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(Authorizfd by Postmagter General, Ottawa, as Second Cifass Mail)
Vol. XIII
WINNIPEG, SEPTEMBER, 1918
No. 7

## Editorial

## The New Year

We begin another year's work. Shall we not look upon it as the most important year in our history? The children under us have life problems to face such as no other generation of young people ever encountered. Hundreds there are who are fatherless. Nearly every family knows bereavement. Young men there are none here-this be it said to their everlasting glory. Adolescent girls are growing up in the certainty that most of them will never find a mate in life, and many of them will do the work of men. Old men and women in every community are returning to labors they had laid down. All the world has changed.

And since it has so changed, are we not to change with it? Must there not be a new doctrine of government? Must the teacher not count for more as friend and advisor? Must not an effort be made to make children take life a little more seriously? Indeed "though we must let childhood ripen in children, must we not just the least little bit try to put old heads on young shoulders?"

Yes, and because the world is gloomy is it not our place to make it particularly bright for the children? From them we shall hide our sorrow and our tears. They must surely grow up with kindness in their hearts and sweetness in their dispositions.

The change in conditions is going to affect our programme of studies. History and geography must be re-written and the subjects must be taught in a new spirit. The study of the heroie and sublime must in these days occupy more time than the study of mathematics. Above all, the teaching and practice of morals-personal and social $\rightarrow$ must count for more in our school life. The Canadian school has always considered the behavior of pupils as more important than anything else. This will eontinue, and there will be
emphasized as particularly important the development of right attitude and the practice of living for others. Service is the first and last thought in education, because it is the first and last thing in life.

## Across the Divide

It was a long, long struggle from August 4, 1814, till Mugust 4, 1818. But it was the kind of struggle that Britain loves best. She knows how to play the waiting game. Now the time has come for a change. Our reading and conversation during the days to come will be more checring and refreshing than it has been. We are over the top. We are now going down hill. And because of this now is the time to put forth every ounce of effort. Let us get this thought into every community, and, if you like, into every school. Even the smallest child may ferl he can do something for his country and for his soldier friends across the sea, or for those who have returned. The spirit of helping in a great cause should be in every school. It may not be right to talk much about the horrors of war, but children can be told about the hardships of little French children in a way that will do good, and they can learn to deny themselves for the sake of others. And all this without vain boasting or needless parade.

The 'Trustces' Section does not appear this issue, but a double instalment will be printed in the October number, when farmers will have a little more leisure.
The examination papers of Grade XI will appear next month

Teachers will welcome the two new departments--that dealing with French and that dealing with teaching of the non-English. Other departments are beine armord for

## THE OFFICIAL ORGAN OF THE DEPARTMENT OF EDUCATION

## Departmental Bulletin

## RE PUPILS TAKING GRADES IX AND X TOGE'THER

The attention of teachers is called to the regulation which requires that a candidate secure standing in Grade IX before he is eligible to proceed with Grade X. This is stated very clearly in the Programme of Studies and the Advisory Board will not make any allowance this year for any candidates who
may report for the joint examination next June, unless special permission has been granted. Such permission may be granted on the recommendation of the principal in the ease of a student who has already spent one year in Grade IX and who has not failed too badly in the Grade 1 X examination.

## RE GERMAN READER (GRADES IX ANI X

The book selected as a German readar for Grades $1 X$ and $X$ for the year 1918-19 is "Marchen und Erzahlumgen," published by I). (. Heath \& Co.

This book was selected by a committee of the teachers and its use has been endorsed by the loniversity.

## RE CANDIDATES CHANGING (OOMRSES

Each year in checking up the applications of eandidates for examination the Department finds that teachers have allowed students to change from the Combined Course or Matriculation C'ourse of Grade IX to the Teachers' Course in Grade X and have not referred the matter to the Advisory Board in order to secure permission for the students to change. Any student allowed to change his course in this way is required to take up any Grade IX subjects of the Teachers' ('ourse not covered in the eourse he took in Grade
IX. Teachers are asked to note this carefully and to refer every case of this kind promptly to the Department so that the student will know exactly what will be required of him and the Departmental records will show the change authorized and the conditions under which it has been authorized. This will avoid the possibility of a student finding after he has passed Grade X that he still must secure standing in one or two Grade IX subjects before he will be permitted to write upon his Grade XI examination.

## RE ARITHMETI(: (IRADE VIII

In revising our programme of studies for the present year we overlooked the elimination of the cone, pyramid and sphere from the work required for
arithmetic in Grade VIII. Tearhers will kindly note that these topics arenot to be taken.

## ARITHME'II', (ARADE IX

Teachers are reminded that the paper in arithmetic for Grade IX in June next will be on the same lines as that set in

June last. It will test the facility of the students in rapid calculation.

# Children's Page 

## Song of the Golden Sea

Sing ye ripening fields of wheat, Sing to the breezes passing by, Sing your jubilant song and sweet, Sing to the earth, the air, the sky!

Earth that held thee and skies that kissed Morning and noon and night for long, Sun and rain and dew and mist, All that has made you glad and strong!

The harvest fields of the far, far West Stretch out a shimmering sea of gold!
Every ripple upon its breast Sings peace and plenty and wealth untold!

Far as the eye can reach it goes, Farther yet, 'til there seems no end, Under a sky where blue and rose With the gold and turquoise softly blend.

Here where sweep the prairies lone Broad and beautiful in God's eyes;
Here in this young land, all our own, The garner-house of the old world lies.
-Jean Blewett.

## EDTHOR'S CHAT

My Dear Boys and Girls:
How do you do? Are your eyes bright, your cheeks and legs brown, and your hearts happy after all the long, beautiful summer days that have flown by since far away June when the editor last had a chat with you? Have you had happy, healthy, helpful holidays? We hope so with all our hearts, and we hope also that we shall have some interesting letters from some of you telling of your holiday pienies and visits and work. While you have all been holidaying the editor has been on a wonderful trip, all the way to Southern California where oranges come off trees and not out of boxes; where roses, great pink and red and yellow ones, nod their beautiful heads along the roadsides and climb over the houses; where geraniums grow like treas, and
are cut into hedges; and ferns that we tend so lovingly in the house grow over windows, verandahs and roofs. Here there are streets lined with palm trees, and rows of trees that burst into great clusters of red, pink, white and blue blossoms. The tumbling ocean roars along the beaches and brings up long, queer sea weeds that the children skip with on the hard, sandy beach; and behind all the trees and the flowers are the great hills and mountains about the beauties of which there are endless stories to tell. Thoday we want you to come with us on a trip through the Orange Empire, so close your eyes and come along over the splendid roads, through the clear sunshine and see what we have seen. We start out early in the morning from the city of Los Angeles, and after we have passed all
the fine store and office buildings we come into streets where there are lovely houses, some are stone, but most of them are stucco (which is a plaster), or wood, and they are nearly all long and low and covered with vines of all kinds. Soon, though, we begin to come into the real country and now farm boys and girls look down at the soil. Instead of rich, black earth, such earth as grows No. 1 hard wheat, we find loose, yellow, sandy soil stretching under those rows of stiff, dark green trees. Between each two rows of trees you will notice a sort of stone or cement pipe with four holes in it, and out of these four holes once every month the water pours and soaks the ground around the trees, for in long months there is no rain in this beautiful land, and if it were not for "irrigation," as this water system is called, the whole country would be only a desert. But now we must take a careful look at these trees that stand up here so stiff and strong. The leaves are thick and shiny and a very dark green, and away in their shade, late as it is in the year, we see a little waxy-looking flower which has a perfume like nothing else on earth but an orange blossom, and right beside it hangs a hard, green fruit, and weighing down a nearby branch are several dozen golden-ripe oranges full of juice and flavor. A mile further on rows of the same sort of green trees are filled with green and yellow lemons. Every month there are ripe lemons ready to gather, but oranges only yield their harvest once a year. The grape fruit tree, often very small, holds great clusters of grape fruit, growing like grapes and almost unbelievably big and juicy looking. We pass through miles of this country, past hundreds of just such groves of beauty, until finally we decide to visit one of the packing houses to see what happens to Mr. Orange before he starts out on his long journey to Canada. The packing houses are great shed-like buildings and here in the receiving room are dumped boxes and boxes of fruit as they are stripped from the trees by the pickers. First of all, they are all turned into a huge vat full of water where their golden highnesses bob around until they are caught on a belt and
whirled onto brushes which take out of the skins the dirt and insects that gather there. Another belt carries them on up under flopping curtains of wool which dry them off, and the clean orange then rolls on down to a row of bins where men sit on high stools sorting out fruit that may be bruised or spoiled. Then the good fruit is put on another belt which carries it down past sets of little holes which begin at the size of a small orange and get bigger as they go along. Mr. Orange rolls up to the first hole, looks through, but is too big to roll through; tries the next hole with like result, but finally tumbles through the big hole into a bin, in front of which stands a busy girl. Faster than it can be told this girl seizes an orange in one hand, a piece of paper in the other, and, presto, that orange is rolled in paper and placed in a box which once more lands on the revolving belt and travels down to where a cover is nailed on and the full box then continues its journey down a circular slide into the big refrigerator room where it is kept to be chilled for the long, hot journey across the burning desert to its cold destination in Winnipeg, where hundreds of boys and girls are longing for the juicy, golden fruit that holds the sweetness and heat of the sun. Sticky with orange juice and much interested and refreshed, we start out on our homeward journey. Half-way home along a road lined with tall cucalyptus trees, we come to the United States Balloon Camp, where an observation balloon is just about to ascend. The observer jumps into the basket, the ropes are untied, the ballast is thrown out, and, held only by one long steel cable which slowly unwinds, the great clumsy-looking sausage mounts slowly in the air. As we drive away we begin to feel the cool sea breezes and we realize we are hungry, and we pass on through the soft evening light past such houses and gardens as we dream of, with the perfume of countless flowers filling the air and the night creeping on over the distant mountains, to a little Italian inn where we have strange and wonderful things to eat, and so our lovely day in the Orange Empire is nver.

## OUR COMPETLTORS

The story for the month of October will be "The Best Day of My Holidays." All stories to be in before Sept. 15th. The story for November will be
"How I Am Getting Ready for Christmas." Stories to be in by Oct. 15th. Our Story: This is found on page 297.

## The Midsummer Exams

The following comments on the papers and answers have been prepared by the examiners. This month grades IX and X are dealt with. Grade XI will be referred to in next issue.

## GRADE IX—RAPID CALCULATION

The committee consider the paper too limited in scope, the opinion being that the questions should have involved, in addition to the four simple rules, some knowledge of fractions and decimals. In the distribution of marks the large percentage of value given the addition question made it possible for a candidate to obtain a pass mark with very little other work.

Many candidates did not attempt the question on longitude. The greater number of inaccuracies were found in multiplication, though there were many in the subtraction involved in the division question.

Number of papers examined, 1,892 .
Number of failures, 165.
Pereentage of failures, 8.72.

## GRADE IX DRAWING

The examination of Grade IX drawing papers established these facts: that there was scarcely enough on the paper for a general test of the pupils' skill; that the interpretation of the wording of the paper was varied; and that the instruction in this subject is also varied $\rightarrow$ some papers giving evidence of competent instruction, but many showing little, if any.

Regarding the interpretation placed upon the wording of the paper, many of the pupils drew the book positions regardless of grouping, some drew three groups, while some embodied the different positions in one group. It was quite evident, also, that some of the pupils drew the book groups from memory and others from a set model undep. The idea of "horder" was understood by many as that of a wall
paper, and the "corner" as that of a room.

Although the paper specifically stated "a ruler may not be used," it was manifestly evident that in not a few cases a ruler or its equivalent had been used both for lining and for obtaining perspective.

The papers in many cases showed a, lack of knowledge of "perspective," "balance" and "rhythm," and it would be well if the teachers would stress these three principles in their teaching-so many of the papers revealed the fact that the pupils were not acquainted with the fundamental positions, eye-level, below eye-level, etc.
The average mark obtained was $43 \%$, the highest mark $95 \%$, and the number of failures $28.1 \%$.

## GRADE IX ELEME NTARY SCIENCE

The committee on elementary science wish to report as follows: The aim of elementary science is to have the pupils learn the facts of nature by intelligent observation. It is not so much what is learned from the book or from the teacher that counts as what they learn for themselves. The answers given by the pupils clearly show that a great deal of private study of nature itself was done by the pupils. The questions on the birds, the cabbage butterfly, and the weeds were answered very well indeed, although in connection with the birds it was evident that the fact of the birds eating the seeds of noxious weeds was greatly overlooked. The variety of methods used to control the cabbage caterpillar, as given by the candidates, showed that a great many had made accurate observations on this pest and had had practical experience in dealing with it. The text book remedy was given by less than half the pupils.

The last two questions dealing with the physics and machines as taken up at the end of the text book, were either not answered at all or else a very poor attempt at an answer was made. Only a very small percentage of the pupils gave good answers to these questions. We would recommend to teachers that more time and more thorough work be given during the winter months to this section of the book.

The questions on frogs and toads and grasshoppers were not as intelligently answered as those on birds and weeds, presumably because of the lack of personal observation. The intensive exact description of the mouth of the grasshopper seemed unfair to ask, although many pupils gave' splendid answers, book answers rather than individual answers.

It was felt by the committee that $70 \%$ for the paper and $30 \%$ for the note book is not a proper division of the marks. This seems to put a premium on the book work and a discount on actual observation by the pupil. The note book is the place where the pupil expresses himself, and we would suggest a $50-50$ division of marks in future.

Not many pupils failed outright on the paper, but not many obtained honor standing.

The committee would suggest that each teacher should make a very careful study of nature especially suited to the locality in which his sehool is located. The examination paper then should contain a number of optional questions so that every pupil would be able to select the questions most suitable to his own locality.

Harry H. McIntosh, Chairman of Committee.

## GRADE IX GEOGRAPHY

The committee of sub-examiners in geography wish to submit the following report:

It is the opinion of the committee that the paper set was too long and difficult for students in grade IX. While not an unusual number failed to receive a pass mark, very few received honors. Probably nearly $50 \%$ of the students received marks ranging from 40 to 50 . The paper seemed to give the poorer grade of student an opportunity to receive a pass mark while making it difficult for the better grade student to obtain a good mark. Questions which aided the weak students were Nos. 2
and 7; those hampering the strong student were Nos. 1 and 9.

To deal briefly with particular questions: No. 1 asked for several relatively unimportant points, such as Pamir and Hoogly, to the exclusion of others. More important places might well be given and fewer marks allowed for them. There was a decided tendency among students to give more than was asked for. No. 2 was well answered on the whole; it was allowed more marks than the difficulty of the question seemed to demand, as compared with Nos. $3,4,6$, or 9 . No. 3 brought out a large amount of good work. Not many
students answered part (b) at all, and many did not get (c) very well. More emphasis should be placed in teaching on the fundamentals of map-drawing; large, bold outlines, careful marking of cities, rivers, etc., and neat printing. For example, the names of cities were often put on with no definite mark showing their exact location; sometimes the Shannon ran through from the Irish Sea to the Atlantic, or the Thames. ran smoothly across the Severn; and once the Isle of Man appeared in the middle of the Scottish lowlands. These remarks apply to the maps in Nos. 6 and 8 as well. In No. 8 the Red and Assiniboine rivers were frequently drawn to meet at Winnipeg, but apparently disappeared there. No. 4 was considered a splendid type of question, and the answers obtained were, on the whole, satisfactory. There was a decided tendency to write too much and to write aside from the point. The question demanded more consideration than most pupils gave to it. Probably better results would have been obtained if an option had been given of three parts out of the five. No. 5 produced poorer results than any other question. It seems fairly evident that the general geography is being neglected by the great majority of teachers. No. 6, though considered a hard question, brought out a good deal of good work. No. 7 was considered a comparatively easy question for the marks assigned. Many students re-
ceived $25 \%$ of their total mark on this question alone. The results obtained from No. 8 were distinctly disappointing. It was by far the poorest executed map of the three. Most students knew the Pacific Ocean much better than the Canadian West. All five parts were alike made hash of. Few students received more than $40 \%$ of the marks allotted to this question, and not a few less than $20 \%$. Evidently much more attention should be given Canadian geography than it is recciving at present. No. 9 was considered too difficult a question for grade IX students. Very many deseribed climate and surface without making any application whatever to their effect on the fighting. A few lessons might well be devoted during the year to showing the relation of climate and surface to the industrial and other life of various countries.

The impressions left on the committee by reading large numbers of papers are two: First, that many teachers should devote more time to Canadian geography, particularly map-drawing, and more time to teaching how to answer questions more briefly and to the point: second, that the great majority of students who pass into the higher grades know far too little geography, and this because it is not possible to teach the whole of so wide and important a subject in one year.

W. J. Gordon Scott, For the Committee.

## GRADE X.-SPELLING

The committee of examiners of spelling, grade $\mathbf{X}$, found at the outset that the paper was unsatisfactory from the point of view of time and marks allotted to part B.

One-half hour was given to complete the following work: (a) the meaning of twenty-five words; (b) twenty sentences to exemplify the use of twenty of these words; (c) ten derivatives of ten of these words; (d) the derivation of five words.
A competent scholar in Greek and Latin would take half an hour to answer this question. The students
writing on this grade X paper (teachers' course) have no knowledge of the classics apart from the little they have learned through memorizing the roots. Thus it is evident that they were working at a great disadvantage.
Sixty per cent. only was given to spelling and dictation. A few papers in which the spelling was perfect were found wanting because of failure to make the necessary percentage on paper B. Again it was found on examining the papers of Arts Matriculation and of the Combined Course, in which part A was the entire test, that the per-
centage of failures was comparatively small, although the spelling was no better than that handed in by the students of the 'Teachers' Course.

No exact estimate was made, but the marks obtained by the students of the Engineering Course were lower than those in either of the other departments.

One suggestion would be made as to the examination on spelling and derivation for the 'Teachers' Course. Would it not be well to have two entirely separate papers, and in case of failure in either part and supplemental being granted, to have separate supplementals? It would seem, too, that a standard of $75 \%$ to pass on such a paper in derivation would be excessive.

The following misconstructions go to show the danger of an imperfect knowledge of roots:

The money was kept in a rendezvous.

His verdant manners helped him.
The salvage bear killed a horse.
Melios $=1000$ years. The millenium.
She was an edible woman.
We learned to make an equestrian triangle.

Filius=sun. The filial's rays were beautiful and bright.

Optimist-One who wishes and is happy. Mr. Jones is an optimist and his wife is so dull.

The eemetery is our dormitory.
Oligos-A house. He went into an oligarchy to get some food.

Equestrian - to question. Some people are very equestrian.

Egotism is what we live by.
Polemos-war-derivative polygamy.
Rendez-vous - Some frightful or bloody undertaking.

The paper was edible at all times.
Salvage-A working man without pay.

Dexter-skill. The dexterity of God is eternal.

Dormitory-sleepy. He gave his dormitory yawn as he fell asleep.

Oligos-full. The oligarchy of my tooth is loose.

Lethargy was his main occupation.
September is a vernacular month.
Edo-eat-ctiquette. In the book of etiquette it tells what to eat and how to eat.

Autocrat-a person who writes himself up.

Salvage-a treatment of the skin. Did you salvage your face?

Pax-few. Pacity is the state of not having many of something.

Rendez-vous-The important lord or master. The rendez-vous was riding in a beautiful carriage.

Let us close with two examples which are in a class by themselves.

Augeo=to hear - augument. The augument between the two persons became exciting.

Tacit=take. He tacit the money, or took.

Shades of our English and Scottish ancestors!

## GRADE X.-MUsIC

The committee considers this an almost model paper, involving as it does a knowledge of the fundamental principles of elementary musical theory, viz.: time, key signatures, transposition, reading of music at sight, writing the musie of a familiar air, common marks of expression, and the formation of the scales-other than "C." If papers such as this were the invariable rule, the written examination might be taken as a fair test of scholarship.

Of the students who have failed
(about ten per cent.), most have shown great ignorance of the subject. Such students would probably have failed on any paper that might have been set.
Slightly more than thirty per cent. of the candidates receive marks between forty and sixty per cent. About forty per cent. of them make between sixty and eighty, while the remainder, some eighteen or twenty per cent., come above eighty per cent.

A comparatively small number of the students appear to be able to find the keynote of a selection, having only a
"C" pitch pipe to aid them. Especially is this so when the keynote involves a flat.

There likewise seems to be a somewhat general misapprehension with regard to the pitches, the impression, apparently, being that the pitches change with the scale and that the first note of the scale is always " C ," even though it should be the key of " $B^{b}$." This was quite apparent in the answers to the fifth question.

The third characteristic mistake was an inability to explain with a fair degree of clearness the necessity of flats
or sharps in all scales, other than that of "C." (Question 4 b.)

Teachers would do well to note the prevailing weaknesses and emphasize those points. More general practice in singing, both airs and exercises, would be of practical advantage to the students, as well as very materially assisting them in writing from memory the music for familiar songs. A careful study of "time" would also be necessary so as to enable them to identify at once, merely from its "swing," the time of any selection.
(Signed) O. E. Crookshanks.

## PENMANSHIP

Two objects were brought to the notice of students and teachers in this paper: Correct form and freedom of movement. The correct form preserves the legibility of writing, while freedom of movement increases the speed. To develop either freedom of movement or correctness of form without the other is to fail in these two most desirable ends of writing. One should study the correct form for every letter and practice until freedom is secured.

Results in examination reveal on the
part of many candidates a great lack in the knowledge of good form for many letters. In many cases freedom of movement has been developed to a high degree, but, because of insufficient study of good forms for the letters, the candidates do not attain as good results as they might. Much fine work was done, and it could be seen that many more could become expert penmen by a little careful study and practice.
R. H. Scott.

REIPOR'T OF EXAMINING COMMITTEE ON GRADE X ARITHMETIC,

## Criticism of the Paper

An analysis of this paper seems to show:

1. (a) Problems on elementary arithmetic, one; business arithmetic, eight. (b) Problems on mensuration, one; industrial, none.
2. All the material involved in each problem is found in the present day activities. Had the analysis shown for (a) two and three problems, (b) two and three problems, all our rural intermediate and high school students would vote the 1918 arithmetic an excellent test on a well balanced paper.

## The Work of the Candidates

Problem 1.-- $65 \%$ of the candidates concluded that the weight of the ice should be cither $10 / 9$ or $11 / 10$ of the weight of the same volume of water.

Problem 2.- (qenerally well solved,
$35 \%$ did one or more of the following: No days of grace, discount term from date the note was drawn to the day the note was discounted or to the date of maturity, proceeds $=$ face of note + discount.

Problem 3 was interpreted in various ways. About $40 \%$ concluded the tax to be $15 / 1000$ of $\$ 200 ; 30 \%, 15 / 1000$ of $\$ 470 ; 15 \%, 15 / 100$ of $\$ 290$, but generally by a series of very round-about calculations.

Problem 4.-Generally well solved, apart from $30 \%$ estimating the second commission to be $2 \%$ of the proceeds from the sale of the tea.
Prohlem 5.-Over $75 \%$ offered as a solution: the area of the large circle minus the area of the base of the building.

Problem 6.-Generally well solved,
yet note two common errors in: The Morden buying price will be $94 / 100$ of $(99 c+11.55 c)$.
Problem 7.-About $40 \%$ fell down in dealing with the brokerage.

Problem 8.-Nearly $80 \%$ tried the suppositional method, quite a number supposing the actual values of $\$ 3,600$ and $\$ 2,400$, every one of the latter tied himself up in arriving at the total premium being $\$ 37.10$; about $5 \%$ tried the arithmetical, and $5 \%$ the algebraical methods.

Problem 9.-Had the candidates checked over their respective solutions with the problem material, $90 \%$ would have found some omission. A very common oversight was failure to withdraw each original investment before sharing the net profit.

Problem 10.-With (1), (2), (5), (6), (8) were generally tried; nearly $80 \%$ using the greatly involved fractional form of solution, a large number of these viewing the problem to be the compou'nd interest on either $\$ 100$ or $\$ 300$ for six half years; the remainder using either the formula or a concise decimal form experienced no difficulty in the solution.

## Suggestions to the Teachers

(a) Build up a reasonable propor-
tion of your problems from the material found in the activities of the community.
(b) Have the class complete the cyclic series of problems growing out of the type form proposed by the community, solving at least one of the series algebraically, checking over problem data with solution parts, and generalizing their respective detailed solutions.

## Suggestion to the Department of Education

The committee would recommend that it be made compulsory for the candidate to show a reasonable amount of rough work (mental excepted), on the left-hand page and opposite to the solution on the corresponding righthand page. Several candidates have this year handed in arithmetic booklets with solutions and answers of several problems with no visible formal work whatever, some of which at least would be impossible mental calculations for an ordinary mathematician. Many other candidates do offer a solution of some problem on a right-hand page, say 2; but the rough work for the same may appear on the left-hand page, somewhere, say page 5 .

## MODEL PAPER IN ARITHMETIC

1. 277.274 cubic inches water weighs 10 lbs . In freezing its bulk is increased $10 \%$, but not its weight.

Therefore $-\times 277.274$ cubic inches of ice weigh 10 lbs .
10
1728 cubic inches if ice weigh $\frac{1728}{277.274} \times \frac{10}{11} \times 10 \mathrm{lbs}=56.65 \mathrm{lbs} . \quad$ Ans.
2. Date of maturity of the note July 23. Term of discount April 14 to July 23. Number of days discounted for $=100$.
Discount:
$15 \quad 100$
$-\times-\times 985.50=\$ 20.25$
$200 \quad 365$
Proceeds: $\$ 985.50-\$ 20.25=\$ 965.25$ Ans,
3. Increase in salary for 4 months $=\frac{1}{3} \times 270=\$ 90$.

Total amount received in year $3200+90=3290$.
Amount taxable $\$ 3290--\$ 3000=\$ 290$. Tax rate is 15 mills.
Tax 15

$$
\frac{10}{1000} \times \$ 290=\$ 4.35 \text { Ans. }
$$

4. 1360 lbs. tea at 34 c lb. brings $\$ 462.40$. Proceeds after deducting first commission at $3 \%$ :

$$
\frac{97}{100} \times \$ 462.40
$$

Proceeds after deducting second commission:
Amount of sugar purchased at $11 \frac{1}{3} \mathrm{c} \mathrm{lb}$.

$$
\frac{\frac{100}{102} \times \frac{97}{100} \times \$ 462.40}{.11 \frac{1}{3}}
$$



The cow can graze over $3 / 4$ of a circle of 40 ft . radius and $2 / 4$ of a circle of 20 ft . radius.
$3 / 4 \times 40 \times 40 \times \pi=1200 \pi$
$1 / 2 \times 20 \times 20 \times \pi=200 \pi$
$1400 \pi$
$1400 \times \frac{22}{7}=4400$ sq. ft. $=488-\mathrm{sq} . \mathrm{yds}$.
6. Price obtained for oats delivered at Fort William \$. 99

Cost of delivery (freight)
11.55

Selling price at Morden
$\$ 87.45$
Buying price at Morden so that dealer may make $6 \%$ profit is:
100
— $\$ 8745=\$ .825$ or $821 / 2$ cents per bushel. Ans. 106
7. Amount to be invested $\$ 13,325$.

Cost of one Victory Bond $=1021 / 2+3 / 8$ Brokerage $=\$ 1021 / 2$ Cost of one share stock $=1621 / 8+3 / 8$ Brokerage $=\$ 1621 / 2$ On $1021 / 2$ of an investment the income is $\$ 51 / 2$.

13325
On 13325 of an investment the income is $51 / 2 \times \frac{103}{1021 / 2}=\$ 715$
On $1621 / 2$ of an investment the income is $\$ 81 / 2$.
On 13325 of an investment the income is $81 / 2 \times \frac{13325}{1621 / 2}=\$ 697$
Gain by purchasing Victory Bonds $\$ 715-\$ 697=\$ 18$. Ans.
8. Value of store $=\frac{3}{3}$ of value of stock.

$$
\begin{array}{r}
\text { Premium on stock } \frac{3}{400} \times \frac{9}{10} \times \text { value of stock }=\frac{27}{4000} \times \text { value of stock. } \\
\text { Premium on store } \frac{4}{500} \times \frac{2}{3} \times-\frac{2}{3} \text { of value of stock }=\frac{4}{1125} \times \text { value of stock. } \\
\frac{4}{1125}+\frac{27}{4000}=\frac{371}{3600} \text { of value of stock }=\$ 37.10 . \\
\text { value of stock }=\frac{36000}{371}+37.10 \\
\text { value of store } \frac{2}{3} \times 3600=\$ 2400 .
\end{array}
$$



Therefore B's share $=\frac{15000}{35000}=\frac{3}{7}$ of the total gain.
80
Value of stock $=\frac{-}{1} \times 42=\$ 3360$
Cash on hand $=\quad 3300$
Total assets $=\$ 6660$
Original amount invested $=\$ 5500$
A's salary as manager $8 \times 65=520$

$$
\text { Total liabilities }=\$ 6020
$$

Profit for the 8 months $\$ 6660-\$ 6020=\$ 640$
B's share of profit $=\frac{3}{7} \times \$ 640=\$ 274 \frac{2}{7}$ Ans.
10. The first $\$ 100$ deposited draws interest $f 0 r: 3$ years and its amount is $100(1.02)^{8}=\$ 112.6161$. The second $\$ 100$ deposited draws interest for 2 years and its amount is $100(1.02)^{4}=\$ 108.2432$. The third $\$ 100$ deposited draws interest for 1 year and its amount is $100(1.02)^{2}=\$ 104.04$. Total amount to his credit at end of 3 years is $112.6161+108.2432+104.04=\$ 324.8993=\$ 324.90$. Ans.

Alternative solution for No. 10 :
Total amount $=$
$100 \cdot(1.02)^{6}+100(1.02)^{4}+100(1.02)^{2}=100\left[(1.02)^{6}+(1.02)^{4}+(1.02)^{2}\right]=$ $100[1.1262+1.0824+1.0404]=100[3.2490]=\$ 324.90$. Ans.

# Summer Session 

## SUMMER SESSION A'T S'TRATHCONA SCHOOL

A short course of instruction for teachers was held at Stratheona School from July 3 rd to 20 th under the direc. tion of Mr. W. J. Sisler. Miss E. Macdonald conducted a class of Grade I children for illustrating methods of teaching pupils who have not learned English in their homes. Miss Hemming gave instruction in music, Mr . Woods in plays and games, and Dr. M. Stuart Fraser gave four lectures on the relation of the public health service to the public schools.

The majority of the teachers will be employed in schools of which Mr. Ira Stratton is official trustee.

There were forty-seven teachers enrolled and forty-three of these completed the work assigned, which consisted mainly of the preparation of material for use in language teaching and discussion of methods for its use.

On the last day of the session a dinner was held at the North End Y.M.C.A. when Hon. Dr. Thornton, Minister of Education, gave an address and later inspected the work of the students at the school.

Following is a list of the names of students, with addresses so far as known:

Ester Asrican, Keaton School, Spearhill, Man.; Mrs. F. E. Adams, Davey School, Amaranth, Man.; Marie L. Dierckx, Davey School, Bruxelles, Man.; A. A. Elder, Wieden School, Oak Brae, Man.; J. G. Golembioski, Hastings School, Arborg, Man.; Mrs. Tena Grove, Falmouth School, Amaranth, Man.; Mrs. W. A. Hambly, Mars School, Libau, Man.; M. T. Hiebert, Rathwell, Man.; Ivy E. P. Henson, Ladywood School, Ladywood, Man. ; Louis Ingloot, Asquith Sc̈hool, Zalicia, Man.; Eli Jenkins, Baskerville School, Rosa, Man.; St. Geo. E. Jeffrey, Fisher Branch, Man.; Margaret Johnson, Hazel Glen School, Hazelridge, Man.; Mrs. Geo. Kline, Meadowland School, Volga, Man.; Mrs. S. E. Kinley, Flower School.

Seach, Man. ; Helen Kirkerod, Macross School, Eriksdale, Man.; K. Livingston, Highland School, East Selkirk, Man.; Ellen Lee, Barrie School, Baraz, Man.; Mrs. Mary C. Miller, Zamek School, Hadashville, Man.; Mrs. Inez McCallum, Buchan School, Molson, Man.; Ethel Miller, Zerwona School, Tolstoi, Man. ; Helen McLeod, Thalberg School, Thalberg, Man.; Kathleen McKinley, Prout School, Winnipeg Beach; Ellen Martin, Highland School, East Selkirk, Man.; Mrs. M. Otto, Walmore School, Ashern, Man.; Rose Otson, Kelner School, Janow, Man.; Bertha Ritter, Dover School, Zhoda, Man.; J. L. Rheame, Horyn School, St. Rose Du Las, Man.; I. Steiman, Moose Bay, Man. ; A. Tomlinson, Griffith School, Agardsley, Man.; Martha Wasse, Somerset, Man.; Minnie J. Werseen, Devonshire School, Fraserwood, Man.; Elfrida Widmeyer, Sandy Lake School, Sandy Lake, Man.; I. B. Zahl, Riga School, Garland, Man.; Mrs. D. Halstead, Bonar Law School, Allegra, Man.; Geo. Basham, Janowski School, Oak Brae, Man.; Mrs. Simpson-Hay, Cavendish School, Fraserwood, Man.; William Hyricyk, Broad Valley, Man.; Olga Perch, Rose Tow, Clara Bird, O. A. Dimmick, Odile Parent, Johanna Dyma, at Normal School ; Jessie Rybak, at Normal School.

It was proposed during the session that teachers arrange to have their pupils correspond with those of other schools, but no definite plan was decided upon. In order to get this plan started it is suggested that each teacher have his or her pupils correspond with those of the teacher whose name appears next in the list given above and that answers be returned. This will give each school two others with which to correspond. This, of course, will not prevent anyone from making other arrangements with schools in which they may be specially interested.

Certifieates are being prepared for
students who have completed the work during the summer session. Those students who attended a year ago will be credited with work done last year as well.

Mr. I. B. Zahl did not return to his school alone. He, with Mrs. Zahl, went out to Riga School immediately after
the close of the session. Congratulations and best wishes.

A page in the School Journal will be available for the publication of news items of particular interest to members of the class, and teachers are invited to forward these to Mr. Sisler.

GRADE IX FRENCH, 1918

In accordance with the recommendations of the committee appointed to consider the requirements of matriculation French, the following vocabulary has been selected as a basis for the work of the first year. A reasonable facility in the conversational use of French is far more desirable than a reading knowledge alone. With this in view, it will be necessary to aim at an intimate and practical acquaintance with the vocabulary. Pupils will make more rapid and more substantial progress if French is treated as a living language rather than as a mere system of printed forms. The ear and the tongue must play the chief part in securing a real acquaintance with spoken language. Pupils should be made to understand that an oral test, as well as a written one, will be required at the close of the term. In the course of a year's work the student will doubtless meet with a number of words and phrases not included in the present list. But in order to have something definite to aim at, this list will be taken as a basis. Students will, of course, aim at a thorough mastery of the entire number, but in the examination test seventy-five per cent. is fixed as a minimum requirement. The percentage refers not to the character and quality of the pupil's acquaintance with these words, but only to the number of words of which he is absolute master.

In the October issue of this journal these words will be reprinted in another classification for the purpose of exhibiting similarities in pronunciation and derivation.

## VOCABULARY

## Masculine nouns:

Aon̂t, argent, automne, avril, bagage,
bain, balai, bas, berceau, bétail, beurre. billet, blé, boeuf, bois, boulanger, bouton, bras, bruit, café, calorifère, canard, céleri, champ, chapeau, char, charbon, chat, chemin, chemin de fer, cheval, cheveu, chien, chou, ciel, clou, cochon, col, commencement, corbeau, corps, cordonnier, coton, cou, coude, couteau, cousin, crayon, cultivateur, dé, décembre, déjeuner, devoir, dimanche, dîner, doigt, dos, drap, épicier, escalier, est, essuie-main, étage, exercice, facteur, fer, feu, février, fil, fils, foin, four, froid, fromage, front, gant, gateau, genou, gilet, harnais, hiver, hôtel, jambon, janvier, jeu, jeudi, jour, journal, juillet, juin, jus, lait, laitier, lapin, lard, lin, linge, lit, loup, lundi, magasin, mai, manger, marchand, marché, mardi, mari, mars, marteau, matin, mercredi, midi, moineau, monde, mouchoir, moustique, mouton, mur, neveu, nez, Noël, nom, nombre, nord, novembre, nuage, numéro, octobre, oeil, boeuf, oignon, ouest, ours, pain, pantalon, parapluie, parasol, pardessus, parent, peigne, père, piano, pied, pigeon, plafond, plancher, plateau, poêle, pois, porc, printemps, radis, rat, râteau, renard, restaurant, rôti, sac, salon, samedi, savon, seau, sel, septembre, sirop, soleil, son, souper, sucre, sucrier, sud, tableau, tablier, tailleur, tapis, thé, théâtre, timbre, toit, train, traincau, tramway, trottoir, travail, veau, vendredi, vent, verre, vestibule, village, vin, visage, voile, wagon, yeux.

## Feminine nouns:

Adresse, aiguille, allumette, assiette, automobile, avoine, batteuse, bêche, bicyclette, botte, bouche, boucle, bourse, bride, broche, brosse, cafetière, carotte, carte, casquette, cave, ceinture, cerise, chaise, chambre, charrue, chaussette, cheminée, chemise, elef, corde, cour,
cousine, craie, cravate, cruche, cuiller, cuillère, cuisine, dent, eau, échelle, écurie, église, encre, épaule, épicerie, épingle, éponge, étable, étoile, faim, farine, faucheuse, faux, femme, fenêtre, fève, fille, fourchette, fraise, gare, gelée, gerbe, glace, glacière, grange, grêle, grenouille, hache, herse, heure, horloge, huile, jambe, lampe, langue, lèvre, lieuse, limonade, locomotive, lune, lumière, machine, main, maison, maman, mère, meule, montre, mouche nappe, neige, nièce, nuit, omelette, oreille, orge, pêche, pierre, place, pluie, poche, poire, pomme, pomme de terre, pompe, porte, poule, prairie, récolte, robe, rose, roue, route, rue, saison, salade, salière, salle, sauce, selle, semence, serviette, soif, sonnette, soucoupe, soupe, table, tante, tasse, tente, terre, tête, théière, vache, vapeur, vérandah, veste, ville, violette, volle, voiture, voix.

## Verbs:

aimer, aller, allumer, s'amuser, s'arrêter, atteler, attendre, avancer, balayer, battre, boire, boucler, bouillir, boutonner, brider, briser, brosser, se coucher, coudre, cuire, euisiner, cultiver,
descendre, demander, se dépêcher, devoir, essuyer, étudier, faire, faucher, fermer, geler, hacher, harnacher, jouer, labourer, laver, lever, lire, manger, marcher, moissoner, monter, nettoyer, obéir, oublier, ouvrir, pardonner, partir, peigner, plier, prendre, raccommoder, ratisser, remercier, repasser, revenir, rôtir, semer, sonner, souper, tenir, tirer, travailler, tricoter, venir, voir.

## Adjectives:

bas, blanc, bleu, chaud, fâché, faux, froid, gris, haut, jaune, long, noir, propre, sâle, sec, sûr, vert, court, petit, grand.

## Prepositions:

avant, après, devant, derrière, sur, sous, dans, à, de, avec, sans.

## Adverbs

maintenant, alors, demain, aujourd'hui, hier, bientôt, tard, tôt, souvent, peut-être, jamais, dedans, dehors.

## Conjunctions:

et, mais, aussi, ou où, comme, que, car, pourquoi, comment, quand.

## Pronouns:

je, tu, il, elle, nous, vous, ils, elles.

## YOUNG TEACHERS' IDEALS

Under the stress of the examination system it is very easy for those in charge of schools to become mere teachers of subjects. Away from that system they become builders of character, builders of national life. The following three messages were delivered by teachers just leaving Normal School, and are printed on the suggestion of the Minister of Education. It is worth while to have teachers go into the schools with such ideals. The Writers are Misses Robertson, Armstrong and Bryan.

## I.-Patriotism

In this time of nation-shaking and hation-breaking, and in prospect of the time of reconstruction, so rapidly approaching, is it not fitting that we, who are to mould the lives of the roming
leaders of our nation, pause and see what we in the school intend to do to help make the nation strong in intellect and strong in character?
Patriotism is "love of country"; it is living for one's country, and, if need be, dying for it. It is producing in character the highest ideals for which the nation stands.

There are some who have sought to discourage patriotism by saying that a person's affections should be so broad as to eover the whole world. But you cannot love the world in general without loving something or someone in particular. In every hman soul there is and must be the sacred affection for home and country above, and different from every other love. Goldsmith has so aptly brought out this idea when he said:
"The shuddering tenant of the frigid zone,
Boldly declares that happiest spot his own;
Extols the treasures of his stormy seas.
And his long nights of revelry and ease.
The naked negro, panting at the line,
Boasts of his golden sands and palmy wine,
Basks in the glare or stems the tepid wave,
And thanks his gods for all the good they gave,-
Such is the patriot's boast, where'er we roam,
His first, best country, ever is at home."
The ancient Roman believed the yellow Tiber was the dearest to Heaven; the Englishman sees a beauty in the Thames which he can discern in no other river; the hills of Scotland are more beautiful to the Scotchman than any in the whole world; and the emerald isle to the Irishman has a "greenness" and a charm all its own.

As British subjects, if we are thoughtful, we cannot fail to be patriotic in spirit to this greatest of all nations. Who can read of Britain's victories in the past, her great achievements of the present time, her humaneness, her dauntless courage, and her glorious name for justice and fair play, without feeling a thrill of pride that we belong to her?

But while we have every reason to be patriotic to our Motherland, we have also reason to be proud that we are Canadians. Canada with her great resources, and her unrivalled beauties, is the greatest heritage ever given to so small a number of people.
"Canada! Maple-land! Land of great mountains!
Lake-land and river-land! Land 'twixt the seas!
Grant us, God, hearts that are large as our heritage,
Spirits as free as the breeze!
Last-born of nations! The offspring of freedom!
Heir to wide prairies, thick forests, red gold!
God grant us wisdom to value our birthright,
Courage to guard what we hold!"

And how proud we are of Canada's sons; those men and boys who have gone over the sea to fight for justice, liberty', and everything which we hold dear. The Canadians, by their optimism, their courage, their pure souls and hearts, have won a glorious name which will be recorded in the pages of history as long as the world shall last.

But we, like our boys overseas, must needs be patriotic to our Canada. The true patriot is not he who may sing the national anthem most lustily, she who may knit the greatest number of socks; but that one who, giving up his life to his country, living, endeavors to develop in character the highest virtues for which the nation stands; or dying, pays the supreme sacrifice.

And here it is that our duty as teachers is forced in upon us. The future of the world depends on the rising generation, the children now growing up,and we have them in our hands to mould as we will. The nation must have true patriots, and we must help produce them.

We cannot force patriotism on our pupils from the outside; it is a thing of the soul. But we may do much to nourish and care for that germ of "love of country" which is in every child's heart. I shall not dwell on the methods which may be used to encourage the growth of patriotism or that side of patriotism which means "love of country.' Songs, drills, stories of achievements in past and present, tales of heroism, all have their part to play in this side of the development.

But it is the teacher's own life and personality that counts most in the development of that greater side of the subject, namely, the producing in character of the highest qualities and most lofty purposes. The teacher must be all she would have her pupils be. She must live those virtues which she would inculcate in her children. Justice, loyalty, truth, self-sacrifice, self-control, humanity, obedience, patience, perseverance, zeal, all must be exemplified in the teacher.

This is an exceedingly high ideal which I have tried to describe. Some will attain it, others will fall short of
it. But we cannot fail to play a noble part in the growth of this coming nation if we have a true conception of patriotism. If all teachers had at heart the need of this development in the child for the sake of the future, world, Great Britain and Canada, it would not be very long before the words of the poet would be true when he said:
"Then shall be ushered in another glorious day,
The rise of empire and of art,
The great and good inspiring epic rage,
The grandest heads and noblest hearts,
Not such as Europe breeds in her decay,
But such as she bred when fresh and young,
When heavenly flame did animate her clay,
By future poets shall be sung.
Westward, the cause of empire takes its way.
The first four acts already past,
The fifth shall close the drama with the day,
And Time's noblest offspring shall be the last!"

## II.-Unification

The present is the chief subject these days-and rightly so, for never was there a time so full of momentous happenings and thought-provoking events as Today. And if we have been trusted to live in such a time, we must be worthy of our opportunity. As teachers, we are anxious to do whatever we can to help bring the war to a successful finish. Sometimes, in our anxiety to help, our efforts are apt to be mis. directed, but our opportunity is plain.

What Canada needs most today is Canadians. How can we help to bring about the unification of the races of Western Canada? The problem is the biggest problem this country has to face. Legislation and many other attempts are suggested as a solution, but there is no doubt that the only satisfactory method - the only successful "Oned-pins its faith to education. "One Country-one Language-one one thin.' A national spirit depends upon one thing-and can be permanently attained by one thing only-education.

We know the situation in the West, but very few of us realize the seriousness of it. There are many, many districts where people from other lands have settled, and have transplanted miniature old-world countries with old-world ideals, language and customs. How can we ever hope to bring these people in unity with the other races?
"In unity there is strength." We might go further and say that without unity Canada's future looks decidedly dark. The older generation will not change very much, but through the children the solution is found. The public school is to be the instrument, and the teachers who will give their best to non-English speaking districts will be doing "their bit" in bringing about success. The Language Barrier is becoming more and more a serious problem. Surely it is absurd to imagine that these races can ever have a unity of spirit if they cannot understand one another. "Words are the tools of our thinking," and it is a crying shame it any child in Canada is not fully taught in the English tongue.

To adapt a well-known quotation: "Canadianize the foreigner-nay through the child let us Canadianize Canada." The making of true Canadian citizens is not forcing all alike into one cast-iron mould, but it is giving each and all the opportunity of learning the language of our country, and fostering a spirit which will make not for the subjugation of some, nor the glorification of others-perhaps not in the strict sense of assimilation-but for a real unification of the races which go to make up this country of which we are so proud.

Surely here is opportunity for the teachers. We need strong men and women ready to serve their country to their utmost capacity, often under conditions which are anything but favorable. "A prophet is never honored in his own country." A teacher who went to China or India would be considered a hero. Too often we have regarded the person who went out to teach in a non-English settlement as a fool or a person very hard-up. But we are beginning to realize the necessity and the
service it means. Volunteers are needed to preach the doctrine of unification in season and out of season, not by the brilliant dash of eloquence or the sudden burst of energy; but by the slower and only sure method of educating.
"For lack of vision, the people perish." We, as teachers, should see that we do not lack a clear vision, and be equally sure we possess the enthusiasm and patience to work towards that end.

Dr. Frank Crane once wrote: "Of all the professions in the world undoubtedly the greatest is teaching, whether reckoned by the results upon others or the results upon yourselves. . . . The most valuable property a man can have is what Bushnell calls 'the property right in souls.' All forceful men are creators, but the best kind of all are those values created by the teachers. They consist in character, training, thought power and soul strength. . . . If you like that sort of thing, if it makes you content, if you realize the wonder and nobility of itthen teach."

It is said Agassiz wanted but one word for his epitaph-"Teacher." If we can earn that right we shall not have lived without results.
"Meanwhile, my brothers work and wield
The forces of today,
And plow the present like a field
And garner all you may!
You, what the cultured surface grows, Dispense with careful hands;
Deep under deep forever goes,
Heaven over Heaven expands."

## III.-The Challenge of Today

In closing I would like to speak for a few moments on the challenge of today to our Editor and to us as teachers. It has been said, and truly, that the future of our nation depends upon our schools. And the future is calling upon us today as it has never called before. The discipline of the last three years has given us a new sense of our nationality and social obligation. Education as it now stands has been able to cope, however,
imperfectly with the needs of the past, but cannot with those of the future. Just as now we are united heart and hand to ward off this menace to our civilization, after the war, with no less urgency and oneness of heart, will we be united in the upbuilding of life. It is in the hands of our educators and teachers that this responsibility lies.

The need of today makes a double demand upon us. First, we must have a greater amount of specialized knowledge, and, second, we must have a higher standard of intellectual activity. To meet these demands we must have, on the one side, more scientific teaching, and, on the other, more keenness to learn. The first of these is concerned chiefly with organization and the improvement of the training and status of our teachers. Closely allied to this is the choice of subjects to meet the demands of a modern world. The day when classics is to have such an important place among our studies has reached its close, and there are two subjects in particular which deserve much more prominence than they hitherto have had. These subjects are science ard moderns. To understand and deal with almost any question which might arise, the value of science is great. In subduing the forces of nature to man's service in any kind of industry no advance is possible without a knowledge of science; and since we live in a world of thoughts permeated by scientific ideas it is well that we know something of the language, methods and discoveries of science. In a world such as ours where the relations between different countries are so close, and the bonds of intercourse and interdependence so numerous, it is necessary that we use, at least, the most important and widely extended languages. Especially is this so if we may hope to look for closer international relationships as a best guarantee against future wars and jealousies. This closer relation is dependent on good-will which reading and personal intercourse do more than anything else to create and strengthen.

Let us come back to the second sidekeenness to learn. There are many
things which affect this. There is the condition and nature of work in the school, the opportunities for initiative offered the child, and the ideals set before him. These latter are only inducedly and gradually shaped by education, but they are the deepest and most lasting lessons which the child receives, because learned unconsciously. These ideals are the outcome of the whole aim and spirit of our teaching and are the conception of education which underlies all our organization and practice.
For the shaping of the new world which lies before us we need knowledge and trained intelligence, and together
with these to direct their use to the true service of mankind we need character and personality. We must, as teachers, recognize the seriousness of our task. In the coming work of reconstruction we have great opportunity won for us at terrible cost. That this sacrifice be not in vain, there is much, very much, which must be done. We cannot, hope ourselves to do it all, but we can go about our work in confidence if we realize the truth of those words in which the poet of democracy summed up his faith in the future: "Produce great persons. The rest follows."

## Special Articles

## BEEKEEPING FOR TEACHERS

By Edward S. Lord, B.A., Certified Expert of British Bee-keepers' Association, and formerly Expert in Agriculture for 14 years to the Staffs. County Council, England.

The present stringency of sugar, coupled with the need for conservation of all kinds of food, impels me to write on the subject of bee-keeping, in the hope that I may be of some small service to my fellow-teachers and our glorious empire in the hour of its extremity and need.

Manitoba is an unexcelled place for bee-keeping. After 18 years' English bee-keeping experience, my annual yield per hive was 30 lbs., just about the same as Ontario, but the average yield per hive in Manitoba is 100 lbs.

I have now had eight years' experience in Manitoba and my average for the first seven years was 100 lbs., this ulso being the yield at the Agricultural College and other apiaries. The honey is mostly white clover honey, which ranks an easy first among the different classes of honey. The white clover abounds as a weed along the roadsides and in the bush, and in almost every locality, and therefore there are few places unsuitable for the practice of bee-keeping. Next to clover in importance are the golden-rods, and as
they succeed the clover, we have a plentiful supply of honey from early July until about the middle of September. The golden-rod honey is slightly inferior to the clover honey. There is no danger in bee-keeping, and anyone can commence and be assured of successpartial at first, but unalloyed when proficient in the art, which takes about two years to accomplish. The erroneous impression that bees attack certain persons seems difficult to eradicate, and I can assure your readers that bees are quite docile under expert management and scarcely ever exhibit temper. Of course being ladies, they do sometimes, but very seldom.

When an apiary is cross there is generally a cause, and the enlightened bee-keeper soon abolishes the cause, the most general of which is giving the bees access to stores of honey or sugar, over which they fight. The proper time for extraction, artificial swarming, etc., only comes with diligent reading and acute observation, and therefore the tyro does not harvest as great a surplus as the old hand.

The nervous beginners should wear a veil and sting-proof gloves, but the latter can be dispensed with later on, although bees are generally easy to manipulate, the bee-keeper has more confidence when the face is protected, but the injection of formic acid on the hands by means of beestings is an effective antidote to rheumatism. At first the bee-stings will be painful, but in course of time stings will not incommode the apiarist, as he or she will become inoculated.

Thousands of tons of honer are wasted in Manitoba for want of gathcrers, and at the present time it is an absolute shame that such should be tolerated, and teachers are the persons who should lead the communties in this important phase of agriculture, incidently adding very materially to their meagre and inadequate salaries. The begimer should commence on a small scale, gradually enlarging the scope of his or her labors as efficiency comes. The initial cost is not prohibitive, and is within reach of all. On no account should more than one or two hives be purchased, and these will cost about $\$ 10$ per hive. As they swarm at least
once yearly, the size of your apiary in future years is simply an example in geometric progression. The bee-keeper can thus make the bees pay their own way. A smoker, veil, and gloves (for a nervous person) are all you will need for the first season, as the extractor may be dispensed with and the honeycomb pulverized by means of the metallic potato masher.

Writing on so comprehensive a subject is difficult to condense, and my remarks are intended solely to show the commercial valuę to my fellow-teachers, but if my services can be utilized for the benefit of the profession, I shall be only too glad to contribute, free of cost, monthly articles, and answer any questions.

I have invested over $\$ 200$ this spring in bees, $\$ 30$ on poultry and $\$ 6$ on a pig, hoping thereby to help to increase production, and I will in due time present my season's balance-sheet for the benefit of your readers, trusting that any fellow-teacher who has made a success of his hobby will follow my lead and help the Journal to become even more useful.

## THE FUR BEARING ANIMALS OF MANITOBA

Specially written for the Department of Education, Winnipeg, Man., with the compliments of the writer to the Hon. the Minister of Education.

> By J. D. A. Evans

In years of long ago, when white man first invaded Rupert's Land, the Manitoba of today, few, if any countries of the world possessed a greater varicty of fur-bearing animals. And several varieties of such, in diminished number, are yet within the province. A summary of these is as follows:

The mink occurs in a majority of districts. especially localities wherein small winding streams are situated. It is usually conceded that when quantities of muskrat are noticeable, the abode of the mink will be found.

Alone amid musettled locality, does the racoon possess its haunts. This an-
imal, which as with mink, usually occurs within vicinities of small creeks, is claimed by trappers to be plentiful within northern confines of Manitoba.

Few children of agricultural districts have not seen the skunk, that depredator of the farmer's poultry house.

An animal for the destruction of which many municipal bodies award a bounty, is the coyote. The timber, or great wolf, is practically extinct except in any but remote districts.

The fox, correctly speaking a species red in color, is not a frequenter of every locality. No less than thirteen
varieties of the fox family are understood to roam the forest toward Hudson Bay.

We may dwell a lifetime in Manitoba and not observe the otter. This animal, however, is found along the shores of the greater waterways, Lakes Winnipeg and Manitoba.
That wonderful little constructive creature, the beaver, makes its home along certain streams, of which the Souris is an example. The animal is under protection for some years of the future from destruction by trapper or gun. Indeed, a fitting tribute to the few beaver now remaining, would be a close season in perpetuity.
Through heavy timber stretches roams the lynx. A very ferocious animal if attacked by man, and save in the wildest localities is in these years rarely met with.

It will be necessary to travel northward of Lake Winnipeg to observe the marten, one of the most clever hunters of the forest fur bearers.

The cinnamon or brown bear is an occasional visitant to populated Manitoba. The late James Cunningham, of Somerset, a member of Manitoba's first Legislature, spoke to the writer of the white or polar bears which occurred in plentitude within the district of the
deceased's once home on the shores of Hudson Bay.

Few waterways do not contain that little builder of reed houses, the muskrat.

The ermine, commonly called white weasel, is found within every locality.

The fisher angles in streams for its sustenance, and is likewise a clever hunter of rabbits and birds. Its haunts are principally confined to northern latitudes.

Many fields contain excavations made by the badger, a persistent enemy of sundry pests and hence a useful servant of the farmer.

The wild cat is now principally confined to woods of dense growth. As with the lynx, this tiger of the Manitoba forest is an extremely dangerous animal to encounter, and displays little fear of mankind.

The wolverine tenants territory away from the progress of civilization. This animal, also known as the cajago or Indian devil, is possessed of a peculiar trait. The wolverine will follow a trapper along his lines, then await capture of animals in the snares, devouring the fur-bearers immediately.

Small piles of earth are frequently noticeable on the grain fields. These mounds represent the labor of the mole, the smallest of Manitoba's fur bearing animals.

## SCHOOLHOUSE AS A SOCIAL CENTRE

(By.S. E. R.) -

It is no wonder that many young boys and girls, as soon as they break away from childhood, leave the country home and seek employment in a big city to escape the monotonous and much detested country life. It is natural for a man to have some kind of organization, a society. A man is not like the lowest type of animal that is adapted by nature to lead the life in wilderness by himself. He must have an entertainment of some nature.

So apparently the most prominent reason why the boys and girls leave
the country is lack of social life in some rural communities. They get "sick and tired," as they say, of country, and naturally go to the city with the idea to lead a social life. But to their surprise, in a majority of cases, they find themselves at the edge of a horrible precipice, leaving behind them a surplus amount of pleasure, which they would have had, had they stayed at home. Notwithstanding the blunder they have made through folly, they console themselves with the tears behind the smile, that they are in society and
society is everything. They seem to overlook the outstanding features of rural community, which would enable them to realize the fact that there may be just as large a society in a country as in a city.

So it happened in my district the young boys and girls were constantly persistent for leaving the country and go to the city (undoubtedly this is common in other districts). Now it is really wonderful what change it brought about when we made the use of schoolhouse for our social gathering! The same boys and girls that were constantly persistent to leave the country, now don't care for city. They despise the city because they have realized that country life is intrinsically superior to that of the city; they have also realized that in the country they can climb up without pulling others down, as it is often the case with the city folks.

We have organized a literary society, which presents plays and gives concerts quite often. The older school children have also largely contributed to the development of this literary society.

Association of teacher, parents, and the children is essential, and by this means kindly co-operation is sure to accomplish welfare to all-teacher, parents and the children. In such conferences, much is done to fit both parents and teacher to interpret the longings and the deeds of children, aside from its moral value, and making the community worth while. Such conference I term as a commendation of our enterprise, which has such great possibilities for general usefulness.

I think that the schoolhouse is not
only "the place for acquiring knowledge of spelling, arithmetic, etc." It is just as essential to teach sociability as to teach the subjects in the daily routine. And so I say, to make use of the schoolhouse for social gathering is certainly desirable, and it certainly curtails the desire for the city.

The process which fits one for the social function is as much educational as another subject, and it is not all impertinent.

To have the schoolhouse as a social centre has great value in enabling a youth to discharge the duties of citizens and in developing the faculities necessary for the harmonious working of the great machine of society.

A schoolhouse may be used for "social centres" to a great extent, however, in our case the schoolhouse is not commodious to suffice our present need, and consequently we are now erecting a hall which is to be a centre of the community and a centre of sociability.

Once a literary society is organized there will be no desire for transportation to city for "recreation." One may think that to lead such a literary society means an ample additional work for teacher, but as a matter of fact, there is hardly any work. providing that it is well establisher. They are Jeft on their own resources.

A good library in such a society replaces the "movies" in city and resists the notion for city. It has certainly enormous influence for good. This is all quite practical and it is a great factor in upbuilding youths, and to a great degree alleviates the monotony of the country folks.

## SERVING HOT LUNCHES IN RURAL SCHOOLS

Several years of teaching in rural schools has convinced me that one of the most urgent needs is at least one hot food with the noon meal. A little co-operation of teacher, mothers, and older pupils will make the serving of such meals a very simple matter. No
one can foretell the large things which may be a result of such simple beginnings.

## Equipment.

An elaborate equipment is entirely unnecessary. I found that a boxstove, granite pot and a fork, plate and spoun
for each person, and a dishpan, made the endeavor possible.

A stove is the first essential. The oldfashioned box-stove is really quite satisfactory in winter. A kerosene or gasoline stove is very desirable if it can be afforded.

An oven should be purchased. It works quite well on box stoves, and costs about three dollars. I would recommend one not too small.

A table and cupboard are necessary. These may be made very satisfactory from packing boxes or bits of spare lumber. Here is an opportunity for enlisting the boys.

A double boiler is necessary. For this, if funds are limited, one saucepan resting on three discarded sealer rings in a larger kettle answers the purpose very well. Either one may be used separately as occasion demands.

There should be another saucepan, shallower and larger in diameter, for use in the oven.

There must be at least two mixing spoons, a fairly large, sharp knife, a paring knife, a case knife, a teaspoon and a tablespoon, a measuring cup, a large mixing bowl, two smaller bowls, an egg beater, and a dish-pan, along with the necessary serving dishes.

Many other utensils will make the pleasure greater and the work less, and should be added from time to time, as it becomes possible; for example, a teakettle, more saucepans of various sizes.

A fireless cooker ought to be made. The home made kind is quite satisfactory.

The details of doing the work and providing the food materials must be worked out by the teacher, and mothers of the children.
In the following recipes, I am making extensive use of milk and eggs, Which should form a large part of a child's diet, and are more easily obtained than any other articles. Skim milk contains all the food elements of whole milk except the fat, which has been removed. The quantities are for ten persons, which is a good working number.

I would not advise giving children
tea or coffee, but cocoa is a good, nourishing food rather than a beverage.

Abbreviations: t , teaspoon; tb, tablespoon; c, cup.

## Cocoa

3 qts. milk.
$\frac{1}{2}$ c. сосоа.
$\frac{2}{3}$ c. sugar.
A little salt.
1 pt . of water.
Mix cocoa, sugar, salt, with enough lukewarm water to make a paste, add remainder of the pint of boiling water. Boil five minutes. Add to the milk which has been scalded in the double boiler. Beat well with egg-beater to prevent formation of scum.

## Soups.

Soups are of two kinds. Stock soups contain but little nourishment, as they are chicfly water, yet have a very important place in the dietary, as they form a hot dish, stimulating the digestive juices, and the appetite, and if they contain vegetables, provide important minerals. Serve them often, if bits of left-over meat (neither smoked nor corned), and bone, can be obtained, but don't let us forget that the "nice, nourishing soup," made thus, is a myth.
The other class is the cream soups, made with milk as a foundation.

To prepare stock, cut meat in fairly small pieces. Allow one pint of cold water to each pound of meat, bone and fat. Let stand. Heat gradually, cooking slowly for six or seven hours. Add vegetables. etc., about an hour before serving. Some may be cooked partially the afternoon before serving. As many vegetables as can be obtained, may be used. It might be rice, macaroni, or spaghetti, split peas, lima beans, pearl barley, with salt and pepper. Celery salt is a valuable season-

## ing. <br> Vegetable Soup Without Meat Stock

Cook 1 e. each of diced carrots, turnip, cielery, etc., any vegetables obtainable, in 3 qts. water. Add $\frac{4}{4} \mathrm{c}$. butter, salt and pepper to taste.

## Baked Bean Soup

Cook together for half an hour:

1 can baked beans (or 1 qt. home baked beans).
$2 \frac{1}{2} \mathrm{qts}$. cold water.
A little chopped onion.
1 little chopped celery or celery salt.
Add 1 can tomatoes, 3 tb. butter, 3 tb. flour.

Mix with water, and salt and pepper to taste.

## Bean Stew

2 c. beans.
1 qt. tomato.
1 c. chopped celery (or celery salt,
$\frac{1}{2}$ c. chopped onion.
1 qt. water.
$\frac{1}{ \pm}$ c. butter.
1 gt. diced potato.
Salt and pepper to taste. Soak beans overnight. Bring beans, tomato, celery, onion, water, to boiling point, then simmer slowly five or more hours. Forty-five minutes before serving, add potatoes, butter and seasoning.

## Parsnip Stew

1 lb . fresh or roast pork.
$\frac{1}{8} \mathrm{lb}$. salt pork.
1 onion, sliced.
$2 \frac{1}{2}$ qts. cold water.
5 medium parsnips.
2 lbs. potatoes.
Salt and pepper to taste.
Cut in small pieces. Cook slowly in the water, till tender. Cook onion and salt pork together till onion is yellow. Add onion, salt pork and peeled and sliced parsnips to pork stock. Cook half an hour. Add diced potatoes. Cook till vegetables are done. Add a little flour and water thickening (a scant 4 c. flour), salt and pepper to taste.

## Cream Soups.

- There are many delicious and very nourishing cream soups which have as a basis milk, flour and butter.

For 3 qts . liquid, use $\frac{3}{8}$ c. or 6 tb. butter and $\frac{3}{8}$ c. or 6 tb . flour.

## Cream of Cabbage Soup.

$1 \frac{1}{2}$ lbs. cabbage.
$1 \frac{1}{2}$ qts. boiling water.
$1 \frac{1}{2}$ qts. milk.
6 tb. butter.
6 tb . flour.
Salt and pepper.

Chop cabbage, cook in water and salt. Add milk, butter and flour.

## Corn Soup.

2 small cans corn, a little onion, milk, butter, etc.

## Green Pea Soup.

2 eans peas, milk, etc.

## Cream of Tomato Soup.

1 can of Tomato, milk, etc. Add hot tomato to hot milk at last moment.

## Potato Chowder.

1 or a little more qts. diced potatoe, onion, $\frac{1}{2}$ pound fat bacon cut up, in place of butter. Seasonings

Asparagus Soup.
Cream of Celery Soup.
Cream of Cauliflower Soup.
Cream of Wax Bean Soup.
The ingenious teacher will invent many new varieties.

## Vegetables.

Baked potatoes should often be served, with butter, salt and pepper, or occasionally with a creamed dish.

There should be no lack of vegetables in the country. Carrots, turnips, beets, cabbage, parsnips are all easy to cook.

## Oreamed Dishes.

White Sauce:
$\pm$ c. butter
$\frac{1}{1}$ c. flour.
$\frac{1}{2}$ qt. scalded milk.
t. salt.

Creamed Peas on Toast.
Creamed Canned Finnan Haddie.
Creamed Salmon.
Creamed Shredded Codfish.
Creamed Chicken.
Creamed Corned Beef.
Creamed Dried Beef.
Creamed Eggs.

## Meat Dishes.

Left over meats may be cut up, water, flour, tomato, onion, celery, any desired seasonings added. Cook till flour is done.

A crust of mashed potato put on cut up meat, browned in the oven, makes a delicious cottage pie.

Mixed with vegetables a good hash is made.

Eggs should be used often-in a variety of ways, steamed, poached, scrambled, baked, etc.

## Cereals.

Cereals should not be considered a purely breakfast food.

Plain boiled or steamed rice, corn meal mush, oatmeal, Pettijohn's rye flakes,
cream of barley, cream of wheat (especially with a few dates or raisins added) with milk and sugar, are delicious, and very nourishing, as are the macaroni dishes.

A few simple hot desserts such as rice pudding, and baked custard should not be entirely omitted.

## EFFICIENCY IN EDUCATION

By G. R. F. Prowse, Kawende

Superintendent White sounded a necessary note of warning to us on this subject: "We must live up to the spirit of the time. It is said: no corporation ever reforms itself." We ought to disprove that. On the ethical side of education we have common ground -character building. The results cannot be measured in dollars and cents, but, if I am any judge of the character of our teachers as a body, the work is faithfully done. On the technical side, howerer, we have no real common ground. I speak more especially of graded schools. As a manufacturer most of my life, the waste seems to me enormous. If Mr. Ford should ever turn his attention to education, he would be horrified. We work in water-tight compartments. At a teachers' meeting, it seems almost impossible to get A, B and C, who do not teach "Man:Loba,'' to discuss the problems of D , who does; or in class for $F, G$ and $H$ to gather up the threads of the work done by E. I tim not finding fault. We are all tarred with the same brush. Victims, it seems to me, of a vicious system or want of system. The pupil, too, is slipping mental cogs from grade one to eleven; being drilled, as Dr. W. A. McIntyre pointed out, on subjects he is perfectly familiar with, and whole chunks of many subjects he ought to have at his finger ends getting slurred over. I found a large grade nine, a year or two ago, absolutely ignorant of Manitoba-they could not even make an attempt to draw the map of our own province. The fact that geography was Lot taken in grade eight was really no excuse for this ignorance. I mean from a pedagogical point of view.

I have drawn a rather lurid picture, to secure a momently attention to a simple proposal, which, I believe, would remedy all this and place our teaching on a sound basis-a single unified syllabus of each subject for all grades, with the work of each grade distinguished by shecial type. Take for ex-
ample, history, on to the syllabus for grade ten, which seems to have secured distinct success, would be incorporated the stories and biographies of the lowest grades in their proper setting; if deemed advisable those given in some recognized compilation, such as the Highroads of History. Also our own history. How much more vivid ' 37 would appear to a pupil, if the European background of ' 30 and ' 32 were always before him. Most other subjects, I believe, could be treated in the same way, even grammar. One can easily picture a speller composed of blocks of kindred words but of increasing difficulty.
I would place a copy of the syllabus in the hands of each pupil, practically as soon ns he could read. Alfred and Joan of Are and Wilberforce, on different pages, would have their true relations automatically fixed. It would be impossible to fool a pupil on those, as it would be by trying him with North America up-side-down. There would be an enormous amount of uneonscious cerebration. The inquisitive pupil-the bulk, that is, would certainly wander outside their own domain.

The teacher could never for one moment get away from the work which had been done in the lower grade and the work which would be done in the grader above her. There would be no loose ends to gather up. At a teacher's meeting she must contribute to the discussion, not of her subject, but of her rart of the subject. The text book would fall back into its proper place as a help. not a hindrance to inspiring work.

There are, of course, objections. The most obvious one is that an incompetent teacher vould inevitably start out to put old heads on young shoulders. Taking everything into consideration, I believe, however, the advantages would far outweigh the disadventages. I sincerely hope this article may provoke a discussion of the subject.
"It is only fair to say that the boy who breaks is the same boy, ill-taught and ill-trained as the boy who makes; and that the boy who breaks most is the boy who, if his energies were properly directed, would make most."

## DRAWING OU'TLINE FOR SEPTEMBER By the Supervisor of Winnipeg

Grades 7 and 8.-Use $9^{\prime \prime} x 12^{\prime \prime}$ manilla paper except where otherwise directed. A booklet of drawings to be made during the year. See that name, school and grade appear at lower left-hand corner of each sheet.

Color Chart.-N.B.-This exercise is of the greatest importance as the chart is necessary in all the work throughout the year.

Aim: To exactly match the standard colors in full intensity; to show graduated values in intermediate hues and in greyed colors.

As soon as possible the class should make a color chart for use in classroom. Make washes of color upon $41 / 2^{\prime \prime} \times 6^{\prime \prime}$ manilla paper. Cut out $4^{\prime \prime}$ circles and mount upon a large card in proper order. See Graphic Drawing
of at least six leaves in various positions; different varieties of leaves may be used. Do not make flat views.

Grade 6.-Use $6^{\prime \prime} x 9^{\prime \prime}$ paper except where otherwise specified. See that each sheet bears pupil's name, school and grade at lower left-hand corner.

Color Chart.-Class should make a large color chart for the schoolroom. Let each row make washes (on $41 / 2^{\prime \prime} \times 6^{\prime \prime}$ paper) of one standard color, from the best of which cut $4^{\prime \prime}$ circles. Let each pupil produce neutral grey by mixing the standards together. See chart in Graphic Drawing Book No. 5.

Practice.-Take quick practice lessons in greying colors before commencing the nature work. See Drawing Book No. 5.


Book No. 7. Have this completed early in the month.

## Problem. - Nature Work, Brush Drawings.

Aim: To show growth of plant and foreshortening of leaves. The specimen should be placed so as to present turned and foreshortened views of both leaves and flowers.

Make brush drawings of any plant forms, flowers, leaf sprays, berry sprays, seed vessels, ete.
Problem.-Single leaves in pencil or color.

Aim: To show a well arranged sheet

Problem.-Make brush drawings of flowers or leaf sprays (with or without berries). Make pencil drawings of flowers or leaf sprays (with or without berries). Attempt shading. Aim to obliterate outline. See Graphic Drawing Book No. 5, pages 3, 5 .

Grade 5.-Use $6^{\prime \prime} x 9^{\prime \prime}$ manilla paper except where otherwise specified. See that each sheet bears pupil's name, school and grade in lower lelt-hand corner.

Color Chart-Class should make a large color chart for use in the schoolroom. Let cach child make washes of
clear, strong, standard colors on $41 / 2^{\prime \prime} \times 6^{\prime \prime}$ papers. Select from the best and cut $4^{\prime \prime}$ circles. Mount on a large card in proper order according to Graphic Drawing Book No. 4.

Practice.-Review the making of shades. (Grade 4 work. Add a little of the complementary to the standard to produce a.shade.)

Practice.-Teach the foreshortening of a circular flower in color or ink. Note the shortening of nearest and farthest petals. Side petals appear full length. Width of ellipse varies with height and distance from eye.

Problem.-Make brush drawings of any flowers. Each child must be provided with a specimen. Do not work from any copy. Avoid a pencil outline.

Grade $4 .-$ Use $6^{\prime \prime} \times 9^{\prime \prime}$ or $41 / 2^{\prime \prime} \times 6^{\prime \prime}$ manilla paper as specified. All work

Brush Stroke Exercises.

should bear pupil's name, sehool and grade in lower left-hand corner.

Color Chart.-Have the class make separate washes of the primary and Secondary colors on $41 / 2^{\prime \prime} \times 6^{\prime \prime}$ paper. Select the best; cut out $4^{\prime \prime}$ circles and mount in proper order for use in schoolroom.
2. (a) Give an exercise with brush and ink on the making of horizontal brush strokes of different widths. Fill a $41 / 2^{\prime \prime} \times 6^{\prime \prime}$ paper with this excreise. (b) Give an exercise in ink on the foreshortening of a circular flower. Do not use pencil. Note that the circle of the a brus appears as an ellipse. (c) Make a brush drawing of any tower in eolor.

Work in masses except where fiowers consist of a few well-defined petals. In such cases paint petals separately. Each child must have a specimen from which to work. Do not allow copying.
3. (a) Give an exercise on vertical strokes of different widths. Do not turn the paper to work. (b) Exercise on the making of tents. (c) Brush drawing of any flower.
4. (a) Exercise on oblique strokes of different widths. (b) Practical lesson to show how a color may be made darker by the addition of a little of its complementary. (c) Review the brush drawing of any flower.

Grade 3.-Use $41 / 2^{\prime \prime} \times 6^{\prime \prime}$ manilla paper unless otherwise directed. All work must bear pupil's name, school and grade in lower left-hand corner. N.B.-Teachers should make a large six-color chart ( $4^{\prime \prime}$ circles) for use in class-room, similar to that in Graphic Drawing Book No. 2. Each child must have a ruler.

1. (a) Brush work exercise in ink or color using horizontal brush strokes of various widths. Fill a $41 / 2^{\prime \prime} x 6^{\prime \prime}$ paper with this excrcise. (b) Oral lesson on the production of secondary colors. Make a "stained glass window effect" in a shape to represent a window, using the three primary colors. (c) Make a brush drawing of any flower. Each child should be provided with a specimen.
2. (a) Brush work exercise in ink or color, using vertical brush strokes. (Do not turn the paper to work.) (b) Make a brush drawing of any glasses, leaves, flowers, ete. (c) Practice lesson in producing two tints of a color.
3. (a) Brush work exercise in ink or color using oblique lines. (b) Review the brush drawing of flowers, grasses, etc. (c) Review tints.
4. (a) Lesson on the ruler, to teach inches and half inches. (b) Prepare by ruling two oblongs, $2^{\prime \prime} x 3^{\prime \prime}$, well placed on a $41 / 2^{\prime \prime} x 6^{\prime \prime}$ paper. (c) In the above paint two widths of any color.

Grade 2.-Use $41 / 2^{\prime \prime} \times 6^{\prime \prime}$ manilla paper except where otherwise directed. All work should bear pupil's name, school and grade on back of paper. Teacher
should make large six-color chart for use in school-room.

1. (a) Oral lesson on primary color, naming colors of familiar objects. (b)


Free orm movement exercises
Curved lines.
24200
Make a yellow wash. Place paper vertically. (c) Make a red wash.
2. (a) Oral lesson on secondary colors. (b) Make a "stained glass window effect," using red and yellow. (Note the orange color where these mingle. Best results are obtained when paper is first made slightly damp.) (c) Make a blue wash.
3. (a) Make a "stained glass window effect" by using yellow and blue.
(Note the green.) (b) Make a brush drawing of a yellow flower with a green stem or of a green leaf. (c) Make "stained glass window effect,' by using red and blue. (Note the violet.)
4. (a) Give an exercise in ink or color on short horizontal brush strokes. Fill a $41 / 2^{\prime \prime} \times 6^{\prime \prime}$ paper. (b) Oral lesson on rainbow colors. If possible show them to the class through a prism. Note their order. Tell a rainbow story. (e)

Free-arm Movement Exercises.


Make "stained glass window effect" by using red, yellow and blue. Note that all the rainbow colors are present in this result.

Stars blink and twinkle,
Ice-needles tinkle
Lullabies sweet;
Then in a sheet
All together are bound:
We are so shivery,
No more charivari;
Sweet sleep, so deep,
Profound, profound, profound.

## RAINBOW STORIES-GRADE 11.

## I.-The Norse Story

After the gods had made a man and a woman on the earth and had begun to take an interest in what was going on there, they thought they would build a bridge from heaven to earth, and out of red fire, yellow flowers and blue sky they built the rainbow bridge. Thor, the god of thunder, was never allowed to use it for fear his heavy tread and the heat of his lightnings might destroy it. The other gods passed over it to the earth whenever they wished, but men could not walk on it. When brave men fell in battle, however, the wish maidens or Valkyrs mounted on their fleet steeds, bore the dead warrior over the quivering rainbow bridge to feast with Odin. When a Norse boy saw the rainbow he said to himself, "The Valkyrs are carrying heroes to heaven!"

## II.-The Greek Story

Juno, queen of heaven, wife of Zens, had an attendant maiden named Iris, whom she often employed as messenger. Iris was so fleet of foot that nobody could overtake her, and so quiet in her
going that hardly anyone ever caught sight of her. She wore a beautiful robe of many colors. When Juno sent her on an errand to the earth, "gliding swiftly through the purple air," her dazzling mantle left its brilliant path across the clouds as a shooting star leaves its trail for a moment in the midnight sky. When the Greek boy saw the rainbow he said, "Iris, the messenger of Juno, has just passed by!"

## III.-The Hebrew Story

After the great flood, which destroyed everybody but Noah and those who were with him in the ark, God promised the earth should never again be destroyed by water, and God said to Noah, "I will set my bow in the clouds, and it shall be for a token of a covenant between me and the earth; when I bring a cloud over the earth, the bow shall be seen in the cloud, and I will remember my covenant that the waters shall no more become a flood to destroy all flesh." When the Hebrew boy saw the rainbow he thought, "God never forgets his promises."

## The Rainbow

Two little clouds, one summer day, Went floating through the sky ; They went so fast they bumped their heads, And so began to cry.

Old Father Time looked down and said, "O, never mind, my dears; I'll send my little fairy folk To dry up all your tears."

One fairy came in red so fine, And one in orange bright; Then yellow, green, blue, violet, Were all at once in sight.

They wiped the cloud tears all away And then from out the sky
Upon a line the sunbeams made They hung their gowns to dry.
-E. A. H.

## The Rainbow

A bridge of pearls its form appears
Above a grey and misty sea;
Beneath its arch the tallest mast
Would find its passage free.
That bridge has never borne a load;
When men draw near it seems to fly;
But after a storm, o'er the traveller's road
Its beauty takes his eye,
And he wonders who built the wondrous bridge
Across the purple sky.

## Noted Britishers

## Sir Arthur Seymour Sullivan <br> (1842-1900)

What English boy or girl is there who does not know some of the popular airs in the well-known Gilbert and Sullivan operas, "The Mikado," "H.M.S. Pinafore," "The Pirates of Penzance," etc. Even those who have never seen any of these operas performed or never heard the words, are fuite familiar with many of the tunes, for they are played regularly by the bands in public parks throughout the country.

The bright, delicate, and "catchy" melodies which distinguish these charming operas were the work of Sir Arthur Sullivan, who, however, is perhaps just as well known for his more solemn and dignified oratorio music.

Sir Arthur was born in London in 1842, and, after thoroughly studying music, for which he had an undoubted talent, in England, he finished his musical education at Leipsig. His first successful music was that for "The Tempest," which was first played at the Crystal Palace when Sullivan was only twenty years of age.

From this time success constantly attended him, and we marvel at the amount of excellent work which he produced during his lifetime. His music was always particularly suited for its purpose, and the solemnity and grandeur of the music in the oratorios, such as "The Martyr of Antioch," and the "Golden Legend,", and the delicate almost playful music in his lighter operas, are, worthy of admiration.

In spite of his busy life Sullivan found time to fill the position of Principal of the National Training School of Music from its foundation in 1876 to the year 1881.

He received many honors during his lifetime, being made a Doctor of Music at both Oxford and Cambridge Universities, and receiving the Legion of Honor in 1878 . He was knighted by Queen Victoria in 188:3. and on the
whole his career was one of brilliant success.

He died in 1900 at the age of fiftyeight, and was buried in St. Paul's Cathedral.

## Sir Christopher Wren <br> (1632-1723)

Not only did the great architect, Sir Christopher Wren, design St. Paul's Cathedral, but amongst his other great freehand drawing of a set of three works are The Monument, Greenwich Obscrvatory, and Chelsea Hospital. He designed, also, at least fifty of London's churches, and was so versatile in his art that the great variety of form and detail shown in his work calls forth the wonder and admiration of all observant persons.

Wren's father was rector of East Knoyle, Wiltshire, and there his second son, who was to win such fame, was born in 1632. It was not until he was ten years of age that Wren was sent to school, for his father preferred to teach him during his early years himself. He first attended Westminster School, whose headmaster was the most famous schoolmaster of the seventeenth century, Dr. Busby. Four years later he proceeded to Oxford University, where he at once attracted notice for his great abilities. Here, when only eighteen, he won his B.A. degree, and three years later became M.A.

The first work in which he had a chance of showing his genius as an architect was the building of a chapel for Pembroke Hall, Cambridge, which his uncle, the Bishop of Ely, commissioned him to build as a gift to this university, at which he had formerly been a student. Later he designed important additions to the buildings of Trinity College, Cambridge. The success of these undertakings brought him much more work, the most important of all being the restoring of St. Paul's Cathedral, which the king commissioned him to do.

Wren at first decided to restore the parts of the cathedral that had fallen into decay, in a style as nearly resemb. ling that of the architect's (Inigo Jones) as possible. However, when the Great Fire of London further destroyed the building, he decided it would be better to rebuild it entirely; and though the committee at first were much against this because of the great amount of money it would cost, he fin ${ }_{r}$ ally won the king's consent to his scheme, and he immediately commencod his designs. The first design did not please the committee or the king, and Wren had to draw another one more in accordance with their wishes. He had made a model of his first design, which may still be seen in the cathedral and which many people agree with the designer himself in considering a much more beautiful scheme than the one chosen.

The cathedral cost one million pounds to build, and part of the expense was defrayed by the proceeds of a tax upon coal. Wren died in 1723, and was buried !in the great cathedral which he had erected.

## Sir John Moore (1761-1809)

Among all our many heroes of war there are few men of whom we have more reason to be prond than of the man who did so much to ruin Na poleon's plans in Spain. The French emperor's armies had not met with very much success in Spain, so he decided to conduct the campaign there himself, and boasted that he would chase the English armies out of the Spanish Peninsula. And so he might have done, perhaps, if it had not been for Sir John Moore with his 26,000 men. Historians tell us that the state of affairs in Spain was very favorable to Napoleon's success in doing what he said he would. Sir John Moore, eldest son of Dr. John Moore, physician and Author, was born at Glasgow on November 13, 1761, and entered the army as an ensign when he was only fifteen. He served with distinction in Corsica in 1794, in the West Indies in 1796, in

Ireland during the rebellion of 1798, and in Holland in 1799, and afterwards in Sicily and Sweden. In 1808 he was sent to Spain with reinforcements. Napoleon poured an immense army into the country, which nearly wiped out the Spanish forces, and in a very short time captured Madrid. He then prepared to make a triumphant march into Portugal and bring that conntry also to his feet. Sir John Moore saw that if he could only delay the French, the Spanish troops would have time to recover, and Napoleon might after all be held in check, even if he was not beaten. So, although he had only about 26,000 men, he resolved to try to delay the French army, and marched from Salamanca to Burgos, thus threatening their line of communications. This daring move won the admiration of Napoleon himself, who said, "Moore is the only general now fit to contend with me." Between 50,000 and 70,000 French troops were sent against Moore by Napoleon with amazing swiftness; but, fast as they marched, our soldiers outmarched them. Having effected his purpose of arresting the French movement on Portugal, Moore's duty was to beat a retreat and get his little army safely to Corunna, where a British fleet had been ordered to embark it. When he reached Corunna, however, Moore found that the fleet had not arrived. Before it came the French attacked him, but, though he had now only about 14,000 men left, he beat the enemy, who suffered very heavy losses. Soon afterwards the fleet arrived, but Sir John Moore had been wounded by a cannon ball, and died while his brave troops were embarking, on January 16, 1809. His body was wrapped in a soldier's cloak and buried by torchlight in a hastily-made grave in the citadel at Corumna. There is a very beautiful and well-known poem by Wolfe on the death of Sir John Moore, which ends with the lines:

We carved not a line, and we raised not a stone,
But we left him alone with his glory."

# Selected Articles 

ACQUIRING A VOCABULARY

By C. E. Birch, Principal Haskell Institute, Lawrence, Kansas.

The learning of a language comprises numerous acts and experiences, many of which are almsot impossible to classify. This is also true, to a great extent, of the methods used by schools to impart instruction in language. Class instruction in composition, literature and technical grammar is the usual procedure. However, there is another phase of the subject, little considered, which is of primary importance. It is the acquisition of a vocabulary. This precedes, necessarily, all other forms of instruction. Very few schools give any formal or conscious instruction in this most important phase. Long before a child goes to a schoolroom, he begins this course of instruction. From his first spoken "da-da," and even before, to his last day of activity on earth, he is acquiring new words or new uses for words.

Every recitation, no matter in what subject, contributes something to language power. If words are used that are not comprehended by the pupil and no effort is made to secure this comprehension, the recitation fails of its highest purpose. Every oral recitation is a lesson in composition. Every written lesson also contributes something. We have a separate period set aside for the special consideration of language, but every lesson, everything read, and everything spoken is a language lesson, either good or bad, or possibly a little of each.

It is almost axiomatic to say that it is necessary to build a vocabulary before attempting the minute details of grammar. The only way to teach a pupil to use good English is to make him familiar with good English. This can never be done by any on of the methods we have mentioned, but only by a judicious and liberal combination of all. Before one can hear or read understandingly, he must have some
knowledge of words-a vocabulary. Given a fair beginning, hearing and reading will add to the vocabulary. Thus all methods intertwine. Nevertheless, the acquisition of a vocabulary should not be merely haphazard and a matter of chance only.

Teachers frequently say, "Yes, I believe in building up the vocabulary of a student, but I should like to have some definite helps and suggestions to follow.'" The request is a reasonable one. Very little has yet been done towards developing any systematic plan for adding to the pupils' store of usable words. Neither has there been any adequate plan devised for recording the words learned.

Before attempting to offer a suggestive plan, it should be stated that no cut-and-dried plan can be successful. No one can lay down in advance the exact method to use nor the exact words which should be acquired in any given month or year. Any plan must be elastic enough to meet the varying conditions if it is to be of real service.

It will be readily agreed that the time to add a word to the vocabulary is when that word is needed for some practical, definite purpose. This need may arise sooner with one pupil than with another. We can never foresee all the words we may wish to teach, hence prepared lists can never entirely serve our purpose, no matter how carefully we may select them.
The assertion is sometimes made that the average person gets along with about five hundred words, or that a common laborer uses no more than that number. The following list of Five Hundred Words Most Frequently Used in Speaking and Writing was compiled partly to disprove this popular fallacy as well as to establish a list which would serve as a starting point for the vocabulary plan proposed.

It may be of interest to know how the list was prepared. First, something over one hundred words of everyday use in conversation was selected. These words included the days of the week, the months, the seasons, parts of the body, a few articles of dress, household words, names of common coins, names of meals, words used in school.

Following this, elaborate tests were carried out to determine what words are most frequently used in written form. A number of elementary readers were scarched, and from these a tentative list of over one thousand words was compiled. Then a wide variety of printed matter was examined and the words in the tentative list were checked as often as they appeared in the printed matter examined. Some new words were added during this process. After about fifty selections had been inspected, the words having the greatest number of check marks were selected in the order of the frequency of their occurrence. The matter examined included stories, newspaper articles, editorials and sermons.

It is admitted that this list may be criticized easily. Many will say that some words included should have been omiticd, while others may say that there are words not included which are entitled to a place. Be this as it may, it probably includes considerably over four hundred words which will hardly permit of disagreement. Mathematical accuracy is difficult to achieve in such a problem.

This list in reality represents more than five hundred words, for the reason that, as a general rule, only the root word appears. A set of rules governing this seems necessary:

Geographical and other proper names are omitted, excepting the Deity, names of the days of the week, and names of the months.

Compounds made up of single words already included are not given unless the meaning is slightly changed by the union.

Irregular verbs are given in the present tense only, and are followed by
three hyphens to indicate the omission, thus: write---

Regular verbs are given in the present tense only, the other parts being indicated by two hyphens, thus: help--

Auxiliary verbs are included.
An adverb or adjective which may be compared regularly by adding er or est is followed by a single hyphen, thus: bright-

Frequently words may be used as nouns or parts of speech other than would be indicated by the above markings. Also either of the marked forms may be followed by ing.

Nouns forming their plurals regularly appear in the singular only. Nouns forming their plurals irregularly appear in both forms.

Variations of the original word are indicated thus: far-ther-est, indicating the words for far, farther, farthest. Cloud-y-indicates cloud, clouds, cloudy, cloudier, cloudiest.

Five Hundred Words Most Frequently Used in Speaking and Writing.

| about | hefore | cheek |
| :---: | :---: | :---: |
| across | hegin-.. | child; |
| add-- | better | children |
| after | best | chin |
| again-st | big. | city |
| ago | bird | clean- |
| all | bite--- | clear- |
| almost | black- | clothes-ing |
| already | blow--- | cloud-y- |
| along | blue- | coat |
| also | body | cold- |
| always | book | come... |
| am | both | corner |
| among | bottom | could |
| an | boy | cover-- |
| and | bread | country |
| animal | hreak---fast | cry-* |
| answer-- | bright- | cup |
| any | bring-- |  |
| April | brother | dark- |
| are | brown- | day |
| arm | build--- | December |
| around | busy-iness | desk |
| as | but | did |
| ask-- | butter | die-- |
| at | button- | different-ce |
| August | buy... | dime |
| away | by | dinuer |
| baby | call-- | dirt-y- |
| back.- | can | do.es |
| bad | care--ful-ly | dog |
| ball | carry--. | dollar |
| be | cat | done |
| been | catch | door |
| because | cent | down |
| hed | chair | draw ... |


ularly local geographical names, names of friends, relatives, etc.

If desired, this list may be printed and put into the hands of the pupils as the foundation of their vocabulary studies. As new words are discovered or learned they should be recorded on other cards prepared in blank for this purpose.

It is a good idea to spend some time in drawing out pupils to ascertain what words they know in addition to the printed list. For example, a card might be used to record all the local geographical names with which the pupil is familiar. Another for the proper names of families in the vicinity, the names of other pupils and the name of the teacher. Perhaps one of two miscellaneous cards might be filled with general words used familiarly by all the pupils.

Whenever a new topic or subject of sufficient interest or importance is taken up, a new card should be begun
to record the vocabulary of that subject. Examples of this are: Transportation, Slavery, Europe, Corn, Cotton, Rip Van Winkle, Cattle, Furniture, Douglas County, Kansas, Trees, Electricity, The Kitchen, etc. It is impossible to enumerate more than a small fraction of the uses to which the card may be put.

As pupils are promoted from one class to another, there is no reason why the lists should not be "promoted" also. The cards may be kept in a strong envelope or may be punched and kept in a loose-leaf holder.

As the lists are compiled, they may form a basis for many lessons in spelling and more formal language instruction. They may be made of much scientific interest and will be valuable in developing better and more efficient methods of language training. They will arouse an interest in the acquisition of words, their meanings and. classifications.

## THE CAN OF TEA-A TRUE TALE FROM SOMEWHERE IN FRANCE

The officer in charge of the gun was Lieutenant D. S. Causer, who tells the story :

It was on the fringe of a wood. Behind a large heap of straw and between the trees a round hole ran sharply into the ground. It was just big enough to let a man through. It ran down more acutely a little way in, so that the bottom could be seen from the surface. A man could just lie down inside. There was a bed of straw and a bit of candle in a hole in the wall.

How the hole came to be made I could not tell, but gladly I crawled into it. With all its darkness and dampness it was welcome, and many winter days and nights I spent there, six feet below the earth, 600 from the enemy.

It was after a battle, and we were expecting violent attacks to recover the ground the enemy had lost. My two small guns stood back a few yards in the trees, carefully hidden by brushwood, leaves, and sacking. The men dug themselves in beside the guns, and there was no outward sign of life, no
moving thing except the leaves that whistled in the wind. The little wood was as silent as the grave. Only the animals and insects of the underworld knew of the human life below.

It was vital that it should be so. The wood was under close enemy observation. The slightest movement near it, even a suspicion of the presence of guns, would have brought down a heavy bombardment and the almost certain destruction of the little garrison and its weapons. From time to time the enemy sprinkled the wood with machine-gun bullets, and a sniper would waste his fire on the harmless trees, but never for a moment did the enemy suspect our presence.

The guns in the wood did not fire. Day after day and night after night the men lay in their dug-outs and waited for the massed formations to attack. Not until that came was the forward position of our guns to be revealed and the shattering of the advancing masses to begin.

All day I lay in my hole in the heap
of straw, and crawled out only for a few minutes each night to visit the men and see that everything was ready instantly when the time should come. It was cold and damp and cheerless enough. The arrival of rations at night was precarious. A fire in such a place was out of the question, and so we ate bread and biscuits and cheese and drank cold water from our bottles.

We could neither wash nor shave. There was not a moment when we could take off our clothes or our boots or ease our cold, stiff limbs. We dare not even sleep too soundly, and I found things to do to keep myself awake in the night. I cut out new positions for the candle in the wall, I changed the straw on the floor, I counted my matches and dried each one carcfully over the can-dle-flame, I cleaned my revolver, I took my bully-beef tin and scraped away the soil to enlarge the opening of my prison. So, for a while, the peril of our situation would pass from the mind, returning only when an ominous uneasiness prevailed in the infantry lines and the usual intermittent crack of riffes rose to a roar of rapid fire extending right along the front. But again and again the fire would die. The attack was not to be yet.
I longed for companionship, but no man could reach this spot by day save in jeopardy of his life, and by night the machine-gun fire on the wood scattered death between the trees. I longed for the warmth of a fire, but it was certain death to light a fire in such a place. I longed for water, hot or cold, to wash in, but did ever a desert traveller find water so hard to get? And how, lying down here at the bitter break of each day, a man longed for a drink of something hot!

Well, on one of these bitter mornings, and by a miracle, something hot came. I lay there on the straw and heard a movement stirring above the hole. Then a voice came quietly, "Are you there, sir?"

I could hardly believe my ears.
"Who's there?" I shouted ; and the voice came back:
"It's me, sir!"
"Whoever are you?"
"It's me ,sir-Gunner Evans!"
"'Whatever brings you here, Evans?"
"I thought you'd like a can of tea, sir. I knew as how you'd been having nothing warm."

I suppose I was more angry than any man not there could understand, for it was almost certain death to cross the space by which Gunner Evans had come from the next section of the battery. I suppose I let Evans see that I was angry, too, for things like these must not be done in war. Kneeling on the ground he lowered a can of steaming tea into the narrow hole. But, chilled to the bone as I was, longing for this drink as I was, I must know how this man came here, how he had dared to face death for nearly half a mile.
"Did someone send you, Evans?" I asked:
"No, sir; I just thought I'd come."
"But you know its against the orders; you know how dangerous it is; you know it must not be done. It is a wonder you are alive, Evans. How did you get across?"
"'Well, sir, I did have a bit of trouble. Coming over the little bridge they were shooting at me, but I put that can in my teeth and crawled along on my hands and knees."

It was hard to be angry, but a man must be angry at things like these in war. I took the can of tea. I suppose I thanked him with some very humble words that can never have told him what was in my heart; but I told him to lie down there in the dug-out with the men, and wait till night before he dared to try to get back to his battery, and never again, whatever happened, under any conceivable circumstances, to dare to repeat his terrible adventure. Then he crawled away.

Evans was an ordinary gunner with the other section of the battery, a rare character, though I had never had any particular dealings with him, and had done nothing to call for his notice. His section was more comfortably placed than ours. They could keep a fire go-
ing by day at the back of a ruined house, and in the greater comfort, and with his greater security, Evans had been thinking. He had thought how pleasant a drink of hot tea would be out in this wood.

And I began thinking, too. All that a man hath will he give for his life, yet even his life Gunner Evans had offered for a man who had done nothing for him.

Another day passed, and another night, and another bitter morning
broke. I woke up with the light coming through the trees, thinking perhaps of Gunner Evans. There was a noise at the top of the hole.
"Are you there, sir?"
It was more than a man could believe.
"Who's that?" I called.
"Only me, sir. No trouble at all this morning, sir."

And down through the hole came a can of tea steaming hot.

## A VERY OLD-FASHIONED HAT

By Harriet Malone Hodson

Very often a person speaks with much complacency of having bought a Panama hat "of the very latest style." And they will possibly never even know that such a thing as a Panama hat of the very latest style does not exist. As a matter of fact, the head covering that is termed 'a Panama" in the United States, has been made in exactly the same shape and style for centuries, and unless the unprecedented should happen, it will continue to be made in that way for centuries yet to come.
Tradition says that about three hundred years ago one Francisco Delgardo, a native of Ecuador, made a hat of toquilla straw. It was a marvelously beautiful hat, and as it is supposed to be the very first ever made of that material, it aroused the greatest admiration in all who saw it. Many of Delgardo's fellow citizèns became fired with a desire also to possess a soft, white hat made of toquilla straw, and very soon weavers of hats were to be found all around and about the home of the original hat maker. Tradition states in a tone of authority that the first hat made by Delgardo was woven in the exact shape and style in which "Panamas"' are made to-day, so when our vanity preens its feathers with joy over possessing "a real Panama of the very latest style," we may be sure that When Columbus came a-seeking our continent he found "the latest thing in

Panamas" on the head of some of the people he met.

From that small beginning, centuries ago, has grown one of South America's greatest and most interesting industries, for in one year, recently, she exported these beautiful hats to the value of $\$ 1,127,508$.

In their homeland "Panamas" are known as the Manovis, or jippa-jappa hats, their commercial name having been bestowed upon them because for more than a century the city of Panama has been the great centre where the hats are bought by the wholesale dealers from the various countries of the world.

The Panama is the ideal hat for wear in the far South, where the sun beats down with a semitropic fierceness. It is light, cool and submits with much graciousness to having its face washed whenever there is need. It can be cleaned again and again, and when not in use is so soft and pliable that it can be rolled into a small bundle and laid away, to come forth in good shape for use the next season.

The Panama is made from the jippajappa, or toquilla straw, as the material is called in the various hat-making centres. This straw is the finely shredded leaf of a palm that grows wild in many sections of South America. Its scientific name is Cartudovica Palmata, and it is a sturdy little plant that grows to
be about ten feet high, with many big leaves shooting from the parent stem in every direction. The palmata grows luxuriantly along the Amazon, in Peru and Colombia, reaching its greatest perfection in Ecuador.

These queer palms seem to possess a well-defined distaste to the ways of civilization. When planted near the habitation of man and carefully cultivated, they sulk and come as near positively refusing to grow as a plant can in the rich soil of South America. On the contrary, if the seeds are thrown carelessly in the earth in the depths of the forest, lightly covered and then left entirely alone, the little plants speedily pop up impudent and sturdy heads. If allowed to fight their.own way against encroaching weeds and preying insects, they thrive amazingly, and sprout forth their valuable leaves with hearty good will.

Only the very young, tender leaves of the palm are used, and these are cut with a sharp knife while they are still folded tight together in a long roll. From these pliable leaves the jippajappa, or toruilla straw, is made. This is done by shredding the sections of the leaves into fine strands; some of these are as coarse as broom-straws, but those for the finer hats are as delicate as a hair. This work requires the greatest skill, for the delicate filaments remain attached to the parent stem, and care must be taken that none are broken off. Each shredded leaf is called a "ccgollo."

A large number of cogollos are tied together in a bunch, and after being given a good bath in boiling water, they are bleached and dried by the weavers by a process known to them. All of this preliminary work is done by hand, as well as the very great labor of weaving, which is to follow. A machine never touches a Panama from the hour it is started down in the ground until it lands upon your head or mine.

These beautiful hats are made in Peru, Colombia and Ecuador, the finest and most expensive coming from the last-named country. The heat in those South American lands is very great.
during the day, making the atmosphere so dry that the brittle toquilla straw breaks if it is handled; and a broken straw in a Panama means a ruined hat. So the patient weavers begin their day's work at midnight, and weave steadily on until after sunrise the next morning, that they may have the advantage of the slight humidity which the night air brings. Fortunately, those who are skilled in the work have become so uncanny with their hands that, like the blind, they can almost be said to see with their fingers.
Each weaver begins his hat in exactly the same place, which is right in the centre of the crown. Each weaver also starts his hat with exactly the same number of straws in the "skeleton," and that is eight. And the way these skeleton straws travel from the middle of the hat crown to the outer edge of the brim is the trade mark which tells is from, but the province as well.

A Panama hat weaver never pieces, or adds to, his straws. What he starts with he winds up with. As he works he keeps the tiny spot where he is braiding dampened with water, and as the hat grows he fits the crown upon a wooden block. After the entire hat is finished it is well washed with soap and water, and then bleached. Next it is beaten on a block with a wooden mallet until it takes on the shape that is so pleasing to the eye of the maker and wearer of Panamas. At this stage of the hat's development the rough straws along the edge stick up like a halo. The rough edges are all trimmed smooth, and the outer rim is turned up in a neat hem. Then it is that some weavers give the hat a thin coating of gum, and polish it off with sulphur before pronouncing the work of their hands well done. For shipping, the hats are folded flat, several hundred being packed together in large cases of wood, canvas, or hide.

The very finest Panamas never reach this country, but are bought at fabulous prices by the wealthy citizens of Latin America. The superfine hats are as soft and fine of texture as a linen handkerchief, and can be folded into an un-
believably small compass. Many of these rare specimens of the hat weavers' art require six months in the making, and they bring all the way from fifty to one hundred dollars.
Sometimes a hat will bring much more even than this, when it has been
woven by an expert for someone who requires the very best and is willing to pay for it. It is said that the two most beautiful Panamas ever made were woven in Ecuador. These brought two hundred dollars apiece, and were for a French marshal and Napoleon III.

teaching reading in the rural school<br>By Horace M. Culter, Professor of Rural School Administration, State Normal School, Emporia, Kansas.

A boy left his reading book in the schoolhouse it was the one his teacher had helped him pick out for his very own. That night it rained and washed out the bridge between him and his book. So what did he do the next morning but wade the creek and come to school wet as a rat, that he might get his book. He did not want someone else to read his story before he had a chance to tell it.
That was a cold bath in February. But it shows that the plan described below will work.
In the following paragraphs a consideration of the teaching of primary reading has purposely been omitted. It deserves a special treatment of its own, for there is no good reason why the very best primary methods may not be used in a rural school. The function of primary reading is to give to the child a mastery of the mechanies of reading. He must gain ability to recognize and call new words without the aid of the teacher. He must learn to associate the written or printed word with the idea. He must learn to glean thought from the printed page. If the teaching has been well done, this task can be accomplished in two years; otherwise, it may take three years.
However, some of the following plans may be used in the primary grades. There is no good reason why the first and second grades may not read to each other, both classes being called at the same time. This will be done when both classes have mastered the mechanies of a selection, and are reading for ease and grace in production.

Let us suppose the above mechanics have been mastered and that the class now needs skill in reading and appreciation of good literature; or, in other words, the pupils need to learn to like to read. What then?
First, will my reader answer this ruestion satisfactorily to his own mind: Why should a child learn to read? Does he learn to read that he may show the teacher and his classmates how flippantly he can call the words? Does he learn to read that he may read, that he may get information and pleasure from books? Does he not learn to read aloud that he may convey this information and pleasure to others? If left to his own inclinations, evidently, he will read to another something in which he is interested himself and in which he thinks others are interested. You do not read to your mother something that she has already read or something in which you are not interested or in which you think she will not be interested. On the other hand, when you find something in which you are interested, which you think mother has not read and in which she will be interested, this you will read to her. Have you never felt that burning desire to tell something which you know to others who do not know it?
Are not these the simplest motives for reading? But do we use them in the ordinary reading class? Is it possible to make use of these very natural and simple motives in the country school? Let us see.
A list of books for reading work of pupils from the third grade through the seventh has been compiled. In this
list there is as varied a collection of books as we were able to select and still keep in mind the interests and needs of the children and the limitations of the school.

The plan is this: Beginning with the third grade, select for each pupil (the teacher consulting with each individual and trying as fa $r$ as possible to determine his interest) a book within his grasp and interest which shall be his reading book until he has completed it. If the teacher and pupil see that a mistake has been made, another selection will be made. Each pupil in the third grade should have a different book; one in which he is interested and above all, one which he can read. It should be too easy rather than too difficult. For those who belong to the fourth reader, selections in the same way should be made, striving to get books suited to the capacity of each. The same should be done for those in the fifth reader group.

Each child should be encouraged to read his book in school during the time for the study of reading; at home, or whenever and wherever he pleases, so long as it does not conflict with his other work. Some children may need curbing or checking a little in their desire to read, but most boys and girls will need to be encouraged to read as much as they can.

When it is time for the reading lesson, if these three groups do not make too large a class, have them all come to the recitation at the same time.

## Nature of Recitation.

We shall suppose that the child has been encouraged to prepare, to the best of his ability, his report on his book or selection. Perhaps a book containing short selections or stories will be best adapted for the lower grades; the other groups may report their books by chapters. No one knows, except the pupil, what he has been reading. He is now to tell the story which he has read, and at the discretion of the teacher he is to read something from his book to the rest of the class. It probably will not be possible for every child to read or
give a report every day. The teacher will need to use her judgment in determining who should read more often than the others.

Possibly a poor reader will need coaching for the recitation so that he can make a creditable report. Should there be a very poor reader in one of the advanced classes, the teacher may select for him a book listed in a lower grade. He need not know that he is reading a book which usually would be considered as belonging to the third grade when he himself is perhaps in the fifth.

## Where to Get Material.

The ideal way for carrying out this plan is to have in the school library a set of books similar to those suggested above. But I am aware that not all teachers can have a satisfactory supply of supplementary books for their schools. Through various means material may be gotten for this work.

Encourage the children to bring to you, for your inspection, selections from their Sunday school papers, the "'Youth's Companion," and children's papers of various kinds. The older pupils may read magazine articles from the "World's Work," "Literary Digest," the "Independent," and even articles from the daily newspapers.

Catalogues of general merchandise, of farm implements, of automobiles, etc., will serve as one of the best means for finding out children's interests. The catalogue may be used in the following way: If a child does not know what he wants to read, let him take a catalogue (let him choose from your list of catalogues, if you please) and in it find something he wishes to tell others about. Let the only restriction be that he must bring something to the class which he has learned from the catalogue. If, for instance, he should show by this that he is interested in guns and sporting, possibly you may interest him in Moffett's "Careers of Danger and Daring." In short, by this plan you will find his interest and help him select a book that he may enjoy and which will carry him along into more.
worth-while reading. The catalogue serves to find his interests.

Perhaps this plan of reading can supplement the work suggested in the State course of study, so that the children will complete all the required work and still have considerable time for this additional reading.

- If education cannot be identified with mere instruction, what is it? What does the term mean? I answer, it must mean a gradual adjustment to the spiritual possessions of the race. Those possessions may be variously classified, but they certainly are at least five-fold. The child is entitled to his scientific inheritance, to his institutional inheritance, and to his religious inheritance. Without them he cannot become a truly educated or cultivated man."


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