

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

Coloured covers/
Couverture de couleur

Coloured pages/
Pages de couleur

Covers damaged/
Couverture endommagée

Pages damaged/
Pages endommagées

Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée

Pages restored and/or laminated/
Pages restaurées et/ou pelliculées

Cover title missing/
Le titre de couverture manque

Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées

Coloured maps/
Cartes géographiques en couleur

Pages detached/
Pages détachées

Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)

Showthrough/
Transparence

Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur

Quality of print varies/
Qualité inégale de l'impression

Bound with other material/
Relié avec d'autres documents

Continuous pagination/
Pagination continue

Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure

Includes index(es)/
Comprend un (des) index

Title on header taken from:/
Le titre de l'en-tête provient:

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

Title page of issue/
Page de titre de la livraison

Caption of issue/
Titre de départ de la livraison

Masthead/
Générique (périodiques) de la livraison

Additional comments:/
Commentaires supplémentaires:

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The Canada School Journal,

AND WEEKLY REVIEW.

VOL. X.

TORONTO, APRIL 23, 1885.

No. 16.

Table of Contents.

EDITORIAL :—	PAGE.
The World.....	181
The School.....	182
The Boundaries of Ontario.....	183
SPECIAL ARTICLES :—	
Baby has Gone to School	183
The late Robert Little	183
Richard Grant White as a Grammatical Reformer	184
Prize Competition.....	185
PRACTICAL DEPARTMENT —	
Model Geography Lesson	187
Language-Story Lessons.....	188
Condensed Directions for Teaching Reading	189
Lessons in Fractions.....	189
Hints for Teachers	189
EDUCATIONAL NOTES AND NEWS	
Changes in School Law	190
LITERARY CHIT-CHAT	191
MISCELLANEOUS	
QUESTION DRAWER.....	192
LITERARY REVIEW.....	192

The Canada School Journal and Weekly Review.

Edited by J. E. WELLS, M.A.

and a staff of competent Provincial editors.

An Educational Journal devoted to the advancement of Literature, Science, and the teaching profession in Canada.

—o—T E R M S.—o—

THE SUBSCRIPTION price for THE CANADA SCHOOL JOURNAL is \$2.00 per annum, strictly in advance.

DISCONTINUANCES.—THE CANADA SCHOOL JOURNAL will not be sent to any person after the expiration of the time for which payment has been made.

RENEWALS of subscriptions should be made promptly.

ALL BUSINESS communications should be addressed to the business manager. Articles intended for publication should be addressed to the editor.

ADVERTISEMENTS of a suitable nature will be inserted at reasonable terms. See schedule of rates in another column.

CANADA SCHOOL JOURNAL PUB. CO. (Limited)
Publishers.

The World.

An American paper wittily said after the Chinese victory at Lang-Son that the French were threatening to declare war against China if the thing were repeated. But the new French Government proceeded to negotiate for peace instead. The treaty waives the French demand for indemnity for the Chinese attack at Lang-Son, which was the pretext for the invasion, but, on the other hand, recognizes a French Protectorate over Tonquin and Anam. There is still some difficulty about the order of the respective armies' withdrawal, whether the French shall raise the siege of Formosa or the Chinese withdraw from Tonquin, first. Meanwhile, to add to the humour of the situation the Chinese Emperor is said to have issued a proclamation telling his subjects that the French having humbly sued for peace, he has granted their prayer and begs his soldiers to refrain from destroying them.

The Week gives its cordial support to the objects of the National Liberal Temperance Union, recently formed in Toronto, one of which objects is the prohibition of ardent spirits. There is much to be said in favor of the distinction the Union emphasizes between beers and light wines, whose use it approves, and the strong liquors it would fain suppress. But *The Week* shows a singular inconsistency for so able a journal in its course on this question. Its columns have teemed with articles condemning the Scott Act as "sumptuary" legislation and an interference with the liberty of the subject. Surely to say that it is tyranny to forbid A his wine, or B his beer, but sound political economy to deprive C of his brandy, and D of his whiskey, is to make a distinction without a difference in the principle involved. If the former is sumptuary legislation pray what is the latter? As a matter of fact neither prohibition would be a sumptuary law, the object of the prohibitionists being to promote sobriety and prevent crime, not to regulate household expenses. By its action in this case the *Week* relegates the whole question of prohibition to the domain of public expediency where it belongs.

A marked change has come over the spirit of the English despatches in reference to the Afghan affair since our last issue. The prospects of a temporary peace have much improved. The change is somewhat hard to understand, though no doubt its secret causes will come to light by-and-by. It is evidently not that the lion has become afraid of the bear, or that the bear has convinced the lion of its innocence and friendly intentions. Nor has Komaroff made good his assertions that the Afghans were the aggressors in the Kushk River affair. But somehow it has suddenly been discovered that Pendjeh is not worth fighting for, and that the Russians might as well have it if they want it. There is little doubt that the change is due to new discoveries in regard to the feelings and intentions of the Afghans themselves. The British army could hardly invade their territory, and defend them from attack, without their own consent. The worst feature of the case is that nearly all seem agreed that a great Anglo-Russian war is only postponed, not averted.

The bill for the employment of prison convicts has, strange to say, been defeated in the New York Legislature. The *Christian Union* points out very clearly and forcibly the criminal folly of keeping the prisoners, amounting to about one in every thousand of the population—in idleness. Apart from the fact that hard labor is the most fitting punishment, the best preventive against confirming and intensifying vicious habits, and, rightly used, the most potent reforming agent, the notion that prison labour is an injury to the free labourer involves a most absurd fallacy. The employment of all prisoners would add about one-two-hundredth part to the labour of the country. It is surely better that honest labour should suffer by this small

competition than that every two hundred honest labourers should be compelled to support one knave in idleness. This is clearly the alternative. If it will not do to permit even this small addition to the labouring force of the country, how much better it would be, as the *Union* points out, to make the culprits work, and to select out of every two hundred some aged or sickly honest labourer, to enjoy the privilege of doing nothing.

The School.

SPECIAL NOTICE TO COMPETITORS FOR THE CANADA SCHOOL JOURNAL PRIZES.

The representations of Teachers and other considerations have convinced us that the time limit (May 1st) assigned in the announcement of our Special Prizes was quite too narrow to permit the large competition we desire. A considerable number of papers have been received, especially Arithmetical papers, and they are still coming in from week to week. But the total number yet received falls far short of that which should be submitted in view of the liberal prizes and easy conditions offered. It has therefore been decided to postpone the decision and keep the competition open THREE MONTHS LONGER, or until the First day of August, 1885. All interested will please note the change. We hope before the expiration of this period to have a very large number of manuscripts in hand. For terms and conditions see JOURNAL of February 19th.

We are indebted to a young lady of Geneva, N.Y., for the excellent Model Geography Lesson on Texas, by "An Oswego Graduate." The main features of the method so well developed may, of course, be easily applied to any province or country. We should be glad to receive Model Lessons from Canadian Teachers, on any or all of the subjects of the Public School curriculum. Most teachers have some specialty amongst the subjects of instruction, or have found some particular mode of treating some particular subject unusually successful and satisfactory. Why not give the benefit of their study and experience to their fellow-teachers? To analyze the method pursued and reduce it to a simple form as a model would generally be a most useful exercise for the writer and might often prove very helpful to many others in the profession.

"To teach the young personally has always seemed to me the most satisfactory supplement to teaching the world through books; and I have often wished that I had such a means of having fresh, living, spiritual children within sight."

So wrote George Eliot in a letter to a friend. The methods of the teacher and that of the writer are mutually supplementary. Each has its peculiar advantages. The popular author has a larger auditory, the earnest teacher a closer contact. The one speaks mainly to those whose opinions and characters are in a large degree fixed, the other deals with mind and heart in their tender, plastic stages. The one has access to the sources of thought and feeling through a single sense channel; the other can put the hand almost at will upon

every delicate spring of child-nature. The one must hew every message into literary form, and transmit it to the many by mechanical agency; the other can speak to the few through kindling eyes and persuasive inflection and loving tone, and the still more potent but subtle influence of an exemplary and noble life.

According to the *School Guardian* the School Board has made a serious innovation in the Harrow Elementary Schools. After grave discussion it has decided to supersede the time honored birch of the flogging-room with a new appliance. This is neither more nor less than a substantial strap, twenty inches in length. The *Guardian* suggests that as the English masters are novices in the art of wielding this new instrument of culture, it may become necessary to import two or three Scotch teachers to give the necessary instruction. Logically, a strap or flogging master should be added to the staff in the Normal and Model Schools. Should any difficulty be experienced in securing culprits for the students to practice on, we would suggest that the masters who cannot conduct schools without frequent resort to this means of persuasion, be taken as "subjects" in rotation.

We are glad to see the Ontario Education Department following the excellent example of our American cousins in an "Arbor Day" for the Public Schools. We hope the experiment may prove a great success, and that teachers and pupils all over the land will enter into the spirit of the movement. To transform the plain, too often unsightly school grounds into beautiful groves and avenues, is a work well worth doing, both for its own sake, and for that of the education it involves. The child who plants his tree or shrub, and watches over its growth at school, will not be likely to forget to make the surroundings of his home, when he has one of his own, neat and attractive. If the day is well observed, it will, in addition to all other advantages, make the day one of the most profitable, even from the purely educational point of view, in the whole year.

The latest addition to the Chatauqua Educational work is the Art annex—the Chatauqua Society of Fine Arts, or C. S. F. A. as it is called for the sake of brevity. This new movement will afford an excellent aid to teachers who may have a taste for Art studies, or desire to better prepare themselves for the elementary teaching now required in the Public Schools. The details of the plan, so far as yet decided upon, are given as follows.—The membership fee of fifty cents a year, paid to Miss R. F. Kimball, at Plainfield, N. J., entitles the member of the C. S. F. A. to all the privileges of this special course of Art instruction. When application for membership is made, the applicant must state distinctly to which of the following classes he or she wishes to belong.—Elementary Drawing, Free-Hand Drawing and Perspective, Figure Drawing from Life, Mechanical Drawing, Painting in Water Colors, Painting in Oils, Crayon and Pastel Drawing, China Painting or Etching. The course of study will extend over two years, and on its completion handsome diplomas will be awarded, signed by the

Chancellor of the Chataqua University, the Art Director and the Committee of Award. Classes will be formed and work begun by May 1st. A course of study will be mapped out for the month, and sent to the members of each class. At the end of the month the drawings are to be submitted for criticism, and will be returned by the Director. Drawing-books and materials will be furnished to the members at wholesale prices, and persons living at the greatest distance from the Art centres will have facilities for studying equal to those afforded in the larger cities. Art will be brought to their very doors and they may cultivate it, if they will, at their own firesides.

The Practical Teacher has some excellent remarks on cheerfulness and biliousness as characteristics of the teacher.

"Moods become automatic, thoughts turn to accustomed objects, run in accustomed channels. If you permit it, that which is petty, narrowing and belittling will absorb the attention until the power to concentrate the mind upon that which brings life, inspiration and joy is well-nigh lost."

Happy the teacher with whom perpetual cheerfulness is either a natural endowment or an established habit. Happy he or she who knows nothing of those blue days when everything goes wrong in the school room. "When your best pupil seems to be laughing at you, when everything they had ever learned seems totally forgotten, when a fiendish joy possesses the worst boys, in whose bad deeds, for some unaccountable reason, the whole school sympathizes."

The Practical Teacher is right in assuming that the cause is generally in the teacher's own physical condition, and in recommending exercise and play as the best means of getting back into sunshine. We do not know that we are prepared to go with him to the desperate extreme of so heroic a prescription as, "If you must be bilious, resign and take the editorship of some educational journal."

THE BOUNDARIES OF ONTARIO.

The definition of the boundary between Ontario and Manitoba as given in the finding of the Judicial Committee of the Privy Council in 1844 is so technical as to be somewhat difficult to trace. The difficulty is increased by the use of certain geographical names which do not appear on recent maps. The whole boundary of Ontario north and west of Lake Superior may for practical purposes, and with almost absolute certainty be thus described: A line starting from the international boundary on the western shore of Lake Superior, and running up Pigeon River to the Height of Land, thence through Rainy Lake and Rainy River to the Lake of the Woods, thence through that lake in a direct line to its North-West angle; thence due North to the Winnipeg River if the due North line falls West of the confluence of the English and Winnipeg Rivers, or across the Winnipeg to the English River if the due North line falls East of their confluence; thence up the English River, or up the Winnipeg and English rivers, as the case may be, through Lac Seul or Lonely Lake, across the portage between it and Lake St.

Joseph and down the Albany River to the point where it is intersected by a line running due North from the confluence of the Ohio and the Mississippi Rivers. The Privy Council defined the line no further, but the arbitrators of 1878 continued the line down the Albany River to its mouth, thence eastward along the shore of James Bay to the point where it is intersected by a line due North from Lake Temiscamingue, this latter line being a part of the boundary between Ontario and Quebec. The Privy Council decision leaves the boundary legally undetermined between Lake Temiscamingue and the point of intersection of the Albany River and the Meridian of the mouth of the Ohio.

Special Articles,

BABY HAS GONE TO SCHOOL.

The baby has gone to school; ah, me!
What will the mother do,
With never a call to button or pin,
Or to tie a little shoe?
How can she keep herself busy all day
With the little hindering thing away?

Another basket to fill with lunch,
Another good-by to say,
And the mother stands at the door to see
Her baby march away,
And turns with a sigh, that is half relief,
And half a something akin to grief.

She thinks of a possible future morn,
When the children, one by one,
Will go from their home out in the world
To battle with life alone,
And not even the baby left to cheer
The desolate home of that future year.

She picks up garments here and there,
Thrown down in careless haste,
And tries to think how it would seem
If nothing were displaced,
If the home were always as still as this,
How could she bear the loneliness?

—Selected.

THE LATE ROBERT LITTLE, ESQ.

PUBLIC SCHOOL INSPECTOR, COUNTY OF HALTON.

The subject of this sketch was born at Woolwich, Kent, England, on the 7th February, 1835. His father, Robert Little, was born in the parish of Westruther, Berkshire, Scotland, and died in Esquesing, Halton County on the 2nd September, 1858. His mother, Marion Bell, was born in the parish of Stow, Edinburghshire, and also died in Esquesing in 1861. The elder Mr Little, entered the Royal Foot Artillery in 1823, and served about 22 years, 7 years of which he spent in Canada.

At an early age Mr. Little evinced a taste for books, which was fostered by his teacher, Mr. Henry Martin, who kept a private school at Brompton, which young Little attended for two years prior to removal to Edinburgh. In the latter place he attended the Arthur Street Academy for one year, and afterwards the Lancastrian School for three years. In 1848 the Lancastrian Night School was established in Edinburgh, with three masters and two assistants. Mr. Little was the junior assistant, and was then only thirteen years of age. At this early age, besides attending the

Academy as a student during the day, and occupying the position of a teacher in the night school, he rose at 6 a.m., and walked two miles to Stockbridge, to give lessons in arithmetic to one of the clerks of a merchant there, for which he received half a crown per week. The same sum was paid for his services in the night school.

About the beginning of 1850 he was appointed first of the three assistant teachers in the Sessional School of St. Andrews' Parish, under the supervision of Revs. Drs. Black and Crawford. Here he continued until his removal to Canada with his parents in 1852. Whilst occupying the above situation he attended lectures on Natural Philosophy and Mathematics in the School of Arts, and obtained a diploma for these subjects. He also took lessons in Latin and Greek from Mr. Alex. Mackintosh, a well-known teacher of classics in Edinburgh.

Upon his arrival in Toronto he presented a letter of introduction to Rev. Dr. Barclay, the then minister of St. Andrews' Church, by whom he was introduced to the late Rev. Mr. Gale, principal of Knox College. Through him Mr. Little was introduced to the late Rev. Peter Ferguson, of the Scotch Block, Esquimaux, and was appointed teacher of S. S., No. 5 (now as Waterloo), on the 2nd of August, 1852. He remained here until the close of 1853, when he removed to S. S., No. 1 (Ligny, so named by him as the adjoining section was called Quatre Bras.) He was teacher here for nine years, built up a capital school, and earned a wide reputation for successful teaching. In one class the following well-known gentlemen were his pupils:—Dr. Robertson, ex-M. P. P., Milton; Rev. R. J. Laidlaw, Hamilton; Wm. Laidlaw, Barrister, Toronto; D. McGibbon, Barrister, Milton; and D. Dewar, ex-Reeve, Milton.

He was appointed principal of Acton Public School in 1863, and continued in that position until 1871, in which year he received the unanimous appointment of Inspector of Public Schools for the County. His term as Principal in the Acton school was a most successful one, his excellent tact in imparting instruction to his pupils resulted in the laying of superior foundations upon which to establish the life character. Many of his pupils now occupy prominent positions in the professions and business enterprises at home and abroad.

In addition to the office of County Inspector, he was town Inspector for the Board of Education of Milton and Oakville. Various other important duties were also allotted to him. In 1875 at the nomination of the Chief Superintendent of Education, he was appointed Senior Acting Inspector of Parry Sound and Algoma districts, in which territory he assisted in organizing a perfect and practical school system. In 1880 he compiled the Advanced Geography now in use in the Public Schools. For this excellent work he neither looked for nor received the slightest remuneration, and so modest was his nature that he would not even allow his name to publicly appear in connection with the publication. Last spring he was chosen by the Minister of Education, in conjunction with Messrs. Bryant and Embree to prepare the new series of Ontario School Readers. The work is just about completed, and the public will shortly be permitted to learn how carefully the task has been performed.

Mr. Little's fourteen years inspectorate of Halton County has been attended with most satisfactory results, as shown by the great improvement in the schools, the school buildings and the class of teachers employed. His work has in this, as in every other undertaking, been thoroughly, systematically and efficiently discharged. In the early years of his office, while endeavoring faithfully to perform his duties, and to elevate the standard of the schools under his charge to that laid down by the Education Department, he met with not a little stern and unfriendly opposition on the part of many rural school trustees, but while strict in the discharge of his

duties, his gentle, forbearing disposition won for him the respect of all, and by this he conquered, and to-day his then enemies are among his warmest bereaved friends, and take a just pride in the reformation wrought through his instrumentality.

As an instructor of youth he had few—very few—equals, and those most warmly attached to him were his old pupils. As an Inspector he stood foremost among his fellow inspectors, and was so acknowledged by them. He performed his duties in an admirable manner, and his services in that capacity were always warmly appreciated by the Minister of Education, particularly by the late Dr. Ryerson.

Mr. Little was a life-long and consistent member of the Presbyterian Church. His religion was of a quiet unobtrusive character, and was carried into every detail of every day life. He appeared to possess much of the mind of Christ, and evil thoughts never seemed to occupy his mind.

He was married on the 23rd May, 1864, to Sarah, eldest daughter of the late S. B. Johnson, Esq., who survives him. No children blessed the union.

On Wednesday, 1st April, his overwrought frame succumbed to the constant mental strain imposed upon it, and he left the Education Department, Toronto, on that evening for a few days rest at his home in Acton. It was with much pain and difficulty he reached there. He was immediately confined to his bed, from which he never rose. Typhoid Pneumonia was the cause of his demise, which occurred on Wednesday morning, the 8th inst. The funeral was largely attended by his brother educationists, friends and citizens.

The death of the good man is an irreparable loss to Acton, to the County and to the Province. The vacancy, we feel, cannot be as satisfactorily filled. His influence will live as long as the present generation. *Requiescat in pace.* His sorrowing widow has the heartfelt sympathy of all.

COR

RICHARD GRANT WHITE AS A GRAMMATICAL REFORMER.

In the person of the late Richard Grant White English scholarship has lost one of its most useful promoters if not most brilliant ornaments. Mr. White wielded a facile pen, and was a vigorous, though not an eloquent writer. He is not to be commended as a model of style, but what he had to say was always well said, and was at the same time well worthy of attention on other grounds. He ranks high as a critic, but he will be remembered longest through his essays on the English language. In his opinion that language was an instrument for practical use, not merely an object of admiration. From this point of view he dealt with it, endeavoring to preserve from corruption and decay what is worthy of preservation, and assisting to consign to the limbo of forgetfulness alike useless accretions of modern growth and equally useless survivals of significant archaic forms.

His definition of English as "a grammarless language" is not strictly correct, whatever meaning we assign to the term "grammar," but there are both truth and good sense in the revolt against classical methods which the epithet "grammarless" connotes. Classical grammar is the procrustean bed to which our modern English speech stubbornly refuses to conform, and it will always be the glory of Richard Grant White that he has, more than any other man, vindicated the right of the latter to a treatment suited to its history and idiomatic structure. He was laughed at by the pedants as a fanatic, denounced by the fogies as an iconoclast, dreaded by the timid as a revolutionist, and stung at times to exasperation by a hornet's nest of critics. But the work he had undertaken pro-

gressed; his views commended themselves to the thoughtful, and in a very short time the methods which he so persistently advocated will have completely triumphed.

It would take up too much of our space to explain these methods. We can only advise our readers to procure at once his "Everyday English" and "Words and their Uses"—two volumes which no teacher of English of the present day can dispense with if he wishes to keep in the front rank, unless he is a "Richard Grant White" to himself. These volumes contain many extravagances, and make no pretention to systematic treatment, but they cannot fail to put the teacher in a new point of view where many things that once troubled him will become plain, just as the movements of the heavenly bodies did to Copernicus when he took his stand in imagination in the sun and saw the planets circling around him. In order that we may not mislead, however, it is necessary to explain that Mr. White's admirable and suggestive volumes are not well adapted to assist teachers in "cramming" either themselves or their pupils for either College or Departmental Examinations as these are nowadays conducted.

W. H.

Prize Competition.

ARITHMETICAL PROBLEMS.

FOR FOURTH CLASS.—BY NO. 555.

I. Simplify $\frac{6\frac{1}{2} + 5\frac{1}{2}}{6\frac{1}{2} - 5\frac{1}{2}} \times \frac{6\frac{1}{2}}{3\frac{1}{2}} + 1$ Ans. 19.

Solution. $\frac{6\frac{1}{2} + 5\frac{1}{2}}{6\frac{1}{2} - 5\frac{1}{2}} \times \frac{6\frac{1}{2}}{3\frac{1}{2}} + 1 = \frac{11\frac{7}{2}}{1\frac{7}{2}} \times 2 + 1 = \frac{117}{10} \times \frac{10}{13} \times 2 + 1 = 19.$

2. Divide .008 by $\frac{1}{10000}$, and obtain the result with decimal fractions.

Prove the work by changing the dividend into a vulgar fraction. Ans. 16.

Solution. $.008 \div \frac{1}{10000} = .008 \times 10000 = 80 \div 5 = 16.$
 $.008 \div \frac{1}{10000} = \frac{8}{1000} \times \frac{10000}{1} = 16.$

3. Find the difference between .03 and .03. Ans. .003.

Solution. $.03 - .03 = \frac{3}{10} - \frac{3}{10} = \frac{3}{10} - \frac{3}{10} = \frac{30}{100} - \frac{30}{100} = \frac{0}{100} = .003.$ Ans. .003.

4. How many square feet of lumber will cover a shed 20 feet long, 15 feet wide, and 9 feet high, with a flat roof, deducting a doorway 7 feet high and 3 feet wide? Ans. 909 sq. ft.

Solution. The number of square feet required = the perimeter of the shed, 70 feet \times 9 feet + 20 feet \times 15 feet - 7 feet \times 3 feet = 630 square feet + 300 square feet - 21 square feet = 909 square feet.

5. How many square feet of lumber at \$600 per 1000 sq. ft., will pay for 80 lbs. dry fish at \$3.50 per quintal of 112 lbs.?

Ans. 416 $\frac{2}{3}$ sq. ft.
 Solution. Price of fish = $\frac{\$3.50 \times 80 \text{ lbs.}}{112 \text{ lbs.}} = \frac{1750}{7} = \$2.50.$

Square feet of lumber = $\frac{\$2.50 \times 1000}{600} = \frac{1250}{3} = 416\frac{2}{3}$ sq. ft.

6. A farmer paid for a cow and a sheep with the price of 2 tons 8 cwt. hay at 60 cents per cwt. The cow was valued 7 times as much as the sheep, what was the price of each?

Ans. The price of the cow, 25.20; of the sheep, \$3.60.

Solution. 2 tons 8 cwt. at 60 cents = 48 cwt. \times 60c. = \$28.80.

The price of the cow = $\frac{7}{8}$ of \$28.80 = \$25.20; and
 " " sheep = $\frac{1}{8}$ of \$28.80 = \$3.60.

7. How many cords of wood can be stowed in a room 20 ft. long, 10 ft. wide, and 9 ft. high? Ans. 14 $\frac{1}{8}$ cords.

Solution. $\frac{20 \text{ ft.} \times 10 \text{ ft.} \times 9 \text{ ft.}}{128 \text{ c. ft.}} = \frac{225}{16} = 14\frac{1}{8}$ cords.

8. How many M. of shingles will be required to cover a surface 60 feet long and 30 feet wide, if the bundles be 20 inches wide, and contain 25 double layers; and if the shingles be laid on the surface 4 inches apart? Ans. 16 $\frac{1}{2}$ M.

Solution—

1 bun. shingles = 1 layer of 20 in. \times 25 \times 2 = 1000 in. = 83 $\frac{1}{3}$ ft.
 Layer in 60 ft. by 30 ft. = 60 ft. \times 30 \times 2 = 5400 ft.

No. of M. required = $\frac{5400 \text{ ft.}}{83\frac{1}{3} \text{ ft.}} \div 4 \text{ bun.} = 54\frac{2}{3} \div 4 = 16\frac{1}{2}$ M.

9. How many miles will a ploughman travel in ploughing a field 500 ft. long, and 300 ft. wide,—the furrows being 15 inches wide? Ans. 22 $\frac{1}{4}$ miles.

Solution. Number of miles travelled
 = $\left(\frac{500 \text{ ft.} \times 300 \text{ ft.} \times 12 \text{ in.}}{15 \text{ in.}} \right) \div 5280 \text{ ft.}$
 = $\frac{1800000}{5280} = 22\frac{1}{4}$ miles.

10. How many square feet are there in an inch board 20 ft. long, 18 in. wide in one end, and 16 $\frac{1}{2}$ in. in the other? Ans. 28 $\frac{3}{4}$ sq. ft.

Solution. Number of sq. ft. in the board
 = $\frac{18 \text{ in.} + 16\frac{1}{2} \text{ in.}}{2} \times 20 \text{ ft.} \div 12 \text{ in.}$
 = $\frac{17\frac{1}{2} \text{ in.} \times 20 \text{ ft.}}{12 \text{ in.}} = 28\frac{3}{4}$ sq. ft.

11. How many square ft. (in. board measure) are there in a plank 18 feet long, 9 $\frac{1}{2}$ in. wide in one end, 8 $\frac{1}{2}$ in. wide in the other end, and 2 $\frac{1}{2}$ in. thick? Ans. 33 $\frac{3}{4}$ sq. ft.

Solution. Number of sq. ft. in the plank
 = $\frac{9\frac{1}{2} \text{ in.} + 8\frac{1}{2} \text{ in.}}{2} \times 18 \text{ ft.} \times 2\frac{1}{2} \text{ in.} \div 12 \text{ in.}$
 = $\frac{9 \text{ in.} \times 18 \text{ ft.} \times 2\frac{1}{2} \text{ in.}}{12 \text{ in.}} = 33\frac{3}{4}$ sq. ft.

12. Which is greater .0025 of a mile, or .79 of a rod?

Solution. .0025 m. \times 8 fur. \times 40 p. = .80 of a rod; \therefore .0025 of a mile is greater. Ans. .0025 of a mile

13. Reduce 7 ft. 6 in. to the fraction of a mile. Ans. $\frac{7}{16}$ of a m.

Solution. $\frac{7\frac{1}{2} \text{ ft.}}{5280 \text{ ft.}} = \frac{15}{10560} = \frac{3}{2112} = \frac{1}{704}$ of a m.

14. What will \$40.60 amount to in 2 $\frac{3}{4}$ years at 3 $\frac{1}{2}$ % per six months? Ans. \$48.41 $\frac{1}{2}$.

Solution. Amount = $\$40.60 + \frac{\$40.60 \times 3\frac{1}{2}\% \times 2\frac{3}{4} \text{ y.} \times 2}{100}$
 = $2 \times \frac{3}{4} \times \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times \$40.60 = \$1.5231 + \40.60
 = $\$7.8116 + \$40.60 = \$48.41\frac{1}{2}.$

15. Show that $\frac{1}{2}$ of $\frac{1}{3}$ of $\frac{1}{4}$ of a ton is equal to $\frac{1}{24}$ of $\frac{1}{2}$ of a cwt. Solution. $\frac{1}{2}$ of $\frac{1}{3}$ of $\frac{1}{4}$ of a ton = $\frac{1}{24}$ of a ton = $\frac{1}{24} \times 20 = \frac{5}{6}$ of a cwt. and $\frac{1}{2}$ of $\frac{1}{2}$ of $\frac{1}{2}$ of a cwt. = $\frac{1}{4}$ of a cwt.

16. If 50 bbls. flour be purchased at \$5.50 per bbl., and sold for \$300.00, what will be the gain of 1 lb. of flour? Ans. $\frac{2}{3}$ c.

Solution. Gain on 1 bbl. flour = $\frac{\$300.00}{50} = \$5.50 = \$5.$
 \therefore " 1 lb. " = $\frac{\$5}{196 \text{ lbs.}} = \frac{5}{196}$ c.

17. Divide $\frac{1}{2}$ of the product of $\frac{1}{3}$ and $\frac{2}{3}$ and $\frac{5}{8} - \frac{2}{3}$ by $\frac{1}{2}$ of the difference between .7 and .5.

Solution. $\frac{\frac{1}{2} \text{ of } (\frac{1}{3} \times \frac{2}{3}) \times (\frac{5}{8} - \frac{2}{3})}{\frac{1}{2} \text{ of } (.7 - .5)} = \frac{\frac{1}{2} \text{ of } \frac{2}{9} \times \frac{1}{24}}{\frac{1}{2} \text{ of } \frac{2}{10}} = \frac{\frac{1}{2} \times \frac{2}{9} \times \frac{1}{24}}{\frac{1}{2} \times \frac{2}{10}} = \frac{1}{36} \div \frac{1}{10} = \frac{10}{36} = \frac{5}{18}$

18. A man who walked 120 miles in 4 $\frac{1}{2}$ days at 12 hours per day, travelled how many feet on an average per minute? Ans. 195 $\frac{1}{2}$ ft.

Solution. No. of feet = $\frac{120 \text{ m.} \times 5280 \text{ ft.}}{4\frac{1}{2} \text{ d.} \times 12 \text{ h.} \times 60 \text{ m.}} = \frac{633600}{270} = 2347$

19. If a man can do a job of work in 4 days, and a boy can do $\frac{1}{10}$ as much in $\frac{1}{2}$ of the time, in what time can they do it working together? Ans. 3 $\frac{1}{2}$ days.

Solution. The man can do $\frac{1}{4}$ = $\frac{5}{20}$ in 1 day;
 and the boy " $\frac{1}{10}$ of $\frac{1}{2}$ = $\frac{1}{20}$ " "
 and they " $\frac{6}{20}$ " "
 \therefore " " the whole or $\frac{20}{6}$ in $2\frac{2}{3}$ = 3 $\frac{1}{2}$ days.

20. If 2 men can dig a hole 6 feet long, 3 feet wide, and 8 feet deep in three days, in what time can 3 men dig a hole 5 feet long, 4 feet wide and 9 feet deep? Ans. 2 $\frac{1}{2}$ days.

Solution.—
 Time required by 2 men to dig 6 \times 3 \times 8 ft. = 144c. ft. = 3 days.
 \therefore " 2 men " 5 \times 4 \times 9 ft. = $\frac{180 \text{ c. ft.} \times 3 \text{ d.}}{14 \times 4} = 3\frac{3}{4}$ dys.
 \therefore " 1 man = $2 \times 3\frac{3}{4} = 7\frac{1}{2}$ days.
 \therefore " 3 men = $7\frac{1}{2} \div 3 = 2\frac{1}{2}$ days.

21. Find the number which multiplied by itself will give $\frac{1}{4}$ of the difference between 10 dozen, and 2 dozen minus 2. Ans. 7.

Solution. $\frac{10 \times 12 - (2 \times 12 - 2)}{2} = 49$; and $7 \times 7 = 49$;

\therefore 7 is the number required.

22. If \$2.50 be gained on cloth sold at \$22.50; what would be the gain per cent? Ans. $12\frac{1}{2}\%$.

Solution. The gain per cent. $= \frac{\$2.50 \times 100}{\$22.50 - \$2.50} = \frac{25000}{20000} = 12\frac{1}{2}\%$.

23. If a boy in running a race can beat a second boy 20 feet in 50 yards, how often would the first boy go around a course 1000 feet in circumference in the time the second boy would go 10 times? Ans. $11\frac{1}{2}$ times.

Solution. In 1000 feet, the first boy would beat the second by $\frac{1000 \times 20 \text{ ft.}}{50 \text{ yd.} \times 3} = 133\frac{1}{3} \text{ ft.}$; and 10 times going around, $10 \times 133\frac{1}{3} \text{ ft.} = 1333\frac{1}{3} \text{ ft.}$ \therefore while the second boy would go around 10 times, the first boy would go $10 \times \frac{1333\frac{1}{3}}{1000} = 13\frac{1}{3}$ times.

24. If 50 yds of cloth be purchased at \$1.15 per yd., which will yield the greater profit, the sale of the whole at 30% more than the first cost; or the sale of $\frac{2}{3}$ of the cloth at 55% (profit) and the remainder at first cost? Ans. The second way of selling.

Solution. First cost of cloth = \$1.15 \times 50 yds. = \$57.50.
Profit on first way of selling = \$57.50 \times 30 \div 100 = \$17.25.
Profit on second " = $\frac{2}{3}$ of \$57.50 \times 55 \div 100 = \$21.08.

\therefore the second way of selling yields \$1.72 $\frac{1}{2}$ more profit.

25. I paid \$25.00 for carpeting at \$1.25 per sq. yard. If the length of the floor for which the carpet was intended, was 15 feet, what was its width? Ans. 12 feet.

Solution. No. of yds. of carpeting purchased = $\frac{\$25.00}{\$1.25} = 20 \text{ qd. yds.}$

Width of the floor = 20 sq. yds. \times 9 sq. ft. + 15 feet = 12 feet.

26. How many square feet, inch board measure, are there in a board 27 feet long, 12 inches wide and 2 inches thick at one end, and 6 inches wide and 1 inch thick at the other end?

Ans. $19\frac{1}{2}$ sq. feet.
1st solution. No. of square feet in the board = $\frac{17 \text{ ft.} \times 12 \text{ in.} \times 2 \text{ in.} + 6 \text{ in.} \times 1 \text{ in.} + \sqrt{(12 \text{ in.} \times 2 \text{ in.} \times 6 \text{ in.} \times 1 \text{ in.})}}{2} \div 3 \times 12 \text{ in.} = 17 \text{ ft.} \times (24 \text{ sq. in.} \times 6 \text{ sq. in.} \times 12 \text{ sq. in.}) \div 36 = 17 \text{ ft.} \times 42 \text{ sq. in.} = 19\frac{1}{2} \text{ sq. ft.}$

2nd solution. No. of square feet in the board = $\frac{27 \text{ ft.} \times (12 \text{ in.} \times 6 \text{ in.}) + 2 \cdot 17 \text{ ft.} \times 6 \text{ in.} + 12 \text{ in.} \times 2 + 12 \text{ in.} \times 2}{12 \frac{1}{2} + 4 \frac{1}{2} + 2 \frac{1}{2}} = 19\frac{1}{2} \text{ sq. ft.}$

27. Out of one square mile of land a farmer sold to A a lot 50 rods long, and 20 rods wide, and to B a lot 200 yards long, and 484 feet wide; what fraction of the whole had he left? Ans. $\frac{1536}{640}$.

Solution $640 \text{ ac} - \left(\frac{50 \text{ rd.} \times 20 \text{ rd.}}{160 \text{ sq. rd.}} + \frac{200 \text{ yds.} \times 3 \text{ ft.} \times 484 \text{ ft.}}{4 \text{ r.} \times 40 \text{ r.} \times 30 \frac{1}{2} \text{ yd.} \cdot 9 \text{ ft.}} \right) = 640 \text{ ac.} - (6 \frac{1}{2} \text{ ac.} + 640 \text{ ac.} - 12 \frac{1}{2} \text{ ac.}) = 627 \frac{1}{2} \text{ ac.} = \frac{7525}{1505} = \frac{1536}{640}$
 \therefore the fraction of the whole = $\frac{627 \frac{1}{2}}{640} = \frac{1536}{640}$

28. If 7 lbs. of flour are worth 10 lbs. of herring; how much are 10 bbls. of herring worth, if the price of flour is \$5.60 per bbl.? Ans. \$40

Solution. The price of 7 bbls. = \$5.60 \times 7 lbs. \div 196 lbs. = 20 cts. \therefore 10 bbls. herring = 20c. \times 200 lbs. \times 10 bbls. + 10 lbs. = \$40.

29. Which is the better investment, to buy 500 bbls. of flour, at \$5.50 per bbl., and sell it at \$5.70 during a period of 6 months, or lend the money during that time at 7% interest? Ans. The former is better by \$3.75.

Solution. Cost of flour = \$5.50 \times 500 bbls. = \$2,750.
Gain on flour = (\$5.70 - \$5.50) \times 500 bbls. = \$100.
Inter. at on \$2,750 = $\frac{\$2,750 \times 7}{100 \times 2} = \96.25 .
 \therefore The former is better by \$3.75.

30. In how many days will \$500 amount to \$525 at 6%? Ans. $304\frac{1}{2}$ days.

Solution.—
Inter. at on \$500 for 365 days at 6% = \$500 \times 6 + 100 = \$30.
No. of d'ys req'd. = $(\$525 - \$500) \times 365 \text{ d.} \div \$30 = \frac{\$25 \times 365 \text{ d.}}{\$30} = 304\frac{1}{2} \text{ d.}$

31. Simplify. $\frac{36}{11} \times \frac{4}{5}$ of $\frac{1}{12} - \frac{1}{12}$ Ans. 2.

Sol. Express. = $\frac{36}{11} \times \frac{4}{5} \times \frac{1}{12} \times \frac{1}{12} - \frac{1}{12} = \frac{36}{11} \times \frac{4}{5} \times \frac{1}{144} - \frac{1}{12} = \frac{36}{11} \times \frac{1}{90} - \frac{1}{12} = \frac{2}{11} - \frac{1}{12} = \frac{24}{132} - \frac{11}{132} = \frac{13}{132}$

32. If $\frac{1}{6}$ of a ton of hay cost \$8.40, what will $\frac{1}{3}$ of a cwt. cost? Solution. Cost of 1 cwt. = (\$8.40 \times 9) \div 6 \times 20 = \$63. Ans. \$49.
and " $\frac{1}{3}$ " = $\frac{\$63 \times 7}{9} = \49 .

33. Out of a cask of molasses I sold to A $\frac{1}{4}$ of the whole, to B $\frac{1}{3}$, to C $\frac{1}{5}$, and to D the remainder, 30 gallons; how many gallons did the cask contain? Ans. 70 gallons.

Solution. The whole = $\frac{1}{4} \times \frac{1}{3} \times 30 \text{ gals.} = \frac{1}{4} \times \frac{1}{3} \times 30 \times 30 \text{ gals.} = \frac{1}{4} \times 30 \text{ gals.} = 7\frac{1}{2} - \frac{1}{4} = \frac{29}{4}$; and the whole, $= \frac{29}{4} \times 2 = 70 \text{ gals.}$

34. If a perpendicular stick 6 feet high casts a shadow 10 feet long; how high is a tree that casts a shadow 80 feet? Ans. 48 feet.
Solution. Height of tree = 6 feet \times 80 feet \div 10 feet = 48 feet.

35. Reduce 468752 to a common fraction in its lowest terms. Ans. $\frac{468752}{1000000}$

Solution. $468752 = \frac{468752}{100} = \frac{468706}{999900} = \frac{234353}{499950}$

36. How many square yards are there in a path six feet wide, surrounding a garden 150 feet long and 100 feet wide? Ans. 349 $\frac{1}{2}$ square yards.

Sol. No. of sq. yds. in the path = (150 ft. \times 2 \times 100 ft. \times 2 \times 6 ft. \times 4) \div 6 ft. \div 9 sq. ft. = (300 ft. \times 200 ft. \times 24 ft. \div 54) \div 9 sq. ft. = $\frac{524 \text{ ft.} \times 6 \text{ ft.}}{9 \text{ sq. ft.}} = 349\frac{1}{2} \text{ sq. yds.}$



37. A cask can be filled by a pipe in $2\frac{1}{2}$ hours, and emptied by another in $3\frac{1}{2}$ hours; in what time can the cask be filled if both pipes are kept running at the same time? Ans. $8\frac{2}{3}$ hours.

Solution. The first pipe can fill $\frac{1}{2\frac{1}{2}} = \frac{2}{5}$ in 1 hour.
The second pipe can empty $\frac{1}{3\frac{1}{2}} = \frac{2}{7}$ in 1 hour.
 \therefore the part of the cask filled = $\frac{2}{5} - \frac{2}{7} = \frac{4}{35}$ in one hour.
and the cask can be filled in $\frac{35}{4} = 8\frac{2}{3}$ hours.

38. How many square feet of boards will enclose a field 30 rods by 40 rods, if the boards be 9 inches wide, and the fence four boards high, and what is the price of the lumber at \$6.50 per 1000 feet? Ans. Number of square feet required, 6,930 square feet, and the price, \$45,045.

Solution.—
Perimeter of the field in length = 30rd. \times 40rd \times 2 \times 16 $\frac{1}{2}$ ft. = 2310 ft.
No. of sq. feet required = 2,310 ft. \times 4 \times 9 in. \div 12 in. = 6,930 sq. ft.
Price of the lumber = 6,930 sq. ft. \times \$6.50 \div 1,000 sq. ft. = \$45,045.

39. If I sell goods at $\frac{2}{3}$ of the first cost, and thereby loss $\frac{1}{3}$ of an English sovereign, what is the first cost of the goods? Ans. \$25.55.

Solution.—
The first cost of the goods = \$4.86 \times $\frac{3}{2}$ \times $\frac{1}{3}$ = $1.215 \times \frac{3}{2} = \25.55 .

40. If 500 yards of cotton be sold for \$57.50, and thereby 15% be gained on the whole; what would be the first cost of the cotton per yard? Ans. 10 cents.
Solution. The first cost of the cotton per yard. $\frac{\$57.50 \times 100}{115 \times 500 \text{ yds}} = 5 = 10 \text{ cents.}$

An English examiner writes to the *Pall Mall Gazette*:
I can vouch for the *bona-fides* of the following, which I have met with during the last two or three years as examiner in the Cambridge Local Examinations: "Pitt was a great statesman, Fox was a ditto, ditto; he wrote a very good book of martyrs. Pitt and Fox both died a month after each other." 2. "The Gordian knot was a very difficult knot which Nero tied, and by means of which he kept the Empire of Rome in subjection."

Here is a specimen of Japanese English borrowed from Mr. Fauld's "Nine years in Nippon":—"Notice. Shoe manufacturer Design at any choice. The undersigned being engaged long and succeeded with their capacity at shoe factory of Isekats in Tokio; it is now established in my liability at undermentioned lot all furnishment will be attended in moderate term with good quality. An order is acceptable in receive a post, being called upon the measure and it will be forwarded in furnish. U. Inoyu." This will serve as an exercise to be explained and paraphrased.

Practical Department.

MODEL GEOGRAPHY LESSON—TEXAS, U. S.

BY AN OSWEGO GRADUATE.

A. GENERAL PLAN.

1. Name and important history.
2. Boundaries.
3. Coast line (bays and capes, &c.)
4. Draw it.
5. Mould it in sand.
6. Develop surface from moulding.
 - (a.) Direction of slope.
 - (b.) Mountains.
 - (c.) Rivers.
7. Soil.
8. Climate.
9. Productions.
10. Occupations.
11. Cities.
 - (a.) Metropolis.
 - (b.) Capital.
 - (c.) Historical or oldest city.

B. METHOD.

Have children find state on wall map. Give name and most interesting facts of its history. Give little sketch of General Scott; mention Taylor, &c.

Compare size of Texas with New England States, Middle States, their own State, &c.

Boundary.—

Have boundaries given by one child from wall map.

Drill as follows:—(a) One child point, class name boundary; (b) child name State, class tell which boundary; (c) group bound; (d) individual shut eyes and bound; (e) class shut eyes and bound.

Children draw rapidly out-line of State from wall map, using no construction lines.

Teacher point and trace parts of the wall map; children point and trace same on their maps.

Moulding.—

Teacher or children mould state; children find mountains on wall map, and have them placed on the moulding.

Reason by analogy that there is lowland next the Gulf of Mexico, (Florida, Mississippi, Louisiana, &c., having been taught previously.) Represent it so on moulding.

Teacher supplement the knowledge of the pupils with regard to the surface, and have the three kinds distinctly shown.

If teacher moulds, children observe, and teacher question while doing so; as, "What coast am I moulding now? What State touches this part?" &c. When finished have two or three come to the moulding board, and tell all about surface, which they see represented.

Give the terms "prairie" and "staked plain"; also reason for so calling. (Indians put in stakes to show routes.)

Drill in surface as follows:—

- (a.) One child find lowland on map.
- (b.) " " " " " moulding.
- (c.) " " " prairie on map.
- (d.) " " " " " moulding.

Same with other parts.

(e) Children find and trace on map the three kinds of surface. Similar on moulding.

Collect matter by having one child state all.

Have Guadalupe mountains described from map and moulding. Children determine the direction and length of rivers from the slope.

Have the Rio Grande, Red, Sabine, Colorado, found on map, and placed on moulding by children or teacher (with red zephyr.)

While this work is being done, show pictures of the Rio Grande or other rivers. (From illustrated American or other source.)

Have the mountains and rivers placed in the drawings.

Drill by having individuals describe from map, moulding, eyes shut, &c.

Model description of a river.—The Red River rises in the north western part of Texas, flows through part of Texas, then partly

through Indian Territory and Texas, Arkansas and Texas, through south-west corner of Arkansas, through part of Louisiana into the Mississippi River. Its general direction is south-east.

Drill similar to former drills.

Soil.—

Have children determine the kind of soil in swampy regions, by referring to their knowledge of Louisiana, Alabama, &c. Tell children about the rest of the soil, or suggest it by naming something which grows there, and about which they know the kind of soil required—as "wheat" for prairie; "cactus," for staked plain.

Climate.—

Develop climate of swampy part by their knowledge of climate in similar part of Lake, Channel, state that it is warm, moist, and healthful. Have them infer that the prairies are not so moist (reason), children will state that the climate is warm and healthful. Tell them about the dry, hot climate of the Plain.

Drill by having children find on moulding and map all the part that is healthful—all that is moist,—very moist,—dry, &c. Teacher point to part, children tell climate.

Ask such questions as these for collecting matter. "In what direction must you travel to find the climate growing more moist? to find it drier? to find it unhealthy?" &c.

Have one child state all.

Productions.—

Have children state that the swampy region of Texas is like that of Louisiana, hence he would expect to find the same productions. Children name them. As they are named teacher place, or have another child place the articles (all if possible) on the part of moulding which represents that region. Show pictures of this region, and have the trees, sugar-cane, &c., described from picture.

Develop, from their knowledge of the soil and climate, the productions of the prairies.

Find out about the animals, if possible, from the children who have relatives engaged in the cattle business, or who own, or know of Texan ponies.

Have these productions placed on the moulding. (Teacher should be prepared with small mounted pictures of animals.)

Develop productions of staked Plains from children's knowledge of home plants which require very dry soil. Have pictures of cactus, aloe, century plant, and place on moulding.

Show pictures of all these productions, and have them described by children.

Tell interesting facts about them, such as the using of the cactus for defense; the process of making sugar, of picking and preparing cotton, of curing tobacco, of catching and keeping the animals, of preparing hides, &c.

Occupations.

Develop altogether from productions.

Have the following named:—Stockraising—principal, agriculture, commerce:—What they send away; what they buy; ways for commerce.

Cities.—

Teacher obtain that laws are made to govern people and that there must be a place in which to make them.

Tell children, or have them infer, that the greater population is in the central and South-East part.

Develop that the capital should be centrally located as regards the people. Reason given.

Have children find capitals on wall maps, and locate it by a white star on moulding. Describe situation.

Develop, that Texas must have a city for commerce, and a good situation for it. Reasons given. Locate on moulding by a circle. Describe.

Tell children to find San Antonio. Locate it on moulding. Describe. Tell story about the fort there. Build fort with blocks (cubes). Have children draw fort from picture of it.

The new matter must all be written on the blackboard under appropriate headings, as bays, mountains, rivers, occupations, &c.

Use pictures and drawings in every place possible, as it impresses the facts.

C. SUMMARY.

Rapid review of matter taught. Drill in many ways.

THE SECOND LESSON.

(Continued from last week.)

GENERAL EXERCISE.

The next day, in the morning, before school begins, quite a number of the children come in when the first bell rings, pass to their seats, take out their slates, and begin to make the picture of the fox drawn by the teacher the day before.

The first bit of Busy-Work given the classes, is to copy the list of words,—nose, animal, eye, ears, tail, coat, fur, red, black, fox, hunt, eat, farmer, house, barn, hens, chickens, turkeys, ducks, geese,—now rewritten in beautiful chirography. In the afternoon, about midway in the session, just after a motion song, the teacher inquires,

"Who wants to tell us the Fox Story? Arthur, we will listen to you, and see how many of my words you put in; I will mark them." So Arthur begins.

"Once there was a fox (the teacher puts a cross beside the word fox in the list), "and he stole things," went on Arthur, "cause he didn't know any better."

"I should say *because* he didn't know any better," significantly emphasizing the corrected word.

"And the farmer lived in a house, and had a barn, and kept lots of ducks, and geese, and hens, and turkeys, and chickens;" and down he sits.

"That's pretty well," comments the teacher; "but I'd like to hear more about the fox. Bessie."

"A fox has a long nose, and sharp eyes, and two ears, and one tail, and some fur," announces the little girl, and then stops.

"Did I tell you about anything else?" interrogates the teacher suggestively.

"Oh, yes!—a farmer, and a house and barn, and some hens and chickens;" and that is the end of *her* story.

"Who can tell me anything they left out?" is the teacher's next demand. Nearly all the hands are up. "Robbie,"

"They didn't say the fox was an animal."

"So they didn't. Stevie."

"You said the fox's coat wasn't made like mine or Minnie's."

"Didn't you mean to be a polite little boy, and speak of Minnie's *before* you did your own?"

"Yes'm; you said the fox's coat wasn't made like Minnie's or mine."

"You may say Minnie's *nor* mine, next time," corrects the teacher. "Ella, what have you to say?"

"The fox was so old he couldn't hunt any more, and get things to eat."

"Certainly I said so. Luke."

"There was a hen-house and yard, where the ducks, and turkeys, and geese stayed.

"That's nice; come and show me where they are, on the board."* He does so. "Everybody be ready to tell me quickly something about the first word. Mary."

"I have a nose."

"The second, Alice."

"The fox is an animal."

"I've heard that before this afternoon; tell me something new. Phil."

"I have an animal."

"Have you? What is it?"

"A dog."

"Good! What about this word, Bello?"

"The fox has sharp eyes."

"The next, Millie?"

"Ears are good to hear with."

"Yes, and I'm glad I hear that. The fifth word, Frank."

"The fox has a pretty tail."

"Did you ever see one?"

"No, but I saw a picture of one, onco."

"Go on, Fannie."

"My father wears a coat trimmed with fur."

"Just see! she took my next word away from me. Tell me something about the eighth, Herman."

"Red and black are colors."

"There go two words again; what shall I do?" in a tone of mock despair. "Ida won't treat me so—will you?" But Ida, trying very hard to look unconscious of her brilliancy, makes the following announcement:

"The farmer hunts the fox to eat him." This is news, and the teacher cannot entirely control either voice or face as she answers,

"Not quite: we don't eat foxes, my dear child; but that was a good sentence. Who wants the next word? Louise."

"The hens, and chickens, and turkeys, and geese, and ducks, lived in a house back of the barn."

"Well! well! what smart children I have! They take my words all away from me, and now I haven't one left. I shall have to tell you something now about the farmer and the fox to-morrow, and get some more words. Now we will go to work again."—*Quincy Methods.*

CONDENSED DIRECTIONS FOR TEACHING READING.

BY JOHN SWETT.

1. Teach beginners by a combination of the word method, alphabet method and phonic method.
2. Make use of the blackboard, the chart, and the primer or first reader.
3. Lessons for beginners should not exceed ten minutes in length.
4. Train pupils to read in a clear, distinct, natural tone.
5. Train them to stand erect.
6. Train them to hold the book in the left hand.
7. Train them to open the mouth freely in reading.
8. Avoid too much drilling on old lessons.
9. Train pupils to think about what they read, by questioning them about every lesson.
10. Read the lesson properly yourself, and let the pupils imitate your reading.
11. Take concert exercises occasionally to wake up the class, to bring out the voices of timid pupils and to secure correct pronunciation.
12. Drill in concert on the vowel-sounds.
13. Require pupils to copy on their slates the whole or part of each reading lesson. Continue this in all grades.
14. Require them to close the book and tell from memory, in their own language, any short stories in the reader.
15. Require them occasionally to write out on their slates a reading lesson from memory.
16. Make up an occasional reading match by choosing sides, require every pupil that makes a mistake to be seated.
17. Explain the meaning of every difficult or unusual word.
18. Call the attention of pupils to the capital letters and the punctuation marks in copying their reading lessons.
19. In the primary classes teach the pupils the dictionary notation of the long and short sounds of all the vowels; and in the

*The Picture drawn by the teacher, is also left upon the blackboard.

grammar grades teach by blackboard drill the entire notation of Webster's Dictionary (or Worcester's, if that is the school dictionary in use.)

20. Give special attention to the sounds of *a* that children are apt to give incorrectly.

21. Give concert exercises to illustrate the different inflections.

22. Train pupils to the habit of referring to the dictionary for definitions and pronunciation.

23. In all grades above the primary combine, as far as practicable, language lessons, grammar, and composition with the reading lessons, by selecting the parts of speech, parsing with brief forms, analyzing sentences, briefly explaining punctuation and the use of capitals, and by writing abstracts.

24. Train all grades of classes in the following points of vocal culture:—(a.) Exact position. (b.) Breathing exercises. (c.) Vowel sound. (d.) Open mouth. (e.) Articulation. (f.) Pronunciation.

25. In order to vary the monotony of the school readers, occasionally select a good story book—like Robinson Crusoe—and require each pupil to read a paragraph, or page, while the others listen. Require the pupils to bring in a newspaper, and read telegrams, advertisements, &c.—*N. E. Journal of Education.*

LESSON IN FRACTIONS.

The teacher hands to each pupil a piece of white paper, all the pieces of uniform size.

T. Fold your papers into halves. Open your papers and fold them into thirds. Crease well. Open your papers. What do you see?

P. I see that three-sixths make one-half of a whole thing.

2d P. I see that two-sixths make one-thirds of a whole thing.

3d P. I see that four-sixths make two-thirds of a whole thing.

Each pupil, while answering, has illustrated his statement by pointing to the proper divisions, as shown on his piece of paper.

T. Fold your paper into fourths. Unfold them. What do you see?

Frank. I see twelve equal parts of a whole thing.

T. What do you call one of those parts?

Frank. A twelfth.

John. I see that six-twelfths make one-half of a whole thing.

Jennie. I see that four-twelfths make one-third of a whole thing.

Mary. I see that three-twelfths make one-fourth of a whole thing.

T. Can you see nothing else?

Frank. Oh, yes! I see that two-twelfths make one-sixth, and that six of these sixths make a whole thing.

T. You have all done well. Now, I am going to ask you a hard question. Tell me how many whole things, or parts of whole things, one-half, one-third and one-fourth will make. Find out by looking at your papers. When you have found an answer write it on a piece of paper and hand it to me.

All are busily engaged for some time. At last all have handed in their answers.

T. John says thirteen-twelfths, and all the rest say thirteen-twelfths. How many can show me from their papers whether this answer is correct or not? [All hands go up.] Frank may try.

Frank, rising with paper in hand, says, (pointing to the half of his paper, as indicated by a crease), in one-half are six twelfths, and, (pointing to one-fourth of his paper), in one-fourth there are three-twelfths, and, (pointing to one-third of his paper), in one-

third there are four-twelfths. I have six-twelfths, three-twelfths, and four-twelfths, which together make thirteen-twelfths. That takes all the twelfths on my paper, and one from Bob's paper.

The above lesson was for a class that had been "through fractions," (1) but who could not see the *real things*. Query.—Are there any pupils in the land who can say $\frac{1}{2} + \frac{1}{4} + \frac{1}{4} = \frac{1}{2} + \frac{1}{2} + \frac{1}{2} = 1\frac{1}{2}$ or $1\frac{1}{2}$, but who can not for their lives illustrate the same by means of objects?—*N. Y. School Journal.*

HINTS FOR TEACHERS.

How do you spend your time out of the school room? Do you make any preparation for your work of the next day? Do you ever try to study out a plan for improving your school? Do you ever talk with parents and explain to them the nature and importance of your work? Do you engage in conversation with those who can inform you? Do you ever read anything substantial? Do you ever think about what you have read? Do you ever do anything that will make you better, and enable you to teach a better school? If, after reading these questions, you are compelled to answer them all in the negative, you had better quit teaching.

A great many teachers have no programmes. They manage to teach in a sort of slipshod fashion and get along somehow, but a visitor can learn nothing of the day's work unless he stays to see the whole programme carried out. Few can do this. Teachers do not be afraid to put your programme where it can be seen and read. A good programme is better than a recommendation from a board of directors. This tells what they believe you can do, but that shows what you have done, are now doing, and what you intend to do.

Do much less parsing and require many more written recitations. Have the pupil occupy the entire time of the recitation in History in writing his lesson; and then use the time for the Grammar recitation in correcting the mistakes made in writing the history. Such time is well spent. Do not tell the pupils that the next lesson will be written. Let them be prepared to recite orally, and then require the lesson to be recited on slates or paper, without questions. Let them tell what they have learned.

The teacher should especially guard against having such a rush of work come to a focus at the hour of closing that the school must be dismissed in confusion, some pupils with their work half done, others restless and confused, going out without regard to order or quiet. Better call all work to a close a few minutes before the time for dismissal, and have all pass out quietly and in order.—*Our County and Village Schools.*

Three things are essential to good teaching: (1) a knowledge of the scholars; (2) a knowledge of the thing to be taught; and (3) a knowledge of a good method of teaching. No teacher can do best work who has not all three of these requisites. He must know the child. This includes a correct estimate of his capacity, of his degree of advancement, and of his disposition. He must know the subject to be taught. This includes a knowledge of the topic itself, of its relation to other subjects, and of its importance. He must have in mind, ready at hand, and familiar in all its details, before beginning, the entire method of unfolding the topic,—of presenting it to the child's mind; in other words, of causing the child to comprehend the subject. His work must be planned beforehand in the same manner as the architect plans to build a house.—*N. E. Journal of Education.*

Educational Notes and News.

There are at present 120 pupils attending the Oshawa High School. This is the largest number that ever attended at one time.

The pupils of the Midhurst Public School presented their teacher, Mr. George E. Sneath, with a silver cake basket and other handsome presents a few days ago — *Shelburne Free Press*.

Mr. S. Armour, of Bobcaygeon, has been appointed teacher of the Junior Fourth Class, in the Lindsay Public School, in the place of Mr. G. A. Irwin, resigned.

In the Departmental Examinations in Ontario last year, 5,128 candidates wrote for intermediate, third and second class non-professional certificates, and of these 1,521 failed.

The total amount paid in salaries to High School teachers in Ontario last year, was \$266,316, being an increase of \$13,009 on the previous year.

S. N. Young, from Ridgeway, has been engaged to teach the public school in Dutton at a salary of \$500 per year. Mr. Young has been one of the teachers in the High School, Ridgeway. — *Dutton Enterprise*.

Miss Aggie Fitzgerald, teacher of Union School of Aldborough and Danwich, was taken seriously ill last week, and has gone home to St. Thomas for medical treatment. The school will be closed for the present. — *Dutton Enterprise*.

According to the last report of the Minister of Education for Ontario there are in the First Reading Class of the Public Schools 164,035 pupils; Second, 106,482; Third, 113,980; Fourth, 70,104; Fifth, 8,917; Sixth, 849.

The number of pupils attending the Model Schools of Ontario, during the last school year, was 1,117—increase, 232; males, 421; females, 696; withdrew during term, 15; passed, 1,017—increase, 154; failed, 85.

The income of Girard College, Philadelphia, for 1884 was \$950,000. Its real estate alone is valued at \$7,346,000, apart from that occupied by the college buildings. The collieries of the college produced 1,400,000 tons last year.

Of the three young ladies from Flinton who obtained certificates as teachers last winter, two of them, Miss Bryden and Miss Lessard, are engaged to teach No. 1 and No. 10 schools. Miss Hasler remains under the instruction of our present efficient teacher Mr. Irvine. — *Napanee Standard*.

There are sixty-two teachers' associations in Ontario, with a membership of 4,821—increase, 434, a total income of \$10,373, and an expenditure of \$5,871, leaving a balance on hand of \$4,502. The Government grant to these was \$4,025—increase, \$1,125, and municipal grant, \$435—increase, \$135, members fees, \$792—decrease, \$296.

A proposition to disfranchise the Univer... was recently voted down in the Imperial Parliament, but an English paper thinks it not improbable that this will not be the last of the proposal. "The Democracy is," it thinks, "likely to ask by-and-bye why a man who has taken a degree should have two votes, when everybody else is obliged to content himself with one."

A meeting has been held in Philadelphia in the interests of industrial education among the coloured people. It is proposed to raise \$30,000 for an educational establishment. The *National Baptist* says:—"It is a strange thing, if a coloured man wants to study Latin, Greek, Hebrew, Astronomy, Metaphysics, Theology, he has the best facilities which the world affords, and perhaps has all free, but if he wants to learn how to make a boot there is no opening."

The Thorold Public School Board has been setting a good example in decorating the walls of the school rooms with steel engravings of a high order. A tastefully decorated school room is an important educational influence. Fifteen pupils of the Thorold schools passed the last Entrance Examination, a fact which speaks well for the Head Master, Mr. P. McMaster and his staff. A class of twenty five is preparing for the coming June examination.

At a recent meeting of the Toronto Public School Board the following report of the Management Committee was adopted:—

The Standing Committee on School Management beg to recommend that the public examinations of pupils be held on Tuesday, June 30th, that the summer vacation extend from that day until Monday, August 31st, that the presentation of prizes take place on the

evening of Thursday, July 2nd, in the Horticultural Pavilion, and that this Committee be empowered to carry the above arrangements into effect.

Woodsstock High School.—The trustees of the High School at a meeting held on Monday last, appointed Mr. T. J. Parr, Fourth Master. Of late the attendance has increased so rapidly that the old staff found themselves unable to cope successfully with the work. With four teachers a much more satisfactory classification can be made, and more time can be given to each subject. The Board are to be congratulated on their excellent choice. Mr. Parr has already won high honor as a teacher of the county; in the department of elocution, especially, he has few superiors. There are about 130 pupils on the register of the school. *Sentinel Review*.

THE CHANGES MADE IN THE PUBLIC SCHOOLS' LAW DURING LAST SESSION OF THE LEGISLATURE.

The Minister of Education has issued the following circular respecting amendments to the Public Schools' Act:—

1. By sub-section 7 of section 2 it is made quite clear that a farmer's son of any person assessed for income may be elected Public School Trustee.

2. By section 9 it is provided that no territory distant more than three miles in a direct line from the school house can be included in forming any new school section.

3. By section 23 a newly elected trustee may make the declaration of office before a Justice of the Peace.

4. When trustees exempt indigent persons from school rates, they must notify the clerk of the municipality to that effect before the first day of August.

5. The trustees of townships (in which there are township boards), cities, towns and incorporated villages must submit their accounts for audit to the municipal auditors.

6. The qualifications of the trustee of a township board is the same as that of a rural school trustee.

7. Arbitrators appointed by a County Council to consider an appeal from a Township Council may, under certain circumstances, reconsider their decision.

8. Union school sections can only be formed, altered or dissolved by arbitrators appointed by the municipalities interested and the County Inspector.

9. An appeal is allowed from the decision of the arbitrators to the County Council when the union school sections lie wholly within the county, or to the Minister of Education when they lie between two or more counties.

10. The assessment of union school sections is to be equalized once in three years by the assessors of the municipalities concerned, and such person as may be named by the Inspector of Public Schools.

11. The portion of a township united to a village or town can only be withdrawn in the same way as union school sections are altered.

12. Trustees in townships, cities, towns, and incorporated villages may be elected by ballot or the same time as municipal councillors are elected, if required by resolution of the Board, passed before the 1st of October in any year, and such resolution, when once adopted, need not be repeated.

13. The Chairman of a Board of School Trustees (sec. 116) has only a casting vote in cases of an equality of votes on any question. He has no second vote.

14. Trustees of cities, towns and incorporated villages may require the assessor to furnish them with the names of all children between the ages of 7 and 13.

15. Township councils may levy the sum of \$100 for every school section by uniform rate over the whole township, and by the balance required by the trustees over the section requiring the same.

16. Parts of undivided lots are to be assessed in the section in which they are situated irrespective of the residence of the occupant.

17. Pupils attending rural schools shall be reported for the purpose of dividing the school grant as belonging to the school they attend. This does not apply to non-residents attending city, town or village schools.

18. First Class County Board Certificates are made Provincial.

19. Teachers who violate an agreement at Common Law are liable to the suspension of their certificates.

20. It is obligatory in county councils to pay the sum of \$150 to

each County Model School, and \$26 to each Teachers' Institute, and also the reasonable travelling expenses of the Inspector.

21. Any teacher who does not wish to continue his contributions to the Superannuated Teacher's Fund may withdraw one half of his contributions even if he does not retire from the profession. Contributions hereafter will be optional, but no teacher whose name has not been already entered on the books of the Department will be allowed to contribute, and all subscribers are required to pay arrears of subscription by 1st July, 1886, in order that their names may be retained on the list.

22. In rural districts the schools will close for the summer holidays on the 1st Friday in July, and re-open on the 3rd Monday in August. The other holidays remain the same as before. In cities, towns, and incorporated villages, Public and High Schools also close on the 1st Friday of July, and re-open on the last Monday in August. Trustees cannot reduce the holidays as heretofore.

23. Where a separate school is established in the same municipality as a High School, the separate school trustees may appoint a member of the High School Board.

24. Every member of the Board of Examiners for the entrance examination to High Schools is entitled to be paid for his services as the Board may by resolution determine. The remuneration is fixed at \$4 per day, or 75 cents for each candidate in lieu of a per diem allowance as may be decided by the County Council.

It is intended to issue immediately a compendium of the Public and High Schools Acts, and the regulations governing the Normal, Model, Public and High Schools.

This brief summary is merely intended to point out the more important amendments.

GEO. W. ROSS,
Minister of Education.

Literary Chit-Chat.

The Boston "*Literary World*" of April 4th, contains an interesting list of books, published at Teheran, the Capital of Persia, last year, which are said to show a very considerable intellectual activity among the ancient people.

Owen Meredith's "*Glenaveil*," now in course of publication in parts by D. Appleton & Co., is said to be a series of eulogistic portraits in verse of Conservative English politicians, and if satirical and rather abusive caricatures of Liberal politicians.

The *Youth's Companion*, published by Perry, Mason & Co., 41 Temple Place, Boston, U. S., has reached the phenomenal circulation of 340,000, and claims to be read by two millions of persons every week.

The May number of the *North American Review* has a poem by Robert Buchanan in *The New Buddha*, "*Bryant's Thanatopsis*," on a somewhat similar theme, was first published in the same review sixty-six years ago.

The *Canadian-American* has removed its headquarters from Minneapolis to Chicago. In that great western hub its enterprising publishers will find themselves surrounded by hosts of Canadian friends, as well as hosts of Irish-American enemies of the objects it so well promotes.

"Stories by American authors; Recuperation Supplement; Special Limited Edition from New Plates," was the menu at a dinner recently given by Mr. Charles Scribner to the contributors to "Stories by American Authors." The menu was neatly parodied from the cover of the series.

Prof. David Swing, in a paper entitled "*Inferior Literature*" in *The Current*, of April 18, takes a bold stand against the circulation in this day of the vulgar literature of other times. He protests that age does not justify the exemption from disfavor of books abounding in indecencies. He holds that the pure literature of the present day is one of the grand spectacles of our times.

The *Century Magazine* is about to make a change in the right direction. The prevalent practice of issuing magazines some weeks in advance of date is misleading and absurd. The editions of *The Century Magazine* have now become so large that it is necessary either to go to press at an earlier date or to postpone the day of issue. The latter alternative has been accepted, and future numbers of that magazine will be issued on the 1st day of the month, of which each bears dates.

Miscellaneous.

SLEIGH-BELLS.

The making of sleigh-bells is quite an art. The little iron ball is too big to be put in through the holes in the bell, and yet it is inside. How did it get there? The little iron ball is called "the jinglet." When you shake the sleigh-bell it jingles. In making the bell, this jinglet is put inside a little ball of mud, just the shape of the inside of the bell. Then a mold is made just the shape of the outside of the bell. This mud ball, with the jinglet inside, is placed in the mold of the outside, and the metal is poured in, which fills up the space between the ball and the mold. When the mold is taken off, you see a sleigh bell, but it will not ring, as it is full of dirt. The hot metal dries the dirt that the bell is made of, so it can be shaken out. After the dirt is all shaken out of the holes in the bell, the little iron jinglet will still be in the bell, and will ring. It took a good many years to think out how to make a sleigh-bell.

WALTER SAVAGE LANDOR.

"For a moment I recall the well-remembered figure and face, as they first became known to me nearly thirty years ago. Landor was then upwards of sixty, and looked that age to the full. He was not above the middle stature, but had a stout, stalwart presence, walked without a stoop, and in his general aspect, particularly the set and carriage of his head, was decidedly of what is called a distinguished bearing. His hair was already silvered with gray, and had retired far upward from his forehead, which, wide and full, but retreating, could never in the earlier time have been seen to such advantage.

"What at first was noticeable, however, in the broad, white, massive head, were the full, but yet strangely lifted, eyebrows; and they were not immediately attractive. They might have meant only pride or self-will in its most arrogant form, but for what was visible in the rest of the face. In the large gray eyes there was a depth of composed expression that even startled by its contrast to the eager restlessness looking out from the surface of them; and in the same variety and quickness of transition, the mouth was extremely striking. The lips that seemed compressed with unalterable will would in a moment relax to a softness more than feminine; and a sweeter smile it was impossible to conceive. What was best in his character, whether for strength or gentleness, had left its traces here.

"It was altogether a face on which power was visibly impressed, but without the resolution and purpose that generally accompany it; and one could well imagine that while yet in extreme youth, and before life had written its ineffaceable record, the individual features might have as little promise as they seem to bear in a portrait of him now before me belonging to his brother Henry, and taken in his thirtieth year. The eye is fine; but black hair covers all the forehead, and you recognize the face of the later time quite without its fulness, power, and animation. The stubbornness is there, without the softness; the self-will untamed by any experience; plenty of energy, but a want of emotion. The nose was never particularly good; and the lifted brow, flatness of cheek and jaw, wide upper lip, retreating mouth and chin, and heavy neck, peculiarities necessarily prominent in youth, in age contributed to a certain lion look he liked to be reminded of, and would confirm with a loud, long laugh hardly less than leonine. Higher and higher went peal after peal, in continuous and increasing volleys, until regions of sound were reached very far beyond ordinary human beings."—*Personal Traits of British Authors by Edward T. Mason.*

