, emphasis being placed upon the children's personal responsibility for the carrying-out of health-developing activities at home as well as at school.

NOTE.—The introductory notes under Grades I. and II. should here be recalled.

The twelve " Rules of the Health Game," as proposed by the Junior Red Cross Society (*see* frontispiece in " Physiology and Hygiene for Public Schools," by Ritchie and Caldwell), form an excellent brief summary of the essentials of health behaviour for pupils of the primary grades. The all-important question is not " Does the child know the rules off by heart? " but rather " Does the child

on entering Grade IV. practise these rules every day without being asked to do so by either teacher or parent?" Learning should be all one with living and the only health knowledge that is of value is that which expresses itself in sure and certain, self-directed action.

By the time this grade is reached the pupils will have come to recognize themselves as something more than mere individuals having responsibilities pertaining only to their own welfare. They are members of a school-and-community society and their own best development involves them in much which also affects their fellows. The following paragraph expresses this idea and the social implications of school-life so admirably that teachers should read it critically and then endeavour to handle this, and all other school subjects, in such a way as will bring into the lives of their pupils the experiences and the benefits referred to:—

"These years bring to many children the first important experience in group-life. They should learn self-control through adjustment to the rights and welfare of their playmates. During this period they should learn the virtue of service, of co-operation, of being alternately followers and leaders. They should be encouraged to tell the truth, to be kind in their relationships with other children and with pets, and to be frank, friendly, and good-natured. This will help to prevent the evils of deceit, cruelty, suspicion, and the holding of grudges. Emphasis should be placed on these moral qualities because they are often the source of such happiness or unhappiness as may profoundly influence health and welfare."

("Health Education," prepared by the joint committee of the National Education Association and the American Medical Association under the direction of Dr. Thomas D. Wood, 525 West 120th Street, New York City.)

(1.) *Cleanliness of Person and Surroundings.*—Daily inspection of pupils in the morning—this should include good order, cleanliness of shoes and clothing, condition of hair, face, hands, neck, ears, and finger-nails. Inspection also takes in marks or symptoms of infectious or communicable disease. Care of the finger-nails—should be kept clean and rather short, no biting or picking of nails; care of the skin—washing and bathing; kinds of baths, when to use and why; care of the teeth, reasons. Neatness and cleanness of surroundings in rooms, yards, and basements.

(2.) *Nutrition.*—Recall and emphasize the main points assigned under Grade II. The great importance of food in relation to bodily development, gain in weight, etc.; foods as (*a*) body-builders, (*b*) energy-givers, (*c*) body-regulators; a good lunch for school; emphasize value of milk, green vegetables, whole-grain cereals, and fruit; sweets in moderation and never before meals; good habits in eating; drinking plenty of water and avoiding tea and coffee; a good breakfast poster.

(3.) *Clothing.*—Simple studies in clothing continued from Grade II. Care and neatness in dressing and the proper disposition of coats, rubbers, caps, etc., when not being worn; danger from wearing too heavy clothing and rubbers in the house.

(4.) *Rest and Sleep.*—Work of Grade II. continued. Requirements for healthful sleep—open windows, change to night clothing, darkened room, with reasons; short relaxation periods during the day; outdoor sleeping.

(5.) *Exercise and Fresh Air.*—Constant attention to correct posture in sitting and standing; close correlation with rhythmic play; games and physical exercises suitable to varying conditions; value of being happy and in "playing fair";

attention to the ventilation and heating of the class-room, allowing children to take part in attending to it, in teams or groups, in succession; exercises to induce deep breathing; emphasize importance of breathing through the nose (mouth-breathers should be watched and adenoid trouble quickly identified and reported).

(6.) *Contagious-disease Control.*—Avoidance of play with other children who have whooping-cough or who show skin-eruptions which may indicate disease; keeping to own yard willingly if afflicted with any of these; *colds* and reasons for attending to them; best method of avoiding taking cold.

NOTE.—Any abnormal or unusual condition of the pupils is likely to be observed at the time of the morning inspection. The following symptoms justify directing the attention of the school doctor or nurse or would justify sending the child home: nausea or vomiting, chill, convulsion, dizziness, faintness or unusual pallor, fever, discharging or inflamed eyes, severe cough and sore throat, rash or unusual spots on the skin.

Re "avoiding taking colds": From our present knowledge of communicable diseases, it appears that most of them are transferred from one to another by a fine spray which comes from the mouth and nose of an infected person, and is driven out for a distance of several feet when a person coughs, sneezes, shouts, or spits. Teachers can render a service of inestimable value in the prevention of disease by applying this knowledge to actual behaviour and, by repeated suggestion, instruction, and example, instilling into their pupils the habit of turning away from others when coughing or sneezing and covering the mouth with a handkerchief whenever possible before starting to cough or sneeze. This training should start as early in school-life as possible. In addition to posters, charts can be made showing the values of different foods. If possible, have a definite object in making charts or posters. It is more interesting to make a poster for the school bulletin-board than for no special reason. Bulletin-boards may be effectively used to popularize any special phase of health education, to give interesting information, and to carry on special campaigns.

(7.) *Accident-prevention.*

NOTE.—At this stage the more social phases of safety education should have attention; watchfulness and prevention of danger on behalf of others should now become a conscious purpose in the minds of the children. Continued training along the line of personal safety though correct responses will also be necessary. With age and increasing ability comes love of independence and adventure, hence new dangers and new responsibilities arise. By looking back over the assignments in the first three grades the teacher will be reminded of some of the most important danger situations and these are given in greater detail on pages 106–107. Ability to apprehend a danger situation and to act intelligently and promptly in avoiding or solving it should be steadily increased. This means the development of foresight and should be exercised by pupils of this and later grades in the protection of the younger children, whether at school or on the streets. Civic plans for the safety and protection of the people should now be studied more specifically and the whole-hearted co-operation of the school ensured.

(*b.*) PHYSICAL EXERCISES AND GAMES.—Syllabus of Physical Training for Schools.

GRADE IV.

1. Language.

Grade IV. is the psychological period for the acquirement of mechanical skill. The formation of habits of correct speech and the correct use of the mechanics of written composition should be the chief aim. The language-work of this grade should be put more fully on the project basis, thereby acknowledging the active practical turn of mind of the pupils and correlating the language-work with real needs and interests.

The objectives for Grade III. should be carefully studied and, in the main, followed.

In the conversational topics live discussion at greater length should be encouraged, but garrulousness should be guarded against. The use of short, crisp sentences should be stressed to supplant the rambling statement with many connectives. Variety of expression and a growing vocabulary should now be expected. There should be a close correlation of language with all school subjects.

Oral Composition.—In the treatment of the following suggested topics it is recommended that the procedure as outlined for Grade III. be followed:—

(1.) Duties of home life; indoor and outdoor sports and amusements.

(2.) Workers who minister to our needs—the baker, grocer, iceman, postman, cobbler, etc.

(3.) Reports of observations of familiar plant life and animal life in the immediate environment; of other forms and phases of nature.

(4.) Situations and experiences which illustrate familiar proverbs.

(5.) Team-work and service, as of the Boy Scouts.

(6.) Telling interesting experiences; describing animals, persons, places, and things; giving directions how to go to well-known places of interest; telling how to make or do things.

(7.) Dramatic rendering whenever the topic lends itself to personification or dialogue.

(8.) Simple debates on questions of common interest to the class.

(9.) Drills in finding words in small dictionaries.

(10.) *Story-telling.*—(*a.*) Reproduction of the story by the class or by individuals.

(*b.*) Original endings of stories begun.

(*c.*) Imaginary autobiographies; e.g., of a penny, a grain of wheat, a dog.

(*d.*) Stories in which animals are personified, suggested by the classic fables.

(*e.*) Original stories suggested by pictures.

(11.) Memorizing poems.

(12.) Good usage of words and phrases by means of language games, incidental instruction, and drills.

Written Composition.—A gradually increasing amount of time should be spent in written composition in this grade. Many of the topics used in oral composition work will serve as material for written reproduction.

While the major portion of the written composition work will involve the reproduction of matter which had previously formed the topic for full oral discussion, sufficient opportunity must be given for the writing of original paragraphs on subjects related in kind to those of the models studied and also on other subjects of vital interest to the children. Beginning with a simple paragraph,

the work should gradually increase to the writing of a longer paragraph, with greater unity and greater variety in sentences.

The work should be made progressive and cumulative by constantly adding new words and language elements and by reviewing the old.

Letter-writing.—Continuation of simple letter-writing of the friendly, social kind as outlined for Grade III.

Capitalization.—Review work of previous grades. Geographical names, holidays, titles of relationship, various parts of a letter. Prepare for simple direct quotations by observation and discussion of them in print.

Punctuation.—Review work of previous grades. Special attention to question-marks, exclamation-marks; to hyphen in divided words; to comma in series; to the apostrophe in indicating possession.

Abbreviations and Contractions.—Review work of previous grades. In addition teach the following: B.C., U.S.A., A.M., P.M., Dr., Esq., and such contractions as isn't, don't, etc., which may occur in the children's reading material.

Grammatical Form.—A tendency may be displayed to use incorrectly the various forms of such verbs as be, do, come, saw, etc.; the forms of the personal pronouns; such words as good (well), very (awful), etc. There should be continuous drill in both oral and written exercises to inculcate the habit of correct usage of ordinary forms of speech.

Work on simple homonyms as indicated in the outline for Grade III. should be further developed.

(Such cards as those designed for Busy Work in Language and published by the Educational Publishing Company, Boston, will be found very helpful.)

READING AND LITERATURE.

Oral Reading.—Book IV. of the Canadian Readers. Correct pronunciation, clear enunciation, and articulation should be carefully stressed.

Silent Reading.—As indicated in the outline for Grade III., an ever-increasing portion of the time devoted to reading must be given to silent reading. Provision should be made in the time-table for specific exercises to increase rate and comprehension in silent reading. The Third and Fourth Readers of the Silent Study Readers, Sherman, Reid, MacKenzie (Dent & Sons), or the Fourth Reader of The Silent Readers, Lewis and Rowland (The John C. Winston Co., Toronto), will be found particularly useful.

Teachers should understand clearly that *silent reading* does not mean merely reading silently. A complete exposition of the technique in teaching silent reading will be found in the works by O'Brien, Stone, and Wheat listed in the bibliography.

Spelling.—Words of Grade IV. minimum and supplementary lists with 100 per cent. accuracy. The use of the dictionary should be taught in this grade. First teach pupils how to find words in a dictionary. Have them arrange alphabetically the names of the pupils in the class. Arrange other words in alphabetical order. Continue this practice until pupils can with ease find words in the dictionary. Teach: How to find the pronunciation of a word; how to select the particular meaning required by the context; use of dictionary supplement. The pupil should be encouraged to refer to his dictionary if he has occasion to use a word of whose spelling he is in doubt. The "Highroads" or other suitable dictionary is recommended for pupil's use.

PRESCRIBED TEXT-BOOKS:

*The Canadian Readers, Book IV. (Gage & Nelson).
*Spelling for the Grades.

SUPPLEMENTARY READERS:

Progressive Road to Reading, Book III. (Gage, Toronto).
Manly, Rickert, Leubrie: Good Reading, Fourth Reader (Gage, Toronto).
Sherman, Reid & MacKenzie: The Silent Study Readers, Books III. and IV. (Dent, Toronto). Prices, 65c. and 70c.
Lewis & Rowland: The Silent Readers, Fourth Reader (Winston Co., Toronto).
Dickie: Canadian History Readers; The Long Trail (Dent, Toronto). Price, 75c.
Mary Gay Stories (Gage, Toronto). Price, 68c.
Reading and Thinking, Grade III. (Nelson, Toronto).

REFERENCE BOOKS FOR TEACHERS' USE:

As in previous Grades.

2. Writing.

*Compendium No. 4 of the MacLean Method of Writing is to be used by the pupils of this grade. Teachers will use the Teachers' Manual as their guide. Healthful posture, free rhythmic movement, and the production of better letter forms should be emphasized in all written work.

3. Arithmetic.

*Smith and Roberts, Book I., to end of page 183, omitting difficult problems and all topics not included in the following outline, will be used until June 30th, 1931.

*New Canadian Arithmetics, Primary Book, Part II., omitting difficult problems and all topics not included in the following outline, will be used as from September, 1931.

Review previous work, striving for accuracy and reasonable rapidity. Continue daily drill on extensions and column addition.

NOTATION AND NUMERATION.—Reading and writing of numbers up to 1,000,000, locating the places and periods. Roman notation to MM.

Teach, as the processes involving them are presented, the following arithmetical terminology. Even and odd numbers, factors, factoring, prime factors, prime numbers, composite numbers, composite factors, fractions, numerator, denominator, whole number or integer, proper fraction, improper fraction, mixed number, product, multiplicand, quotient (formal definitions should not be required).

Counting forward and backward by 6's, 8's, 9's, and 7's, beginning at any number; thus, by 6—14, 20, 26, 32, 38, 44, etc.; 87, 81, 75, 69, 63, 57, etc.

MULTIPLICATION.—Tables should be memorized thoroughly, beyond the possibility of forgetting.

Teach (orally) such problems as the following: 10×689; 100×176; 4×85; 5×69; 8×47.

Multiply quantities (including amounts of money in dollars and cents) by numbers of one, two, and three digits; give much practice in using numbers with zeros.

* Supplied free to public schools by the Department of Education.

Division.—Divisor not to have more than three digits. Begin with divisors having small numbers in the units; the difficulty in getting the trial quotient should be approached gradually. Take problems at first having for divisors such numbers as 21, 31, 41, 51, etc.; 22, 32, 42, 52, etc.

Teach pupils to give orally the quotient, but not the remainder, in such problems as 341÷62; 156÷79; 468÷54.

Give practice in simple problems where dividend is expressed in dollars and cents.

FACTORS (ORAL WORK).—Factor, Common Factor, Highest Common Factor or Highest Common Divisor.

In finding the highest common factor of two or more numbers by inspection, proceed in the following way, using for example the numbers 18, 24, and 36:—

Take the smallest of the numbers—namely, 18; if it were to divide the other two numbers exactly, it would be the highest common factor. Eighteen does not divide both 24 and 36 exactly. Then take its largest factor—namely, 9; if the largest factor does not divide each of the numbers exactly, take the next largest factor—namely, 6. Pupils should proceed in that way until they find the required factor. Confine the work on this topic to numbers not larger than 144.

MULTIPLES (ORAL WORK).—Multiple, Common Multiple, Least Common Multiple.

To find the L.C.M. of two or more numbers by inspection, proceed thus: L.C.M. of 15, 18, 30.

Take the largest number, in this case 30; if it were to contain the other two numbers, 15 and 18, an exact number of times, it would be the L.C.M. of the numbers. As it does not contain them exactly, try 2 times 30—namely, 60. As each of the three numbers does not divide 60 exactly, try 3 times 30, which is 90. Ninety contains each number exactly and is the L.C.M. of the three numbers. Confine the work on this topic to numbers having a Least Common Multiple not larger than 144.

FRACTIONS—(*a.*) Illustrate meaning of fractions by pictures and diagrams.

(*b.*) Reading and writing of simple fractions, as $\frac{1}{3}$, $\frac{2}{7}$.

(*c.*) Develop, using diagrams, the relations between fractions up to twelfths, as:—

$$\frac{1}{2}=\frac{2}{4}=\frac{3}{6}=\frac{4}{8}, \text{ etc.}$$

$$\frac{1}{3}=\frac{2}{6}=\frac{3}{9}=\frac{4}{12}, \text{ etc.}$$

$$\frac{2}{3}=\frac{4}{6}=\frac{6}{9}=\frac{8}{12}, \text{ etc.}$$

(*d.*) Reduction of fractions to higher or lower terms (orally).

(*e.*) Reduction of fractions to equivalent fractions with a common denominator (orally).

(*f.*) Teach the addition and subtraction of fractions and mixed numbers of the types and degree of difficulty of those given in the prescribed text.

(*g.*) In the work on fractions in Grade IV., the emphasis is to be on oral work.

(*h.*) Teach how to find the unit fractional parts and multiple fractional parts of numbers, with or without remainders, as $\frac{2}{3}$ of 69 tons; $\frac{4}{9}$ of \$783; etc.

Then teach such problems as the following:—

If 11 chairs cost $68.75, find the cost of 1 chair.

Solution:—

11 chairs cost $68.75

Therefore 1 chair will cost $^1/_{11}$ of $68.75=$6.25.

$$\begin{array}{r} \$6.25 \\ 11\overline{)\$68.75} \end{array}$$

If 6 boxes of apples sell for $7.50, what will 5 boxes sell for at the same rate?

Solution:—

6 boxes sell for $7.50

Therefore 5 boxes sell for $^5/_6$ of $7.50=$6.25.

$$\begin{array}{r} \$7.50 \\ 5 \\ \hline 6\overline{)\$37.50} \\ \$6.25 \end{array}$$

PROBLEMS:

Simple oral and written one-step problems.

Problems without numbers.

Incomplete problems which the pupils are to complete and then solve.

Problems made by the pupils.

Two-step problems in the four simple rules. Teach problems involving two steps; that is, addition and subtraction, or addition and multiplication, or subtraction and division, or continued multiplication, etc.

The following problem involves subtraction and multiplication: A farmer had 480 acres of land. He gave his son 175 acres and sold the rest at $27 an acre. What did he get for what he sold?

Solution:—

(First step.) Farmer sold 480 acres—175 acres=305 acres.

(Second step.) Amount of money he received for what he sold= 305×$27.00=$8,235.

The problem material should be drawn from activities within the range of the pupils' experience whenever possible; e.g., the class bazaar, the school picnic, playing bank cashier, how change is counted, school supplies, household accounts, bills, laundry bills, etc.

In problem-work pupils should be taught, before they begin the numerical calculation, to state first what is known or given, then what is required, then what operation is to be used, and then to estimate about how large the answer is to be.

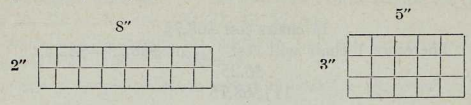
It is suggested that a variety of problems be given daily.

MEASURES.—Review units of measure given in lower grades. Show the relation between the following units and give one-step problems in reduction: Cent, dollar; ounce, pound, ton; pint, quart, gallon; pint, quart, peck, bushel; second, minute, hour, day, week, month, year; inch, foot, yard, mile.

Teach perimeter or rectangles and squares, both dimensions being expressed in the same unit.

AREA AND SURFACE.—Each pupil should be given two pieces of paper or cardboard (rectangular shape), one, say, 8 inches long and 2 inches wide, the other 5 inches long and 3 inches wide. Then the pupils should be asked which piece is the larger, or which one, if placed on the desk, would cover the greater surface. Their reply will probably be that they are unable to decide.

They should be asked to mark off the inches on each side of the two pieces of paper, and join the points, thus:—

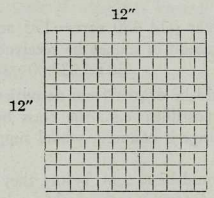


The pieces of paper are now divided into squares, each 1 inch long and 1 inch wide. Each square covers a square inch of surface and is called a square inch. Counting, the pupils find there are 16 squares in the longer piece (two rows having 8 squares each) and 15 in the shorter piece (3 rows having 5 squares each). The pupils will now see that the piece which is 8 inches long and 2 inches wide has the greater surface and that its surface is 1 square inch greater than that of the other piece. They will also see that, since the number of square inches in the surface of each could have been found by multiplying the number representing the length of the paper by the number representing its width, it was not necessary to mark off the papers into squares in order to determine their surface. For example, the number of square inches in the surface of one piece is 2 times 8 square inches, and the number in the other piece is 3 times 5 square inches.

They should then be told that the number of squares in the surface of any oblong or rectangle can be obtained by multiplying the numbers representing the two dimensions expressed in like units.

Then they should be asked such questions as the following: How many square inches are in a piece of paper 9 inches long and 7 inches wide; in a piece 12 inches long and 11 inches wide?

They should be required to draw a square a foot long and a foot wide (a square foot) and to mark off the inches on each side, and also to join the points, thus:—



They will see that the square has been divided into 12 rows, each containing 12 squares, and that therefore the square foot has been divided into 12 times 12 squares=144 squares. As each square is 1 inch long and 1 inch wide, it is called a square inch. The pupils will now see that there are 144 square inches in a square foot and that the result could have been found (without marking the square foot off into square inches) by multiplying the number representing the length of the square in inches—namely, 12—by the number representing its width in inches—namely, 12.

In the same way they should mark off on the blackboard a square yard into square feet. They should now be able to tell how they could have determined the number of square feet in a square yard without dividing it into squares.

Such questions as the following should be given: If there were only 10 inches in a foot, how many square inches would there be in a square foot? If there were 4 feet in a yard, how many square feet would there be in a square yard?

It is necessary to emphasize that surfaces are measured by squares, that small surfaces whose length and width are expressed in inches are measured by the square inch, and that surfaces such as the walls or floors of rooms whose length and width are expressed in feet or yards are measured by the square foot or the square yard. For larger surfaces or areas, such as farms, districts, counties, there are other units of measure which will be taken up later.

Pupils should not be allowed to say that the number of square feet in a rectangle 30 feet long and 20 feet wide is 30 feet multiplied by 20 feet. They should be taught that the number of squares (square feet) in the rectangle is 30×20 sq. feet=600 square feet. As the rectangle may also be said to be divided into 20 rows, each row containing 30 square feet, it would also be correct to say that the number of square feet in the rectangle=20×30 sq. ft.=600 sq. ft.

Give such problems as the following: 63 square feet=how many square yards? 17 square yards=how many square feet? 5,904 square inches=how many square feet?

If a room is 18 feet long and 16 feet wide, find (1) the area of the floor in square feet, (2) the perimeter of the room.

The important work in this grade is the mastery of the processes of long multiplication and long division within the limits outlined above.

4. Geography.

(*a.*) How Other People Live.—(1.) A desert home—the Arabs. Life in the Euphrates Valley—The Nile Valley—Hot, dry lands.

(2.) An Equatorial Home. Life in the Congo—Hot, wet lands.

(3.) A Swiss Home—Life in the Alps. Compare with Life in the Cariboo or Kootenay of British Columbia.

(4.) A Dutch Home—Life on a lowland plain.

(5.) Lapland—Compare and contrast with Eskimo Life.

(6.) A Japanese Home.

The lessons should be conversational with the pupils entering into the discussion on the varying conditions presented and contrasted with our own home-life. The children should be encouraged to read as widely as possible in order to supplement the oral instruction. Simple geographic relationships should be clearly brought out. A very satisfactory text for this grade is one entitled "Journeys in Distant Lands," by Barrows and Parker (Gage). The pictures are excellent and many of the above topics are well treated in the text.

In a similar manner, "The Four Wonders," Shillig (Rand, McNally & Co., Chicago), treats of the four fabrics which make our clothing—cotton, wool, linen, and silk. These may be studied in connection with the above lesson topics.

(*b.*) The World as a Whole—including a simple study of heat-belts and the relative position of the continents and oceans. Reference book for pupils: Dickie—The Book of Boys and Girls Round the World (Gage). Price, $1.

5. Manual Arts.

(*A.*) Cardboard Modelling.

Materials.—As for Grade III., in addition to which thicker cardboard or pasteboard, covering paper of various designs, binding strips, and brown paper should be provided.

Tools.—Rule, set-square, compasses, scissors (knife, cutting-board, awl, optional).

Methods.—Introductory models based on the circle should first be worked as class projects, to be followed by more difficult models. The thicker cardboard should be cut and scored for bending on the cutting-board with knife or scissors.

Course.

Cardboard Construction.—(1.) Lamp-shade; hexagonal tray; candlestick; pencil-box; blotter-holder or book-cover.

(2.) As for Grade III., but more difficult models should be attempted and more exact work expected.

Plastic Modelling.—This should be correlated with the Nature, Geography, and History lessons.

Free-cutting.—Booklets with free-cutting and pictures illustrative of some of the following lessons: Life in the cold lands; Life in the hot lands; Life in the temperate grass lands; Life in the temperate forests.

Teachers' reference books: As for Grade III.

(*B.*) DRAWING.

Object Drawing.—Flat forms and simple bi-symmetrical objects in outline and flat wash.

Nature Drawing.—Simple leaves, flowers, fruit, and vegetables.

Design.—Simple geometric areas subdivided and decorated with arc and simple freehand curves. Curves may be suggestive of simple leaf forms. Colour in monochrome and complementary harmonies with the addition of black and white.

Lettering.—Roman alphabet in skeleton capital letters. Attention to spacing of words and lines. Lettering of verse, inscriptions, prose, etc. (*See* Teachers' Manual of Drawing and Design.)

6. Nature Lessons. (*See* note on Nature Study, page 100.)

AUTUMN.

General.—The heavens month by month. The sun, changing length of day. Moon and its changing phases; north star and Big Dipper.

Animal Life.—(*a.*) Domestic animals—sheep and goat. Economic importance, similarities and differences, main uses, study of woollen manufacture (story of a sweater coat). (*b.*) Wild animals—mountain-sheep and mountain-goat. Compare with domestic species (pictures and museum specimens, heads, etc.). General topic—domestication of wild animals, stories. (*c.*) Birds—local water-birds, food and nesting habits. Bird-protection. Report on nesting-boxes. (*d.*) Insects—wild bees and wasps. Preparation of bees for winter.

Plant Life.—(*a.*) Food-plants—summary of food-plants grown in home or school gardens during the season and classification under following headings: (1.) Fruits—tree fruits, bush fruits, soft fruits. (2.) Garden vegetables—annuals, biennials, perennials. Food storage in leaf, stem, root, etc. Market value during season. How shipped and where. (*b.*) Wild plants and weeds—three or four of the common weeds of the garden and how propagated. (*c.*) Trees and shrubs—review of identification of the deciduous trees of the locality by leaves, buds, and bark. Make a school collection.

WINTER.

General.—The heavens month by month. Relation of sun, moon, and earth. More easily recognized constellations.

Animal Life.—(*a.*) Domestic animals—visits to a poultry-farm to study methods of handling poultry on a large scale. Make a census of breeds of poultry and number of birds in the district in each breed. Note market prices for eggs, method of export and destination, transportation, etc. (*b.*) Wild animals—recall characteristics of wild animals studied and observe locally and make an easy classification on the basis of resemblances to domestic animals, as, for example, the cat group, dog group, cattle group, and miscellaneous. Use pictures to help in identifying similar points; lantern-slides would be of great interest if available. Means by which these animals protect themselves.

Plant Life.—(*a.*) Food-plants—foodstuffs derived from plants not grown locally but used by poultry and live-stock men; e.g., meals and oil-cake, mashes, and provenders, alfalfa, hay, etc. Source from which obtained, prices, etc. (*b.*) Trees—collect and identify specimens of all evergreen trees in the district. Study products of British Columbia forests, pulp, making of paper, logging, rafting, and transportation to mills, kinds of lumber and dimension, timber produced locally, uses, prices, and particulars of export.

SPRING.

General.—Weather observations and easy records—prevailing winds, clouds and fog, rainfall, midday temperature, effects of weather conditions upon gardens and vegetation.

Animal Life.—(*a.*) Poultry study continued. Home projects in study and management of poultry or rabbits; poultry-raising competitions. (*b.*) Birds—identification of spring visitors; by size and plumage (male and female), songs, flights, etc., protection, resting habits, bird-boxes. (*c.*) Insects—insects of the garden and orchard, identification of a few common enemies such as cutworm, root-maggots, and aphis. (*d.*) Fish—observation of a local species.

Plant Life.—(*a.*) Garden and house plants—school and home projects in the raising of house and garden plants; early markets and the first appearance of local and imported vegetables and fruits, prices. (*b.*) Wild plants—identification of wild flowers continued; conservation of our native wild flowers; how to make a beautiful bouquet. Weeds—first ones to come into flower, collection with dates. (*c.*) Trees and shrubs—flowers of evergreens; calendar of ripening seeds and how scattered; growing of trees and shrubs from seed.

7. Music.

SECTION I.—VOICE-TRAINING.—Breathing exercises combined with voice exercises. Exercises should be taken that will emphasize the use of the "head voice." The exercises should be short and simple and taken daily. The vowels oo, o, and aw to be used.

SECTION II.—TUNE.—(*a.*) Sharp Modulator practice in all keys from the Staff Modulator, using syllables and laa.

(*b.*) A review of difficult intervals taken in the lower grades.

SECTION III.—TIME.—To sing to time-names and to doh exercises containing the whole note, half-note, quarter, eighth, and sixteenth, including the dotted quarter with the eighth. Simple and compound time.

SECTION IV.—TIME AND TUNE.—Short "study" songs sung to syllables, laa, and words.

SECTION V.—EAR-TRAINING.—(1.) To write or tell ear-tests containing three or four tones, including easy leaps on the tones of the Tonic Chord.

(2.) The study of thirds and sixths.

SECTION VI.—CHORDAL TRAINING.—(1.) Major and Minor Chords.

Major	s	d′	r′	s	Minor	l	t	m′
	m	l	t	m		f	s	d′
	d	f	s	d		r	m	l

(2.) The Inversion of Chords.

SECTION VII.—THEORY.—The children should be familiar with the terms of notation and terms of expression: Crescendo, diminuendo, and swell; legato; staccato marks; a brace; rests.

SECTION VIII.—SONGS.—Unison songs to be committed to memory.

SECTION IX.—RHYTHMIC WORK.—Exercises should be taken that will prepare pupils for definite work in music appreciation in Grade VIII.

Rhythmic games can be built on simple tunes of binary form. Musical phrasing and expression.

Text-book: Coney & Wickett—New Canadian Music Course, Book II. (Gage & Co., Ltd., Toronto). This book contains all necessary exercises and songs for the year's work. Price, 25c.

8. Health Education.

(*a.*) HYGIENE. (*See* pages 100–101 for a general note on method and for a list of suitable references.)

Aim.—To promote greater efficiency in the practice of good health habits; to inculcate a sense of personal responsibility in helping to prevent the spread of disease.

NOTE.—*See* note under Grade III., which is applicable to this and subsequent grades. Health observance and the rules of health take on a new meaning as boys and girls grow older. Good health practice is based upon scientific principles and there are substantial reasons, scientific and sociological, to justify all health procedure. So it is that in this grade the rationalizing process, which indeed has already begun, can now be developed more rapidly. As the knowledge of disease prevention and health conservation increases, the child's ideal of good health and good citizenship should also develop. It is at this stage that a certain amount of conflict may arise in those cases where home practices are incompatible with modern standards and ideals. The case where the boy of 10 resolutely poured his mug of strong, badly-made coffee down the sink and filled it up with cold water, to the great displeasure of his untutored mother, may seldom occur in this Province, but teachers and school nurses should be ever on the alert to detect similar cases where sympathetic, intelligent, and diplomatic support should be given to the child in his courageous attitude. The school and the home have much in common in the education of the children and especially when the health of the children is the issue. The wise and efficient teacher can perform an invaluable service at this point. Poster-making, simple project studies, and dramatization can be conducted in this grade; close correlation with Geography and Nature Study should be observed.

(1.) *Cleanliness of Person and Surroundings.*—Special attention to cleanliness of food; care of the teeth (should have teeth examined every six months); danger in decay and abscess of teeth; special care in preserving the six-year molar, which is the child's first permanent tooth. Encourage regular participation in keeping rooms, yards, and streets clean and neat.

(2.) *Nutrition.*—Emphasize the value of plain, natural foods, whole-grain cereals and fresh vegetables, and milk. The various types or classes of foods can now be more definitely considered:—

(*a.*) Body-builders—supply material for growth and repair—milk, eggs, meat, fish, etc.

(*b.*) Energy-givers—furnish heat, muscular and nervous energy—fats (milk, butter, animal fats, and vegetable oils), sugar (in fruit, candy, honey, syrups, milk, etc.), starch (in cereals, bread, biscuits, potatoes, etc.).

(*c.*) Body-regulators—fruit, green vegetables, milk, water—emphasize the need of drinking plenty of water (morning, between meals, and before going to bed). Emphasize the importance of a mixed yet simple diet and of correct habits of eating. Stress bad effects of eating candy, cake, or pastry between meals. Food posters; correlate with Geography.

(3.) *Clothing.*—Clothing in relation to health—amount, materials, kinds (non-constricting); danger of wet clothing; danger of tight garters and ill-fitting shoes; posters and project studies in correlation with Geography and Nature Study.

(4.) *Rest and Sleep.*—Not less than ten hours; reasons why sleep is of such importance in maintaining healthy, well-nourished bodies; open windows at night with screens in summer; thoughtfulness for others who are sleeping; stories and dramatization.

(5.) *Exercise and Fresh Air.*—Emphasize importance of exercise in the open air, with reasons. Danger from improper breathing and of obstructions to breathing; elimination of poisons in breathing; good health dependent on proper elimination of poisons from the lungs, skin, intestines, and kidneys.

(6.) *Special Senses.*—Care of the eyes—proper light and position of book; protection from direct sunlight; bathing and resting the eyes.

Care of the ears—dangers from foreign substances, use of cloth on finger to clean the ears; danger of striking the ear or blowing the nose violently.

Care of the nose—importance of keeping nasal passages clean; proper use of handkerchief; keep fingers and all foreign bodies out of the nose.

Care of the throat—immediate attention to soreness, irritation, or coughing.

(7.) *Accident-prevention.*—Continuation of work for Grade III. Dangers arising out of insanitary conditions and lack of care in treating cuts, abrasions, sliver and nail wounds, etc.; consideration for others on the playground; positive ideal of personal and social efficiency, "welfare consciousness" and timely service, as marks of good citizenship. (*See* special note on pages 105–107.)

(*b.*) PHYSICAL EXERCISES AND GAMES.—Syllabus of Physical Training for Schools.

GRADE V.

1. Language.

In this grade the broadening Course of Study gives excellent opportunity for the development of greater vocabulary and the stimulation of the imagination through study of the biographies of great men. These new interests furnish abundant material for both oral and written work.

The writing of long, rambling compositions should be discouraged, but original work should be given greater prominence.

One of the most effective means of developing the power of oral expression will be the adoption of the socialized recitation method, particularly in such subjects as history, geography, literature, and nature study.

In following this method the pupils are trained to express clearly and logically the ideas which they have acquired from their individual research-work. Pupils of this grade should aim to develop the ability to stand before the class and speak with some degree of fluency for a period of two or three minutes on a topic which had been assigned for special individual or group work.

ORAL COMPOSITION.—(1.) Socialized recitation of the work prescribed in history, geography, nature study, and literature.

(2.) Current events, school and local interests to furnish topics for live discussions, arguments, and short informal debates.

NOTE.—Make the topic specific and narrow rather than broad. Have pupils make simple outlines for practice in order of arrangement of content, stressing good beginnings and good endings. Make every oral lesson a language lesson, thus correlating language with all other subjects on the school programme.

(3.) Story-telling and dramatization in correlation with literature and history.

(4.) Memorizing poems.

(5.) Good usage of words and phrases by language games, incidental instruction, and drills.

Continue training in correct use of verbs and pronouns and against colloquialisms and mispronunciations, based upon the specific common errors of pupils in class.

The teacher should make compilations of the errors common to the class and to the local community, and give specific drill to eradicate these.

Use the positive method rather than the negative.

WRITTEN COMPOSITION.—A plan carefully worked out by the class should precede written reproduction. This written reproduction in Grade V. should be extended to include compositions of at least two short paragraphs, the principle of paragraph unity being given special stress.

(1.) *Reproduction.*—(*a.*) Topics which form the basis for oral discussion in literature, history, and geography periods.

(*b.*) Stories and information gleaned from books.

(2.) *Original Composition.*—The supreme test of the power of expression. Little stories of real or imaginary happenings and simple explanations and descriptions.

(3.) *Letter-writing.*—(*a.*) Continuation of writing of friendly and social letters, informal invitations, etc.; real letters to real people.

(*b.*) Simple business letters, as orders for magazines or papers, requests for catalogues, etc.

(4.) *Project.*—The class or school paper or magazine in manuscript.

The work in composition prescribed for this grade will be found in Alexander and Mowat's Elementary Composition, Part I. (Gage).

READING.

Oral Reading.—Book V. (Part I.) of the Canadian Readers. Correct pronunciation, clear enunciation and articulation should be carefully stressed.

Silent Reading.—In this grade the major portion of the time devoted to reading must be given to silent reading.

The various supplementary readers recommended for history and geography may be used. For specific training to develop rate and comprehension in silent reading The Silent Study Readers, Book V., Sherman, Reid, MacKenzie (Dent & Sons); price, 70c., or the Fifth Reader of The Silent Readers, Lewis and Rowland (Winston Co., Toronto), will be found particularly useful.

Spelling.—Words of Grade V. minimum and supplementary lists with 100 per cent. accuracy. Further lessons in the use of the dictionary.

PRESCRIBED TEXT-BOOKS:

*The Canadian Readers, Book V., Part I. (Gage & Nelson).
*Spelling for the Grades.
Alexander and Mowat: Elementary Composition (Gage). Price, 50c.

SUPPLEMENTARY READERS:

Progressive Road to Reading, Book III.A (Gage).
Sherman, Reid & MacKenzie: The Silent Study Readers, Book V. (Dent, Toronto). Price, 70c.
Lewis & Rowland: The Silent Readers, Book V. (Winston Co., Toronto).
Reading and Thinking, Grade IV. (Nelson, Toronto).

BOOKS FOR TEACHERS' USE:

As in previous grades, and the following:—
Dickie: Learning to Speak and Write, Book II. (Gage). 50c.
Whitney: The Socialized Recitation (Barnes, 381 Fourth Ave., N.Y.).

2. Writing.

Continuation of the work of Grade IV. *Compendium No. 4 of the MacLean Method of Writing is to be used by the pupils. Teachers will use the Teachers' Manual as their guide. A few optional letter forms may be introduced.

3. Arithmetic.

*Sheffield and Brown: New Canadian Arithmetics, Intermediate Book, Part I. (Dent), omitting difficult problems and topics not referred to in the following outline:—

AIMS.—To review thoroughly the four operations with whole numbers, and to develop a high degree of accuracy and reasonable speed in their use.

To develop speed and accuracy in operations with common fractions of practical types.

To attain reasonable skill in operations with decimals through thousandths.

To increase the working knowledge of practical denominate numbers.

To develop ability to solve problems of one, two, and three steps involving the processes taken in the year.

* Supplied free to public schools by the Department of Education.

The work of the year should begin with a systematic review of the work of the preceding grades, paying considerable attention to the checking of the work. Teachers should strive to have their pupils attain and maintain proper grade standards in fundamentals as shown by standardized tests. Diagnostic tests should be used to discover individual weaknesses which should be corrected by remedial drills of the types given in the prescribed text.

NOTATION AND NUMERATION.—Reading and writing of numbers to 1,000,000,000.

Reading and writing of Canadian money to $1,000,000,000.

Reading and writing of all Roman numerals in common use.

COUNTING.—Continue counting as in Grade IV., with special drill in counting by 6's, 7's, 8's, and 9's, beginning at any number.

FUNDAMENTALS.—Review and extend previous work and aim to increase speed and accuracy. A part of most lessons in Arithmetic should be devoted to drill-work, the results of which are charted or graphed on the blackboard to stimulate interest and to arouse a desire to excel.

FACTORS AND MULTIPLES.—Review work of Grade IV. Teach pupils to find prime factors, common factors, the highest common factor (H.C.F.) and the least common multiple (L.C.M.) of two or more numbers, thus:—

Find the H.C.F. and L.C.M. of 18, 30, and 42.

First find the prime factors:—

$$18=2\times3\times3$$
$$30=2\times3\times5$$
$$42=2\times3\times7$$

2 and 3 are common factors; therefore the highest common factor is $2\times3=6$.

The L.C.M. is the smallest number which is exactly divisible by 18 ($2\times3\times3$), by 30 ($2\times3\times5$), and by 42 ($2\times3\times7$). Taking the prime factors ($2\times3\times7$) of the largest number—namely, 42—we must add 3 to the group to get a number exactly divisible by 18 ($2\times3\times3$). We now have $2\times3\times3\times7$. In order to get a number exactly divisible by 30 ($2\times3\times5$) we must add 5 to the group of factors. We now have $2\times3\times3\times7\times5$. Therefore the L.C.M. of 18, 30, and $42=2\times3\times3\times7\times5=630$.

The following process has the advantage of being shorter:—

$$\begin{array}{r} 2)18,\ 30,\ 42 \\ \hline 3)9,\ 15,\ 21 \\ \hline 3,\ \ 5,\ \ 7 \end{array}$$

Divide by prime factors, taking first the smallest factor common to any two or more of the numbers.

The common factors are 2 and 3.

The H.C.F. is therefore $2\times3=6$.

L.C.M.$=2\times3\times3\times5\times7=630$.

The finding of factors (and multiples) should be minimized and informal rather than extended and formal. Work on these topics should be confined to such numbers as occur in the work on fractions in the prescribed course.

FRACTIONS:

Review work of Grade IV.
The meaning of fractions.
Finding of fractional parts of numbers.
Reducing fractions to lower and higher terms.
Reducing fractions to like fractions having a common denominator.
Addition and subtraction of fractions and mixed numbers.

Changing improper fractions to mixed numbers and mixed numbers to improper fractions.
Arranging fractions in order of magnitude (oral work).
Multiplying fractions and cancellation.
Division of fractions, developed in order of steps of difficulty. Meaning and use of reciprocals.
Complex fractions (the simplest examples only).

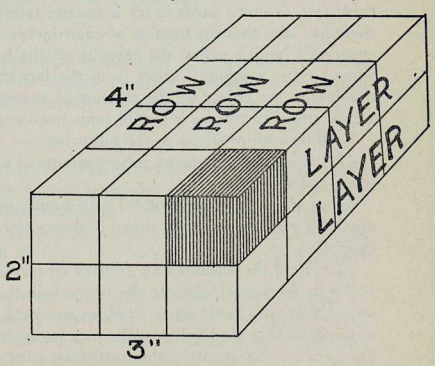
DENOMINATE NUMBERS:

Review previous work.
Teach linear measure, square measure, cubic measure, avoirdupois weight, dry measure, measure of time, measures of temperature.
Perimeter and area of squares and rectangles reviewed and extended.
Practice in measuring distances and dimensions of surfaces and rectangular solids.
One-step reduction of common units of measure.
Easy addition, subtraction, multiplication, and division of denominate numbers of two units.
Simple scale drawing.

CUBIC OR SOLID MEASURE.—In other grades pupils were taught that dimensions and distances are measured by certain units, as the inch, foot, yard; that areas or surfaces are measured by other units (squares), as the square inch, square foot, square yard. They must now learn that the space occupied by a body or the amount of material in it is measured by other units (cubes).

Ask them to draw on paper a cube whose edges are each 1 inch (1-inch cube), and on the blackboard a cube whose edges are each 1 foot (1-foot cube), and another whose edges are each 1 yard (1-yard cube). Tell them that the space occupied by an object or the amount of material in it, as in a block of wood, is measured by one or other of these cubes.

Draw a sketch representing a small block of wood 4 inches long, 3 inches wide, and 2 inches thick, and divide it into cubes each edge of which represents 1 inch. The sketch should show the block divided into 2 layers of cubes, each layer containing 3 rows of 4 cubes each. The pupils will see that the top layer contains 12 cubes and that the 2 layers contain 24 cubes. They will also observe that they could have found the number of cubes (cubic inches) in the block by multiplying together the numbers representing the dimensions of the block—$4 \times 3 \times 2 = 24$.



They should now be able to give the rule for finding the amount of material in any rectangular body. Tell them that, before they proceed to multiply, they must reduce the dimensions

to like units; that is, to inches, to feet, or to yards. Drill orally on such problems as the following:—

Find the number of cubes (cubic inches) into which rectangular solids, with the following dimensions, may be divided:—

(*a.*) Length 5 inches, width 3 inches, and thickness 2 inches.

(*b.*) Length 7 inches, width 5 inches, and thickness 3 inches.

(*c.*) Length 1 foot, width 10 inches, and thickness 5 inches.

(*d.*) Length 10 inches, width 7 inches, and thickness 6 inches.

Also such problems as the following: How many cubes (each a cubic foot) are contained in a block of marble 8 feet long, 6 feet wide, and 5 feet thick?

Now develop the table. Get the pupils to make a sketch or drawing representing a cubic foot and to divide it into cubes each edge of which is 1 inch. Ask them to tell the number of layers of cubes into which the drawing has been divided, the number of rows in each layer, the number of cubes in each layer, the number of cubes in all the layers. They will find in that way that there are 1,728 cubic inches in a cubic foot.

In the same way get them to find out how many cubic feet there are in a cubic yard. They should now be able to tell you how they could have found out, without making a sketch or drawing, the number of cubic inches in a cubic foot and the number of cubic feet in a cubic yard.

Give abundance of oral drill on such problems as the following:—

(1.) What are the dimensions (length, width, and thickness) of a 2-inch cube, a 5-inch cube? How many cubic inches are in each cube? How many square inches are in a face or side of each cube?

(2.) How many faces has a brick or box? How many edges? How many corners? What is the shape of each face? What is a solid called whose faces are rectangles?

(3.) How many cubic feet of air are in a school-room 30 feet long, 25 feet wide, and 10 feet high? How many square feet of floor has the room? How many square feet are in an end wall? How many square feet in a side wall? What is the perimeter of the room? How many square feet are in the walls of the room?

Tell them that the amount of material in a solid (the number of cubic inches, cubic feet, or cubic yards in it) is usually referred to as its "volume" or "cubic contents" and that the number of cubic inches, cubic feet, or cubic yards a box or room will hold is called the capacity of the box or room. Tell them that the name "cubic contents" arises from the fact that cubes are used to measure the contents of an object or the amount of material in it. The table used in the measurement of volume is for the same reason called the Table of Cubic Measure.

Drill on such problems as the following:—

(1.) Find the volume or cubic contents of a block of wood 7 feet long, 5 feet wide, and 4 feet deep.

Solution: Volume of block $=7\times5\times4$ cubic feet$=140$ cubic feet. Do not permit pupils to give the solution thus: Volume of block$=7$ feet$\times5$ feet$\times4$ feet$=140$ cubic feet.

(2.) Find the capacity of a granary 20 feet long, 10 feet wide, and 9 feet high.

Pupils frequently confuse the terms inch, square inch, and cubic inch; foot, square foot, and cubic foot; yard, square yard, and cubic yard. When you find mistakes of that kind being made, impress again on the class that dimensions and distances are measured by the inch, foot, yard, etc.; that areas are measured by

squares, and that the amount of material in an object (its volume) is measured by cubes. Then ask such questions as the following:—

Which is correct? The length of the box is *20 feet,* or *20 square feet* or *20 cubic feet;* the area of the end of the box is *24 feet,* or *24 square feet* or *24 cubic feet;* the capacity of the box is *42 feet,* or *42 square feet* or *42 cubic feet;* the volume of the block of granite is *54 feet,* or *54 square feet* or *54 cubic feet?*

Pupils should not be required to give a reason for each answer.

DECIMALS:

Meaning of decimals developed from dollars and cents.
Reading and writing of decimals of three places.
Addition and subtraction of decimals.
Changing of decimals to common fractions and common fractions to decimals.
Multiplication and division of three-place decimals, with proper gradation of steps of difficulty.

PROBLEMS:

Problems of one, two, and three steps of the following types:—
Problems based on children's activities, experiences, and interests.
Problems originated by pupils.
Problems without numbers.
Problems with extraneous data.

This year's work should continue to emphasize methods of problem solving, including oral analysis and the estimation of answers. The written work should show the answers, the computation, and the statements of the solution.

In the solving of problems the pupils should be encouraged:—

(1.) To read the problem carefully.
(2.) To picture or visualize the problem situation.
(3.) To find what facts are given.
(4.) To ascertain what is to be found.
(5.) To estimate what would be a reasonable answer.
(6.) To plan the solution.
(7.) To do the actual computation and find the answer.

VOCABULARY:

The meaning and use of arithmetical terms used in connection with the fundamental operations with whole numbers, common and decimal fractions, and the denominate numbers prescribed for this grade.

4. Geography.

The Geography material for Grade V. includes the facts of the earth's shape and rotation, of the existence and location of heat-belts, of the longer and shorter days and slanting rays as determining the seasons. The latter may be discovered by the children from observations recorded month by month, and by reference to the globe. A scientific explanation of these facts should be deferred to a later time.

Lessons on evaporation and condensation, winds, clouds, and the effect of mountains in forming clouds should be taken in connection with the regional treatment of North America when seeking to explain life conditions in that particular region which is being studied. Generalizations on climate and the climate

of North America should be made when the study of the continent has been completed.

The basis of the geography lessons in Grade V. is the study of the principal regions of the home continent—North America. The division of the continent into primary and secondary highlands and great central plain is of value in determining the physical and climatic regions which form the basis of the geography lessons. Intelligent and directed map study from the atlas should be supplemented by pictures and word-pictures by the teacher as well as by supplementary and descriptive reading material.

The text-book, Canadian Geography for Juniors, British Columbia edition, will supply a large amount of reading material, the pictures will help to provide clear-cut mental images, while the maps, diagrams, and tables will form the basis for class discussion. Oral lessons should be continued and interest will be increased and the children's self-activity promoted by their working in groups upon any problem or project which may arise as the subject-matter of the Grade V. course is being taught. Correlation with the history topics should receive careful attention.

In studying any particular region the following should be kept in mind: We are interested in a region because of the way the inhabitants therein react to their environment.

We study a region in order to understand the geographic factors or controls at work. Climate and soil may be of great importance in one region while the mountain contour or drainage may be of equal importance in another. Geography is a study of the interaction of man and his environment. The human relationships should become of paramount importance.

Use and utility determine the incidence of the teaching; i.e., the St. Lawrence River is of importance because of the use which man has made of this waterway into the heart of the Continent. In a similar way the Fraser River Valley is of importance through the use we have made of its course through the Cordilleran Highland.

It should be remembered that in a content subject such as Geography the interest of the pupils depends upon the way in which the material is organized and upon the manner in which the teacher presents the lessons. Oral teaching lessons, map study, the socialized recitation, the solution of problems, and project activities are all of value. There is no one panacea, no one royal road to learning.

Hitherto, the study of nature and the beginnings of geography have been based upon the child's actual experience and, as far as possible, upon practical observational work in the neighbourhood of the school and lessons on Home Life in Other Lands. These have been supplemented by the teacher's oral descriptions, by simple unit studies in the human use of every-day commodities, by the reading of suitable supplementary material, by pictures, models, and diagrams, and by modelling in sand, clay, or plasticine. Wherever possible, these aids and activities should be continued through Grades V., VI., VII., and VIII.

The following suggestions may be of help in the treatment of North America:—

I. North America.

(*a.*) *Problem.*—Where is North America? Locate by means of globe, wall maps, and atlas maps. Teach latitude and longitude as a more accurate means of location and apply to North America.

(*b.*) *Problem.*—(1.) What would we see on a trip from Prince Rupert to Montreal by sea via Panama Canal? (2.) Who would like to take us on a trip from Quebec to Prince Rupert via Arctic by sea and dog-sled?

(*c.*) Who owns North America? (Political divisions.) How have the nations fenced their lands? (Boundaries.)

(*d.*) How has Canada divided her country? (The provincial groups—Maritime Provinces, the St. Lawrence Provinces, the Prairie Provinces, the Territories, British Columbia.)

II. British Columbia.

(*a.*) It has been said, "British Columbia is a sea of mountains." Do these mountains extend beyond our boundaries? The pupils should learn Cordilleran Highland, Rocky Mountains, the Coast Range, and Interior Plateau.

Points of interest—Typical animals of the Cordilleran Region. Parks and playgrounds—Highest peaks; life of the people in a mountain country.

(*b.*) How do our rivers get to the sea? Pupils should know: The main drainage divide. Yukon, Stikine, Nass, Skeena, Fraser, Columbia, Mackenzie Headwater Streams (Liard, Finlay, Parsnip, Athabaska), North and South Saskatchewan, proximity of Missouri Headwaters, Colorado and Rio Grande.

Suggestion.—Construction of a Flour-Salt physical map of the Cordilleran Highland, using colours.

(*c.*) What are the chief occupations of the people of British Columbia? A series of topics in which Trapping, Fishing, Lumbering, Mining, Agriculture, and Shipping will be developed. These topics will be based on the appropriate chapters in "Canadian Geography for Juniors."

III. Our Sister Provinces.

(*a.*) The People of the Prairies. How is their land different from ours in British Columbia? The story of a grain of wheat.

(*b.*) Ontario and Quebec—The Lowlands of the St. Lawrence. The story of pulp and paper—Manufacturing.

(*c.*) The Maritime Provinces—Fishing on the Banks.

These topics will be based upon the appropriate chapters in "Canadian Geography for Juniors."

IV. Other North American Countries.

(*a.*) California—The Cordilleran Highland in U.S.A. Irrigated Lands of California—Oranges, raisins, etc.

(*b.*) The Great Ranch Lands.

(*c.*) Oil-wells and the story of oil.

(*d.*) The Cotton Belt.

(*e.*) The Corn Belt.

(*f.*) The Industries of New England and the Atlantic Coastal Plain.

Mexico—Mananaland and Bananaland.

The Panama Canal.

The West Indies—Sugar-cane.

Prescribed text-books: Cornish—Canadian Geography for Juniors, B.C. edition (Dent); Cornish—Canadian School Atlas (Dent).

Geography (Reference Books for Pupils):

Barrows and Parker: Journeys in Distant Lands (Gage & Co.). Price, $1.

The World and Its People—North America (Nelson, Toronto).

Human Geographies, Primary Series, Book IV.—In the New World (G. Philip & Son, London).
Carpenter's Geographical Reader—North America (A.B. Co., N.Y.).
Carpenter: How the World is Fed; How the World is Clothed; How the World is Housed (A.B. Co., N.Y.).
Bloomer: Table Talks and Table Travels (Blackie, Edinburgh).
Barnard: How Other People Live — Pictures of Many Lands (Black, London).
Allen: North America (Ginn, S.F.).
Dickie: Geography Readers, Book IV. (Dent, Toronto).

REFERENCE BOOKS FOR TEACHERS:

The books enumerated above, and in addition:—

(1.) F. D. and H. J. Herbertson: Descriptive Geography from Original Sources—North America (A. & C. Black, London). Price, $1.10.
(2.) Freeman & Chandler: The World's Commercial Products (Ginn, Boston).
(3.) Rocheleau: Great American Industries—Book 1, Minerals; Book 2, Products of the Soil; Book 3, Manufactures (A. Flanagan & Co., Chicago).
(4.) E. E. Smith: Teaching Geography by Problems (Doubleday, Page & Co., New York).
(5.) Dodge and Kirchwey: Teaching of Geography in Elementary Schools (Rand, McNally Co., Chicago).
(6.) Branom: Project Method in Education (Badger, Boston).
(7.) McMurry: Teaching by Projects (Macmillan, N.Y.). Price, $1.75.
(8.) E. VanD. Robinson: Commercial Geography (Rand, McNally Co., Chicago).
(9.) MacFarlane: Economic Geography (Pitman & Sons, Ltd., Toronto).
(10.) Smith: Industrial and Commercial Geography (Holt, N.Y.).

5. History.

I. AIM.—History is no longer considered a mere chronicle of kings and of diplomacy, a list of battles, of dates and of statutes, but it is becoming more and more a sociological study. The advance of civilization, the progress of the community to culture, economic freedom, and the growth of democracy are the bed-rock of the subject.

The aim, therefore, in the teaching of history is to present to the pupil the story of the past that he may understand more clearly the social system in which he lives. Through history he will learn the significance of citizenship, its privileges and its responsibilities, and he will become acquainted with the social forces around him.

The scope of the subject is wide. It is possible in the elementary school for the pupil to cover but a very limited portion. It is the work of the teacher to create in him a real interest in history, and to give him an insight into the subject that he may have the ability to read intelligently for himself, rather than to cram him with predigested information.

In Grade V. the work involved in carrying out the first part of the course assigned is in no sense a formal teaching of the subject. It should be interwoven

with the language-work, supplementary reading, and the study of geography. *The primary aim is to awaken a keen interest in the subject and a desire for reading.*

When the pupil has gained considerable knowledge and understanding of the social conditions around him he may be led farther afield. In the second part of the course assigned for this grade he is able to begin, therefore, a study of the discoveries, the explorations, the fur-tradings, the wars, the settlements, the social conditions, etc., on the American continent, as an outcome of the social, economic, and political conditions that prevailed in Europe.

II. METHOD.—The following method is suggested: In the introductory stage (first term) the method should consist rather in the use of graphic word-pictures of stirring events and of interesting tales of adventure. The stories should sometimes be told, sometimes read, to the class; as much as possible, too, the children should be allowed to gain that enjoyment that comes from each reading for himself independently.

After the initial stage the pupil should gradually become less and less dependent on the teacher. The teacher should always encourage initiative on the part of the pupil that he may develop the ability to do much independent work for himself. For this purpose the *laboratory method* is strongly recommended. The laboratory will consist of a small class-room library; the apparatus, of books, pictures, magazines, etc. A well-selected collection of general histories, monographs, biographies, magazines, etc.; portraits of historical personages, pictures of groups and scenes, modern imaginative pictures portraying historical scenes are indispensable.

If suitable material is available in the library the teacher should outline the lesson plan. With this plan or framework as his guide, the pupil should be in a position to do much intelligent purposeful reading. In this way the details may be assembled. The class discussion, which would naturally follow, may take the form of a general discussion, a socialized recitation, a dramatization, or a debate. The project method may be used where the topic under discussion lends itself to this method of treatment.

III. SUBJECT-MATTER.

A. Talks on the Early History of British Columbia.

(*a.*) Indian life in the Province before the white man came. From these stories the pupil should get a clear conception of the Indian's method of living, his mode of warfare, his superstitions, his legends, his means of travel, etc. (Reference book for pupils: Anstey—The Romance of British Columbia (Gage). Price, 65c.)

(*b.*) Stories of adventure of early explorers; e.g., Cook, Meares, Vancouver, Mackenzie, Thompson, Fraser. These stories will include accounts of the initial stages of the fur trade in our Province. (Reference books for pupils: Denton—The Far West Coast (Dent); price, $1; regarding Cook, Meares, and Vancouver. Anstey—The Romance of British Columbia; regarding Mackenzie, Thompson, and Fraser.)

(*c.*) Stories of the development of the fur trade by the Hudson's Bay Company.

(*d.*) The story of the Cariboo Trail.

(*e.*) Stories of the surveying for the C.P.R. and the building of it.

(Reference books for pupils for the above three topics: Anstey—The Romance of British Columbia. Dickie—Canadian History Readers' series—The Long Trail (Dent). Price, 75c.)

(*f.*) Stories relating to early missionaries and the establishment of missions.

(*g.*) Stories of early pioneers (only those of local interest are to be attempted).

(*h.*) Stories of the beginnings of such centres as Victoria, New Westminster, Kamloops, Vancouver, etc. Special attention should be paid to the founding and growth of the pupils' home town, and the surrounding towns, cities, and districts that are of local interest. This and the two preceding topics will be of value only when the requisite information is secured by pupils themselves in their home districts.

B. Discoverers and Explorers of America.

(*a.*) A simple picture of trade conditions in medieval Europe leading to the discovery by pupils of the need for a new route to the East. This might well centre around the customs, occupations, and trade of Venice. (Reference book for pupils: Dickie—How Canada was Found (Dent). Price, 65c.)

(*b.*) Marco Polo and trade with the Far East; the discovery and development of this route. (Reference book for pupils: Dickie—How Canada was Found (Dent).)

(The above topics should be treated in such manner as to form a suitable background for the story of the life and discoveries of Columbus.)

(*c.*) The Westward Trend.

Reference books for pupils:

(1.) Leif, The Lucky (Dickie: How Canada was Found. Wallace: By Star and Compass (Oxford University Press). Price, 50c.)

(2.) Columbus.
(3.) The Indians.
(4.) Balboa.
(5.) Cortes.
(6.) Magellan.
} Dickie: How Canada was Found.

(7.) John Cabot.
(8.) Jacques Cartier.
} Dickie: How Canada was Found. Wallace: By Star and Compass.

(9.) Champlain.
(10.) Radisson.
(11.) La Salle.
(12.) Verendrye.
} Dickie: The Long Trail (Dent). Price, 75c. Wallace: By Star and Compass.

(13.) Nurses and Missionaries (Dickie: The Long Trail.)

(14.) Capt. John Smith.
(15.) The Pilgrim Fathers.
} Highroads of History, Book VIII. (Thos. Nelson & Sons). Price, 85c.

(16.) Frontenac (Dickie: The Long Trail. Palk: Pages from Canada's Story, Book II. (Dent). Price, 75c.).

(17.) The United Empire Loyalists (Dickie: In Pioneer Days (Dent). Price, 90c.).

(18.) Wolfe and Montcalm (Palk: Pages from Canada's Story, Book I. (Dent). Price, 75c.).

(19.) Tecumseh.
(20.) Laura Secord.
(21.) General Brock.
} Palk: Pages from Canada's Story, Book II.

At least ten of these biographies should be studied. The teacher should select from this list such characters as are necessary to present to her pupils a clear account of the conditions of the times and to show the advancement of the settlement of this continent.

REFERENCE BOOKS FOR PUPILS:

Anstey: The Romance of British Columbia (Gage). Price, 65c.
Denton: The Far West Coast (Dent).
Dickie: How Canada was Found, The Long Trail, In Pioneer Days (Dent).
Palk: Pages from Canada's Story, Books I. and II. (Dent).
Highroads of History, Bk. VIII. (Nelson).
Adventures of Exploration, Bk. VI. (G. Philip & Son).
The Ryerson Canadian History Readers; Brock and Mackenzie (Ryerson Press, Toronto). Price, 10c. each.
Wallace: By Star and Compass (Oxford University Press, Toronto).

IV. REFERENCE BOOKS FOR TEACHERS:

Mrs. Hamer-Jackson: The Discoverers and Explorers of America (Nelson & Sons). Illustrated.
McKelvie: Early History of British Columbia (Dent & Sons, Toronto).
Foote and Skinner: Explorers and Founders of America.
Marsh: Where the Buffalo Roamed (Macmillan Co., Toronto). Price, $1.60.
Laut: Pathfinders of the West (Macmillan Co., Toronto). Price, $1.
Laut: Canada, the Empire of the North (Ginn & Co., Boston).
Macpherson: Pictures from Canadian History (Renouf Publishing Co., Montreal).
Beckles Wilson: Canada (T. C. & E. C. Jack, Ltd., Edinburgh).
Leslie Horner: Famous Canadian Stories (McClelland & Stewart, Toronto).
Johnson: French Pathfinders in North America (Little, Brown & Co., Boston).
J. O. Miller: Brief Biographies (Copp, Clark Co., Toronto). Price, 40c.
Canadian Men of Action; Brock and Champlain (The Macmillan Co. of Canada, Ltd., Toronto). Price, each volume 85c.
Chronicles of Canada (32 vols.), edited by Geo. M. Wrong & H. H. Langton (Glasgow, Brooks & Co., Toronto).
Kennedy: The Book of the West (Ryerson Press, Toronto).
Howay: British Columbia—The Making of a Province (Ryerson Press).
Builders of the West, edited by Howay (Ryerson Press).

6. Drawing.

OBJECT DRAWING.—Cylindrical forms of common objects in vertical and oblique positions, finished in outline or flat tones.

NATURE DRAWING.—Leaves, flowers, twigs, in outline and outline plus colour.

DESIGN.—Borders and panels decorated with simple motifs based upon nature forms as suggested in Group III., Design Section of Teachers' Manual.

COLOUR.—As noted in previous grades, with better technique.

LETTERING.—Review of Roman capital letters. Introduction of small Roman letters (skeleton form). Lettering of verse, prose, etc., using capitals and small letters in conjunction. (*See* Teachers' Manual of Drawing and Design.)

NOTE.—Some of the time assigned to this subject may profitably be spent in linking up poster design and lettering with such subjects as history and geography. Pupils in Grades V., VI., VII., and VIII. should make in simplified poster form, drawings of costumes, ships, land vehicles, and buildings, which would give excellent practice in drawing and design and at the same time add considerable interest to the subjects chosen for illustration. Material for illustrations can be found in text-books and magazines.

SUGGESTED TOPICS.—Grade V.: B.C. Indian totems, lodges, and ornament; fur-traders birch bark canoe; ship of Columbus.

7. Nature Study and Elementary Agriculture. (*See* note on Nature Study, page 100.)

AUTUMN.

Animal Life.—(*a.*) Wild animals—seal, walrus, sea-lion. (*b.*) Birds—owls, hawks, eagles. (*c.*) Insects—grasshoppers, crickets, bugs.

Plant Life.—(*a.*) Weeds—shepherd's-purse, wild mustard, lamb's-quarter, pigweed, narrow-leaved plants in (ribgrass), wild sunflowers. (*b.*) Trees and shrubs—cypress ("cedar"), poplar, arbutus, oak.

Gardening and Elementary Agriculture.—Careful study of one or two types of annuals, biennials, and perennials, with special attention to food-storage (preparation for winter).

WINTER.

Animal Life.—(*a.*) Wild animals—cougar, wolverine, lynx, and wildcat (using pictures or stuffed specimens where available). (*b.*) Birds—woodpeckers, including flicker and nuthatch. (*c.*) Insects—dormant forms of insect-life.

Plant Life.—Trees—larch ("tamarack"), spruce; comparison of all evergreens studied.

Gardening and Elementary Agriculture.—Planning of school and home gardens; drawing of plans; description and stories relating to gardens and gardening.

SPRING.

Animal Life.—(*a.*) Birds—jays and magpies; nesting habits of birds studied in autumn and winter. (*b.*) Insects—flies, beetles, and wasps.

Plant Life.—(*a.*) Wild flowers—twin-flower, violet, false Solomon's-seal, wild bleeding-heart. (*b.*) Trees and shrubs—spiræa, red flowering currant, the poplars.

Gardening and Elementary Agriculture.—School and home gardening projects taken up as already planned.

8. Music.

SECTION I.—VOICE-TRAINING.—Breathing exercises combined with voice exercises. The exercises in this and the following grades should now be a little more definite.

SECTION II.—TUNE.—(*a.*) Sharp Staff Modulator drill in all keys, using syllables and laa.

(*b.*) To sol fa from the Modulator, exercises containing minor mode phrases introducing l se l.

SECTION III.—TIME.—As for Grade IV., but including the dotted eighth and sixteenth.

SECTION IV.—TIME AND TUNE.—" Study " songs to syllables and laa.

SECTION V.—EAR-TRAINING.—(*a.*) To write or tell ear-tests containing four or five tones, including easy leaps.

(*b.*) Chordal exercises for blending of voices.

(*c.*) Two-part exercises.

SECTION VI.—THEORY.—Formation of scale; a sharp, flat, and natural; an accidental; key signatures; a triplet; the sharpened fourth; the flattened seventh; terms of expression (animato, allegro, adagio, largo, legato, maestoso); dance forms (minuet, gavotte, sarabanda); transition or modulation to nearly related keys.

SECTION VII.—SONGS.—Songs in unison.

SECTION VIII.—RHYTHMIC WORK.—Use the minuet, gavotte, and skipping steps to introduce the works of Bach, Handel, and Schumann.

Text-book: Coney & Wickett—New Canadian Music Course, Book III. (Gage, Toronto). Price, 25c. This book contains all necessary exercises and songs for the year's work.

9. Health Education.

(*a.*) HYGIENE. (*See* pages 103–109 for a general note on method and for a list of suitable reference books.)

Aim.—To give a better understanding of the principles upon which health rules are based; to emphasize the importance of physical fitness.

NOTE.—Boys and girls in this grade begin to establish more extensive relationships in their thought processes (rationalization). They are able to make some application of the principles of health in a wider sphere of educational experience both in and out of school. Health lessons of real value, therefore, may be associated with lessons in nature study, geography, civics, language-work, drawing, and arithmetic computation. They are able to combine all of these subjects in the carrying-out of a health project. In this grade relationships between form or structure on the one hand and function or use on the other have increasing significance for the pupils, and an approach to what might be called a physiologic basis may here be noted. There is a reason why a carious tooth aches, for example, and boys and girls at this age will better appreciate this when the structure of the tooth and the use of nerves and blood-vessels are known. In other words, they are gaining a new and essentially scientific reason for good health practice. Moreover, the question of physical and mental prowess in school games and sports is one of increasing interest. This furnishes a new and direct motive for the study of the human form—strength depending upon well-developed muscles and bones, good digestion, circulation, etc. It would be a mistake to launch into a study of human physiology at this stage, but to ignore it altogether would be deliberately to discredit the intelligence and the rationalizing power and natural inclination of boys and girls at this age for scientific explanations.

The physiology taught in this grade should be very simple and be given in response to the child's felt need for knowing " why," and should be of a kind which meets his need and does not confuse with details that he cannot possibly understand. The fact that growing bones are more pliable than they will be later in life may help him to realize the importance of good posture. In this grade and the next good stories and health plays can be used to advantage, also the making of posters and booklets.

(1.) *Nutrition.*—The function of the various kinds of foods as given under Grade IV. should be reviewed and developed further. The idea of a simple balanced meal and of food as a body-fuel may be developed with many practical examples (calories need not be mentioned here and the question of vitamins may also be deferred to a later date). Hygiene practices in the serving as well as in the eating of food should still be emphasized; simple facts of digestion may now be introduced; the teeth—kinds, structure, causes of and safeguards against decay.

(2.) *Posture and Exercise.*—Bones and muscles as giving size, shape, and strength to the body; the great use of bones, joints, and muscles; the great importance of good posture in growing boys and girls; what exercise does for us; suitable games and relief exercises; fairness in all games and contests; true sportsmanship in and out of school.

(3.) *Rest and Recreation.*—Various meanings of rest—(*a*) active rest (for mental workers); (*b*) mental rest (relief from mental anxiety); (*c*) sleep for mental and physical workers; (*d*) outdoor recreation for all.

(4.) *Fresh Air and Ventilation.*—How and why we breathe; importance of unobstructed breathing—good posture, loose clothing, nose-breathing; posture and breathing exercises; how to secure good ventilation without draughts.

(5.) *Circulation.*—How the blood gets through the body and what it does in the body (avoid technical descriptions); relate pure blood to pure food, pure air, exercise, and warmth of body.

(6.) *Sanitation and Disease-control.*—Sanitary handling of all foodstuffs, in the home, at school, in markets, stores, etc., also the milk and water supply; dangers from flies as disease-carriers and how to deal with them; danger from impure drinking-water and need of boiling when in doubt; reasons for quarantine, when necessary, and why people should willingly observe it. Relate to practical civics.

(7.) *Accident-prevention.*—Continue work of Grade IV. During this period and for a few years the "gang" tendency is marked, especially amongst boys; hence the need of positive leadership and organization. It is at this stage that such world-wide organizations as Boy Scouts, Trail Rangers, Junior Safety Councils, Vigilance Committees, Health Crusaders, etc., may be used to great advantage. The protection of the school and of the home and the well-being of all—especially of the younger members—should become a positive ideal which can be attained through sane and efficient action in all hazardous situations. Boys and girls enrolled in one of the above organizations should have certain reasonable responsibilities which should be the subject of regular reports at monthly meetings regularly held in the school. Some project studies relative to possible local hazardous situations should now be conducted. (*See* special note on pages 105–107.)

(*b.*) PHYSICAL EXERCISES AND GAMES.—Syllabus of Physical Training for Schools.

GRADE VI.

1. Language.

Note carefully and follow generally the outline for Grade V. The work in English for Grade VI. is largely an extension and a development of the work done in the Fifth Grade. The chief aim in this grade in the development of oral expression is to train every pupil to speak for a few minutes in an interesting and logical way, using good enunciation and clean-cut sentences, devoid of the common errors of speech; to read silently once and then reproduce a short, simple story, an item of news, or a paragraph of information; to associate with all oral expression habits of good position and delivery; in the development of written expression to work for ease and fluency in simple English; to establish a clear notion of a sentence and to train pupils to write briefly in an interesting and logical way, using clean-cut sentences, unmarred by misspelled words and by common grammatical errors; to establish in the mind of the pupil the paragraph-sense.

NOTE.—If the desired aims in the attainment of oral and written expression are to be attained, intelligent use must be made in a majority of the school subjects, of the socialized recitation and the project method.

ORAL AND WRITTEN COMPOSITION.—Continue outline for Grade V. The work for Grade VI. differs from that of Grade V. in degree rather than in kind.

The work prescribed in composition for this grade will be found in Alexander and Mowat's Elementary Composition, Part II., Chapters I. to IV., inclusive.

READING.

Oral Reading.—Book V. (Part 2) of the Canadian Readers. Correct pronunciation, clear enunciation, and articulation should be carefully stressed.

Silent Reading.—As in Grade V., a major portion of the time devoted to reading should be given to silent reading. The various supplementary readers recommended for history and geography may be used.

For specific training to develop rate and comprehension in silent reading The Sixth Reader of The Silent Study Readers, Sherman, Reid, MacKenzie (Dent & Sons); price, 70c., will be found particularly useful.

In order to attain the desired objectives it is imperative that teachers familiarize themselves with the technique specifically set forth in the books on silent reading listed in the bibliography.

Spelling.—Words of Grade VI. minimum and supplementary lists with 100 per cent. accuracy. Encourage the pupil to consult his dictionary to ensure absolutely correct spelling in all his written work.

PRESCRIBED TEXT-BOOKS:

*The Canadian Readers, Book V., Part 2. (Teachers will find the Handbook (Gage & Nelson) very useful.)

*Spelling for the Grades (Department of Education).

Alexander & Mowat: Elementary Composition (Gage).

SUPPLEMENTARY READERS:

Sherman, Reid & MacKenzie: The Silent Study Readers, Book VI. (Dent, Toronto). Price, 70c.

Reading and Thinking, Grade V. (Nelson, Toronto).

*British Columbia School Magazine (Department of Education, Victoria).

* Supplied free to public schools by the Department of Education.

BOOKS FOR TEACHERS' USE:

Books as recommended in previous grades and the following:—
Dickie: Learning to Speak and Write, Book II. (Gage).
Huey: The Psychology and Pedagogy of Reading (Macmillan, N.Y.).

3. Writing.

Pupils of this grade use the *Senior Manual of the MacLean Method of Writing. Teachers use the Teachers' Manual as their guide. Special attention should be devoted to freedom of movement, better letter formation, and greater rapidity in all written work. Optional letter forms are introduced as shown in the Senior Manual. The essentials of business penmanship should be emphasized.

3. Arithmetic.

*Smith and Roberts Arithmetic, Book I., until June, 1931.

*The New Canadian Arithmetics, Intermediate Book, Part II.—Sheffield & Brown (Dent), omitting all work not included in the following outline, is to be used as from September, 1931.

AIMS.—To review thoroughly the four fundamental processes with whole numbers, fractions, and decimals, the emphasis being placed upon operations with decimals.

To review denominate numbers and to extend their use.

To teach the meaning of percentage and its applications in simple situations.

To emphasis the analysis and solution of problems relating to home, business, and industrial situations.

In school systems where the pupils expect to enter a Junior High School, to lay the foundation for the mathematical concepts which a pupil will meet in such school.

NOTATION AND NUMERATION.—The reading and writing of numbers through billions, and a review of Roman numbers in common use.

FUNDAMENTAL PROCESSES.—Review and extend previous work and aim to increase speed and accuracy in the fundamental operations. Practice tests should be given almost daily. Oral and mental work should continue to receive special attention in this grade.

FRACTIONS.—The four processes with fractions of various types reviewed and extended.

DECIMALS.—The meaning and application of the four processes reviewed and extended. Multipliers and divisors should generally be limited to decimals of one, two, or three places, with occasional practice with larger numbers. Multiplication and division of decimals and whole numbers (orally) by 10, 100, 1000, etc., and by 20, 30, 40, etc. Concrete problems involving the four simple rules.

DENOMINATE NUMBERS.—(1) Review denominate-number work taken in previous grades.

(2.) Teach proper abbreviations of the names of different units.

(3.) Specific measures as needed mainly for informational use; e.g., English money.

(4.) Reduction ascending and descending (simple problems). Pupils should be taught to have a definite knowledge of the actual size of all denominate units.

* Supplied free to public schools by the Department of Education.

(5.) Linear measure extended. Give practice in finding perimeter of square and rectangle. Measuring distances and drawing to scale. Finding actual distances from maps; e.g., What is the map distance from Victoria to Calgary? What is the actual distance? Computing distances travelled on automobile tours. Calculating distances between cities as shown on railroad time-tables. Simple problems in fencing, etc.

(6.) Reading and construction of simple line- and bar-graphs.

(7.) Square measure reviewed and extended to include square rods, acres, and square miles. Problems dealing with areas of floors, walls, rugs, fields, farms, etc. Explain that the usual way of expressing the areas of fields and farms is to count 160 square rods as an acre, and a square mile of land (640 acres) as a section.

(8.) Volume reviewed and applied to practical situations. Problems in finding air-space of rooms, volume of bins, cellars, piles of cordwood, etc.

(9.) Dry measure: problems involving number of pounds in bushel of wheat, oats, potatoes.

(10.) Simple problems in addition, subtraction, multiplication, and division in all measures learned. Very little time should be spent on this work, and the problems should be limited to such problem-situations as really occur in life. Two or three problems on each measure with each of the four rules should be sufficient. Teach the use of fractions and decimals as alternatives.

BILLS, ACCOUNTS, ETC.—Simple business forms such as bills, monthly accounts, receipts, cheques, deposit slips, savings accounts, cash accounts, etc. Stress *neatness, form,* and *mental calculation.*

AGGREGATES AND AVERAGES.

Teach such problems as the following:—

(1.) If 5¾ yards of cloth cost $38, what will 14⅜ yards cost at the same rate?

Solution:—

If $5\frac{3}{4}$ yards cost $38

Therefore $14\frac{3}{8}$ yards will cost $\frac{14\frac{3}{8}}{5\frac{3}{4}} \times \$38 = \frac{115}{8} \times \frac{4}{23} \times \$38 = \$95.$

(2.) 6¼ gallons of water weigh 62.5 pounds; what will 2½ gallons weigh?

Solution:—

$6\frac{1}{4}$ gallons weigh 62.5 pounds

Therefore $2\frac{1}{2}$ gallons weigh $\frac{2\frac{1}{2}}{6\frac{1}{4}} \times 62.5$ pounds $= \frac{5}{2} \times \frac{4}{25} \times 62.5$ pounds $= 25$ pounds.

(3.) If 20.5 acres of land yield 366.95 bushels of wheat, how many bushels can be raised from 49 acres at the same rate of production?

Solution:—

20.5 acres yield 366.95 bushels

Therefore 49 acres yield $\frac{49}{20.5} \times 366.95$ bushels $=$

$\frac{490}{205} \times 366.95$ bushels $= 877.1$ bushels.

PERCENTAGE.—The meaning, signs, and language of per cent. developed from Canadian money and decimals. The relation of per cent. to fractions and decimals.

The three cases in per cent.:

(1.) How to find a per cent. of a number.

(2.) How to find what per cent. one number is of another.

(3.) How to find a number when a per cent. of it is given.

The simpler applications of per cent.: Discount, profit and loss, simple interest (for annual periods only), commission.

These topics should be treated in the simplest possible way. The solution of difficult or unusual problems is not expected. Care should be take to make the problem situations intelligible to the pupils.

PROBLEMS.—In this grade there should be continued emphasis on methods of solving problems, including problem analysis and the estimation of answers. As far as the topics of the Course will allow, the problems should be based upon the activities of children and their experiences.

GEOMETRIC FORMS.—By way of preparation for the Junior High School Mathematics work of Grade VII., the pupils of Grade VI. should be familiar with the following terms: rectangle, square, straight line, parallel lines, angle, right angle, perpendicular, triangle, base, apex or vertex, altitude or height (as applied to triangles and rectangles), circle, centre, circumference, radius, radii, diameter, semicircle. The pupils should be able to identify or illustrate but not to define these terms.

4. Geography.

I. The pupils of this grade will continue the regional treatment of the continents begun in Grade V. Cause and effect will be emphasized. Natural products and local industries will be seen as the result of climatic conditions operating over large areas or regions. Descriptive geography from the text and from supplementary texts should receive careful treatment. The reading of suitable supplementary books is as much a part of the course as is the careful study of the prescribed text. Problems should be raised and projects should be worked out either by individuals or by groups.

Comparisons should be made with similar conditions in North America. In this way the work of Grade VI. should build upon and enlarge upon the work of Grade V. Map study should lead to a clear understanding of isotherms and to the cause and influence of ocean currents. An elementary and simple presentation of the trade winds should be made during the lessons on the Amazon Plains. Prepared outline maps may be obtained at slight cost from the Free Text-book Branch. The pupils should be taught to fill in important features from memory.

It is recommended that, in districts where pupils leave the elementary school at the end of Grade VI. to enter a Junior High School, the course in Geography for Grade VI. include a general study of all continents not taken in Grade V. Where this is done the work on South America might be included in Grade V.

II. SOUTH AMERICA.

(*a.*) *Problem.*—How is South America like our own continent? (Pupils will compare the size, shape, highlands, and river systems of the two.)

Great Regions and Political Divisions.

(1.) The Andean States—Columbia, Ecuador, Peru, Bolivia; Chili.

(2.) The slope to the North—Venezuela, Orinoco Valley, The Guianas.

(3.) The slope to the East—Brazil: The Amazon Valley; The Brazilian Highland.

(4.) The slope to the South—Argentine, Paraguay, Uruguay.

(*b.*) What products of South America are most needed in Canada? Where are these secured? Why do we not have them ourselves? What do we send in return?

(*c.*) Why is Spanish the language of South America? What countries use this language?

III.—EUROPE.

(*a.*) Map study of Map 33. Note position of Arctic Circle and Tropic of Cancer; compare with the part of North America which lies in the same latitude. Emphasize length of coast-line in relation to area; the depth of the indentations; the continental shelf.

(*b.*) *Political Divisions and Regions.*—By grouping states which lie in a well-defined climatic region much time and labour may be saved and a mass of detail which leads to confusion of ideas rather than the acquirement of clear concepts may be avoided. The following grouping is suggested:—

(1.) *North-western Europe.*—The British Isles. The Northern Plain—France, Belgium, Holland, Denmark, Germany. The Baltic Region—Scandinavia, Finland, Poland, Esthonia, Latvia, Lithvania.

(2.) *Central Europe.*—The Eastern Plain—Russia; The Valley of the Danube—Austria, Czechoslovakia, Hungary, Rumania.

(3.) *The Alpine District.*—Switzerland and adjacent lands.

(4.) *Mediterranean Europe.*—The Mediterranean countries—Iberian Peninsula, Rhone Valley, Italy, Balkan States (Yugoslavia, Bulgaria, Greece, Turkey).

IV.—WHAT IS EUROPE'S MAIN GATEWAY INTO CANADA?

(*a.*) What first led Europeans to our shores? What natural barriers to trade has the St. Lawrence as a route into the heart of Canada? How have these been overcome? Where did the first Europeans make settlements? What was the St. Lawrence Valley like in those days (1606–1700).

(*b.*) The lands of the St. Lawrence comprise a mixed forest region. What use has been made of these forests?

(1.) Lumbering.

(2.) Furniture; implements; musical instruments; wagons; automobiles; boats and canoes; matches.

(3.) Pulp and paper. Since this region has no coal, what efforts have been made to overcome this handicap?

(4.) Agriculture—Export of cheese, condensed milk, bacon, and maple sugar. Fruit district, Niagara.

(5.) Mining—Asbestos, nickel, gold, silver.

PRESCRIBED TEXT-BOOKS:

Cornish: Canadian Geography for Juniors, British Columbia edition (Dent).

Cornish: Canadian School Atlas (Dent).

REFERENCE BOOKS FOR PUPILS:

Adventures of Exploration, Book II.—South America (Philip & Son, London). Price, 1s. 8d.

The World and Its People—South America; Europe and The British Isles (Nelson, Toronto).

Carpenter's Geographical Reader—South America; Europe (A.B. Co., N.Y.).

Peeps at Many Lands—Panama; South America (Black, London).

Peeps at Many Industries—Rubber; Sugar (Black, London).

Fairgrieve and Young: Human Geographies, Primary Series—Book IV., In the New World; Book III., The British Isles; Book VI., Europe and Britain (G. Philip & Son).

Earth Knowledge Series—Book II., On the British Isles; Book III., On the Continents; Book V., Europe Regionally Treated (McDougall's, London).

Barnard: How Other People Live—Pictures of Many Lands (Black, London).

Lane: Under Sunny Skies (Ginn, S.F.).

Great Cities of the World: (*a*) London; (*b*) Paris; (*c*) Rome, etc. (McDougall's, London).

Allen's Industrial Readers: (*a*) South America; (*b*) Europe (Ginn).

REFERENCE BOOKS FOR TEACHERS.

See list under Grade V.

5. History and Civics.

I. AIM.—The aim as outlined in the course for Grade V. should be read carefully.

II. METHOD.—(*a.*) The history tales outlined for this grade are suggestive only and the list as given may be altered or increased by individual teachers, the important consideration being the creation in the pupils' minds of a clear and vivid picture of each of the periods. The methods suggested for Grade V. will be adopted in this grade, but will be extended and developed in accordance with the increased abilities of the pupils.

(*b.*) The Course in Citizenship is intended to familiarize pupils with our simplest forms of organization. Lessons should be confined to the type of condition existing in the immediate locality; in municipalities such matters as roads, streets, police, fire-protection, schools, etc., would be included, while in unorganized territory only those which are actually in local operation would be considered.

Socialized methods may be used to advantage in this subject, the conducting of meetings, holding of elections, appointing of committees and receiving of their reports are illustrative of suitable topics. Such projects as "Our Water System," "Building a New Road," "The Community Hall," and others dealing with the raising of money by taxation, assessment, etc., are of benefit. Throughout the pupils should do the major portion of the work; the keynote of this course is "Learn by doing."

III. SUBJECT-MATTER.

A. History Studies.

(*a.*) *Early Britain Period.*—Stories selected from the legends of King Arthur and his Knights may be used to illustrate the life and conditions

in Britain at this time. Stories of Boadicea, King Alfred, The Vikings, St. Augustine, An English Village in the Eighth Century.

(*b.*) *Saxon-Norman Period.*—" Robin Hood " stories or stories from " Ivanhoe " may be used to illustrate this period. Studies of Feudal System, Curfew, An English Village in the Twelfth Century, Life in a Monastery.

(*c.*) *The Age of Chivalry.*—The Crusades, illustrated by stories from Scott's " The Talisman." Knighthood, A Tournament, Richard the Lion-Hearted.

(*d.*) *Later Medieval Period.*—Stories of Robert Bruce, William Wallace, Joan of Arc, the Black Prince.

REFERENCE BOOKS FOR PUPILS:

Highroads of History, Book IV. (Nelson, Toronto).
King Arthur and His Knights (Macmillan *or* Dent).
Robin Hood and His Merrie Men (Macmillan *or* Dent). Price, 20c.
Then and Now, Junior Series (Macmillan, London). Price, 19c.
Builders of History, Canadian Edition (Longmans, Green & Co.). Price, 70c.

(*e.*) *Social Development.*—This section is expected to develop a knowledge of the way in which the people of early and medieval England lived, worked, and struggled slowly towards social equality. Dress, food, games, industrial operations, and means of transportation should receive attention; in this connection there is a real opportunity for correlation with Art and with Manual activities. Keatinge's " First History of England " (A. & C. Black. Price, $1.35) is invaluable as a reference work for teachers.

(1.) Geoffrey Chaucer. (Fairs, pilgrimages, and travel in early England. Pupils' reference: Builders of History.)

(2.) The Black Death. (Need for sanitation. Why we have doctors and health departments to-day. Pupils' reference: Highroads of History, Book IV.)

(3.) Wat Tyler and the Revolt of the Peasants. (Social inequality in rural England. Pupils' reference: Builders of History.)

(4.) Sir Richard Whittington. (An apprentice's life in a great city. Pupils' reference: Builders of History.)

(5.) The Spanish Armada. (The story of England's naval supremacy. Pupils' reference: Builders of History.)

(6.) Travel and Communications. (The development of roads goes hand-in-hand with the social and economic progress of the people. In this topic an attempt should be made to trace this development and to indicate its influence. " Social History," of Highroads of History series, is a valuable reference book for teachers.)

B. Citizenship.

Studies of organization for such purposes as churches, schools, water-supply (in irrigation districts), and for general municipal government (in municipalities). Reference book for teachers: McCaig—Studies in Citizenship, B.C. edition (Gage), Chapters I. to VIII., inclusive, Chapter XVII.

IV. BIBLIOGRAPHY.

(*a.*) Reference books for pupils:

Highroads of History, Book IV. (Nelson, Toronto).
King Arthur and His Knights (Macmillan *or* Dent).
Robin Hood and His Merrie Men (Macmillan *or* Dent). Price, 20c.
Then and Now, Junior Series (Macmillan, London). Price, 19c.
Builders of History, Canadian edition (Longmans, Green & Co., Toronto). Price, 70c.

(*b.*) For the teachers:

Keatinge: First History of England (A. & C. Black, London). Price, $1.35.
McMurry: Teaching by Project (Macmillan, N.Y.). Price, $1.75.
Branom: The Project Method in Education (The Gorham Press, Boston).
Goggin: The Canadian Citizen (Macmillan, Toronto). Price, $1.
McCaig: Studies in Citizenship, B.C. edition (Gage, Toronto).

6. Drawing.

OBJECT DRAWING.—Cylindrical forms of common objects in vertical, oblique, and horizontal positions. Drawings to be finished in light and shade.

NATURE DRAWINGS.—Leaves, flowers, twigs, in outline, in colour, and in light and shade.

DESIGN.—Observation of nature forms illustrating the principles of repetition, contrast, and variety. Application of these principles to the planning of original motifs for the decoration of borders and panels. Simple conventional renderings of leaves and flowers for borders and panel decoration. Groups III. and IV., Design Section, Teachers' Manual.

COLOUR.—Any colour exercises given in previous grades, with the addition of greyed colours and simple analogous harmonies.

LETTERING.—Roman letters—skeleton form, capital and small letters. Lettering of school announcements, advertisements, etc. (*See* Teachers' Manual of Drawing and Design.)

Suggested topics for work indicated in note under Drawing in Grade V.:—

Norman Keep.
Norman Knight.
Medieval Costume.
Medieval Ship.
National Costumes; Dutch, Arab, etc.

NOTE.—Where Home Economics centres are established the art-work for girls should be correlated with clothing projects.

7. Nature Study and Elementary Agriculture. (*See* note on Nature Study, page 100.)

AUTUMN.

Animal Life.—(*a.*) Wild animals—beaver, otter, muskrat. (*b.*) Birds—divers (loon), swimmers (ducks); adaptation of birds to environment. (*c.*) Insects—cabbage-butterfly, cabbage-aphis, tent-caterpillar.

Plant Life.—(*a.*) Wild flowers—cat-tail, arrowhead, water-parsnip, water-milfoil. (*b.*) Weeds—chicory, curled dock, sheep-sorrel, wild carrot. (*c.*) Trees and shrubs—mountain-ash; review of deciduous trees.

Gardening and Elementary Agriculture.—(*a.*) Harvesting crops of school and home gardens and estimation of yields; fall cultivation and preparation of gardens for winter. (*b.*) Soil studies—origin and classification of soils continued. (*c.*) Soil experiments dealing with (1) determination of humus at different depths; (2) deposition of soil in water; (3) capillarity in soils; (4) water-holding power of soils; (5) use of the earth mulch; (6) testing soils for acid.

WINTER.

Animal Life.—(*a.*) Wild animals—skunk, marten; review and compare other fur-bearing animals previously studied, noting winter adaptations, hibernations, etc. (*b.*) Birds—scratching birds (grouse, quail, etc.), poultry types, and a few popular breeds of each; feeding and care of poultry. (*c.*) Insects—winter conditions of insects already studied.

Plant Life.—(*a.*) Weeds—collecting and identifying of seeds of varieties already studied. (*b.*) Trees and shrubs—yew, red cedar, and juniper.

Experimental Work relating to Natural Phenomena.—(1) Forms of matter —solids, liquids, gases; (2) change of state as related to temperature; (3) expansion in solids due to heat; (4) expansion in liquids; (5) expansion in gases; (6) thermometer; (7) physical properties of air, application of air pressure—barometer, common lift-pump.

SPRING.

Animal Life.—(*a.*) *Miscellaneous*—Snake, lizard, earthworm. (*b*) Birds—sparrows, swallows, and fly-catchers. (*c.*) Insects—review life-cycle of insects studied in the autumn; the honey-bee and honey production, an economic study.

Plant Life.—(*a.*) Wild flowers—skunk-cabbage, water-lily, or other available marsh plants. (*b.*) Trees and shrubs—cottonwood, June-berry or wild cherry.

Gardening and Elementary Agriculture.—Soil studies (continued): (1) Need of air-spaces and therefore of drainage; (2) temperature of drained soil as compared with undrained soil; (3) review of results of soil studies already made and related to subject of soil requirements for growing plants.

8. Music.

SECTION I.—VOICE-TRAINING.—Combination of breathing and voice exercises on all the singing vowels. Vocal studies.

SECTION II.—TUNE.—Sharp practice on the Staff Modulator daily to "laa" in all keys.

SECTION III.—TIME.—Review of the rhythmic figures taken in the lower grades. Original phrases to be used.

SECTION IV.—TIME AND TUNE.—Short "study" songs for sight-reading.

SECTION V.—EAR-TRAINING.—Phrases played or sung by teacher to be written in music dictation books.

SECTION VI.—THEORY.—Special study of vowels, consonants, and diphthongs; verbal and musical phrasing; transition or modulation applied to Staff Notation; chromatic degrees; syncopation; double sharps and double flats; transposition; the bass clef; additional terms of expression.

SECTION VII.—SONGS.—Songs in unison; simple two-part songs; three-part singing introduced.

SECTION VIII.—RHYTHMIC WORK.—A beautiful melody or theme taken from the classics to be sung, stepped, or dramatized. Two-part exercises to be stepped.

Text-book: Coney & Wickett: New Canadian Music Course, Book, IV. (Gage, Toronto). Price, 30c. This book contains all necessary exercises and songs for the year's work.

9. Health Education.

(*a.*) HYGIENE. (*See* pages 103–105 for a general note on method and for a list of suitable reference books.)

Aim.—To give a better understanding of the main function of the organs of the body as a further stimulus to healthful living; to develop further the ideal of personal responsibility for participation in school and community effort for the good of all.

NOTE.—*See* note under Grade V. The principle of scientific approach, already suggested, should now be carried much further and other educational experiences linked up with health studies. The work in geography, civics, and nature study also tends in this grade to stress relationships or causation and at certain points should be closely correlated with hygiene in appropriate project studies. The studies in health education will be made much more interesting and therefore more successful if the teacher, with the aid of the pupils, will build up a wide range of good reference material bearing on the whole question of health and efficiency—both personal and social. The list of references given on page 108 must not be considered as complete. A class of interested boys and girls who are working in support of a "cause" will find some remarkably good material. As the text-book, "Physiology and Hygiene," by Ritchie and Caldwell, will be used by the teachers in all schools, some references to certain chapters or pages will be included in the outline for this and the two succeeding grades. In choosing books for supplementary reading in the various school subjects and for pupils' reference, books and pamphlets dealing with the various aspects of health education should not be overlooked.

(1.) *The Framework of the Body.*—Main parts for protection of vital organs of the body, for strength and locomotion; the joints, how held together and importance of caring for them. (Chapter II.)

(2.) *The Muscular System.*—How the muscles do their work; how to keep them strong; importance of good posture for growing bones and muscles; best kinds of exercise; danger from over exercise and fatigue. (Chapter III.)

(3.) *The Blood and its Uses.*—Review work of Grade V.; chief organs of circulation; importance of good circulation—relation to diet, exercise, bathing, sleep. (Pages 31–36.)

(4.) *Respiration—Air and Health.*—Why we breathe; chief organs used in breathing; amount of air used per pupil (experimental); effects of good and bad air on health (relate to circulation); size of rooms, ventilation, *temperature* and *humidity;* breathing exercises, practice in breath-control in oral reading and singing. (Chapters 10 and 11.)

(5.) *Excretion of Body-poisons.*—The skin-structure, function and care; bathing and protection (relate to clothing); the skin, lungs, kidneys, and intestines as poison eliminators and the great importance of having all work efficiently and continuously in purifying the system. (Pages 125–130; 63; 78.)

(6.) *Nutrition and the Selection of Proper Food.*—The selection of proper foods for growing boys and girls, having in mind: (*a*) Balance of diet (as in Grade V.); simplicity and economy with reasonable variety should be the objective. (*b.*) Project on costs of locally produced foodstuffs and those imported. (Correlate with Geography, Arithmetic, and Agriculture.) (*c.*) Project study dealing with milk and milk products; posters. (*d.*) Harmful effects of tea, coffee, and tobacco. (Chapter IV., pages 74–82.)

(7.) *Accident-prevention and First Aid.*—Work of Grade V. continued, emphasizing organized effort within the school and reaching out into the community; more critical study of hazardous situations associated with fire, explosives (including gasoline and coal-oil), electricity (live wires, etc.); danger from infected wounds and need of prompt treatment of same; what to do in case of fainting, severe nose-bleed, or hæmorrhage from wounds. (*See* special note on pages 105–107.)

(*b.*) PHYSICAL EXERCISES AND GAMES.—Syllabus of Physical Training for Schools.

10. (*a.*) **Home Economics (Girls).** For Course of Study and regulations *see* pages 114–125.

(*b.*) **Manual Training (Boys).** For Course of Study and regulations *see* pages 110–113.

GRADE VII.

1. Language.

GENERAL AIMS.—To establish a standard for self-criticism by teaching simply and concretely certain facts of English grammar which function in every-day speech and applying these facts in eliminating errors that experience has shown to be prevalent in this grade.

To work for the following as fundamental conditions of good speaking and writing: A definite subject and aim; interest on the part of the speaker or writer; originality; the forming of clear mental images; accurate thinking; clear, direct expression; an orderly arrangement of thoughts.

To eliminate incomplete sentences, the "and" habit, and the "comma" fault.

To enrich the children's speaking and reading vocabularies. For this work, literature and the other subjects of study furnish wide opportunities in the Seventh Grade.

To give increased attention to the sequence of sentences within a short paragraph.

To make habitual by continued practice the correct forms of personal letters and simple business letters, and accuracy in the mechanics of composition in general, including all the ordinary uses of capital letters, and of punctuation.

In speech, to work for clear articulation, correct pronunciation, a pleasant, natural tone of voice, self-poise, and a correct and easy standing position.

PRESCRIBED TEXT-BOOKS:

The Voice of Canada, Canadian Prose and Poetry, ed. Stephen (Dent). Price, 40c.

Golden Steps (Nelson), price 25c.; *or* Selections from the Nature Poets (Macmillan, Toronto), price 20c.

Ruskin: A Christmas Carol and King of the Golden River (Copp, Clark). Price, 30c.

McArthur: Familiar Fields (Dent). Price, 35c.

Alexander & Mowat: English Composition—as in previous grades.

*Lang's Public School Grammar—as in previous grades.

*Spelling for the Grades—as in previous grades.

SUPPLEMENTARY READERS:

Ryerson Book of Prose and Verse, Bk. I. (Ryerson Press, Toronto).

*British Columbia School Magazine (Department of Education).

ORAL COMPOSITION.—(*a.*) Informal class discussion and debate arising from such topics as current events, home life, school life, social life of the children, travel, excursions, outings, things observed, objects in nature, familiar occupations, any child activities, etc.

(*b.*) Reproduction of stories or articles read.

(*c.*) Other subjects of the curriculum, such as history, geography, literature, and nature study, will furnish abundance of material for class discussion. The socialized recitation method should be adopted if full opportunity is to be given for development of language-power.

(*d.*) Dramatization of short stories in prose or verse.

NOTE.—In all oral discussion in class the criticism must be kindly, helpful, constructive. The chief critic should be the class, but no petty fault-finding should be allowed.

* Supplied free to public schools by the Department of Education.

WRITTEN COMPOSITION.—Written composition should usually grow out of discussion, which should have one or more of these definite aims: To stimulate interest; to suggest lines of thought; to aid in organizing material; to guard against prevalent errors. Written composition should include: (*a*) Friendly letters and notes and simple business letters; (*b*) short compositions on topics of vital interest to the writer and the class. These compositions should usually be not more than 200 words in length; hence the topic should not be too broad for these limits. Occasional longer exercises, as writing or dramatizing stories, may take the place of several of these short compositions.

All forms of composition may be used both for oral and written work as occasion arises, but simple narratives and explanations of the narrative type (telling how things are done) should be stressed. The children should frequently speak and write from brief, simple outlines, sometimes developed in class, sometimes thought out individually. Letter-writing should form an important part of the year's work.

The work prescribed for composition in this grade will be found in Alexander & Mowat's Elementary Composition, Part II., Chapter V., to Part III., Chapter III., inclusive, with Appendix A.

Project.—School or class paper or magazine in manuscript. Reports on other projects might be inserted in the paper or magazine.

GRAMMAR.—The work prescribed in English grammar comprises the first nine chapters of The British Columbia School Grammar (Lang). No formal parsing is required nor should the analysis of greatly involved sentences be undertaken.

As an aid to teachers, particularly in ungraded schools, the following outline is suggested:—

A. Study of Simple Sentence.

1. Definition.
2. Kinds: Assertive, interrogative, imperative, exclamatory.
3. Detailed analysis. Subject; enlargement of subject (word or phrase). Predicate; enlargement of predicate (word or phrase); completion of predicate (object or complement).
4. The phrase. Definition: A group of words doing the work of one part of speech. Teach here only adjective and adverb phrases.

B. The Parts of Speech.

1. The noun.
2. The pronoun. Uses: Subject of a verb; object of a verb or preposition; completion of the predicate; the possessive use.
3. The verb. Use: Predicate of the sentence. Teach "doing" verbs first, as they are simplest; then "having" verbs; and lastly the "being" verbs, or verbs which express existence. The idea in the latter is abstract, but ought not to present any great difficulty to Grade VII.
4. The adjective. Uses: Describe noun or pronoun; completes the predicate.
5. The adverb.
6. The preposition.
7. The conjunction.
8. The interjection.

C. Teach Correct Use of—

1. Prepositions: The meanings of prepositions are often ignored and misuse results, as: I shall divide between the three boys. Father is not to home to-day.

2. Conjunction: Even " and " and " but " are occasionally interchanged, and confusion among the subordinate conjunctions is a common vulgarism, as: I don't know as I can. It could not have happened without some one opened the door.

3. The possessive forms: (1) With compound nouns; (2) with a plural proper noun; (3) with a compound subject or object; (4) with double possessive.

4. The articles: A, an, the.

5. The adverb: To use the adjective instead of the corresponding adverb is a very common error, as: He behaved bad. He did that good. Come quick. Drive slow.

6. Adjectives and adverbs should be placed as near as possible to the word which they modify.

7. The pronouns " I " and " we " always stand last in a series of nouns and pronouns.

In addition to the above outline the work in this grade should include the compound sentence (without subordinate clauses), and the complex sentence with not more than one subordinate clause.

READING AND LITERATURE.

Oral Reading.—In oral reading correct pronunciation, clear enunciation, and articulation should be carefully stressed. A deeper emotional response to good literature is expected from this grade.

The practice of having pupils miss the whole spirit and content of literature through spending their time in looking up the meanings of long lists of rare and obsolete words is greatly to be deprecated.

Silent Reading.—Specific exercises to increase rate and comprehension should be continued in this grade and the rate of silent reading should be brought to its maximum.

Material for specific training to develop rate and comprehension may be selected from prescribed or suitable supplementary reading-matter.

In order to attain the desired objectives it is imperative that teachers familiarize themselves with the technique specifically set forth in the books on silent reading listed in the bibliography.

Every effort should be made to establish a library in each school as a source, not only of reference books, but also of recreational reading for the children.

Literature.

(*a.*) The Voice of Canada, Canadian Prose and Poetry—A. M. Stephen (Dent & Sons). Price, 40c. (Only selections recommended for Grade VII. pupils are to be studied.)

(*b.*) *Either* Golden Steps (Nelson & Sons); price, 25c., *or* Selections from the Nature Poets, Stevenson (The Macmillan Co. of Canada); price, 20c.

(*c.*) A Christmas Carol, Dickens, and King of the Golden River, Ruskin (Copp, Clark Co., Ltd.). Price, 30c.

(*d.*) Familiar Fields, Peter McArthur (Dent & Sons). Price, 35c.

Memorization: Teachers are expected to assign for memorization the more beautiful passages of the selections of poetry prescribed for this grade.

Spelling.—Words of Grade VII. minimum and supplementary lists with 100 per cent. accuracy. (*See* directions for other grades.) Prescribed text-book: Spelling for the Grades (Department of Education).

REFERENCE BOOKS FOR TEACHERS:

Books as recommended for Grade VI.
MacLaurin and Goggin: Elementary Grammar (Gage).
Dickie: Learning to Speak and Write, Book II. (Gage). Price, 50c.
Coleman: The Teaching of Composition in the Elementary Schools—(Gage & Co., Ltd., Toronto). Price, 60c.
Bates: Talks on Teaching Literature (Houghton, Mifflin & Co., Boston).

2. Writing.

Pupils will continue the course as outlined for Grade VI. *The Senior Manual of the MacLean Method of Writing is to be used by pupils. Teachers will use the Teachers' Manual as a guide.

3. Arithmetic.

Thorndike's Junior High School Mathematics, Book I. For pupils below the average in ability to grasp mathematics, omissions may be made as indicated on page VI. of the prescribed text.

Review the work of preceding grades in computations with whole numbers, common fractions, decimal fractions, denominate numbers and percentages. The attainment of suitable standards in all computations must continue to be a leading purpose in the minds of teacher and pupils.

Problems involving several steps using whole numbers, fractions, decimals, common measures, and percentages. The problem-work of this grade should aim to give pupils a better understanding of the more common applications of arithmetic to social uses. The purpose is not so much to furnish exercises in numerical calculations as to make clear to the pupils the full meaning of certain activities that are associated with the practical interests of life. Care should be taken to make the problem situations intelligible to the pupils. The approximation of answers should continue to receive emphasis.

The application of arithmetic, especially percentage, in practical problems of owning, buying, selling, earning, spending, saving, trade discount, profit and loss, commission, simple insurance, borrowing and lending money, simple and compound interest. This will include the teaching of simple business usages and business forms.

The geometry of form, size, and position; making frequent use of compasses, protractor, set-squares, measurements of lines and angles.

Simple equations, simple ratios, and simple formulas and their application in practical problems.

4. Geography.

I. AIMS.—Creation of interest; development of abilities; acquirement of knowledge; establishment of ideals.

Creation of interest not only in the immediate lesson, but, more particularly, in people of our own and other lands, to the end that a better understanding of

* Supplied free to public schools by the Department of Education.

the conditions and problems of other nations may be secured. The occupations, customs, and living conditions of the people should receive the major attention and, wherever possible, the introduction to a topic should be through the people.

Development of Abilities.—No aim is more important than this. Pupils must be trained to read maps; to secure needed information from text-books, books of reference, supplementary readers, newspapers, and magazine articles; to construct graphs; to reason from cause to effect, and vice versa. Much of the factual material concerning any country may be read from the maps in the atlas.

Acquirement of Knowledge.—A complete mastery of a reasonable number of "place-facts" is essential. Pupils should be able to locate the important countries of any continent on a map where these have been outlined. They should know the important ocean trade routes and the great transcontinental railroads of the world; the chief industries, products, exports and imports, and climatic features of the countries specified for detailed study. In this connection *climate* may be taken to mean the facts of temperature and precipitation, the immediate causes of these (latitude, altitude, prevailing winds, proximity to bodies of water) and their effect on industry. Barometric pressure may be omitted.

Establishment of Ideals.—Through the study of Geography, and the related subjects of History and Citizenship, pupils will obtain a reasoned appreciation of the greatness of the Empire and of the interrelationship of its component parts.

II. Teaching Technique.—The necessary fund of knowledge demanded by this syllabus may be secured through any one of several teaching methods. It is suggested that abilities may be developed by the general use of socialized procedure, by problems and projects, and by live oral lessons by the teacher. Much of the desired information should be secured by the pupils themselves, either individually or in groups, and presented as reports to the class. In this connection it must be emphasized that pupils require definite training in socialized work. It should also be realized that the successful development of any topic will depend upon the teacher's ability in introducing it and upon her skill in concluding it with a consolidation of the information secured.

It is imperative that good reference books, supplementary readers, government reports, newspapers, and magazines should be made available. A somewhat wide range of outline maps is indispensable.

Outline of Work.—Continuing the work of Grade VI., the pupils will be led by means of problems to find solutions to practical every-day questions. The pupils should be encouraged to read as widely as possible in their problem-solving in Geography.

I. Problem.—British Columbia is one of the great sources of the world's lumber. Why?

(*a.*) Locate British Columbia's important forested areas. Account for these. Compare British Columbia and Quebec as to kinds of lumber, methods of logging, utilization of products, markets. Stress conservation.

(*b.*) Locate great forested areas in other countries, such as Scandinavia, Russia, California (Red Woods), Oregon and Washington, Central America (Mahogany and Rosewood). Develop comparisons similar to those suggested in (*a*).

(This problem should result in pupils securing a thorough knowledge of the lumber industry of this Province.)

II. PROBLEM.—Australia is the land of the golden fleece.

(*a.*) Why is wool Australia's chief product? Develop climatic and surface reasons to account for it. What difficulties does the sheep-herder encounter? Note rabbits and scarcity of water.

(*b.*) Australia has other important industries. What are they and where are they carried on?

(*c.*) Where are these products marketed and by what trade routes and transportation systems?

(*d.*) Find other great wool-producing countries. Compare them with Australia.

III. PROBLEM.—Asia, "The Continent of Giants." Develop the fitness of this term through an analysis of the size and build and drainage of the continent. Emphasis should be laid on the height of the plateau lands, the huge, saucer-like depression in the interior, and the vast length of the rivers draining to the north, to the east, and to the south. This might well be followed by a study of the enormous population and of the food products necessary to support them.

(*a.*) Show that India is a valuable part of the British Empire.

(1.) What does the Empire secure from India? Emphasize cotton and rice-growing in hot, moist lowlands; cereals in the cooler uplands; tea in Ceylon and Uplands. Develop climate and build through these products.

(2.) What has the Empire done for India? Stable government, improved transportation, irrigation, prevention of famine, etc.

(*b.*) *Problem.*—Why is Japan the leading country of Asia?

How does it compare with Great Britain in size, population, natural resources, industries.

Why is Japan a leading producer of rice, of silk? Develop climatic relief and economic features.

(*c.*) *Problem.*—China, "The Sleeping Giant."

Why is agriculture the chief industry in China?

What is the population? Where do the people live? A simple study of economic conditions to develop the fact that enormous quantities of agricultural products must be raised to supply food.

Where and how is agriculture carried on? What other industries may become of great importance? Great Britain's interest in China might well be introduced at this point.

IV. AFRICA.

(*a.*) *Problem.*—How has British control of Egypt made farming more profitable and crops more certain?

(*b.*) *Problem.*—Why is South Africa more advanced than other parts of the continent?

What minerals are produced?

(*c.*) *The Cape-to-Cairo Railroad.*—Why was it begun?

This topic may be developed in various ways. It lends itself well to socialized work with sub-topics, such as: "Where it runs"; "countries passed through"; "cities on the route"; "what freight does it carry"; "what difficulties hinder its completion?"

An excellent opportunity is afforded for comparison with the other great transcontinental railroads of the world; i.e., the Trans-Andean, the Trans-Siberian, the Canadian National.

V. FISHING.—A study of British Columbia as Canada's greatest producer of fish, emphasizing the outstanding centres for salmon and halibut; the methods of catching these; their utilization; markets. The necessity for conservation could be developed by a discussion of the problem, why a "big year" on the Fraser? The topic should conclude with a comparison of British Columbia and such noted fishing areas as Newfoundland Banks and North Sea.

MAP DRAWING.

(1.) Prepared outline maps of *Asia, Africa, South Africa, India,* and *Australasia* should be obtained and important features filled in from memory by the pupils.

(2.) Review memory map of British Columbia and teach the drawing of Canada from memory.

PRESCRIBED TEXT-BOOKS:

Cornish: Canadian School Geography (Dent).
Cornish: Canadian School Atlas (Dent).

GEOGRAPHY (REFERENCE BOOKS FOR PUPILS):

Herbertson: Descriptive Geography from Original Sources—Asia, Africa, Australasia (Black, London). These books are valuable for both pupils and teachers. Price, $1.10.

Cunningham: Products of the Empire (Oxford Univ. Press, Toronto).

The World and Its People Series—Asia, Africa, Australasia (Nelson, Toronto).

Carpenter's Geographical Readers—Asia, Africa, Australasia (A.B. Co., Chicago).

Fairgrieve & Young: Human Geographies, Primary Series—In the Old World, Book V. (Philip & Son, London).

Earth Knowledge Series (McDougall's Educational Co., London).

(*a.*) Book VI., The Empire Overseas.

(*b.*) The World (240 pages—a scientific treatment of Regional Geography, in which all the continents are discussed).

Meiklejohn: A New Comparative Geography (Meiklejohn & Son, Ltd., London).

Reynolds: Regional Geography—The World (Black, London). Price, $2.25.

McFarlane: Economic Geography (Pitman, Toronto).

Barrows & Parker: Geography of Europe and Asia (Silver, Burdett & Co., Chicago).

Canadian Geographical and Industrial Readers (Gage & Co.).

Adventures of Exploration, Books III., IV., V. (Philip & Son, London).

Sherman & Reid: The Canadian Industrial Reader (Dent).

FOR TEACHERS ONLY:

E. E. Smith: Teaching Geography by Problems (Doubleday, Page & Co., New York).

Fairbanks: Real Geography and its Place in the Schools (Wagner Co., S.F.).

FOR CLASS-ROOM REFERENCE.

Canada Year Book (renewed annually).
Statesman's Year Book (renewed every two or three years).
British Columbia Government Reports—Departments of Mines, Agriculture, and Timber.
British Columbia Government Maps. Apply for price-list to "Chief Geographer, Department of Lands, Victoria, B.C."
Publications of Natural Resources Branch, Department of Interior, Ottawa. Send for their list.
A British Columbia daily newspaper.
Such magazines as "MacLeans," "The National Geographic," and "Canadian Geographical Journal."

5. History and Civics.

I. AIM.—The aim as outlined in the course for Grade V. should be read carefully. The pupils of Grade VII. now begin study from a prescribed text, *"A New History of Great Britain and Canada," by W. Stewart Wallace, and it should be remembered that the aim of the study includes the development of certain habits and skills, and the establishment of attitudes and ideals, in addition to the acquiring of factual information. Hence interest should not be destroyed by requiring a page by page detailed study of the text. The teacher will find that some of the topics mentioned require further expansion, and for this purpose supplementary reading is necessary. So far as possible the pupils should be given the opportunity to enjoy the thrill of discovery by well-directed reading from texts listed below. Suitable library material is essential for the proper teaching of a class in Grade VII. history.

II. METHOD.—It is imperative that the pupils be taught how to use the prescribed text. Lesson assignments should consist of topics to be studied, or of problems to be solved or projects to be worked out, rather than of pages or paragraphs to be read or to be "learned." As a preliminary to the assignment a frame-work of the general topic should be carefully developed so that the pupils will know what they must do to complete the structure. The preview should interest the pupils, should emphasize the central thought of the topic under discussion, and should show the pupils where they can secure information that may aid in solving the problem that has arisen. It should be remembered that "we learn by doing," and also that this method of teaching is only of value when the pupils know what they are looking for and where they are to find it.

III. SUBJECT-MATTER.

A. General Directions.

It will be noted that the topical treatment has been adopted in the text, and that only the bare outlines of the general history of Great Britain have been included in Part I. of the text. It is intended that Part I., itself topical in its organization, should form a background for the topical treatment that follows. In his preface Mr. Wallace remarks that much that is included in the usual accounts of British history has been here deliberately excluded; and further he says, "The chronological treatment found in most text-books is apt to kill the narrative interest which is the

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charm of history. The most diverse matters jostle one another on the same page; and the reader finds no continuous thread to follow. With the topical method of treatment, on the other hand, each thread is followed out; and each section becomes a story in itself. This method of treatment, it is true, involves occasional repetition; but repetition is, within limits, not without its advantages."

In using the text, therefore, the teacher should not attempt to teach that which has been deliberately omitted by the author as not being relevant to the main issue of the topic that is being studied. He should further see to it that the material is kept simple, and within the pupils' range, by emphasizing the fact that the whole story of the British Nation is really comprised under a few major topics.

For example; the migratory or foundation period, down to the year 1066, is considered under the title, " The Nation in the Making," a treatment which implies recognition of Roman and Saxon, Dane and Norman as each contributing to that racial stock we know as the British people. In " Feudal England " we get a description of feudal and manorial organization, with their accompanying social conditions, and their decay. " Tudor England " shows us the national spirit sturdily asserting itself in the establishment of a national church and in the successful struggle with Spain. Thus by analysing the story into general topics we are able to cover a wide field in a short period, and to secure a background against which other " topics " may in turn be studied.

This analysis must not represent merely the teacher's effort. Through class discussion, with resulting problem study and assigned reading, the pupil must co-operate in reaching that general conclusion which topic study always involves; and this means something very far removed from merely " assigning " text-book lessons and " hearing " them.

B. Assignment of Material.

(*a.*) The Story of the British Nation, Part I., pages 3 to 134. *Wallace: A new History of Great Britain and Canada.

(*b.*) The Growth of Canada and the British Empire, Part II., pages 137–196.

(*c.*) The following additional readings:—

(1.) Canadian Section, Part I., chapters 1 and 2, pages 3 to 22 (to be read with chapter 1, The Voyages of Discovery).

(2.) Canadian Section, Part II., chapter 1, pages 37 to 48 (to be read with chapter 2, English Colonies in North America).

(*d.*) Citizenship: organization for economic purposes and for purposes of Provincial Government. Material included in McCaig: Studies in Citizenship, chapter IX. to XII., XIV., XVI., XX., and XXI.

NOTE.—With the topical treatment here suggested six months should suffice for completion of the story of the development of the British Nation, and three months may then be devoted to the Growth of Canada and the Empire. The material included in McCaig's Studies in Citizenship should be distributed over the year, and where possible should parallel similar work as studied in the history and geography courses.

Pupils are expected to become reasonably familiar with our Provincial organization in respect of such matters as election of members of the Legislature, selection of Cabinet, public health, forestry protection, agriculture, education, roads, and

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taxation. The methods adopted should be an extension of those suggested for Grade VI.; in the main, lessons should be socialized and advantage should be taken of projects wherever possible. An important phase of this course lies in the development of a sane and reasonable attitude towards public property, taxation, and government.

HISTORY.

Prescribed text-book:

*Wallace: A New History of Great Britain and Canada (Macmillan, Toronto).

Reference books for pupils:

Highroads Series, Books IV. (a) and VII. (Nelson).
Story of the British People, Revised Edition (Nelson).
McCaig: Studies in Citizenship, B.C. Edition (Gage).
McPherson: Pictures from Canadian History (Renouf, Montreal).
New History Readers (Macmillan, London).
Then and Now, Intermediate Series (Macmillan, London).
Dickens: Child's History of England (Nelson).
Britannia Readers (Copp, Clark).
Eric Wood: Discoveries of the World (Cassell, Toronto).
Wallace: By Star and Compass (Oxford University Press).
Anstey: The Romance of British Columbia (Gage).
Denton: The Far West Coast (Dent).
Locke: When Canada was New France (Dent).
Marshall: Canada's Story (Nelson).
Dickie: The Canadian History Readers; The Canadian West (Dent).
Synge: A Book of Discoveries (Nelson).

Reference books for teachers:

Angus: Citizenship in British Columbia (Department of Education).
Texts suggested for Grades V. and VI.
Highroads Series, Social History (Thos. Nelson & Sons, Ltd., Toronto).
Ballard: The New Examiner (Hodder & Stoughton, London).
Cheyney: Industrial and Social History of England (Macmillan). Price, $2.85.
Duncan: The Story of the Canadian People (Macmillan, Toronto). Price, 65c.
Roberts: A History of Canada (Musson Book Co., Toronto). Price, $1.50.
Lawrence J. Burpee: An Historical Atlas of Canada (Nelson & Sons). Price, $1.75.

6. Drawing.

OBJECT DRAWING.—Cylindrical and rectangular forms of common objects, singly and in groups. Finish in light and shade.

NATURE DRAWING.—Leaves, spray of leaves, flowers, twigs, fruits, in pencil and colour.

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DESIGN.—Planning of decorative motifs as in Group VI., but of more advanced nature. Decoration of bands and panels with the above motifs, also with conventional nature forms. Study of a few simple examples of historic ornament. Groups III. and IV., Design Section, Teachers' Manual. Simple geometrical constructions as required for framework of designs. (*See* pages 83, 115, and 116 of Teachers' Manual.)

COLOUR.—Use of all previous colour schemes, with better feeling for colour and technique.

LETTERING.—Capital and small skeleton Roman letters. Lettering of verse, prose, and advertisements, in pencil and pen over pencil. (*See* Teachers' Manual of Drawing and Design.)

NOTE.—Where Home Economics centres are established the art-work for girls should be correlated with clothing projects.

Suggested topics for work indicated in note under Drawing in Grade V.:—
Canadian Costumes of 18th Century, Elizabethan Costume, Ship and Coach.

7. Nature Study and Elementary Agriculture. (*See* note on Nature Study, page 100.)

AUTUMN.

Animal Life.—(*a.*) Wild animals—gopher, badger; invertebrates—clam and crab. (*b.*) Domestic animals—the horse. (*c.*) Birds—waders (heron or bittern).

Plant Life.—(*a.*) Wild plants—vines (Virginia creeper, clematis, honeysuckle, and vetch). (*b.*) Weeds—chickweed, Russian thistle, sow-thistle, collection of seeds for winter study. (*c.*) Trees and shrubs—wild fruits and nuts (wild blackberry, cranberry, blueberry, walnut, hazelnut, chestnut); budding.

Gardening and Elementary Agriculture.—(*a.*) Study of tree fruits of the district; comparison of varieties and habits of growth of cereals found in the district, such as wheat, oats, rye, and barley. (*b.*) School and home gardening projects.

WINTER.

Animal Life.—(*a.*) Wild animals—weasel, porcupine. (*b.*) Birds—the pigeon. (*c.*) Insects—review winter habits of insects for this grade.

Plant Life.—(*a.*) Weeds—review; class-room study of seeds collected in the autumn. (*b.*) Trees and shrubs—review evergreens native to British Columbia; pruning and grafting. (*c.*) Improvement of plants by seed selection; plan a few definite plant-growing experiments and select seed for same.

Elementary Science—Physics.—Following topics treated experimentally: (1) Sources of heat; (2) transmission of heat—conduction, convection, radiation; (3) water—physical properties such as weight and pressure; (4) sources of water (relate to hygiene); (5) impurities in water and method of purification; (6) solvents and solutions.

SPRING.

Animal Life.—(*a.*) Wild animals—bat, field-mouse; invertebrates—snail, slug. (*b.*) Birds—night-hawk, humming-bird, kingfisher. (*c.*) Insects—cutworms, cabbage-root maggots, wireworms, spittle-bugs, woolly aphis.

Plant Life.—(*a.*) Wild plants—wild strawberry; bearberry; observe spring condition of vines studied in the fall. (*b.*) Weeds—Canada thistle and bull-thistle, wild buckwheat, wild morning-glory. (*c.*) Trees and shrubs—spring

condition (blossoms, etc.) of species studied in the autumn; gooseberry, wild cherry, or wild crab-apple.

Gardening and Elementary Agriculture.—(*a.*) Carry out a few of the experiments in sections 1 and 3, page 3, of the Circular No. 4 ("Instructions to Teachers and School Boards with reference to School and Home Gardening"). (*b.*) For home project suggestions *see* page 6 of the same circular. (*c.*) Planting of gardens and window-boxes.

8. Music.

VOICE-CULTURE.—Continued practice on the singing vowels.

SONGS.—Unison and two-part songs. Solo-singing to be encouraged. Simple vocal studies.

Text-book: Coney & Wickett—New Canadian Community Song Book (Gage, Toronto). Price, 35c.

Reference book: Vogt and Willan—School and Community Song Book (Gage, Toronto). Price, 50c.

9. Health Education.

(*a.*) HYGIENE. (*See* pages 103–109 for a general note on method and for a list of suitable reference books.)

Aim.—To give effect in practical application to knowledge previously gained, and to extend the pupils' grasp of the scientific basis of good health practice; to develop the social ideal of healthful living as a factor in citizenship.

NOTE.—The work in Grades VII. and VIII. should be closely associated with the courses in elementary or general science and also with home economics in schools where that subject is taught. As nutrition and dietetics are adequately dealt with in home economics, the part of the health education course for Grades VII. and VIII. which deals with food and clothing should, by arrangement, be transferred to the home economics teacher. It should be borne in mind, however, that boys as well as girls require instruction in this subject. In cases where nature study and elementary science subjects are in charge of a special teacher a similar co-ordinated scheme of instruction should be carried out. In all such cases the teacher responsible for the health education course should know the exact character of the work done by the pupils in science and home economics. A few suitable group projects (the result of conferences between teacher and pupils) should be carried out during the year. In this grade a health project might occupy from three to six weeks, according to the amount of study and investigation which it necessitates. Practically every school subject will be drawn upon in the working-out of a good school project in health education, and for this reason, as well as for the absorbing interest which such an educational quest has for boys and girls at this stage of early adolescence, no more valuable educational exercise could be found. Correlation with the study of English can be carried out effectively through debates and compositions on health topics, by supplementary readings, the biographies of men and women such as Pasteur, Lister, Koch, Ried, and Florence Nightingale, the history of great health achievements—the protection of the Panama Canal Zone, discovery of the causes of malaria and yellow fever, etc.

(1.) *Nutrition.*—Foods classified on the basis of their composition or nutrient elements—proteins, carbohydrates, fats, mineral matter, and vitamins; the relation of each of these to the body; the common or staple foods as sources of these nutrients; sample menus; the importance of choosing, cooking, and serving foods in such a way as to render them appetizing as well as properly nutritive; relative value of different methods of cooking foods; emphasize the value of milk, fruit, and vegetables; examination of experimental evidence as to the relative value of milk, tea, and coffee; project studies including the making of posters. (Chapters VI. and VII.)

(2.) *Digestion.*—Most important organs involved and the digestive processes presented in a non-technical manner; emphasis on mastication and good habits of eating and drinking. (Chapter V.)

(3.) *Cleanliness as Health Routine.*—Care of the teeth and mouth, hair, hands, nails, feet, skin, and clothing; the development of a personal ideal of health and efficiency, beauty and endurance. (Chapter VIII., pages 125, 126, 130, 131, 27–30.)

(4.) *Exercise, Posture, and Correction of Defects.*—Close correlation with physical-training programme and with the co-operation of the pupils themselves; a full appreciation of the physiological and social basis for the programme adopted. A drive for better health and the correction of physical defects might be put on with the co-operation of the school nurses and physical-training instructors, when such are available.

(5.) *Rest, Sleep, Fresh Air, and Sunshine.*—To perfect the personal health routine and to reach the ideal stated there must be adequate, regular rest and sleep, with fresh air whether sleeping or waking. With the increasing social attractions for boys and girls at this age and the craze for entertainment on the one hand, and the decreasing home supervision and control on the other, there is the greater need of developing a positive and scientific attitude on the part of all adolescent boys and girls with reference to health behaviour. Often the desire to be fit for participation in sports is the strongest incentive for the observance of health rules. (Chapter XI. and pages 145–148.)

(6.) *Mental Hygiene.*—The development of habits, ideals, and attitudes of truthfulness, honesty, cheerfulness, courage, helpfulness, sociability, etc.; this is not so much a matter of instruction as of motivation and response in all school and life situations—not something to be learned so much as something to be lived. It is a most valuable by-product resulting from all of the work and all of the play, of the school, of the home, and of the community.

(7.) *Prevention and Control of Communicable Diseases.*—Helpful and harmful bacteria; conditions under which they grow and means of spread—by contact, in food, in water, in dust, through the agency of insects and animals; body resistance to disease. (Chapters XXII., XXIII., and XXIV.)

(8.) *The Health of the Community.*—Work of the city health department; sanitary supervision of buildings, food, milk, and water.

(9.) *Accident-prevention and First Aid.*—The study of hazardous situations in and around the school, such as stairways, fire-escapes, furnace and stove conditions, fuel-storage, protection for pupils on the school-ground—for those engaged in games or using playground apparatus and for others not so engaged; traffic dangers and bicycle hazards; drowning danger; treatment of sprains and first aid in case of fractures, dislocations, burns, or scalds; foreign bodies in the eye, ear, nose, or throat; artificial respiration in case of gas-poisoning, severe electric shock, or drowning. (*See* special note on pages 105–107.)

*Prescribed text-book: Ritchie & Caldwell—Physiology and Hygiene (Gage & Co.).

(*b.*) PHYSICAL EXERCISES AND GAMES.—Syllabus of Physical Training for Schools.

10. (*a.*) **Home Economics (Girls).** For Course of Study and regulations *see* pages 114–125.

(*b.*) **Manual Training (Boys).** For Course of Study and regulations *see* pages 110–113.

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GRADE VIII.

1. Language.

AIMS.—Study carefully the aims outlined for Grade VII., as these are still to be kept in view. The work in English in this grade is simply an extension and further development of that outlined for the Seventh Grade. Written and oral composition should be closely correlated. Narrative and simple explanation are still the main forms of written composition to be employed. Practical exposition will also be especially valuable; telling how to reach a certain place, how to play a game, how to do a certain piece of work, and so on. Letter-writing is important. Business letters should include letters of inquiry, letters answering inquiries, and applications for positions. Tact and courtesy in business letters should be stressed. Advertisements and telegrams give excellent practice in clearness and brevity. The more formal compositions should still be short, as a rule, but the class should sometimes work out together an outline for a broader subject, each pupil afterwards writing on a simple phase of that subject. A growing power should be developed to fit the sentences to the thought by teaching in a simple and practical way the differences between simple, compound, and complex sentences; their respective values in expressing thought; the correct uses of the various clausal connectives; and the necessity of subordinating the minor thought in a sentence.

All the content subjects will play their part in furnishing material for the development of oral and written expression. To attain this end in the fullest measure judicious and skilful use of the socialized recitation should be employed.

PRESCRIBED TEXT-BOOKS:

The Voice of Canada, ed. Stephen (Dent).

Scott: Lady of the Lake (Copp, Clark, *or* Gage) *or* Narrative and Lyric Poems, Third Series, B.C. edition (Copp, Clark). Price, 30c.

Two of the following:—

Selections from Irving and Hawthorne, B.C. edition (Copp, Clark). Price, 30c.

Stevenson: Treasure Island (Cassell, Macmillan, Copp, Clark, *or* Nelson). Price, 40c. or 50c.

Burroughs: Sharp Eyes and Winter Neighbours (Gage). Price, 25c.

Scott: Ivanhoe, abridged and annotated, Johnson (Macmillan) *or* Williams (Collins, London & Glasgow). Price, 65c. or 50c.; *or* Nelson, 50c.

Alexander & Mowat: Elementary Composition.

*Spelling for the Grades.

*Lang's Public School Grammar (Copp, Clark).

SUPPLEMENTARY READERS:

Ryerson: Book of Prose and Verse, Book II. (Ryerson Press, Toronto).

*British Columbia School Magazine (Department of Education).

COMPOSITION.—The work prescribed in composition for this grade will be found in Alexander & Mowat's Elementary Composition, Part III., Chapters IV. to IX., inclusive, with Appendices B and C.

PROJECT.—School or class paper or magazine in manuscript. Reports on other projects might be inserted in the paper or magazine.

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GRAMMAR.—British Columbia Public School Grammar (Lang). No formal parsing is required nor should the analysis of greatly involved sentences be undertaken.

As an aid to teachers, particularly in ungraded schools, the following outline is suggested:—

A. Review and Extension of Compound and Complex Sentences.

1. Kinds of sentence (according to form): Simple, compound, complex.
2. The clause. Kinds: (*a*) Principal; (*b*) subordinate.
3. Clausal analysis: Identify clause; indicate its relation and thereby classify it.
4. Detailed analysis (for review).

B. Parts of Speech—Classification and Inflection.

1. The noun: Proper. Common. — Gender. Number. Case.
2. The pronoun: Personal. — Gender. Number. Case.
   - Compound personal. — Gender. Number.
   - Demonstrative. Interrogative. Conjunctive. Indefinite. — Number. Case.
3. The verb: Transitive. Intransitive. — Agreement. Tense—nine primary and three secondary tenses. Voice. Mood. Principal parts. Participles, gerunds, infinitives.

   Auxiliaries—be, have, do.
   - "May" indicates permission, possibility, wish.
   - "Can" indicates ability.
   - "Shall" indicates futurity in first person.
   - "Will" indicates futurity in second and third person.
   - "Will" indicates promise, threat, resolve, in first person.
   - "Shall" indicates promise, threat, resolve, in second and third person.
   - "Should" and "would" follow same rules as "shall" and "will."
   - "Ought" is a finite verb and must never be used with "have" or "had" to form a compound tense.

4. The adjective: Qualitative, quantitative, demonstrative. Teach use of *er* and *est* with monosyllables, *more* and *most* with polysyllables, and uses of irregular words, as: good, much, etc. Teach the attributive and the predicative use of the adjective.

5. The adverb: Teach use of adverb modifying adjective and adverb, formation of adverbs from adjectives, comparison of adverbs.

6. The preposition: Teach correct use of such prepositions and prepositional phrases as: at, in; between, among; with, by; in, into; compare to, compare with; differ from, differ with, etc.

7. The conjunction: Co-ordinative, subordinative. Illustrate correct use of "both——and," "not only——but also," "as well as"; and teach uses of "than" and "as."

READING AND LITERATURE.

Aims in Reading.—At the end of the Elementary School Course the pupils should possess the ability to read practical material such as periodicals, grasping the central thought, finding the conditions necessary to the answering of questions or the solving of problems, and determining the truth of statements.

Oral Reading.—In oral reading correct pronunciation, clear enunciation, and articulation should be carefully stressed.

Every effort should be made by the teacher to create an "audience situation" to develop expression. The monotonous "reading around" of a whole class with books open "watching the place" should be discouraged. Pupils may occasionally bring selections suitable for oral reading period.

There are two special occasions which call for oral reading: (1) When an "audience situation" has been created, as when some information, emotion, or ideal is to be communicated to a group; (2) when a poetical selection or a piece of highly literary prose has a vocalic quality which requires oral expression in order that the full value of it may be secured.

The practice of having pupils miss the whole spirit and content of literature through spending their time in looking up the meanings of long lists of rare and obsolete words is greatly to be deprecated.

Silent Reading.—Training in silent reading to be continued. *See* outline for previous grades.

Material for specific training to increase rate and comprehension in silent reading may be selected from prescribed or from suitable supplementary reading-matter.

In order to attain the desired objectives it is imperative that teachers familiarize themselves with the technique specifically set forth in the books on silent reading listed in the bibliography.

Every effort should be made to establish a library in each school as a source not only of reference books but also of recreational reading for the children.

Memorization: Teachers are expected to assign for memorization the more beautiful passages of the selections of poetry prescribed for this grade.

NOTE.—In dealing with the prose selections it is recommended that, after a proper assignment has been made, the selections be read silently. The problems or topics assigned to individuals or groups should then be discussed in class according to the socialized recitation method.

REFERENCE BOOKS FOR TEACHERS' USE:

Books as recommended for Grade VII.

MacLaurin and Goggin: Elementary Grammar (Gage).

Dickie: Learning to Speak and Write, Book II. (Gage). Price, 50c.

Bolenius: Teaching Literature in the Grammar Grades and High School (Houghton, Mifflin & Co., Boston).

Leonard: English Composition as a Social Problem (Houghton, Mifflin & Co., Boston).

STANDARDIZED TESTS.

NOTE.—While it is recognized that standardized achievement tests and mental ability tests should form part of the working equipment of any modern school system, it might be well to express here a note of caution in regard to the indiscriminate use of such tests. Many cases have been noted where the indiscriminate use of objective measurement tests has militated against the development of written Composition. The essay type of test should be used in at least 50 per cent. of the testing of achievement in the content subjects.

All testing should be definitely under the supervision of the principal of the school or of the Municipal Inspector, where such an official is employed, and in the rural and ungraded schools, under the direction of the Provincial Inspector.

At present very few tests are published in Canada or Great Britain. Attention may be called to the London County Council tests in the fundamentals in Arithmetic (Cyril Burt); to the Vancouver Four Fundamentals in Arithmetic, Forms A and B, which may be obtained from Mr. R. Straight, Director of the Bureau of Measurements, Vancouver; and to the All-Canada Test in Fundamentals in Arithmetic, Form I (Department of Education, Victoria).

2. Writing.

Pupils will continue the course as outlined for Grades VI. and VII. The *Senior Manual of the MacLean Method of Writing is to be used by pupils. Teachers will use the Teachers' Manual as a guide.

3. Arithmetic.

*Thorndike's Junior High School Mathematics, Book II. For pupils below the average in ability to grasp mathematics, omissions may be made as indicated on page VI. of the prescribed text.

Review the simple processes of arithmetic to enable the pupils to attain and maintain suitable standards of speed and accuracy.

The arithmetic of private business, involving the earning, spending, and saving of money, the bank account, keeping account of borrowed money, the investment of money in stocks and business shares, the dividing of profits, investments in real estate, notes, bonds, and mortgages.

The arithmetic of public business—the municipality as a business firm; civic income and expenditures, civic borrowings; the nation's business, national debts; budgets; the interpretation and making of diagrams and graphs relating to public business.

The arithmetic of the home—family budgets, cost of food and clothing, etc.

The arithmetic of science and industry—squares, cubes, circles, cylinders, wheels, wells, pipes, tanks, etc.; the use of formulas and equations; circular measure; longitude and time; the metric system of weights and measures.

First steps in algebra—equations, literal numbers; positive and negative numbers; simple computations and equations involving the addition, subtraction, multiplication, and division of positive and negative numbers; expressing a problem as an equation.

4. Geography.

Aims as in Grade VII.

The course outlined for this grade is designed to have pupils leave the elementary school with a clear and definite knowledge of (*a*) the home province; (*b*) the Dominion of Canada; (*c*) the Empire. In connection with each of these units

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the relationships with other countries of the world should receive adequate attention. A general knowledge of the chief productive regions of the world is also required so that the pupils may leave public school with a well-rounded idea of the world in which they live.

(*a.*) MINING IN BRITISH COLUMBIA.—Coal-mining; placer-gold mining; lode-mining of copper, gold, silver, lead, and zinc. Each of these types should be studied so that pupils will understand the generalities, but not the technicalities, of this industry. In lode-mining, for example, the points to be stressed are: discovery by the prospector, development by a company or corporation, concentration to reduce the amount of material to be transported, and smelting to remove the metal from the ore. The location of important mines, transportation routes, approximate value of production, and markets should be examined. The uses of the various minerals open an interesting field of study. For example, coal is made into coke and tar is extracted. Dyes, explosives, oils, and gasoline may be secured as by-products. Zinc is used in the making of storage-batteries and lead is made into pipes and is used as a basis of paints, copper is made into wire for electric installations, etc. The concluding lessons might well lead to a review of important mining districts of Canada and to a comparison with mineral production in other countries. Teachers will find the Annual Report of the Department of Mines, Victoria, the Canada Year Book, The Statesman's Year Book, and the World Almanac invaluable in such studies.

(*b.*) BRITISH COLUMBIA, CANADA'S GATEWAY TO THE WEST.—The purpose of this topic is to develop a Western view-point. To this end the following problems are suggested:—

(1.) Which Gateway—the Pacific or the St. Lawrence—offers the greater advantages? How will these be affected by (*a*) the completion of the Hudson's Bay Railroad; (*b*) the deepening of the St. Lawrence?

(2.) How has Canada's trade been benefited by the building of the Panama Canal?

(3.) What natural resources in British Columbia and the Prairie Provinces are being developed to increase our trade and commerce?

(4.) What foreign markets may we hope to develop? In this connection it should be remembered that our ships must have cargoes in both directions.

NOTE.—British Columbia should receive a careful review at this stage.

(*c.*) THE BRITISH COMMONWEALTH OF NATIONS.—The Mother-land; the self-governing Dominions; the Dependencies. Interrelationships between the various units of the Empire should be emphasized. To establish this knowledge pupils must have a definite grasp of the fundamental facts concerning each unit. Among these are: Size, location, population, surface features, and climate. The study of these will lead to a general knowledge of industries, important cities, trade routes, and transportation systems. Throughout the study the pupils should see the people at work, and, where the topic is of value, should examine into the language, the religion, and the education system of the particular unit under review. Geographic factors and economic relationships should receive adequate stress.

The work should be socialized, reports by individuals or by groups being prepared and submitted to the class. The simpler facts will be secured by a study of maps, the authorized text being used to confirm information secured from these maps and to supply details. It will be found necessary to make frequent use of reference and other books, magazine articles, and newspapers. Details

may be filled in on blank outline maps. These may be secured from the Free Text-book Branch, Victoria, at a cost of ½ cent. each. Several of these are sometimes required for each region. Graphs should be used.

(*d.*) Our Friends and Neighbours.

(1.) What is our part in the League of Nations? A study of the aims of the League, of the countries which are members, and of those which are not. With which group have we the most trade?

(2.) What customers and competitors have we? The following are suggested human interest topics with which to approach the subject:—

(*a.*) In North America. At this point time should be taken for a rather detailed study of the United States, in the course of which the various items suggested in section (*c*) (above) would be developed.

(*b.*) In South America—Argentine. Note the climatic and surface factors which enable her to compete with Canada and Australia in agricultural products.

Brazil. Why is much British capital invested there?

Chili. What do we buy from Chili?

Peru. What do we buy from Peru?

(*c.*) In Asia—Japan. Account for Japan's rapid development in manufacturing and trade.

China. Why is China the most populous country in the world? Is China's trade commensurate with her population?

(*d.*) In Europe.

Scandinavia. Why is fishing a great industry? What use have they made of their forests? of their mines?

France. Why is France of interest to us: (*a.*) As the birthplace of many Canadians? (*b.*) As a customer?

Germany. Why is Germany able to be an industrial rival of Great Britain?

Russia. A great social experiment is under way in Russia. Is it a success? (For accurate data as to production consult a reliable year-book; e.g., "Statesman's Year Book.")

Mediterranean Countries. (*a.*) Where do we get our olives? our currants? (*b.*) What manufacturing is carried on in Italy? Why?

Balkan States. Why is Roumania the most important of the Balkan Countries?

(*e.*) In Africa. Is the Belgian Congo capable of further development?

Prescribed Text-books.

Cornish: Canadian School Geography (Dent & Sons, Ltd., Toronto).
Cornish: Canadian School Atlas (Dent & Sons, Ltd., Toronto).

Reference Books.

As for Grade VII. and the following:—
Great Britain, Its Rise and Growth (Chambers, London).
Canadian Geographical and Industrial Readers (Gage).
Sherman & Reid: The Canadian Industrial Reader (Dent).
Fairgrieve & Young: The British Empire (Philip & Son, London). Price, 2s. 6d.

5. History and Civics.

I. AIM.—The aim as outlined in the course for Grade VII. should be read carefully.

II. METHOD.—In general the course for this grade will be conducted along the lines suggested for Grade VII. Approximately the first month of the term should be devoted to a discussion of Parts III. and IV., pages 199 to 257, of the prescribed text. These topics, "The Story of English Political Development" and "Language and Literature," will form an introduction to the main part of the 8th Grade course, which deals with the history of Canada and prepares the way for a clear understanding of Canadian constitutional development, which is an outgrowth of English political development.

The History of Canada, which comprises by far the larger part of the history course in this Grade, should be taken up in fairly minute detail. This is the study of the pupils' national history and he should become familiar with all the important movements in connection with the growth of settlement in Canada, the development of Canada's political institutions, the social advancement of the people, Canada's part in the Great War, and with Canada's foreign relations and economic problems.

III. SUBJECT-MATTER.

A. Wallace: A New History of Great Britain and Canada, Parts III. and IV., pages 199 to 257.

B. The Growth and Development of the Canadian Nation (Canadian History section of the authorized text, pages 3 to 196).

It will be noted that chapters 1 and 2 of Part I. and chapter 1 of Part II. (pages 3 to 22 and 37 to 48) have been studied in Grade VII. The pupils of Grade VIII. should review briefly pages 3 to 18 and give particular attention to pages 18 to 34. In a similar manner pages 37 to 48 should be briefly reviewed. The remaining portion of the text will then receive the particular attention which this part of the Canadian History demands.

C. History of British Columbia.—The teacher will note that chapter 5 of Part II. deals to a large extent with the history of British Columbia. It is desired that this section be enlarged by supplementary readings from a reputable history of our Province. Anstey: The Romance of British Columbia (Gage) is recommended.

Other reference books in this regard are:—

McKelvie: Early History of British Columbia (Dent).
Howay: A History of British Columbia (Ryerson Press).
Denton: The Far West Coast (Dent).

In case the pupils have a copy of History of Canada by Gammel, the B.C. Supplement might be used.

The History of British Columbia should be treated under the following topics:—

(*a.*) Early explorations by sea.
(*b.*) Early explorations by land.
(*c.*) The story of the fur trade and the rival companies.
(*d.*) The gold rush.
(*e.*) Growth in government.
(*f.*) Development in transportation facilities.

(*g.*) "Better Terms" question.
(*h.*) Boundary disputes.
(*i.*) Settlement and immigration.

D. Citizenship.—Citizenship in Grade VIII. includes Federal organization for political purposes, and emphasis should be laid on such topics as election of members, constituencies, and qualified voters, the Senate, selection of the Cabinet, duties and customs, military protection, administration of justice, and Federal public works. Here again problem assignments and socialized work should be freely used, and McCaig's "Questions and Suggestions" will be found very valuable in initiating the class discussion of suitable topics. Pupils should make extensive use of the public press in securing information. A "scrap-book" collection of press clippings would be an important addition to the class-room "laboratory."

Subject-matter: McCaig, Chapters XIII., XV., XVIII., XIX., and appendices.

PRESCRIBED TEXT-BOOKS.

*Wallace: A New History of Great Britain and Canada (Macmillan, Toronto).
McCaig: Studies in Citizenship, B.C. Edition (Gage & Co.).

HISTORY (REFERENCE BOOKS FOR PUPILS).

Anstey: The Romance of British Columbia (Gage).
Burt: The Romance of the Prairie Provinces (Gage).
Denton: The Far West Coast (Dent).
McKelvie: Early History of British Columbia (Dent).
Howay: A History of British Columbia (Ryerson Press).
Kennedy: The Book of the West (Ryerson Press).
Then and Now, Senior Series (Macmillan, London).
Highroad Series, Books V. to VIII. (Nelson, Toronto).
Progress to History Series, Books IV., V., VI. (Macmillan, London).
Wood: Flag and Fleet (Macmillan, Toronto).
Gateways of History (Arnold, London).
Corke: The Home Builders (Oxford Univ. Press, Toronto). Price, 75c.
Finger Posts to British History (Nelson, Toronto).
New Age History Readers (Nelson, Toronto).
Dickie: The Canadian History Readers; How Canada Grew up (Dent).
Wrong, Martin, and Sage: The Story of Canada (Ryerson Press).

6. Drawing.

OBJECT DRAWING.—Type forms and common objects based on these type forms, singly and in groups. Finish in lead-pencil outline and in light and shade.

NATURE DRAWING.—Spray of leaves, flowers, fruit, vegetables, in light and shade or colour.

DESIGN.—As in Grade VII. This grade should show a better feeling for good line and spacing. Colour schemes will be repetition of old work, but should show more refinement of tone and colour. Simple geometrical constructions as required for framework of designs. (*See* pages 83, 115, and 116 of the Teachers' Manual.)

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LETTERING.—Lettering of verse, prose, school announcements, etc., in pencil and pen. Decoration of initial letters. (*See* Teachers' Manual of Drawing and Design.)

NOTE.—Where Home Economics centres are established the art-work for girls should be correlated with clothing projects.

Suggested topics for work referred to the note under Drawing in Grade V.: Comparative drawings showing development in means of transport by land, sea, and air.

7. Nature Study and Elementary Agriculture.

(NOTE.—Teachers are asked to keep a note-book in which they may enter weekly a list of topics taken up with the class in this subject.)

AUTUMN.

Animal Life.—(*a.*) Wild animals—deer, elk, moose, and caribou (treated comparatively). (*b.*) Farm animals—types and common breeds of cattle. (*c.*) Birds in relation to agriculture; perchers—common forms, such as meadow-lark, the sparrow, vireos, and warblers. Keep records of identification. Special attention to food of species studied. (*d.*) Insects—common insect pests (continued); parasitic insects (those that destroy other insects), predaceous beetles.

Plant Life.—(*a.*) Wild plants—collect and study the ferns found locally. (*b.*) Weeds—couch-grass, squirrel-tail grass, wild lettuce, sheep-sorrel, dodder; collect and identify weed-seeds and preserve for winter study. (*c.*) Trees and shrubs—review deciduous trees of the district.

Gardening and Elementary Agriculture.—Legumes and common fodder grasses; cover-crops and crop rotation.

WINTER.

Animal Life.—(*a.*) Wild animals—mountain sheep and goat. (*b.*) Farm animals—sheep and swine; types and main breeds of each found in British Columbia. (*c.*) Birds—study of the birds found locally during the winter, with records. (*d.*) Insects; insects injurious to forests—bark-beetles, wood-borers, scale-insects; methods of control.

Plant Life.—(*a.*) Wild plants—kelp and one or two common seaweeds (in coast districts), moulds and yeast. (*b.*) Weeds—review methods of seed-dispersal; identification of weed-seeds in grain or garden seeds. (*c.*) Trees and shrubs—varieties suitable for planting in school and home grounds (Circular No. 6, "Trees and Shrubs: Their Planting and Care").

Gardening and Elementary Agriculture.—Comparison of dry and germinating seeds and the food substances found in each.

Elementary Science—Physics and Chemistry.—Chemical composition of air, carbon dioxide; fuels and combustion; limestone.

SPRING.

Animal Life.—(*a.*) Wild animals—seasonal changes in hoofed animals already studied. (*b.*) Farm animals—special attention to dairy cattle, milk records, and the dairy industry. (*c.*) Birds in relation to agriculture and forestry—study feeding and nesting habits of birds already identified; special attention to those of greatest economic importance. (*d.*) Insects—water-insects; the mosquito and its control; continue life-history studies of species already observed; important insecticides.

Plant Life.—(*a.*) Wild plants—flowerless plants (continued); horsetail and mushrooms. (*b.*) Weeds—review of weeds of the district observed as seedlings. (*c.*) Trees and shrubs; elementary forestry—methods of conservation and protection; planting of seeds and seedlings.

Gardening and Elementary Agriculture.—Continue experiments in germination and growth of plants; gardening and agricultural projects for the season started (sections 2 and 4, page 3, Circular No. 4, also projects on page 6).

NOTE.—Teachers will have to exercise their own judgment as to the most opportune time for dealing with certain topics in the Nature Study Course. If any of the species of wild flowers, trees, or birds assigned are not to be found in certain districts, suitable substitutes should be made. Whilst many teachers will readily cover all of the topics assigned in this course, some may have difficulty in doing so, due chiefly to differences of method. It should be understood that real educational merit in teaching of nature study is not measured by the number and variety of topics treated, but rather by the amount of genuine interest aroused out of school as well as in the class-room in the natural objects and natural forces in the midst of which children live and must continue to live and with which they must adjust their lives. The recommendations with reference to nature study in ungraded schools should be adhered to. No definite time is assigned for the teaching of nature study in the different grades, but it should be understood that a period per day of from ten to fifteen minutes should be given to the subject in the first four grades and not less than three periods per week of from twenty to thirty minutes each in higher grades. The relationship of experience, which nature study so beautifully provides, is so fundamental to the proper teaching of every subject that that above all others should not be neglected.

General Assignments.—Obviously the major portion of the subject-matter which may properly be included in a Nature Study Course belongs in the biological field and can be designated under the headings "Animal Life" and "Plant Life." There are, however, many valuable topics which, if not in the strictest sense of the term true nature topics, are nevertheless closely associated with the daily life and experience of children. Weather phenomena, changes and effects of changes, for example, belong in this class. The response of children and of adults to changing climatic and weather conditions, food-supply, clothing, home-making materials, out-of-school activities, work, games, etc., and the varying forms and character of the earth itself as seen in the home region are all topics of immediate interest and of educational as well as practical value to children. They are topics which may be treated continuously throughout a whole season, or during one or more years. In this outline they are assigned as general topics. They serve to link up nature study as usually treated with local geography, and might even be regarded as forming an introduction to the study of geography.

8. Music.

MUSIC APPRECIATION.—While this should form the major part of the musical study in Grade VIII., song-singing should be continued.

Suggested Work.—To be viewed from a historical standpoint in the development of music, and with a free use of illustrations. The English Madrigalists of the 16th century; Purcell; Bach, Handel, Haydn; Mozart; Beethoven; Schubert; Schumann; Mendelssohn; Chopin; Grieg; Elgar; MacDowell.

MUSICAL FORM.—Binary; Ternary; History and Growth of Carols; Folk Music. Gramophone records of selected works of standard instrumentalists and singers.

NOTE.—Where there is no Music Supervisor selections should be made by the teacher and the gramophone used to illustrate the works of the great composers.

Text-book: Coney & Wickett—New Canadian Community Song Book (Gage). Price, 35c.

Reference book: Vogt and Willan—School and Community Song Book (Gage). Price, 50c.

9. Health Education.

(*a.*) HYGIENE. (*See* pages 103–109 for a general note on method and for a list of references.)

Aim.—To establish a permanent interest in the principles and practice of hygiene and sanitation and to develop a sense of responsibility towards helping to improve health conditions.

NOTE.—In this grade there should a summing-up and a harmonizing of previous health instruction in the light of modern scientific knowledge. The work of previous grades can now be reviewed (not repeated) and harmonized with the findings of science. If available, compare last year's physical examination record with this year's (secure assistance from school doctor and nurse), each pupil having his or her own records to examine, and noting carefully the improvement, if any. Group project studies on well-chosen topics should be carried out, involving some first-hand investigations on the part of the pupils. The ideal of service in improving living conditions generally, at school, at home, and in the immediate community, should be strengthened by definitely organizing the pupils and having them participate in worthy and practical undertakings. Junior Citizens' Health Improvement Leagues, Junior Safety Leagues, Students' Health and Safety Committees, etc., or such well-known organizations as Boy Scouts, Girl Guides, Trail Rangers, etc., can be so carried on as to give good training in the managing of affairs of common interest. Through such organizations the whole character of the school can be improved and a highly beneficial type of school discipline maintained. Participation in worthy undertakings is infinitely better than repression of wrongdoing. Pupils in this grade are able to build up for themselves, as a class, a good set of health rules.

(1.) *Nutrition.*—Review the nutrient elements of foods and the needs of the body (correlate with nature study, elementary science, and agriculture); source and manufacture of common foodstuffs (correlate with geography); the composition of common food materials; importance of vitamins and their use; the calorie—a unit of measurement—meaning and practical use; food requirements of an average pupil in this grade—put the new information to practical use; market values of standard foods, natural and prepared, and the question of economy.

(2.) Review the physiology of digestion, circulation, respiration, and excretion, and deduce the all-important health rules having direct bearing upon each system.

(3.) *The Nervous System.*—The character and work of the nerves—nerve stimulus and control; voluntary and involuntary movements (motor); sensory nerves—relate to the special senses; review physiology and hygiene of the eye and ear; abuse of the nervous system through use of drugs and stimulants; need of rest and sleep; interrelation of health, cheerfulness, and happiness; habit formation. (Chapters XIV., XV., XVI., and XVII.)

(4.) *Alcohol and Tobacco.*—Injurious effects on digestion and circulation; special study of effects on the nervous system and through this system on the whole organism. (Chapters XIX., XX., and special references on page 109.)

(5.) *Sanitation and Public Health.*—Project studies relating to: (*a*) water supply—source, method of distribution, protection, and purification (Chapter XXIX.); (*b*) disposal of waste—garbage and sewage; (*c*) drainage and cleaning of streets; (*d*) school buildings and grounds; (*e*) milk supply—pasteurization (Chapter XXXII.); (*f*) tuberculosis, its character, prevention, and cure (Chapter XXVII.).

(6.) *Prevention and Control of Communicable Diseases*—(*a*) Prevention—proper living and working conditions and correct health habits; (*b*) resistance—natural and acquired; (*c*) control—quarantine, cleaning, disinfection (Chapters XXXI. and XXXIII.); (*d*) efficient medical inspection with full co-operation of pupils and parents.

(7.) *Public Health Service.*—(*a.*) Civic—duties and powers in relation to sanitation and the spread of disease. (*b.*) Provincial—(1) relation to sanitation; (2) relation to communicable diseases; (3) relation to health education; (4) public health nursing service.

(8.) *Recreation.*—Encouragement of healthful recreation for young, middle-aged, and old; public or community playgrounds, parks, athletic fields, gymnasiums, and swimming-pools.

(9.) *Safety Education and First Aid.*—Continuation of the work of Grades VI. and VII. Hazardous situations in the city or district—roadways, level crossings, bridges, approaches, water-fronts, and in mills, factories, or mines. Great improvements have been made in working conditions in connection with various industries which pupils in this grade will appreciate. (*See* special note on pages 105–107.)

Prescribed text-book: *Ritchie & Caldwell—Physiology and Hygiene (Gage & Co.).

(*b.*) PHYSICAL EXERCISES AND GAMES.—Syllabus of Physical Training for Schools.

10. (*a.*) **Home Economics (Girls).** For Course of Study and regulations *see* pages 114–125.

(*b.*) **Manual Training (Boys).** For Course of Study and regulations *see* pages 110–113.

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NOTES ON GENERAL METHOD.

The Aims of Health Education.

1. To instruct children and youth so that they may conserve and improve their own health.

2. To establish in them the habits and principles of living which throughout their school-life, and in later years, will ensure that abundant vigour and vitality which form the basis of the greatest possible happiness and service in personal, family, and community life.

3. To lead parents and other adults through the health education programme for children to better habits and attitudes, so that the school may become an effective agency for the promotion of the social aspects of health education in the family, school, and community.

4. Through individual improvement, to promote national improvement and race-betterment.

The realization of these aims in the lives of the pupils and in the homes of the community calls for zealous and well-organized effort on the part of every teacher. It must be remembered that health education is not learning facts about personal and community hygiene; it is living a well-ordered life twenty-four hours per day. The instruction must take effect in the daily routine of living. There is an informational or factual content, to be sure, in all true education, but unless to know is also to do in the realm of health education the above aims can never be realized in either school or home.

The great task of the teacher is so to organize the life and activities of the school that there is a felt need in the mind and heart of the child for knowledge and the opportunity to exercise it aright. It is only in the applying of correct information that good and abiding habits can be formed. It is thus that "all the enthusiasm, understanding, and technique of motivation are needed for this intriguing task of making the habits sought function in the core of the child's being, so that there need be no umpire to assure the rules of the game."

The teacher should realize the importance of making the most of school situations which are constantly arising for actual daily practice in health habits and for teaching the child why such habits should be developed. In this way the action and the reason for it are linked up closely with the child's interest in himself. For example, the common experience of breathlessness after running gives the child a real interest in the how and why of breathing. Every situation which gives the opportunity to stimulate the practice of health habits also gives an opening for teaching. Advantage should be taken of the visits of the school doctor and nurse for consultation on health matters, and for emphasizing the importance of the removal of the handicap of physical defects.

It is of prime importance that the teacher should look well to her own health and that she should exemplify day by day that condition of mental and physical health that she hopes to see developing in her pupils. In many schools departmentalization of instruction has become so thoroughly established that all formal instruction in hygiene has been delegated to one or two teachers on the staff very much as in the case of history or arithmetic. But *every teacher in every subject* must incidentally be a health-teacher as well. To make this easy and at the same time interesting to all, the principal should arrange for frequent teachers' meetings, when the special teacher of hygiene will lead in a discussion of the most

approved methods to pursue as a matter of daily routine, in order to make effective the health programme of the school, for every pupil and also for every teacher in it. The physical-training teacher, the school nurse, and the school doctor should work together as in a common undertaking, and with the aid of the teachers should seek to enlist the hearty co-operation of pupils and parents in raising the health standards of every home.

THE PROJECT METHOD OF STUDY.

The project method of study makes much of correlation of subjects, but not merely for the sake of the subjects correlated, nor yet for the carrying-out of an educational principle. It is simply the most natural way of studying any problem. There is a centralizing and unifying tendency in purpose, and a project study in any field of education is nothing more nor less than an inclusive, purposeful investigation of some well-defined problem. It means, therefore, a sustained interest and one that may lead the student into many forms of educational experience. For example, a project study in milk for Grade VII. or VIII. would involve the use of most of the regular school subjects. It would lend itself to some such treatment as the following:—

Milk as an Important Article of Diet.

General Aim.—To learn more about milk as a food product. In conformity with this main or general aim there would be several specific group subjects, and from one to four or five pupils would unite in finding out as much as possible about each.

Suggested Group Projects.

1. The Production of the Milk used by all the Pupils in the School.—(1) Shipped in from outside points (in the case of cities); (2) a local milkman who keeps his own cows; (3) the family cow. Depending on the circumstances, a fairly careful survey of all the dairy cows in a school district can be made. The breeds of dairy cattle might be noted at the same time and an approximation of the average annual production in pounds or gallons. In some cases a map of the district indicating the farms where milk is produced might be made. If possible, an excursion to an up-to-date dairy-farm should be arranged to include the whole class.

This sub-topic or group project would require the use of arithmetic, composition, agriculture, and geography. Reading and writing will of course be used in all project studies.

2. The Handling and Distribution of the Milk.—What kind of people work on these dairy-farms? To what nationalities do they belong? Are they prosperous and own fine stables for their cattle? Are they modern in their equipment for handling milk? Do they keep their stables and the cattle in them clean? Do they ship the whole milk or separate it and ship the cream? Are the milk-cans of good quality and properly sterilized? How far has the milk been shipped or brought before it reaches the consumer, and how old is it by the time it reaches him? How is it delivered?

A visit for all of the class might be made to a local dairy and distributing plant. The use of the local map might again be noted. The highways, railways, and tram-lines may now be shown. Bulletins on dairying and the production of clean milk may now be collected and used as sources of valuable information.

3. THE CONSUMPTION OF MILK.—Do all of the pupils use it? How much per day for the entire class or school? per month? per year? At this rate estimate the total annual consumption of milk for all the schools of British Columbia together. A good poster calculated to encourage the use of milk should be constructed. This will call for the use of reading, drawing, and arithmetic.

4. MILK AS A FOOD.—What are the food elements in milk? Compare the food value of a quart of milk with other foods. What would the food value of a quart of milk be in bread, eggs, beef, potatoes, etc.? What is the evidence in favour of milk as a valuable article of diet? Show the wide use of milk in combination with other foodstuffs—in cakes, puddings, custards, biscuits, etc. Some experiments can be performed in separating milk into its constituents (*see* work in elementary science). Co-operation with home economics department.

5. MANUFACTURED MILK PRODUCTS.—Local manufacturing of milk into butter, cheese, ice-cream, evaporated or condensed milk, and milk-powder, casein, etc. A visit to such a plant would be of a great value. This will involve both history and geography.

6. MILK AND DISEASE.—Bacteria and how they multiply in milk, hence the need of strict regulation in the handling of all dairy products. Is the district from which the city is supplied free from cattle-disease—especially tuberculosis? Are the people handling milk free from communicable diseases? What are the laws of this Province relating to the handling of milk? What are the city or municipal regulations respecting dairies, etc.? What is pasteurization of milk and how is it accomplished? This will include civics, public sanitation, and citizenship.

It will be seen at once that a considerable amount of the work done by each group is done out of school. Class periods are chiefly for the relating and elaborating of information. In these periods the findings of each group are given to the entire class.

The essential qualities of a project may be summed up as follows:—

(1.) It must be based upon a real problem or situation which involves direct investigation and learning on the part of all who participate.

(2.) It calls for motivated or purposeful action.

(3.) It must be within the pupils' field of interest and be of the pupils' choosing under the teacher's guidance.

(4.) It must permit of sustained interest and continuous effort to a reasonable degree—some project studies require but a few days, whilst others may occupy several weeks.

(5.) It calls for the finding and assembling of pertinent facts and the relating of these to the main question in hand.

(6.) It must arrive at a correct solution of the problem or a rational conclusion.

(7.) That project is best which enlists the widest range of activities, intellectual, physical, æsthetic, and social.

(8.) It should involve and conform to approved principles of learning.

ACCIDENT-PREVENTION AND SAFETY EDUCATION.

Year by year the necessity for the training of children in habits of carefulness and correct response in danger situations becomes more and more apparent. The social and industrial activities of the people are more varied and complex than ever before in the world's history, and the preparation of children to meet the many new hazards that have arisen and to adjust themselves to new and highly complex situations places added responsibilities on the schools, as well as on the

homes. How best under these modern conditions to maintain the health and conserve the lives of the children has become a pressing problem in every enlightened community, involving alike the welfare of the individual, the home, and the State.

In spite of the increasing number and variety of hazardous situations to which both children and adults are exposed, it has been shown that through systematic instruction in schools the number of accidents to children has been noticeably reduced. This has been accomplished not so much by special campaigns or "drives" as through continuous, systematic training. Safety education is a matter of growth in correct responses to varying hazardous situations, resulting in the establishing of habitual modes of right behaviour and in the adoption of correct attitudes and ideals. The best results are not arrived at through a system of persistent warnings and repeated repressions, but rather in the developing of what might be termed a "safety consciousness." First there comes the certain recognition of the hazardous situation and then the inevitable response in the doing of the correct thing.

Hazardous conditions or situations are in large measure determined by local conditions. Those met with in the city are decidedly different from those in the country; but the method of teaching is not radically different. Every local situation must be taken into account and the view-point of positive reaction to every hazard established. Being confronted with or exposed to a dangerous situation means doing something (1) for the immediate protection of the individual and (2) for the protection or betterment of others. This may sometimes mean nothing more than intelligent self-protection, but not infrequently it means genuine courage and self-sacrifice. It will be seen at once that safety education means much more than a training in self-preservation in the face of destroying agencies. In its broader aspects it includes everything that makes for the improvement of health and morals in the commmunity. It is directed against ignorance as well as against carelessness. It seeks to maintain a spirit of worthy adventure while eliminating the stupid or foolhardy type of behaviour in any crisis. It tends, therefore, towards the building-up of higher standards of living and greater efficiency of service.

Danger Situations most commonly met with.

1. Traffic Dangers.—Accident statistics for the last few years show highway accidents as most numerous and as accounting for the largest number of accidental deaths. The automobile has been responsible for a very large number of fatal accidents—more than for all other vehicles of transportation combined. Street-cars come second and railway-trains third, then motor-cycles and bicycles. The dangers of modern street traffic, therefore, have become all-important in any programme of accident-prevention. The dangers connected with the stealing of rides on motor-cars and on trucks and the "hooking-on" of boys on bicycles need special mention. Other causes of serious accidents include running into streets in play, playing on street-car and railway tracks, bicycle-coasting and roller-skating on public thoroughfares, riding on handle-bars, crossing streets at points other than street crossings, failure to observe and obey signals of auto-drivers and traffic officers, short-cuts along or across a railway right-of-way, playing around railway-cars, holding umbrella in front of face in crossing a street, standing off the sidewalk in waiting for a street-car or bus, running across streets to catch street-cars, and jumping on or off moving vehicles.

2. DANGERS INVOLVING FALLS.—Climbing on ladders, in trees, in lofts, on bridges, on cliffs and high banks, on old buildings and abandoned stairways; tripping over objects misplaced, slipping on wet places, etc.

3. DANGER FROM FIRE.—Carelessness with matches, with bonfires, with overheated stoves, defective pipes, flues, and furnaces; unscreened fireplaces, lamps, candles, Christmas-tree decorations, etc.; unprotected electric wires, oily rags or mops and rubbish, hot ashes, smoking, fireworks.

4. DANGERS FROM HOT WATER.—Kettles and tubs with hot water into which children may trip and fall; pouring of hot water, handling of hot fat and boiling liquids generally.

5. DANGERS FROM LIVE WIRES.—Broken and exposed electric wires in the home or in the street, electrical machines, dynamos, etc.

6. DANGERS FROM EXPLOSIVES.—Cartridges, caps, and detonators left lying about, also the careless handling of guns, air-rifles; gasoline, kerosene, and other highly inflammable liquids.

7. DROWNING DANGER.—Carelessness around the water, in boats, reckless swimming, diving, skating, etc.

8. DANGERS FROM POISONS AND INFECTION.—Medicines, plant and insect poisons and disinfectants left unprotected; infected wounds, scratches, and bites; gas-poisoning, poisonous plants.

9. CUTS AND WOUNDS.—Broken glass, rusty nails, running with sharp sticks, pens wrongly carried, tools carelessly handled, etc.

10. DANGERS ON THE PLAYGROUND.—Reckless throwing of balls, bats, or stones; careless use of swings, giant-stride, slide, seesaws, etc.

REFERENCE LITERATURE AND TEACHING MATERIAL ON HEALTH EDUCATION.

Each of the following organizations publishes valuable material for the use of teachers and others interested in the many aspects of Health Education (ask for list of publications dealing with health problems and school hygiene):—

(1.) Provincial Board of Health, Parliament Buildings, Victoria.
(2.) Dominion Department of Health, Ottawa, Canada.
(3.) His Majesty's Stationery Office, London.
(4.) American Child Health Association, 370 Seventh Avenue, New York.
(5.) Bureau of Education, Department of Interior, Washington, D.C.
(6.) National Tuberculosis Association, 370 Seventh Avenue, New York.
(7.) National Health Council, 370 Seventh Avenue, New York.
(8.) Elizabeth McCormick Memorial Fund, 848 North Dearborn Street, Chicago, Ill.
(9.) The Rockefeller Foundation, 61 Broadway, New York.
(10.) The Russell Sage Foundation, 130 East Twenty-second Street, New York.
(11.) The Institute of Hygiene, 28 Portland Place, London, England.
(12.) Canadian Council on Child Welfare, 408 Plaza Building, Ottawa.
(13.) American Posture League and Playground Association, 1 Madison Avenue, New York.
(14.) National Child Welfare Association, 70 Fifth Avenue, New York.
(15.) National Dairy Council, 910 South Michigan Avenue, Chicago, Ill.
(16.) National Safety Council, 168 North Michigan Avenue, Chicago, Ill.
(17.) The Canadian National Safety League, Toronto, Ont.
(18.) British Columbia Safety League, 1703 Bekins Building, Vancouver.

REFERENCE BOOKS FOR TEACHERS.

★Human Physiology—Ritchie (Gage). Price, $1.50.

★Canadian Health Book—Fraser & Porter (Copp-Clark). Price, 40c.

★Health Education—Joint Committee on Health Problems in Education (Thos. D. Wood, 525 West 120th Street, New York). Price, $1.

★Health Training in Schools—Theresa Dansdill (National Tuberculosis Association, 370 Seventh Avenue, New York). Price, $1.

★Health Trends in Secondary Education (valuable for the work in Grades VII. and VIII.) (National Tuberculosis Association, 370 Seventh Avenue, New York). Price, $1.

The New Public Health—Dr. H. W. Hill, Head of Dept. of Public Health, University of B.C. (The Macmillan Co., Toronto).

The New Hygiene—Dr. H. W. Hill (The Macmillan Co., Toronto).

Health—Public and Personal—Ralph E. Blount (Allyn & Bacon, San Francisco). Price, $1.20.

Health Education in Rural Schools—J. Mace Andress (Houghton, Mifflin & Co., San Francisco). Price, $1.90.

The New Handbook of Health—Woods Hutchinson (Houghton, Mifflin & Co., San Francisco).

The Winslow Health Series—Winslow & Hallock. Three books for the grades: No. 1, 60c.; No. 2, 65c.; No. 3, 80c. Published by Chas. E. Merrill, 323 East Twenty-third Street, Chicago.

Personal Health Applied—J. F. Williams (W. B. Saunders Co., Philadelphia).

Health and Sanitation. (Same author and publisher as above.)

Nutrition Work with Children—Lydia J. Roberts (The Macmillan Co., Toronto).

The Health of the School Child—Annual Report of the Chief Medical Officer of the Board of Education. Published by His Majesty's Stationery Office, London, England. Price, 1s. 6d.

Handbook of Positive Health—Women's Foundation for Health, 370 Seventh Avenue, New York City.

Health Behaviour—Wood and Lerrigo (Public School Publishing Co., Bloomington, Ill.). Price, $2.

Health Work in the Schools—Hoag & Terman (Houghton, Mifflin & Co., San Francisco). Price, $1.60.

Food & Health—Klinne Colley (The Macmillan Co., Toronto).

Clothing and Health. (Same author and publisher as above.)

The Body at Work—F. G. Jewett (Ginn & Co., San Francisco).

Safety Education in the Elementary School—Ruth Streitz (National Bureau of Casualty and Surety Underwriters, 120 West Forty-second Street, New York). Price, $1.10.

Health and Safety in the New Curriculum—Payne & Schroeder (American Viewpoint Society, New York). Price, $2.

Play Activities for the Grades—Dorothy La Salle (Geo. M. Hendry & Co., Toronto). Price, $2.

★ Copies of books marked with an asterisk may be obtained from the Text-book Branch of the Department of Education, Victoria, at the prices quoted.

Educational Hygiene—Averill (Houghton, Mifflin & Co., San Francisco). Price, $2.60.

The Physical Effects of Smoking—Fisher & Berry (Associated Press, 347 Madison Avenue, New York).

Alcohol—Its relation to Human Efficiency and Longevity—Eugene Fisk (Funk & Wagnalls Co., New York).

Alcohol—Its action on the Human Organism—Report of the Alcohol Investigation Committee of the British Medical Research Council. Printed by His Majesty's Stationery Dept., London.

Temperance and Life—Isabel McKorkingdale (Dominion Temperance Committee, Toronto). Price, 65c.

MAGAZINES.

Hygeia—American Medical Association, 535 North Dearborn Street, Chicago. Price, $3 per annum.

Child Health—American Child Health Association, 370 Seventh Avenue, New York. Price, $3 per annum.

SUPPLEMENTARY READING FOR THE GRADES. (Price, 25c. to 50c.)

Child Health Alphabet (Primary Grade) (Macmillan Co., New York or Toronto).

Cho-Cho and the Health Fairy (Primary Grade) (Macmillan Co.).

A Journey to Health Land (3rd or 4th Grade)—J. Mace Andress (Ginn & Co., San Francisco).

Boys & Girls of Wake-up Town (4th or 5th Grade)—J. Mace Andress (Ginn & Co., San Francisco).

A Child's Book of the Teeth (5th or 6th Grade)—H. W. Ferguson (World Book Co., San Francisco).

Rosy Cheeks & Strong Heart (Macmillan Co.).

The Most Wonderful House in the World—N. S. Haviland (Lippincotts, Philadelphia).

We and Our Health—E. George Payne. Books I., II., III., and IV. (profusely illustrated) (The American Viewpoint Society, New York).

COURSE OF STUDY AND REGULATIONS FOR MANUAL TRAINING SCHOOLS.

1. Where Manual Training Schools are established, attendance is compulsory and must be continuous throughout the school-year, with one-half day's attendance per week for each boy. The hours of instruction shall be as defined in Article 1 of the Rules and Regulations for the government of Public Schools. Boys from distant schools in attendance at the morning session may be dismissed at 11.45 a.m.

2. Manual Training Instructors shall be subject to the same general regulations as Public School Teachers.

3. The Principal of the Public School at which a Manual Training Centre is situated shall have supervision over the general discipline of all classes in attendance at that centre.

4. Where Manual Training Schools are established, instruction shall be given to pupils of Grades VI., VII., and VIII. Grade V. may be given some light form of hand-work.

5. Attendance registers, visitors' book, and stock book must be kept and be open for inspection at all times.

6. A three-years' course of woodwork shall be taken in the Elementary Schools. For pupils who begin the work in Grade V. the course may be extended to four years.

7. Where the pupil enters the High School before completing the Elementary School Course, he must, if required by the teacher, complete that course before commencing the High School Course.

8. In all school districts where there is more than one Manual Training Teacher employed, one of these shall be in charge.

9. Each teacher shall design and submit for the approval of the Department of Education a course of models based on the group scheme given below. The models should be arranged to suit the locality—urban or rural—as well as the equipment at the disposal of the boys.

10. An exhibit showing the finished course with working drawings should be on view at each centre, together with the following:—

(*a.*) A liberal number of alternative problems.
(*b.*) Projects showing stages of construction.
(*c.*) Teaching apparatus.
(*d.*) Illustrations of wood shrinkage, seasoning, etc.
(*e.*) Diagrams for teaching purposes, etc.

ELEMENTARY SCHOOL MANUAL TRAINING SYLLABUS.

1. Drawing.

Plans and elevations; section drawings; scale drawings; isometric drawing; copying of drawings; producing complete working drawings from dimensioned sketches; making drawings from models.

Measuring blank drawings when the scale is given.

Ruled and freehand sketching.

Supplying additional views.

Lettering. Lessons to be graded to conform to those taught in the ordinary class-rooms: (1) Lower-case letters in script, vertical; (2) capitals, vertical; (3) letters, lower-case and capitals, slanting.

Lessons in design, proceeding in easy stages, as applied to the outline and the construction of models.

The designing of complete models should rarely be attempted before the end of the fourth group.

2. Woodwork.

(1.) The exercises or tool operations in each group shall be covered by the models in that group and all the tools indicated shall be used.

(2.) The operations should be carefully graded and the progression should be very easy, especially in Groups 1, 2, and 3.

(3.) In designing the models, provision should be made for ample repetition, the aim being to repeat each new exercise in the two following models at least.

(4.) Easy progressive steps must also be observed in the Drawing lessons, and the models should be designed with that aim also in view.

(5.) The first group may be preceded by a simple preliminary course, such as strip-work, where in the opinion of the teacher such is necessary.

(6.) During the course, lessons should be given on grinding and sharpening chisels, plane irons, and saws.

GROUP SCHEME OF WORK.

Group 1, Models 1 to 6.

Rule: Measuring.
Knife: Marking out, chamfering.
Try-square: Squaring and testing.
Saws: Hand-saws for cutting out stock; tenon for fine sawing (squaring).
Plane (jack): Medium planing, surface 2 to ¾ inches; narrow planing, surface ¾ inch down; shooting ends.
Gauge (marking): Marking width and thickness.
Chisel: Vertical chiselling; horizontal chiselling.
File: Filing curved outline (end).
Brad-awl: Boring holes.
Brace and bits: Boring holes; bits not to include those mentioned in Group 3.
Glass-paper.
Nails: Nailing and setting (simple).

Group 2, Models 7 to 12. (Simple tool operation.)

Knife: Long cut, cross cut, concave and convex cut.
Saws: Bow-saws (curves).
Plane (jack): Broad planing 2 to 4 inches; planing cylinder.
Smoothing-plane.
Chisel: Cross paring (notching).
Gouge (inside): Scribing (vertical).
File: With grain, shaped outline, profile.
Spoke-shave: Profile.
Glue: Gluing, not necessarily a joint.
Joints: Half-lap; open housing.

Group 3, Models 13 to 18.

Planes: Wider planing, 4 inches and upwards; end planing; oblique planing; chamfering.

Gouge (outside): Horizontal (open ends).

Spoke-shave: Modelling.

Brace and bits: Countersink; expansion; Forstner.

Knife: Modelling.

Screws: Fixing with screws.

Other operations: Trenching.

Group 4, Models 19 to 25.

Gauge (mortise): In joint.

Gouge: Modelling (scooping).

Other operations: Glued and rubbed joint; mortise and tenon joint; stopped housing joint.

Group 5, Models 26 to 30.

Gauge (cutting): Easy dovetailing; mitreing; rabbeting; keying; more advanced mortise and tenon construction; more advanced dovetailing; more advanced exercises already mentioned.

3. Theory.

Lessons of general information on materials used with the object of encouraging observation.

Recognition of common trees by their leaves, flowers, and fruits.

Recognition of common woods by their markings, weight, smell, etc.

Growth of trees.

Seasoning and marketing of timber.

Products of trees; enemies of trees.

Material used in the construction of tools.

4. Practice.

(1.) Boys should provide themselves with aprons or overalls and should be encouraged in good habits of workmanship.

(2.) The working drawings should be kept by each pupil in a folder until the three years' course is completed.

(3.) Mistake-sheets or record-cards should be carefully filled in and kept until entering High School. Due regard should be paid to penmanship and spelling.

(4.) Models and drawings should have a maximum of 10 marks each.

(5.) Tests in theoretical work should also be given and marks awarded.

(6.) Both the English and the Metric system of measuring are to be used.

(7.) The boy may be allowed to submit an alternative model, provided it embodies the required exercises.

TEXT-BOOKS AND BOOKS OF REFERENCE FOR MANUAL TRAINING TEACHERS.

Ira S. Griffith: Essentials of Manual Training (Manual Arts Press, Peoria).

D. Miller: Course in Technical Drawing (Part I.) (Grant Education Co., Glasgow).

J. H. Rudd: Practical Cabinetmaking (Ernest Benn, London).

Ensinger: Artistic Wood-turning (Bruce Publishing Co., Milwaukee).

PREPARATORY HAND-WORK.

N. A. Poole: Romance of Craft Series, Bks. I., II., III., IV. (Nelson, Toronto).

N. A. Poole: Course in Handwork for Grades IV. and V. (Dept. of Education, Victoria).

RURAL.

S. A. Blackburn: Farm Woodworking (Manual Arts Press, Peoria).

Roehle: The Farmers Shop Book (Bruce Publishing Co., Milwaukee).

HOME ECONOMICS SYLLABUS.

Home Economics is the social science of housekeeping and home-making. It includes the study of food, clothing, and shelter from the standpoint of health, economics, and art, and a study of the relation of each member of the family to each other and to the community at large.

RULES RELATING TO HOME ECONOMICS CENTRES.

1. Where Home Economics centres are established attendance is compulsory and must be continuous throughout the school-year. The hours of instruction in Home Economics shall be as defined in Article 1 of the Rules and Regulations for the government of Public Schools. Girls from distant schools in attendance at the morning session may be dismissed at 11.45 a.m.

2. A three-years' course of Home Economics should be taken in the Elementary Schools.

3. Where Home Economics centres are established, all girls in Grades VI., VII., and VIII. shall take Home Economics.

4. *When the forenoon and afternoon periods vary in length, Grade VIII. classes must take the longer period.*

5. Attendance registers, records of lessons, and an inventory of equipment must be kept open for inspection at all times.

6. Expense sheets for food and other materials, exclusive of heating, lighting, and permanent equipment, should be sent to the Secretary of the Board at the end of each month, also an attendance sheet.

7. Only one course of work will be recognized for all schools in any one city.

8. Home Economics instructors shall be subject to the same general regulations as Public School Teachers.

9. The Principal of the Public School at which a Home Economics centre is situated shall have supervision over the general discipline of *all* classes in attendance at that centre.

10. Plans for Home Economics buildings must be submitted to the Department of Education for approval.

Aims. **GRADE VI.**

1. To stimulate the interest of the pupils in the making and caring for their own clothes and to develop certain skills in the use of tools and materials.

2. To make a beginning in choosing textiles wisely.

3. To give *some* knowledge and appreciation of such processes as spinning and weaving.

4. To correlate clothing-study with other subjects on the curriculum, especially History, Geography, and Art.

5. To give *some* acquaintance with the care and use of the sewing-machine.

6. To develop right health habits and an appreciation of home and home-life.

7. To encourage the child to become "Mother's Little Helper."

NOTE.—Do not consider that all clothing-work must be "pushing a needle." *Finished models of all projects should be prepared by the teacher previous to class-study.* Teach only those stitches actually used on each article. Always encourage development of skill through related home problems. Success of teaching can be judged by the way in which results carry over into the home.

Unit I. Health. (Correlate with general Health Programme.)

1. Problems to be included:—
   (*a.*) To what extent am I physically fit?
   (*b.*) What factors determine my physical condition?
   (*c.*) What should I do this year to improve my physical condition?
2. Laboratory-work.
   (*a.*) Weigh, measure, and chart weight.
   (*b.*) Make individual chart for those under weight showing results after monthly weighing.
   (*c.*) Make health habit record chart. (*See* "Health Habit Score-card in Manual issued by the Department of Education.) Keep the record for two weeks at a time. Repeat periodically so as to ensure correct habits being formed. Stimulate interest through healthy competition. Teach various factors influencing health, emphasizing only *one* at a time.
   (*d.*) Special devices useful: (1.) Make posters. (2.) Give health plays. (3.) Play health games.

Unit II. Preparatory Subject-matter.

1. Discussion of sources of clothing: (*a*) Home; (*b*) stores; (*c*) factory.
2. Sources of materials—cotton, silk, wool, linen.
3. Spinning of thread by twisting fibres.
4. Weaving of thread into cloth on cardboard loom or simple hand-loom: (*a*) Warp; (*b*) woof; (*c*) edge—selvedge, cut or torn edge, folded edge.
5. Selection of articles for sewing-kit. Story of these articles.
6. Handling of tools. (*See* Ontario Sewing Manual.)

Unit III. Suggested Problems. (Where a choice is given, a second choice would make a good home problem.)

1. A first problem should be one on which the pupil learns to handle materials and use tools, and one which can be completed before the child loses interest. The application of folds, hems, basting, and running stitches to such problems as tray-cloth, feeding-set, tea-towel, etc. Flour-sacks can be satisfactorily used for many of these articles. Emphasize neatness of finish and pressing. Teach the use of a gauge. Half-inch hems are advised on first article.
2. A study of pot-holders.
   (*a.*) Uses of pot-holders.
   (*b.*) Kinds; *have several samples.*
   (*c.*) Suitable materials for various uses.
   (*d.*) Construction of pot-holder by hand. The square pot-holder with overhanded edges, or the round one using bias tape is advised. If they are not considered as a part of the uniform it is best to make them in coloured material. A ring sewn on the corner makes for convenience in the home kitchen.
3. A study of towels.
   (*a.*) Kinds—hand, roller, bath, guest.
   (*b.*) Suitable materials—linen, cotton, union.
   (*c.*) Relative value of each as to powers of absorption and cost. Water test. Demonstration to determine the difference in powers of absorption with cotton and linen tea-towelling.
   (*d.*) Hygiene of towels.
   (*e.*) Making small towel for use at school; hemming by hand.

4. A colour problem. Christmas gift, such as tea-cloth, serviettes, tray-cloth, runner, dresser-scarf, guest-towel, luncheon sets, handkerchiefs, buffet sets, etc. Design based on Grade VI. Art—*conventional.* Suitable selection of inexpensive presents. Importance of sentimental rather than material value. Pressing and packing a gift.

This problem should not be too elaborate, devoting not more than 4 or 5 lessons; may be finished at home. It should be used as a review of principles involved in previous problems.

5. A simple problem embodying practice in machine-stitching, French seams, and plain hemming. Selection open.

6. Cookery-apron. (Combination hand and machine problem).

(*a.*) Discussion of suitable dress for Cookery Laboratory (apron, cap, and towel).

NOTE.—Two pot-holders should be placed in the centre drawer of each desk for the use of all students; oven-cloths should hang by the stove.

(*b.*) Styles of aprons; advantages of kimono apron. Large armhole may be made if preferred by majority.

(*c.*) Selection of suitable materials and calculation of amount needed.

(*d.*) Cutting aprons from patterns (three standard sizes) drafted by the *teacher.* Each child should do her own cutting under careful direction.

(*e.*) Basting and fitting.

(*f.*) Teaching sewing-machine so as to stitch long seams. Child should be able to thread the machine and stitch a comparatively straight seam.

(*g.*) Simple neck and sleeve or armhole finish. If large armhole is used, a bias facing is advised.

(*h.*) Finishing, including removal of basting, fastening threads, and pressing.

(*i.*) Cost in money and time compared to ready-made.

(*j.*) Class criticism of finished articles.

(*k.*) Class textile book. Review study of cotton. Mount samples showing different kinds of cotton materials.

7. Cap—bandeau. A problem for the development of speed in machine-stitching.

8. Kimono dress. (Assisted home project. To be used only if time permits.)

(*a.*) Discussion of simplest styles of play-dress.

(*b.*) Discussion of suitable materials; have actual samples of spring goods on hand. Select print, chambray, or gingham.

(*c.*) Calculation of amount of material needed. Cutting and fitting from patterns drafted by the teacher or from a simple commercial pattern. The drop shoulder is advised.

(*d.*) Comparison of cost with ready-made.

(*e.*) Dress parade and class criticism.

Further Suggestions.

Leather project, including preparation of skin; uses of leather and the manufacture of shoes. For details write to the Director of Home Economics, Department of Education.

Study of Japanese or Chinese home-life; make project book showing Japanese or Chinese scenes, houses, people, dress, furnishings, foods and food habits, etc.

Study of rubber; manufacture of shoes and raincoats in connection with rubber industry. Making chart of industry—correlated with geography.

Suggested References for Teachers.

Matthews: Elementary Home Economics (Macmillan).
Cooley & Spohr: Household Arts for Home and School (Macmillan).
Chamberlain: How We Are Clothed (Macmillan).
Chamberlain: How We Are Fed (Macmillan).
Chamberlain: How We Are Sheltered (Macmillan).
Blackie & Sons, Toronto: Industrial Readers.
Cooke: A Day with Leather Workers (Hodder & Stoughton, Warwick Square, London, England).
Scott: Drawing and Design (Department of Education).
The Department of Education, Toronto: The Ontario Sewing Manual.
Theresa Dansdill: Health Training in the Schools (National T.B. Association, 370 Seventh Avenue West, New York).
Florence Winchell: Food Facts for Every Day (Lippincott).
Holt: Food, Health and Growth (Macmillan).
Lydia Roberts: Nutrition Work with Children (Macmillan).
Department of Education, Toronto: Sewing Charts, $3.

Aims. GRADE VII.

1. To promote home helpfulness through the spirit of co-operation and service.
2. To enable the student to *know* and *practise* good hygienic and food habits.
3. To enable the student to judge the quality of foods prepared (commensurate with their age).
4. To teach the student to make with intelligence suitable combinations of foods for simple meals.
5. To teach students to recognize good standards of order and cleanliness in the care of cooking equipment, stoves, sinks, storage-space, refrigerator, garbage-pail, and dish-towels.
6. To stimulate interest in *reasons for* as well as methods of doing certain tasks.
7. To teach economy and thrift through a knowledge of mending and repairing the wearing-apparel and household linen.
8. To teach students to draft and make simple garments; simple hand and machine sewing.
9. To help them to *know* what it costs them to live (personal accounts) and to awaken an interest in the economics of food and clothing.
10. To develop an appreciation of *art* in relation to the serving of foods, and the selection of child's own clothing.

Unit I. Health.

1. Use of height-weight chart as outlined for Grade VI.
2. Study the needs of the body and the relation of foods to such needs; the various foodstuffs and the value of each. Teach the outstanding sources of foodstuffs. Emphasize the value of milk and water in the health programme.
3. Discussion of the value of a good breakfast; the value of fruit and cereals made from the whole grain; the value of green vegetables.
4. Keep Health Habit Score-card as shown in the Manual. Keep record for two weeks at a time, repeating periodically so as to ensure the formation of good habits.
5. Special devices useful.
   (*a.*) Make posters.
   (*b.*) Give health plays.

Unit II. Breakfast. (8 lessons—three periods each.)

1. Relation of breakfast to health of growing girls. Importance of drinking water and milk.
2. Types of breakfasts eaten by girls; other types.
3. Factors to be considered in planning breakfasts; fuels in use and methods of handling.
4. Sources of breakfast foods.
5. Preparation of breakfast foods, class criticism of products; differentiate between boiling and simmering.
6. Table setting and service. Importance of simplicity and daintiness.
7. Serving breakfast in family groups.
8. Special devices and illustrative material.
   (*a.*) Collecting and mounting illustrations of attractively prepared breakfast dishes for bulletin-board.
   (*b.*) Making posters of different-type breakfasts, including model breakfasts for school-girl.
   (*c.*) Weekly home-practice.

Unit III. Luncheons and Suppers—Afternoon Tea. (12–14 lessons of three periods each.)

1. Listing of foods used by different families for suppers and luncheons.
2. Consideration of simple facts in planning meals; appreciation of the meaning of adequate diet. Importance of milk, fresh fruit, and vegetables.
3. Preparation of foods used for suppers and luncheons. Standard recipes and variations taught wherever possible. Class criticism of finished products.
4. Serving luncheon in family quantities to some outside guest.
5. Cost *per capita.*
6. Discussion on the relation of afternoon tea to daily diet. Importance of simplicity and daintiness.
7. Serving afternoon tea to parents, serving only plain bread and butter and one kind of drop cookies.
8. Special devices and illustrative material.
   (*a.*) Making posters illustrating the value and attractive service of water, milk, fruits and vegetables.
   (*b.*) Making chart showing the comparative cost of several kinds of fruit and vegetables of similar values in the diet; emphasizing value of British Columbia products.
   (*c.*) Weekly home practice.
   (*d.*) Socialized lessons where possible to develop assurance and poise.

Unit IV. Home Management.

1. Care of kitchen.
   (*a.*) Dish-washing.
   (*b.*) Care of milk bottle, bread-box, sinks, garbage can, stoves, cupboards, and refrigerator.
   (*c.*) Polishing glassware, cleaning steel knives, care and cleaning of silverware, cleaning glass doors and work tables.
   (*d.*) Care and laundering of dish cloth and tea-towels.
   (*e.*) Proper method of sweeping and dusting, with care of brooms and dusters.

2. Care of dining-room.
   (*a.*) Airing, clearing the table so as to save steps, sweeping and dusting.

Unit V. Personal Accounts.

1. Problems to be included:—
   (*a.*) How can I find out how much money my family spends for me?
   (*b.*) What can I do this year to reduce this expense?
2. Laboratory or home work.
   (*a.*) Begin keeping personal accounts, including all money spent for you, for a period of at least two months. It is difficult to sustain interest throughout the whole year.
   (*b.*) Make a list of probable extravagances of girls of this age.
   (*c.*) List the things a girl can do to reduce the cost of clothing—care of clothing, mending, cleaning and pressing, wise selecting and making.
   (*d.*) Teach methods of darning, simple patching, pressing, etc., applied to real garments, not samples.
   (*e.*) Make a list of garments that are easily made and needed by Grade VII. girls.

Unit VI. Kimono Draft. (This may be applied to nightgown or pyjamas. When the nightgown is selected, a pair of bloomers should be added to balance the problem.)

NOTE.—Suitable illustrative material must be on hand for the teaching of each step in the problems.

1. Discussion of suitable styles. Discussion of patterns, home-made and commercial.
2. Discussion of suitable materials for project chosen (must be cotton). Estimate the amount needed.
3. Discussion of suitable trimmings in regard to texture, colour, wearing qualities, etc.
4. Construction of bloomers or trousers of pyjamas first. For these either drafted or commercial patterns may be used.
5. Measuring and drafting kimono pattern to fit for either nightgown or jacket of pyjamas.
6. Construction of the above.
7. Development of greater skill in use of sewing-machine; teaching filling of bobbin. Establishment of good standards in both hand and machine sewing.
8. Finishing, pressing, and folding.
9. Comparison of cost to ready-made; appreciation of the value of a pupil's time.
10. Class judging.

NOTE.—Where time permits, a simple cotton dress may be made from a kimono pattern using a dropped shoulder.

GRADE VIII.

Aims.

1. "To help the girl to see her own home in the most ideal light."
2. To develop ability on the part of the pupil to plan and execute plans; i.e., adapt knowledge gained.
3. To develop the spirit of leadership, co-operation, and service.

4. To teach and encourage good habits and wise standards in the preparation and serving of simple family meals. Emphasize:—

(*a.*) Speed.

(*b.*) Cleanliness and order.

(*c.*) Attractive and simple service (manners and home atmosphere).

(*d.*) Health—choice of proper foods, suitable combinations, and approved and easy methods of preparation (connect with health rules and health habit score-card).

5. To teach thrift—wise purchasing, storing and use of left-overs.

6. To arouse keener interest in the care of the home through class housekeeping and home management work.

7. To encourage worthy home membership through encouraging helpfulness, and courtesy in the class and in the home.

Suggestions for accomplishing Aims.

1. Encourage as much pupil-planning as possible (individual and group work).

2. Provide for constant judging of products.

3. Devise some plan of checking for the carrying-out of good health habits —class competitions stimulate interest; this gives a splendid opportunity for giving suggestions to pupils required to put forth a greater effort to be healthy.

4. Be ever watchful to see how Home Economics is carried over into the homes. (Note last paragraph of Introduction, Wellman, page XVI.) Arrange to entertain mothers and teachers as early in the term as possible. This plan secures greater support during the term and should ensure larger attendance at school exhibits.

5. Suggest a definite assignment each week for home practice and use of Home Economics Library Shelf. Have pupils record work done at home in note-books. Get parents' signature and remarks periodically. Work on suggestions brought in. As far as possible, pupil should record time spent in any problem.

6. Select such questions as will stimulate thought.

7. Encourage pupils to build up a home library by sending for free bulletins, etc.

8. Organize classes for self-government. Place responsibility with pupils as to checking up work, order of drawers, etc. Encourage good class spirit by encouraging pupils who finish first to help others. Etiquette of shopping. Teach girls to do marketing where possible.

9. Plan always to check assignments.

10. Draw attention to special days whenever possible. (Discuss ways and means of entertaining and adding to the happiness of the family on these special days; e.g., make a cake for mother's birthday.

NOTE.—**The division of time is made on the basis of *four 45 min.-periods* (three hours).**

General Project.

How may the Home Economics lessons contribute to the health, comfort, and beauty of our home and community?

Unit I. Food Preservation. 3 lessons of three periods each.)

1. Reasons for food preservation.

(*a.*) Nutritive value of fruits and vegetables.

(*b.*) Supply.

(*c.*) Cost.
(*d.*) Causes of food spoilage.
2. Methods of food preservation.
(*a.*) By drying.
(*b.*) By low temperature.
(*c.*) By high temperature.
(*d.*) By exclusion of air.
(*e.*) By use of preservatives, as salt, sugar, vinegar, smoke.
3. Canning fruits and vegetables available—cold-pack and open-kettle methods. Estimate cost and compare with commercial products as to flavour, appearance, and cost. (Small fruits may be canned in season.)
4. Jams or jellies—conserves; compare with commercial product.
5. Pickling.
6. Preservation of eggs—water-glass. Estimate value from standpoint of economy.
7. Visit canning-factory where possible.

Unit II. Health. (To be encouraged and checked frequently throughout the term.)

Problems to be discussed:—
1. What have I accomplished in improving my health?
2. What have I done that is helpful and wherein have I failed?
3. The importance to self, family, and society of maintaining good standards of health.
4. What is being done in this community and in British Columbia to improve child-life?
5. What plans should I make this year that I may improve my health? Check height and weight; keep class and individual record, etc. Correlate closely with the work of the school nurse.
6. As the work in meal preparation proceeds, the nutritive value of each food should be stressed.

Unit III. Luncheons and Suppers. (9 lessons of three periods each.)

1. By way of review of Grade VII. work and demonstration as to ability have the class prepare, unassisted, a simple supper or luncheon dish.
2. Review food principles and their relation to the needs of the body. Simple 100-calorie portions. Food requirement for Grade VIII. girl and a Grade VIII. boy.
3. Review factors to consider in planning meals; discuss the relation of luncheon to adequate meals for the day.
4. Planning, preparation, and service of simple suppers and luncheons, including a wider scope of dishes than given in Grade VII. Emphasize use of British Columbia products.
5. Methods of using left-overs calling for favourite home recipes.
6. Sources and manufacture of leading foodstuffs used.
7. Genuine hospitality; social customs and usage. Encourage home preparation of supper.

Unit IV. Dinners. (8–10 lessons of three periods.)

1. List foods suitable for family dinners in your community.
2. Review factors in meal-planning.

3. Principles underlying the preparation of various foods suitable for simple home dinners.

4. Study briefly sanitary conditions in the markets. General rules for marketing for average housewife. Visits to dairy, butchers, etc.

5. Study of methods of saving time, fuel, and money in the preparation of meals at home.

6. Simple home service of dinners.

7. Table linen and decoration.

8. Study sources of foodstuffs used with method of manufacture. Know local prices of common foods.

Unit V. Home Management.

1. Care and Cleaning of Equipment. (3 lessons of 45 minutes.)

(*a.*) Review of Grade VII. work.
(*b.*) Daily and weekly care of stoves.
(*c.*) Cleaning of aluminium and granite pans.
(*d.*) Cleaning of nickel.
(*e.*) Cleaning of windows.

2. Care and Furnishing of a Girl's Own Room. (6–8 lessons of 45 minutes.) (Correlate with Art Department. A good collection of illustrative material is essential in arousing the desired interest.)

(*a.*) The room as a whole; its place in the home; its outlook, exposure, and size. The necessity for air and sunshine. Hygienic conditions. The number of windows and doors.
(*b.*) General colour possibilities in rooms with different exposure.
(*c.*) Particular colour schemes. If not taught by the Art Department it will be necessary to give specific introductory lessons in colour.
(*d.*) The floor plan; colour value in relation to walls and ceilings. Suitable floor finishes. Care.
(*e.*) Study of draperies, including curtains, overdrapes, bureau-scarves, bedspreads, linen, and towels.
(*f.*) Furniture selection and arrangement.
(*g.*) Pictures and ornaments.
(*h.*) Scrap-book collection of pictures of well-arranged bedrooms to illustrate various points stressed.
(*i.*) Study of storage facilities and general care of bedroom, including bed-making, etc.
(*j.*) Problem: Making some article for use in bedroom, such as dresser-scarf, vanity set, laundry-bag, dress-protector or shoe-bag.

3. Laundering. (6 lessons of 45 minutes.)

(*a.*) Hard and soft water; water-softeners; blueing.
(*b.*) Suitable soaps for different fabrics.
(*c.*) Methods of laundering personal and household linen. Special care of handkerchiefs. Washing sweaters and baby's woollens.
(*d.*) Ironing, folding, and storing.
(*e.*) Stain removal—rust, ink, blood, cream, coffee and tea, fruit, iodine, scorch.

4. BUDGETING. (4–5 lessons of 45 minutes.)

Aim.—To teach an appreciation of the many calls on the family income and what might constitute a fair division of the same.

(*a.*) Use of personal accounts kept by girls in Grade VII. as a basis for discussion.

(*b.*) Discussion of girl's allowance and proper distribution as to saving, giving, needs, education, and recreation.

(*c.*) Selection of a typical family in the community and discussion of average income with reasonable proportion for such things as clothing, food, shelter, recreation, operating, education, and savings, leading the girl to see the relation of her expenditures to the whole, and giving her an appreciation of the value of budgets.

5. CHILD CARE. (10 lessons, each 45 minutes.)

NOTE.—This unit is to be taken only when special equipment is provided and the teacher has had special training. Where possible secure the help of school or district nurse.

Aims.

(*a.*) To create in the girls a desire to know how to care for the babies in the home, and also the desire to do it so that they may share that responsibility in the home. To make them intelligent "mother's helpers."

(*b.*) To give skill, commensurate with the age of the girls, in the physical and mental care of babies.

(*c.*) To give a background which will prove useful to the girls as future mothers.

Activities.

(*a.*) Learning the opportunities for study of babies offered by the individual home.

(*b.*) Discussion of needs of young children as the pupils know them from past experience.

(*c.*) Selection of those phases which are of greatest interest and which seem of most importance, skilfully guiding the selection of the following:—

(1.) The baby's home—review points as to location, drainage, ventilation, and size in relation to size of family.

(2.) The baby's sleeping-room—location, light, finishing of walls and floors, furnishings, temperature and care of room.

(3.) Characteristics of normal baby—weight, height, fontanelles, bones, eyes, hair, teeth, skin, sleep, and exercise (crying).

(4.) Baby's clothing—dressing the baby.

(5.) Bathing the baby.

(6.) Bed-making.

(7.) Feeding the baby.

6. HOME CARE OF THE SICK. (10 lessons, each 45 minutes.) (To be taken when Child Care unit is omitted.)

(*a.*) Taking and recording temperature and pulse.

(*b.*) Methods of making bed and making the patient comfortable in bed.

(*c.*) Methods of securing adequate ventilation, light, and quiet.

(*d.*) Planning, preparing foods, and serving attractive trays.

(*e.*) The importance of calling a doctor and following his orders.

(*f.*) Simple first aid—care of burns, cuts, indigestion, colds, cramps, fainting, etc.

Unit VI. Clothing Selection and Construction. (20 lessons of three periods each.)

NOTE.—Illustrative material should be on hand for teaching problems as they arise.

1. Slip on bloomers (must be cotton).

NOTE.—To be selected with dress in view; slip may be drafted on material and bloomers cut from commercial pattern.

2. The making of a summer or sport dress.

(1.) A study of staple cotton dress materials as to quality, durability, and cost in relation to value. Making suitable collection with widths and cost.

(*a.*) As a basis for the selection of dress materials.

(*b.*) As a standard for judging materials in ready-made garments.

(2.) A study of dress design in order that a girl may learn how to select appropriate designs in ready-to-wear garments or suitable patterns for constructing a dress.

(3.) A study of ready-to-wear dresses (cotton) to give the girl some standards for selecting dresses, and judging whether it is wiser for her to make her dresses or to buy them ready-made.

(4.) Selection of pattern—commercial patterns may be used; emphasize individuality.

(5.) Making a suitable summer or sport dress for Grade VIII. girl—a kimono or set-in sleeve may be used, depending on the skill of the student.

(*a.*) Selection of materials.

(*b.*) Study of pattern as to markings, testing and altering.

(*c.*) Economical placing of pattern and cutting of garment.

(*d.*) Construction: (1) Drill on use of machine—altering stitch and tension; (2) pinning, basting, fitting; (3) appropriate seams; (4) finishings. Plain seams should be used. They may be finished by overcasting or by turning back and stitching.

(*e.*) Cost in money and time.

(*f.*) Accessories in relation to dress.

(*g.*) A fashion show.

(*h.*) Making poster or scrap-book showing clothing budget for Grade VIII. girl.

3. Care and hygiene of clothing. Cleaning, pressing, storing, sewing on buttons and fasteners, laundering.

References for Children.

★Department of Education, Victoria: Foods, Nutrition, and Home Management Manual.

Matthews: Elementary Home Economics (Little, Brown & Co.).

★Calvert: First Course in Home Making (Turner & Smith, Atlanta, Ga.).

★Cooley & Spohr: Household Arts for Home and School, Vols. I. and II. (Macmillan).

Winchell: Food Facts for Every Day (Lippincott).

Kinyon & Hopkins: Junior Home Problems (Benj. Sanborn Pub. Co., Chicago).

Kinyon & Hopkins: Junior Food and Clothing (Benj. Sanborn Pub. Co., Chicago).

★ Books marked with an asterisk are specially recommended.

★Trilling & Williams: A Girl's Problems in Home Economics (Lippincott).
Trilling & Williams: Art in Home and Clothing (Lippincott).

Bulletins.

Helen Campbell: Milk and its Uses (Department of Agriculture, Ottawa).
Provincial Board of Health, Victoria: Infant-feeding Cards.
Board of Health, Victoria: Home Hygiene and Care of the Sick.
Mary Brooks Picken: A Sewing Book for the School Girl (Pictorial Review). (10c. for school children.)

References for the Teacher.

Pattinson: The Canadian Cook Book (Ryerson Press, Toronto).
Bailey: Foods, Preparation and Serving (Webb Pub. Co., St. Paul).
Farmer: Boston Cooking School Cook Book (Little, Brown & Co.).
★Wellman: Food: Its Planning and Preparation (Revised) (Lippincott).
Holt: Food, Health and Growth (Macmillan).
Theresa Dansdill: Health Training in the Schools (National T.B. Association, 370 Seventh Avenue, New York).
★Lydia Roberts: Nutrition Work with Children (Macmillan).
Rose: Feeding the Family (Revised) (Macmillan).
Conn: Bacteria, Yeasts and Molds (Ginn & Co.).
Greer: Foods and Home Making (Allyn & Bacon).
Department of Education, Toronto: Ontario Sewing Manual.
★Buttrick: Principles of Clothing Selection (Macmillan).
Dyer: Textile Fabrics (Houghton, Mifflin).
★Matthews: The House and its Care (Macmillan).
Donham: Spending the Family Income (Little, Brown & Co.).
Frederick: Household Engineering (American School of Home Economics, Chicago).
Dennett: The Healthy Baby (Revised) (Macmillan).
Ernest Groves: Wholesome Childhood (Houghton, Mifflin & Co.).
Department of Health, Ottawa: The Blue Books.
Canadian Red Cross Society: Manual for Home Nursing Classes, 410 Sherbourne Street, Toronto, Ont.).
Goldstein: Art in Everyday Life (Macmillan).
Scott: Drawing and Design (Free Text-book Branch, Department of Education, Victoria).
Snow & Froehlich: Industrial Art Text Books, I.–VIII. (Prang Co., Chicago).

Bulletins.

Mary Brooks Picken: The Mary Brooks Picken Method of Modern Dressmaking (Pictorial Review).
Lottie Duncan: Financing the Home (Manitoba Agricultural College, Winnipeg).
★Good Housekeeping, New York: Laundry Equipment and Methods.
Provincial Board of Health, Victoria: The House-fly Menace and How to Lessen the Same.
Department of Labour, Washington, D.C.: Child Care (Bulletin No. 8).

★ Books marked with an asterisk are specially recommended.

MANUALS FOR TEACHERS AND ADDITIONAL REFERENCE BOOKS.

Readers.

Burnett: The Canadian Readers, Book I., Teachers' Manual (Macmillan, Toronto). Price, 35c.

Handbook to the Canadian Readers, Books II.–V. (Gage & Nelson, Toronto). Price, 95c.

Composition.

Lewis Marsh: Picture Composition, Books I., II., and III. (Blackie & Son).

Arithmetic.

Reid & Martin: Arithmetic, Teachers' Manual for the Modern Method (Dent & Sons). Price, $1.

Drawing.

Teachers' Manual of Drawing and Design (Department of Education, Victoria).

Manual Arts (Recommended for Teachers' use).

See names of books listed under Grades I. to IV.

Music.

Wickett: Rote Songs and Singing Games (Gage). Price, $1.

Mortimer and Davies: Rhythmic Work (Curwen, London).

National Song Book (Boosey, Toronto).

Dictionaries.

The Highroads Dictionary (Thomas Nelson & Sons, London). Price, 50c.

Chambers' Etymological Dictionary (W. & R. Chambers, Ltd., London and Edinburgh), 694 pages. Price, 60c.

The Concise Oxford Dictionary (Clarendon Press, Oxford). Price, $2.25.

Atlas.

Junior Atlas for Canadian Schools (Nelson & Sons, Ltd., Toronto). For Elementary Schools only. Price, 50c.

Royal Atlas (Nelson & Sons, Ltd., Toronto). Price, 90c.

Atlas (Gage & Co.). Price, 35c.

Wall Maps (W. & A. K. Johnson, London).

Health Education.

Ritchie and Caldwell—Physiology and Hygiene (Gage & Co.).

Physical Exercises and Games—Syllabus of Physical Training for Schools.

Nature Study and Elementary Agriculture.

Sherman and Reid: Nature and Language Work Book for Grades IV., V., and VI. (Dent & Sons, Toronto).

R. S. Sherman: Nature Stories (Dent, Toronto). Price, $1.25.

Anna B. Comstock: Handbook of Nature Study (Comstock Publishing Co., Ithaca, N.Y.). Price, $4.

Coulter & Patterson: Practical Nature Study (D. Appleton & Co., New York).

American Nature Association: Nature Magazine, Illustrated (1214 Sixteenth Street, N.W., Washington, D.C.). Price, $3.

Charles L. Pack: The School Book of Forestry. Price, $1.

Morton & Lewis: Native Trees of Canada (Department of Interior, Ottawa). Price, 50c.

National Geographic Society: The Book of Birds (Washington, D.C.). Price, $3.

Weed & Dearborn: Birds in their Relation to Man (Lippincott & Co., Philadelphia). Price, $2.50.

Reed: Western Bird Guide (Musson Book Co., Toronto). Price, $1.25.

Olive Thorne Miller: Children's Book of Birds (Houghton, Mifflin & Co., Boston). Price, $3.

National Association of Audubon Societies: Educational Leaflets (1974 Broadway, New York). Price, 5c.

Sanderson & Jackson: Elementary Entomology (Ginn & Co., San Francisco). Price, $2.50.

Clarence M. Weed: Butterflies Worth Knowing (Doubleday, Page & Co., Garden City, N.Y.). Price, $2.

Canadian Forestry Association: Canadian Forest and Outdoors—Illustrated Magazine (51 Sparks Street, Ottawa). Price, $2.

American Forestry Association: American Forests and Forest Life—Illustrated Magazine (Washington, D.C.). Price, $4.

National Geographic Society: Wild Animals of North America (Washington, D.C.). Price, $3.

Reed: Animal Guide; North American Wild Animals (Chas. K. Reed, Worcester, Mass.). Price, $1.25.

John Burroughs: Squirrels and other Fur Bearers (Houghton, Mifflin & Co., Boston). Price, $1.

Buckley: Eyes and No Eyes (Cassell & Co., N.Y.). Price, $1.25.

L. H. Bailey: The Outlook to Nature. Price, $1.25.

L. H. Bailey: Manual of Gardening (Macmillan, Toronto). Price, $2.50.

Louise Green: Among School Gardens (Charities Publishing Co., New York). Price, $1.50.

The Garden Magazine (Illustrated) (Doubleday, Page & Co., Garden City, N.Y.). Price, $3.

Plumb: A Study of Farm Animals (Webb Publishing Co., St. Paul). Price, $2.

Wilson & Warburton: Field Crops (Webb Publishing Co., St. Paul). Price, $2.

Miller: The Soil and its Management (Ginn & Co., San Francisco). Price, $1.50.

Walters: The New Agriculture (Ginn & Co., San Francisco). Price, $2.

NOTE.—The last four books in the above list are also valuable for use in High Schools. The last book of all covers briefly many subjects more thoroughly treated in the three books preceding it.

EXAMINATION AND PROMOTION OF PUPILS.

ELEMENTARY SCHOOLS.

In all Elementary Schools there must be a general classification of pupils at the end of each term. Pupils should be transferred to a higher grade whenever it appears that their individual interests require it, without regard to the periodical reorganization of classes.

Examinations held for the purpose of classifying the pupils of a school shall be oral for classes below the Fourth Grade, but in all classes the judgment of the teachers who have respectively taught the pupils during the term should chiefly determine the promotion list.

Examinations for admission to High Schools will be held on the last three teaching-days in June at all places where High Schools are in operation, and at such other centres as may be determined and announced by the Department from year to year.

Entrance pupils attending a public school in a district where a High School or a Superior School is in operation, who have been reported by their teachers to have covered satisfactorily the work prescribed by the Council of Public Instruction for Entrance pupils, shall, unless the Board of School Trustees of the district, on or before June 1st, request the Department of Education to give them a written examination, be issued Entrance Certificates on the recommendation of a committee composed of the Principal of the school, the Principal of the High School or of the Superior School of the district, the Municipal Inspector of Schools (if one is employed by the district), and the Provincial Inspector of Schools. All Entrance pupils in attendance at such a school who have not been recommended for promotion but desire to be admitted to High School, and also Entrance pupils attending other schools (public or private) in the Province, and persons who have covered entrance requirements by private study, must sit for examination in Arithmetic, Grammar, Composition, Penmanship, Dictation and Spelling, Geography, and also in Canadian History or Drawing. No minimum mark is set for a pass in any paper. To be successful a candidate must obtain an average of at least 60 per cent. on the papers of the examination and must prove to the Department that he has a satisfactory knowledge of the work prescribed for Entrance pupils in the other subjects, including Drawing in the case of candidates who sit for examination in Canadian History, and Canadian History in the case of those who sit for examination in Drawing.

All pupils of British Columbia schools (both public and private) must hold High School Entrance Certificates before they are eligible for admission to a High School. Any pupil holding a High School Entrance Certificate, or higher certificate, obtained in another Province or country, and also any pupil who sits for the Grade IX. Examination of the Department and obtains an average of at least 34 per cent. on the papers of the examination, may be admitted to a High School in this Province on probation subject to the approval of the Department.

CORRESPONDENCE COURSES IN ELEMENTARY SCHOOL SUBJECTS.

The Department of Education has organized a Correspondence Course for children living in isolated districts beyond the reach of an Elementary School.

The purpose of this course is to give such children assistance in all the subjects taught in Grades I.–VIII. of Elementary Schools.

Lessons are sent to each pupil to be worked, and on completion are then returned to the Instructor for correction.

Tuition is free; also school-books issued by the Free Text-book Branch are provided free of charge.

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