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# The Canada School Journal. <br> AND WEEKLY REVIEW. 

Vol. X.
TORONTO, APRIL 30, 1885.
No. 17.

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The Canada School Journal and Weekly Review.

Edited by J. E. WELLS, M.A. and a staff of compctent Provincial editors.

An Edusational Journal devoted to the adoancement of Literature, Science, and the teaching profixsion in Canata.

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## CANADA SCHOOL JOURNAL PUB. CO. (Limi.さd)

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The Sunday question is just nuw evoking a good deal of discussion. Since the outbreak in the Nurthricst several uf the Tormonto dailies have taken advantage of thec pubicic andiety to issue Sunday editions. This movement has naturally siven rise to ansiety on the part of those who wish to kiep the das of rest unbroken. These naturally fear the beginning which may pruve but the entering of the thin edge of the wedge which will be driven home until it cleaves a fissure in the Sabbath wide enough for the admassion of the Sunday newo paper with all its accompaniments. Such an vutcume would be greatly to be deplored, as one of the wurst of breaches in the sacredness of the Sabbath rest. If the papers are sincere in their professions why not confine themselves to the issue of bulletins giving simply the latest news? No one, we think, would object to that and it would serve just as well to allay the very natural anxiety of those who have friends at the front.

The work of Civil Service Reform seems to be going on nobly in the neighbouring republic under President Cleveland's administration. The Secretary of the Navy and the PosmasterGeneral have notified the clerks in their respective departments that the full number of hours per day will be exacted, until the work which is now far in arrears is overtaken. Hitherto these clerks have been accustomed to clip two or three hours from the regulation Llay. The Postmaster-General has also actually reduced the number of Post Office Inspectors from sixty-nine to lurty-five. He still further announces that all future appointr., ments will be based on merit, after a thorough investigation:of character, and, eren then, will be at first only for six months of probation. If this kind of thing goes on there will snon be a great reduction in the number of patriots eager to serve their country in some lucrative ofite.

Our hopes seem to have failed, and our worst fears bid fair to be realized in reference to the half-breed rebellion. At the time of this writing the issue of the second confict between Gen. Middleton's forces and thuse of the rebels is unknown, although there can be no doubt that the superior numbers, discipline and resources of the former must prevail. The determined and deadly resistance offered shows that Riel's followers are brave and desperate men. The whole business is most deplorable, and when it is all over, the insurrection crushed, and we left mourning the loss of so many gallant young men, the public griel will be asgravated by the fact that the foes they so bravely fought and subdued, were simply rnisguided and ignorant men, contending for what they believed to be their rights. The public will need to know that every effort to secure a peaceful sulution of the difficulty on the basis of justice and generosity was tuade befure the dread alternative was resorted to.

Referring to Indian troubles and massacres in the United States, Canadians have long been in the habit of saying "This business is better managed with us." The indications are that we shall be able to make this boast no longer. At the very moment when vur Nurthwest Indiansare cumplaining of bad faith and starvation, and tor the first time in our histors perpetrating atrocmes, vur cousus in the Suuth are beginning to deal justly and mercullily with their aborigines. The new Secretary of the Interiot, Mr. Lamar, has warned the white settlers on the Indian reserve at Oklahama that they are trespassers and if they du nut remuve themoches the Guvernment will have to remuve them. İe has zunc still further in the case of another reservalun, the Winnebagu, and declared, after ştrict investigation, suat the thruwing upen of this reserve to settlement, whuh was one of the last official acts of President Arthur, was in contraventun of sacred treaties and therefure void. The settlers who have been rushin ${ }_{j}$ in thither are likewise warned to take themselves hence or they will be taken hence by the Government. All honour to the new President and his cabinet.

The Afghan question is still undecided. Peace and war are trembling in the scales of the diplomatic balance and the world is waitung with bated breath for the result. Though we are assured on every hand that war is inevitable there still seems some room for hope. It may be that the question is even now virtually settled, and that all further interchange of despatches is but a series of manceuvres on the part of each to gain time for preparation. But as no one doubts that the desire of Gladstone and his advisers fur peace is both strung and hunest, there may still be found a basis of honurable comprumise. The peace proclivities of the British administration are a source of weakness in negotiation, but in the event of war, they will become a tower of strength in action. The nation will feel that the war in which such a ministry engages must be a righteous one, and will be a unit in pledging all the resources of the nation to carry it through to the bitter end. The contest will be terrible if it comes, but the boundless resources, bull.dog tenacity and indomitable pluck of the British race, make the ultimate issue scarcely a matter of doubt. The suspicious haste with which the French seem to be forcing a quarrel upon Egypt on a paltry pretext, gives rise to some uncomfortable fears that France and Russta may be acting in concert. France will hardly be rash enough to involve herself in such a struggle without asking herself how Germany would regard her alliance with Russia.

## The School.

Prof. Fay; of Tuft's College, recently sent out a circular asking three hundred and fifty College Prufessurs their uphnions as to the best modern language equivalent for he Greek required for matriculation in Colleges. As between German and French sixty-seven per cent. of the replies were in favor of German. Regarding the question from the single point of veew of the educational value of the study, the only worder is that the percentage in favor of German was not much larger.

We noticed with approval last week the circular of the Minister of Education setting apart the Bth day of May as a Schoul Arbor Day, and constututung it a holday for that purpuse. We have received a copy of a circular issued by Mr. J. H. Smuth, Public School Inspector for the county of Wentworth, to the trustees, teachers and pupnls of that county. We note with pleasure that the good work was commenced a year ago in that county, at Inspector Snuth's suggestion and with very encuuraging results. As we like to give hunour to whom hunour is due, and as Inspector Smuth's circular contans some eacellent suggestions we reprint it in full in another column.

How many of the pupals on leaving the public Schools know how to indite, fold and address a letter? It is, we fear, too often the case that the crowded programme leaves no ume for instruction in such useful matters. An huur or two of every week could not be more prutitably spent than in instrucung and exercising the pupils in this very necessary art. Each pupul should be supplied with good letter or note paper, envelopes,
etc. The teacher should indicate the nature of the letter he requires to be written, stating in general terms the contents. Letters to friends and relatives, at home and abroad, letters of travel, desciption, business, may be retuired The variety is inexhaustible. Models might occasionally be given. By way of aid and encouragement the teacher might select a few of those best expressed and read them before the class. He should also approve and exhibit those most neatly written, folded and addressed. The accomplishment thus gained would be of very sreat value to every pupil in after life.

The School Guardian (English), commenting on the report of the Secretary at the recent Conference of the National Union of Elementary Teachers, says that there seems to be a general tendency to supplant the pupil-teaciner by the adult assistant. This is a movement in the right direction. There can be no greater mistake in education that to set an immature pupil-teacher, or monitor, to instruct classes of yeung children. It may be good for the instructor, but it is bad for the children. It is the worst possible eccnomy. The tume of the pupils is often doubly wasted, inasmuch as not only is the opportunity for developing their thinking faculties lost, but listless, mechanical habits of mind are formed which hinder all subsequent progiess. None but the mature, trained teacher, who understands the working of the child's mind, and the science of education, is fit to teach even the youngest pupils.

Quecn's College Journal referring to our remark that if we believed the federation of the Colleges in Toroato would tend to dry up the streams of private benevolence upon which the voluntary institutions depend for support we should not be in favor ot federation, all.ges that there can be no doubt whatever, that the restit indicated would follow federation. We are far from being convinced that this is so. No doubt sume few benefaciors whose gifts have been largely infiluenced by local considerations might withhold further contributions. But we see no reason to doubt that, if the federation were rightly managed, a much larger number would become interested in the work, and come forward with liberal gifts. The spirit of emulation aroused between the colleges-not the wuthiest motive we admit - would in itself give a powerful stimulus to priate benevolence. But these result; could be huped for ouly as the union became a genuine federation, not accunsulidation. Any amalgamation which had a tendency to destrus the individuality of the denominational rollegec, and to merge them as literary institutions in University College, we shuuld must strungly deprecate. As we have said hefore, if federation means simply the furming of a congeries of theological hails around the nucleus of the State College, it would be smply an educ.atiunal calamity. Whether in Toronto or out fof at we want to sec the vuluntary colleges grow and become strong and great. As there seems some reason to believe that they would du this working side by side in triendly competition better than when measuring themsulves by themselves in local isolation, we are in favor of the change.

While we believe a good deal of nonsense is being talked and written about the "New Education," we are far from thinking that there ts nothing in it. Few teachers, even of experience, can read the model lessons we are now publishing from the "Ouncy Methods," without gainng some hints that may prove of great service in dealing at least with the very young and very dull puphls, who are pretty sure to be found in every school. Have you a boy or a girl who, while not, perhaps, lacking in general intelligence, seems to be wholly stupid where bouks are concerned? The mund is evidently there, but it appears as it sheathed over with a covering of some sort which shuts off access by the ordinary avenues. Your best efforts have hitherto faled to pierce the incrutation and awaken the dormant faculties. Discard the book methods and try the "Quincy Methods," for a time. Give the child something which he can touch and handle. Set him to do anything with slate, or blocks, or objects of any kind in which you can get him interested. To arouse interest is to gain the first victory. Whatever can banish listlessness, and call forth a consciousness of some kind of power, gives you access to the mind and enables you to begin your work. We do not suppose this is a discovery of to-day or yesterday. It is a method which, in some form or other, every true educator will have found out and used for himself. But by emphasizing it, extending it and reducing it to a system, the so-called "New Education" is conferring a great benefit upon the teachers and the children.

## ELECTIVE COURSES AT HARVARD.

There scems to have been a goud deal of misapprehenstion in regard to the new and bold departure of Harvard Universits in the matter of options. The plan decided on by the authorities is not yet perfected in detail, and consequently will not yer be published in the College Circular. But the Cniesttan Cnion gives a very clear account of the principal decoutuns reached. The subjects of matriculation are divides anto two classes. eight elementary studes, and nine advanced studies. The elementary subjects are, 1, Enghoh, 2, ireek, 3. Latin ; 4, German, 5, French, 6. Histury (anciunt and mudern), 7, Mathematics, 8, Physical Science. The advanced studies are, 1 , Greek, 2, Latin, 3, Greek and Latin Comp:usition, 4, German, 5, Ftench, 6, Mathematics, Logarihms, Trigunometry, and sulid (ur analytic) Geometry, 7, Mathematics, Analy tic (or solid), Geometty and Elemertary Mechanics, 8, Physics, 9, Chemistry. Any candidate presenting himself fur examination in all the elementary studies is ublised to uffer in addition any twe, and only two, of the advanced studies. But he is not obliged to present himself in all the elementary studies. Ht may omit German or French, and then must take three, instead of two, advanced studies. He may omit Greek or Latin, and in that case must offer four of the advanced studtes, and amongst the four must be the one numbered 6 , and also either 7,8 , or 9 . He may combine the other two options, omitting one of the two ancient languages and one of the two modern, but must then offer five of the advanced studies, including 6 , and either 7,8 , or 9 as before.

Greek or Latin may thus be omitted for a scientific substitute, but nut for a literary or modern language one, It is considered that the standard of matriculation remains about as it was in regard to difficulty. The concession is made in favor of a "scientific" training. As prev:ous chauges in the same direction during the past six years have resulted in a great increase of students, it seems highly probable that this more ra dical tone will add still morc largely to the numbers. The chief anomaly seems to us to $b=$ in the tacit denial that a course in literature is equal in educational value to one in science. Withuut disparagement iv the.latter it might sately, we believe, be maintained that the former is more than equivalent by reason of the wider range of faculties it calls into pilay.

## FIXITY OF TENURE.

The question of the uncertainty of the teacher's tenure is just now under discussion on both sides of the Atlantic. It is agreed on all hands that one of the most serious hindrances to the elevation of pedagngy to its true rank amongst the foremost professions is the fact that so few, comparatively, who en gage in it make it a life work. By very many it is stil regarded merely as a ste $e_{i}$ ping-stone to some other pursuit. It is argued with much force, that one of the best means of counteractung this tendency would be to insure the permanency of the teacher's situation during good behaviour and reasonable proficiency The last number of the N. E Journal of Education cortains a symposium, in which the views of a number of prominent educators are given. All agree in regard to the need of a change in the direction of more permanency, and all deprecate the existing law which compels the annual election of every teacher.
The annual election system is certainly bad. Few things zuuld uperate more powerfully to lower the dignity of the proiession in the eyes of the public, or to unfit the teacher himself fur duing his best work by keeping him in a state of menta unrest, and tempting him to study popularity rather than efficiency. Such a law opens up the door for intrigue, offers a premium to favoritism, and exposes the teacher to constant danger of being made the victim of prejudice or petty malice.

On the other hand, it is pretty clear that any legislation in the direction of an enforced fixity of tenure would be a clog to progress. It would injure the teacher by taking from him one of his chief incentives to self-improvement. It would often deprive the school of the benefit of a change of methods, and virtually saddle it with a long regime of laziness or incompetence. We do not see that the present system in Ontario which leaves the matter pretty much in the hands of the local authorities could be bettered. The capable, efficient teacher need have, as a rule, no fear of removal, while the natural stumulus to exertion is always present. The thoroughly competent man or woman is, we fancy, very seldom dismissed, nor is the salary of such a teacher often lowered. A compulsory fixity of tenure would tend to lessen the chances of promotion, which is one of the strongest motives with the average teacher. In this, too, as in other matters, the less Government interferes
between teacher and employer, the better. Fiery reacher should be at liberty to leave his position tor a more responsible and lucrative one whenever he can, and every lioard of Trustees should feel bound to replace an inferior teacher with a superior one whenever they can. Not all chauges of teachers are undesirable, but only those which leave the school no better than they found it. The teacher of spirit asks only a fair field and free competition.

## Special ayticles,

## PUBLIC SCHOOL INSPLCTOR'S OFFICE.

Ascaster, April 18th, 1885.
To the Irostees, Tcuchers, ame? Pupits of the Puhitic Schook of IV'enitworth:
Last year I rentured to suggest that the fint day of Mary shenild bo set apart and celebrated in our Public Schools as "Arbor D.ay." The very hearty maner in which that suggestion was acted upon convinced me that this was a step ia the right direction, and that the people were both ready and whlnes to improve and adurn the sehool grounds. From the most relable mformation that 1 can obtain there were planted on that day over 1500 shade and ornamental trees, besides the equally important work of removing the rubbish that had aceumalated damag the water. This is a muble work ani worthy of all encouragement. To securo united action among Trustees, Teachers and Pupils, I would recommend Trus. teo Boards to set apart Friday, the first day of May, as "Arbor Day," and juin with the teachers and pupils, not unly in plantin; suitable shade trees, but on secing that the grounds are properly cleaned up, and that ashes, sticks of wood, and other unemely objects which have accumulated during the winter be removed from the premises. If the fences, or gates, or outhouses need repairing let it be pruantly attended to, for I am fully persuaded that every effort in the direction of improving the appearance of the school premises will have a bencticial mfluence upon the puphls. It is perhaps unnecessary to refer to the healthfiluess of clean premises, as I presume every person is aware that filth of crecy kime is not only unsightly and repulsive, but pusitively injuzious. I therefore trust that the suggestions I have made will be acted apon in every section, and that May-Day will be spent in Making our School gruands attractive. I have afon wods tos suy tu the lous and girls attending our schools, for I am very anxious to have them take a part in this good work. In a few years you will bid farewell to schools, and enter upon the active duties of life. When at some future day you re visit the "Ohl Schu.thuse," nuthing *ill call up more pleasant memuries than to haow that you as isted in planting some of the beautiful shade trees under which annther genera. tion of school children will be enjoying themselves. Yon will look back to the time when you played upun these grounde, and will live over again in memory those pleasant days of childhood. Let cuery boy and girl then do sumelhng to bentify the schoul ground and make school life attractive, and you will never regret the time and labor spent in this way. Lay your books aside for that day and enter heartily, as I keliuse gua wall, iat., the apirit of the ucursion. With united effort much can be dunc, and I louk furward with pleasure to the time when every schod ground will have its quota of shade trees; and flower herde rarrinl!y attrmbert will be the rule and not the exception. In condusion, permit me to s.ey to the teachers that your position in the section calls for your active cu-uperation, and I trust each one will be found a leader in this gond work. Yours faithfully,
J. H. SMITH, P. S. Inspector, Wentworth.

## 》rize $\mathbb{C o m p c t i t i o n .}$

Ehanta. - In the Arithmotical problems in last weok's issue of the Juensal, the following typographical errors occur:-
In No. $9, £ 1811 \mathrm{~s}$. Gd., should read $£ 1810 \mathrm{~s} .6 \mathrm{~d}$.
" 17 . Ans. 3 g days, should read, ans. 3 no daye.
 and Ans. $5_{13}^{73}$.
In No. 1. Ans. $=20$.

## ARITHMETICAL PROBLEMS.

for canada smiool jocrnal competition prizes-foubth class. -signeb no. 33, A.

1. Find value of a field (square) that a wheol, 22 feet in circumference, makes 4,400 revolntions, in passing around, nt $\$ 12$ per aure.

2. A spent $\$ 880 \mathrm{~m}$ purchasing equal guantities of tea at 70 cent and colte at 35 cents per 1 b . He sells tho tea at 85 cents, and coffee at $4 \overline{5}$ cents per 1 lb ., find his net gains.
Solation. $-\frac{880}{7 \overline{5}+3 \overline{5}} \times 100=800=$ Nu. oflls. of each l,ought thegains.
10 cents per lb. on the tea, and 5 cents on the coffee $=15$ conts on a 1 , of each, or $\$ 120$ on 800 lbs . of each.

$$
\text { or } \frac{880}{75+35} \times \frac{100}{1} \times \frac{115}{100}=\$ 120
$$

J. A dues ? ${ }_{3}$ thirds of a wurk in 8 days, $B$ dues as much in 18 days as $A$ can in 12 days. $C$ does as much in 14 days as $A$ and $B$ do in 8 days. In what time will B and C (separately) do a work that $A$ does in 60 day's?
Solution. $-\frac{0}{3}$ in 8 , or whole in 12 days by $A$, and 12 days as $=18$ days $B{ }^{\prime}$, therefore $B$ can do the whole in 18 . Again $A$ does ${ }^{1} 13$ in one day, or tit in 8 days similarly. 13 does 18 , then $\frac{8}{2} \times \frac{9}{9}=$ part $C$ dues 1214 days, ur 10 in 14 , or 8 in 129 days, and $10 \times 18$ $=90$ days B's, and $\frac{11}{2} \times 12 \overbrace{5}=63$ days for C's.
4. If it cost $\$ 11.75$ to burnish a plate, 3 of an inch thick, at 25 cents per square foot; find its weight. Sp. gr. 7 ( $7 \times 62 \ddagger \mathrm{lbs}$.)

5. When wheat is selling at $\$ 2$ per bushel, the 4 lb loaf costs 17 conts. What should I pay for 3 tons 6 cwt. 2 grs. 10 lbs. wheat, when 75 lbs. of bread cost $\$ 3.37 \frac{1}{2}$.

Sulution.- 4 llss. cost 17 cents, $1 \mathrm{lb}=$ ís $^{\top}$ cents ; agaia 75 lbs . cost
 $18=\$ 2.111 \frac{3}{3}$ per bushel, and 3 tons 6 cwt. 2 qrs. $10 \mathrm{lbs}=111$ bushels, and $111 \times \$ 2.11 \left\lvert\, \frac{3}{3}=\$ 235.0515\right.$.
0. If Tin of a lb . of tea const as much as 33 lbs . of wheat, and 40 lhs. of each cost $\$ 90$; find value of 9 bushels 20 lbs . of wheat and 10 lbs. of tea.
Solution. $\gamma_{3}^{3}$ lbs. of tea $=33 \mathrm{lbs}$. of wheat $-\frac{1}{178} \mathrm{lbs}$. of tea $=$
44 lbs . of wheat, therefore, 40 lbs . of tea $\times 40 \mathrm{lbs}$. of wheat1800 lbe . of wheat $=30$ bushels, and 30 bushels cost $\$ 90$, 1 bushel whll cost $£ 3$, and $9 \frac{1}{3}$ bushels $=\$ 28$; agrain 60 lbs. of wheat cust 300 cents, 1 lb . 5 cents, and $44 \mathrm{lbs}=\$ 2.20$, price of $; 1 \mathrm{lb}$. tea, then 1 lb . costs $\$ 2.20-10 \mathrm{lhs}=\$ 22$ and $28-22=\$ 50$.
7. A rows down a stream in 3 hours 30 minutes, and back in 5 hours 10 minutes. If the rate of the stream is 2 miles per hour. In what tume, at the same rate of rowing, will he go from $H$ to $K$, a distance of 120 miles in still water.

Sulution. - The stream helps him 2 miles in 3 , or 7 miles in $3 \frac{1}{2}$ hours. In coming back the stream will retard him 7 miles, therefore, 14 miles is rowed in ( 5 hours 10 minutes- 3 hours 30 minutes) and 432 miles in 5 hours 10 minutes. Again 5 hours 10 minutes +3 hurs 30 minutes $2=4$ hours 20 minutes $=$ time rerquired to row $43{ }_{5}^{\prime \prime}$ miles in still water ; then $43 \frac{2}{5}$ miles in 4 hous 20 minutes, or 120 milos in 11 hours 58 minutes $53_{2}{ }^{1} 98$ seconds.
8. If 3 men du 3 as much in 5 days as 8 wumen can in three days, and $\overline{5}$ wotnen can eark as much as 13 children in 1 day. In
how many days will 4 men enrn as much as 12 children in 60 d . Solution.-If 3 men do ${ }_{3}^{2}$ in 5 days, 5 men will do $\frac{3}{3}$ in $7 \frac{1}{2}$ days. 1 man will do 3 in 224 days; again 8 women do the whole in 3 days, or 1 woman in 24 days; then a man : woman, ad 222 : 24 or $1 \overline{5}: 16$, and $5 \mathrm{men}, 13$ children, 16 women $=$

## $\frac{13 \times 16 \mathrm{ch} .}{5}-15 \quad \mathrm{men}=\frac{13 \times 16 \mathrm{ch} .}{5}-4 \mathrm{men}=\frac{13 \times 16 \times 4}{15 \times 5}$.

Again 12 childron do a work in 00 days

$$
\frac{13 \times 16 \times 4 \mathrm{ch} .}{15} \times 5 \quad \frac{60 \times 12 \times 15 \times 5}{13 \times 16 \times 4}=644 \frac{1}{2} \text { days. }
$$

 $\$ 9.70$ more than the other three, How much has A?

Solution, $-\frac{8}{8}=\frac{3}{3}=\frac{1}{5}=1$.
and $\frac{1}{5}=\frac{3}{2}=2_{2}^{2}=3$-unit $\frac{1}{8}$ of A's and rest in proportion.

portion.
then, $\$ 1=\$_{1}^{18}=\$_{8}^{28}=\frac{78}{18} 4$-propurtional sum of money of each.
then, $208=195=650 \quad 150$ then $\mathbf{6 5 0}(208+195+150)=97$. and $97=\$ 9.70$ and $208=\$ 20.80 \mathrm{~A}$ 's share.
10. If z of the time past $6 \mathrm{a} . \mathrm{m}$. equal ${ }^{\circ}$ of the time till $9 \mathrm{p} . \mathrm{m}$. How long since 12 noon.

Solution.- $\frac{8}{5}$ equals $\overline{8}-5=1505$ past 6 a.m. $: 16$ till 9 p.m.
 and 9 hrs. $8{ }_{3}^{3} \hat{1}$ min. - 6 hrs $=3 \mathrm{hrs} . ~ 83_{1}^{2}$ min, after 12 noon.
11. If $\frac{3}{8}$ of the time past July 1st at 12 noon equai $\frac{5}{5}$ of the time till Dec. 20th, and A's birthday is Nov. 20that 6 p.m. How many days, hours, minutes from the time indicated till his birthday?

Solution. From July 1 st 12 nuon till Dec. 20th nuon $=179$ days, then $\frac{1}{5}$ past $=\frac{4}{5}$ time to come $\frac{1}{8}={ }^{4} 5$ and $15=19$ or 32 : 15 and $3 \frac{10}{7}$ of 172 days $=117$ days, 2 hrs. 33 mts ., then 117 days 2 hrs. 33 mts. after July 1 st noon gives 27 mts to $3 \mathrm{p} . \mathrm{m}$. on 20 th Oct. and from this tame Nov: 20 th at 6 p.m gives 26 days, 3 heurs, 27 minutes.
12. The sum of two Nug. is 3 their dif. fo of their sum find their quotients,

 tient.
18. Find interest on $\$ 2 \overline{5} 5.50$ for $2 \mathrm{yrs} ., 7$ mo., 15 days. at $8 \%$ (simple interest.)

Solution. Interest on $\$ 1$ for 2 years is 16 cts. for 6 monthe, 4 cts, for 1 month, 3 cts. for 15 days is $\frac{1}{3}$ cts., then 16 cts. +4 cts. + $\overline{3}$ cts. $+\frac{1}{}$ cts. $=21$ cts. Then if $\$ 1$ gives 21 cts. 275.00 give $\$ \overline{50} .851$

14. What sum of money will amount to $\$ 225$ in 2 years and 9 months at $8 \%$ (simple int.)?
Solution. Interest on $\$ 1$ for $2 \mathrm{yrs} .9 \mathrm{mo}=22 \mathrm{cts}$. thon $\$ 1.22$ requires $\$ 1$ principal, and $\$ 225$ amuunt requires $\frac{1.00 \times 22 \overline{0}}{1.22}=\$ 184.42$.
15. In what time at $6 \%$ will $\$ 300$ give $\$ 4 t$ interest ?

Solution. $\$ 800$ int. 1 year at $6 \%$ gives $\$ 48$ and iき of a year $=$ 11 months.
16. At what rate \% will $\$ 340$ amount to $\$ 384 \mathrm{ml}$ year, 10 months ?
1 year 10 months $={ }^{1}$, years and 11 years $=(384-340)=1$ year $=\$ 24$, interest on $\$ 340$ for 1 year $35_{0}^{0}$ of $102=7,1 \% \%$.
17. How many feet of lumber board measure ( 1 inch thick) are there in 8 square logs 45 inches square, 48 feet long, $\frac{1}{3}$ lost in mawing?

18. A has 2400 bushels whent. A sells $\ddagger$ of it at a gain of $12 \%$ $\frac{7}{5}$ at a gain of $20 \%$, $\frac{1}{4}$ at a loss of $30 \%$, remainder at cost and cleare $\$ 38.40$, for what should he have sold to have cleared $2 \overline{5} \%$ on the whole i
$\frac{1}{4}$ of 2400 bush. at $12 \%=72 \frac{38.40}{(120-72 \times 96)}=80$ cts. per bushel.
$\frac{1}{5}$ of 2400 at $20 \%=96$ then $25 \%=\frac{1}{4}$ gain $+t=5, t=80 \mathrm{c}$.
of 2400 at $30 \%=120$, and $\frac{3}{4}=$ Sl. 00 per bushel.
19. A cow and a horso cest $\$ 286.80$, the horse cost $39 \%$ more than the cow, find cost cost of each.
Sulution. As uften as the cury custs $\$ 1$ the horse will cust $\$ 1.30$ and $\$ 1.00+\$ 1.39=\$ 2.39$ then 2.39 give $\$ 286.80,1.39$ will give $\$ 166.80, \$ 286.80-\$ 156.80=\$ 120$ price of cow and $\$ 166.80=$ price of hurse.
20. In plowing a ten acre field (sq.), it is nuticed that 8 inches arotaken off at each furrow; what distance will a pluwnan walk in plowing the field ?

Solution. Side of field $660 \mathrm{ft} .8 \mathrm{in} .=\frac{8}{3}$ of a ft . and $660 \times \frac{3}{2}=$ 990 furrows, the field is 10 chain long then $\frac{10}{2} \ell+\frac{80}{18}=1233$ miles. Answer.
21. It is noticed that a water conduit 9 inches by 6 inches 90 feot long ompties itself evory $\overline{0}$ seconds, find weight of water that will run through in ono hour a cubic foot of water weighing $62 \frac{1}{2} \mathrm{lbs}$.

22. I bought $\mathbf{~} 5272$ acres of land at $\$ 5,500$ per acre, and $.1,25 \dot{3}$ acres at 8270 per acro. Find amount paid for both, and number of acres, roods, per, etc.

Solution- - $\overline{5} 27 \dot{2}=5 \overline{5} 2 \mathrm{I} \mathrm{I} \times 5500=\$ 3040$

$$
120 \dot{3}=12 \overline{1} \frac{1}{3} \times 270=\xi_{i \pi \sigma} 3 \cdot \frac{4}{3} \cdot \frac{4}{x} .
$$


then $678 \times 4=2.712^{\mathrm{R}}$, roods $712_{3}^{7} \times 40=28.4893$ per.

23. A bought a quantity of toa and sold 2 of itat a loss of $10 \%$, for what unst he sell the remander to gain $20 \%$ ou the whole quantity.
Solution. Take 5 lbs . at $\$ 1$ per lb ., then $\frac{\hat{s}}{5}$ of 5 lbs at $\$ 1=\$ 2.00$ and $10 \%$ off $\$ 2.00=\$ 1.80$. Again 5 lbs, cost $\$ 5$ and $20 \%$ on $\$ 5.00+\$ 5.00=\$ 6.00$,
then $\frac{\$ 000+\$ 1.80}{3}=\$ 1.40$ sellmg per 1 b . therefore 40 c . gained on $\$ 1$, therefore he has to sell at an advance of $40 \%$,
or $\left[\left\{\$ 5.00+\left(\frac{1}{2}\right.\right.\right.$ of $\left.\left.\left.\$ 5.00\right)\right\}-\left\{2^{2} \times\left(1-r^{1}\right)\right\}\right]-100=40 \%$.
24. An army fuught 3 battles; in the lst 1 u every 25 were lost, in 2nd 5 in every 24 were lost of the remainder; in 3 rl , 19 of the remander were lost, and 28,800 men were left. How many at first? Solution--take one hundred men,
then 1 in overy 25 or 4 in every 100 were lost, leaving 96.
Again 4 in every 24 or 20 in every 96 were lost, leaving 76 ,
and 1 in esery 19 or 4 in ou cry 76 were lust, leaving i2,
then 72 gives 28,800 , and 100 gives $40,000 \mathrm{men}$,

35. A train 100 yds. long passes A , who is walking (samo direction as trann), at the rate of 4 miles per hour, in 15 seconds; find rate of train per hour.
Solution. -110 yds=y ${ }^{1}$ of a mile.
In 3,600 min. $A$ goes 4 miles, in 10 min. ho goes $\frac{1}{\sigma}$ of $a$ mile. Therefore the traingoes $\frac{1}{5}+\pi=x$ or $1240 \mathrm{flat}=19$ miles per hour.

## \#nartical Dicuartmotri.

## FACTS.

[The following article is taken from "School Amusements," published by A. S. Barnes \& Co., Chacago.]
I was troubled some time sunce by the want of punctuality in my pupils. I had just undertaken the management of a schonl which had "run down," under the control of a man whu had governed, at times with severity, at times with laxity of discipline, and I was at loss what course to pursue to create a reformation in this particular.

Acting, however, on the principle of attracting rather than coercing, I determmed on the followng pian :-I was not sure of its success, and I did not mako known my motive, intending to try other means if this failed. * * * After opening school with the usual devotional exercises, I teld the few who were at their seats that I intended to spend a quarter of an hour every morning in telling them something interesting, something which they would be pleased and profited to hear. * * * The process was re. peated every morning.
I took pans to have something really interesting, and I soon began to observe the effects. They who had heard the "facts," as I called them, told their tardy sompanions what pleasant information the teacher had gren them, and advised then to come in time If they wanted to hear something mee.

I was walking behind two of my boys one morning, on my way to school, - two of the quondam tardies, -and overheard one of them say, " Eurry up, or we shan't be in time for facts."

In a few woeks I had induced a good degreo of punctuality. * *
In this way I was lod to idopt the general plan of giving a fact every morning, a plan which I havo retained and shall continue.
There are thousands of facts to bo met with, and if the teacher onters in his momorandum book such toms as he cannot fall-to meet in his readings of books and papers, he will gather a large stock of the kind that ho will need.
Some of mine aro as follows :-
A telegraphio message, sent from Now York to St. Louis, will got there about an hour before it started. Why?

If an ignorant boy were to dispute your assertion that the earth is round how could you prove it to him?

How che English and French, with the 'Iurks, got to fighting with Juussia.

About St. Peter's Cathodral at Rome.
Dr. Franklin as Postmaster-General.
About corks and sponges. Mumrnies.
How they prepare tea in China.
It would be easy to extend the list, but here are enough for a start.

Sometimes instead of a fact I read something from a paper or a book.

Thus in the course of a year what a store of information a pupil may gain. If each one who can write onters a fact of the morning in a blank book, he will make a volume worth a great deal to him. self and his friends.-Illinois School Jutrnal.

## THE CHARGE AT WATERLOO.

〔Prepared for the Casada School Jolrana by Mr. N. S. McKechme, Einglish Master, Woodstock College.]

Two species of composition, Description and Narration are here blended. Closely comnected descriptions of the successive aryects of the "charge" together make up the narrative.

The chief characteristics of the extract are :--

1. Its sublimity, luftiness of thought and diction.
2. Its vividness, picturesqueness.
3. Natural phenomena are always suggestive of greatuess, strength, \&c., and these, to the poet's mind, alone seemed adequately illustrative of the action of the contending forces. Hence the charge was "a whirlwind coming on like the last but tiercest sweep of tempest-blast"; "a whirlwind in which steel-gloams broke like lightning"; "three hundred cannon-mouths roared and from their throats their showers of iron threw"; "it was a dark torrent broad and strong "; the cannon was "thumder tearing the rauhs."

The arrangement often contributes much to the effectiveness of any particular style. Here we have
(a.) Occasional trochaic feet e.g.
"Rushed on" \&c., "pealed widely" \&c., "down were" \&c.
(b.) Retention of conjunction, polysyndeton, e.g.
"Helmet, and plume, and panoply";
"Lancer and guard and cuirassior."
(c.) Omission of conjunction, asyndeton, e.g.
"Then down went helm and lance,
Down were the eagle banners sent,
Dows reeling steeds and riders went,
Corselets were pierced " \&c.
"The clash of swords-the neigh of steeds."
Each of the above in its own way contributes sumething to the loftiness and strongth of the whole.

The choice, $2 s$ well as the arrangement of words, adds much to the effect ; e.g. whirlwind; ciark torrent, broad and strowg; ponderous; imperial; krell, clanging, \&c., \&c.
2. The extract is intensely realistic and lifo-liko, for (a) The action may be supposed to havo occurred within the space of an hour and the brovity renders it more easily conceivable, concentrates and vivifies;
(b,) Our conceptions of objects aro based on form, color, sound, action.

Language expressive of color is, "steel-gleams"; "lightning."; "flash and cloud"; "smoke and flamo"; "bloody brand."

Expressing action, " rolling smoke"; "waked anew"; "advancing ouset rolled"; "reeling steeds."
Words expressive of sounds, "whirlwind"; "tompest-blast"; "camnon-mouths roarad"; "clash of swords-the neigh of stceds."

Metre. The netre of the extract is the iambic tetrameter, varied by occasional trochaic feat, and trimeter lines. As already hinted the metro has not a littls to do with the spirit of a poem. How much onergy is given by the trochaic Doion were..Doion ruling ;

Derivation. Tempest, tempus-time, hence stormy time. Cloud, kindred with clot and clod. Showers, A. s. scur, terminational or lengthened to er.
Shroud, A. s. scrud.
Host, hostis an enemy. Derive host, one who entertains, and host a sacrifiee.

Files, filum $=\mathrm{a}$ thrend.
Notice the greater frequency of compound words in poetry than in prose.

1. Name the figures of speech in :-
(1) "The war was waked anew."
(2) "Three hundred cannon."
(3) "Ruthless spear."
(4) "British heart."
(j) Fast as their ranks, \&c.

Fast they renewed, \&c.
(5) "As plies the smith his clanging trade."
2. Parse land 6, forth 16, dying 24, once 32, clash and neigh 46, leaders 50.
3. Write brief biographical notes on Scott.
4. Give a classified list (prose and poetry) of Scott's : principal works.
万. Name contemporary poets.
6. Name other writers that wrote on "Waterloo."

Scott's great powers found scope for their highest axercise on such a subject as "The Charge." Early reading and natural inclination enabled him, to an extraordinary degree, to enter into the spirit of anything warlike, hence the "field" and the "chase" were iavorite themes; in these probably no othor writor has given so much pleasure as Scott. His treatment of these topics is always animated, energetic, entertaining. He has sufficient inventiveness to provent his writings ever beconsing tame and common-place.

## THE THIRD LESSON.

## (Continued from last week.)

## general esercise.

" Ilow many would like to have me go on with my Story of the Fox $?^{\prime \prime}$ is the teacher's query, near the close of the day following the reproduction of the beginning. Apparently the sense of the meeting is overwhelming for continuance. "Very well; let me seo if the blackboards are in order, the desks made neat, the floor picked up, and my children in good position."

This speech creates a great sensation. Half a dozon start for the blackboards, and fall to rubbing as if much depended upon the
cleanliness thereof; then two childron, a boy and a girl, wearing an air of grave responsibility, travel around the room, placing the crayons and erasors squarely, and at equal distances on the ledge at the bottum of the boards; two other little ones hurry off to a closet, from which they bring waste-baskets, and begin to perambulate up and down the aisles with them.

In the meantime all the other children are either busily clearing out their desks, or stouping down gathering from the floor ovory scrap of paper or bit of debris to be found, which thoy throw into the baskets as they are carried past.

At the ond of this poiformance-which lasts iurdly more than two minutes-there is not a speck of dirt larger than dust, visible anywhere, and all the small housekeopors are sitting erect and alert, with oyes fixed upon the teacher, waiting for ieer to begin, which sho does in this way :
"Down here" (on the lower part of the bourd) "there was a - " she writes; and the children say "Pond;" then she draws a curving line to ropresont its shape.
"Now this fox," resumes the teacher, "wantei to get some of the farmer's poullry to eat. What is poultry, Larry ?"
"Hens, and chickens, and geese."
"Yes; but he couldn't, because--" drawing the aninial rapidly -" the farmer had a great big-" writes; "Dog," affirm the class. Then sketching a man: "Thero was something else the fox was afraid of, and that was the farmer's-" writes; Son!" chorus the children; " who had a very large-" writing; "Gun to shoot!" "all out the class, "him with," quietly adds the narrator.
"Then the old farmer himself had a-" writes; "Trap" pro. nounce the children; " and the fox was afraid of that too. Well, for a long time the fox had nothing to eat and he was getting rery一" she writes, and the children say "Hunury;" "and he lay in his-" writing; "Den of rocks," read the class.
"What is a den of rocks? Clarence."
"A hole all made of stones."
"Pretty good. This den was away up at the top of a high-" writes ; "Hill !" is the responsive chorus; "here he was, thinking and planning how he could get some of the farmer's poultry. At last a bright thought struck him ; he made up his mind to build a new house for himselt, and he wasn't going to build it far off on the hill, but down here, close by the pond. "Now-"drawing quickly, "just here was a-" writes; "Tree !" declare the children; " yes, and under that tree he dug, and dug, a beautiful new -""writes ; " $\quad$ ole !" exclaim the children.
"This hole, which was his house, you know, was divided into three-" writes; "Rooms!" call out the class. "The first room,", continues the teacher, "just as you went in, was tho companyroom, and back of that was his--" writes; "Kitchen!" say the children; "and up over that," goes on the narrator, " he had a bedruom."
"There were two-" writes; "Doors!" declures the chorus; "a back door and a front door, so he could come in one way and go out the ott.er. Well, when it was all done, he said to himself ' Now I shall have all I want to eat:' and then he sat down to wait and listen. Protty soon he heard the hens and chickens and ducks and turkoys and geese all cackling, for it was early in the一" writes; " Morning!" is the chorus.
"By and by the farmer got up and went down to the hen-house, and opened the door, and let them all out into the-" writes; "Yard !" pronounce the class. "Now the farmer had made a-" writes; "Walk," say the children; "which led from the yard down to the pond, and the ducks were in such a-" writes ; "Hurry to swim," chorus the sisteners; "in the pond," goes on the narrator, "that thoy started right off. There was the-" writing;
"Mamma-duck and the papa-duck," read the children; "and nine littlo ducks," adds the toacher.
"Well, the littlo--w" writes; "Baby-ducks," say the class; "couldn't waik very well," continues the teacher, "and the mam. mr-duck was scolding them, and tolling thom not to step that way, but you know thoy couldn'l help it, because their little-" writes; "Feet," call out the children; "wore mado like this "-drawing the great celerity the foot of a duck.
s. What do we call it, children"?
"A web-foot."
"And what are the duck's fect made that way for"?
"To swim with," is the quick response.
"Yes, and that was the reason they couldn't walk on the ground auy better. So thoy went along, the old mamma-duok saying quite crossiv, 'Quack ! quack ! quack !'" (Giving these with shrill, harsh tones.) "And the baby-duoks, trying to tell her that they were doing the best they could, went, 'Quack ! quack! quack!'" (With suft, cuaxing intonations.) "And the papa-duck shouting out to them all the time that the water was very cold, and they mustn't go out very far, which sounded like, 'Quack! quack ! quack!'" (In a loud, rasping voice.)
"The old fox in his new hole heard them, and laughed to him self. What do you suppose made him laugh, children"?
"'Cos he thought 'twas funny," is the instantaneous response of a thoughtless little youngster.
" Because he thought it was funny; don't forget the word next time," warns the teacher.
"Ho ! I guess 'twas because he wanted to eat then," is the characteristic response of a small native of the soil.
"I gucess he was thinking how he'd catch them pretty soon, and then they wouldn't say 'quack! quack! quack !'" is the deliberate answer of the "Solon" of the flock.
"I shouldn't wonder if that were r ght," assents the teacher. "Who can tell me now all about the fox and the farmer "? Eivery one seems to think he can.
" Very well, you may go home and think it over ; perhaps you will dream about it to-night, and to-morrow I'll see how many can tell me evorything I've told you. There's the bell for dismissal. Good-night;" and they pass out in tho usual order. -Quincy Methods.

## THE MISER'S FATE.

## for friday aftbrnoon recitation.

So, so ! all safe! Come forth my pretty sparklers,-
Come forth, and feast my ejes? Be not afraid!
No keen-ejed agent of the government
Can see you here. They wanted me, forsooth,-
To lend you, at the lawful rate of usance,
For the state's noeds. Ha, ha ! my shining pets,
My yellow darlings, my sweet golden circlats!
Too well I loved you to do that,-and so
I pleaded poverty, and none could prove
My story was not true.
Ha ! could they see
These bags of ducats, and that precious pile
Of ingots, and tinse bars of solid gold,
Their eyes, methinks, would water. What a comfort
Is it to see my moneys in a heap
All safely lodged under my very roof !
Hero's a fat bag-let me untie the mouth of it.
What eloquence ! What beauty! What expression !
Could Cicero so plead? Could Helen look
Ono half so charning?
Ah! what sound was that?
(The trap-door falls.)
The trap-door fallen ; -and the spring-lock caught!
Well, have I not the key?-Of course I have.
Tis in this proket,-No. In this ?-No. Then
I left it at the bottom of the ladder.-

Ha! 'tis not there. Where then $\boldsymbol{P}$-Ah! mercy, Heavens!
:Tis in the lock outside !
What's to be done?
Holp, Help! Will no one hear? Oh: would that I
Had nut discharged uld Sumon: but ho begged
Each week for wages-would not give me credit.
I'll try my strongth upon the door. - Despair !
I might as soon uproot the eterual rocks
As force it open. Am I here a prisoner,
And no one in the house $?$ no ono at hand,
Or likely soon to be, to hoar my cries?
Am I entombed alive? - Horriblo fate!
I sink-I faint beneath the bare conception!
(Avakes.) Darkness? Where am I ?-I romember now,
This is a bag of ducats-'tis ne dream-
No dream! The trap door fell, and here am I
Immured with my dear gold-my candlo out-
All gloom-all silenco-ill despair! What, ho:
Friends !-Friemls ?-I havo no friends. What right havo I
To use the name? These monoy-bags have been
The only friends I've cared for-and tor these
I'vo toiled, and pmehed, and screwed, shuttmg my heart
'To charity', humanity and love !
Detested trators! since I gave you all,-
Ay, gave my very soul, -- cin ye do naught
For me in this extremity ? Ho! Without thero?
A thousand ducats for a loaf of bread!
Ten thousand ducats for a glass of water !
A pile of ingots for a helping hand!
Was that a laugh? -Ay, 'twas a fiend that laughed
To seo a miser in the grip of death.
Offended Heaven! have mercy ' - I will give
In alms all thes vile rubbish, atd me thou
In this most dreadful strait ${ }^{\prime}$ I'll build a church, -
A hospatal!-Vam! vam! Tuos late, too lite!
Heaven knows the misers heart too well to trust him!
Heaven will not hear!-Why should it? What havo I
Done to enlist Heaven's favor, - to help on
Heavin's callse on earth. in human hearts and homes?
Nothing ' God's kumdom will not come the sooner-
For any work or any prayer of mme.
But nust I dio here-m my own trap caupht (
Die-die ?--ind then! Oh! mercy! Grant me tme-
Thou who cans't sare-urant me a little time,
And I'll redeem the past-undo the evil
That I have done-male thousands happy with
This hoarded treasure-do thy will on earth
As it is done in heaven-grant me but tume:
Nor man nor God will heed my shriek: All's lost!

## CLIPPING VOWELS.

Yankees and Kanuchs often anuse themsolves wath the eccenEricities of the Cockney in the use or omission of his h's, but the prevalent American habit of chppong vuinels must be mure trying to the ear of an educated Englishnan that any misplacing of h's can pussably bo to ours. We haveno fancy for wer nice purisms, or angthang borderngs on affectation in speech, but it is certainly desirable that every teacher and educateci person should do what he can to preserse the well of Euglish undefiled from the impurities of careless and defectove wticulation as well as any uther Hare any of var readers eser head in Canadio nigthing rescubling the following as repurted by a currespondeat of the New Yurk Ert, ing Pust:-

If the very people whu laugh at the ponr cochney coupl hear themselves as whers hear them What has beeerme of the letter ' $h$ ' nowadays? I hear people talking about 'weels,' and 'wales,' and 'wis, and "wiffs." They tell me that they 'wisiln", or 'wattle,' or 'wsper." Nuw, isn't this dreadful? Just listen' to a general cuntursation in 'suod suciety, and then tell me whether the fulluwath, as asamplo of 'English as she is spoke,' is greatly' exaggerated.
"SDid they ketch tho feller that stole the piannah?'
"' Yisus, a Guicrnment detective errested him las Sadlay at Elligzandria. He 'll be tried in Aprul "
"I'Ive uften ben supprised at their clever methids, but the inncent must sumetines be in perrul?'
"'The generally ceccepted theery is that he altered tho reckerds of the association without authority.'
"I once had a wito sparrah that lived for munce an munce
without watter.'
"' Please lommo your pensle.'
"' I reckignized his figger immejitly.'
'These, Mr. Editor, are but fow of the offensos daily and hourly committed agninst the language of the world.
"'And that is English-great and glorious tonguo That Chatham spoke, and Milton, Shakespeare sung !
The English tonguo - whose amplo powers embrace
Beauty and force, sublimity and grace,
Ornate or plain, harmonions, yet atrong,
And formed alike for eloquence and song.' "

## A BIT OF EXPERIENCE.

Prof. R. M. Streeter, Supt. of Schools, Titusville, Pa., gives this bit of interesting experionce. It is altogether so wise and usoful in its conclusion and oatcome, that we aro sure it will greatly help husts of young tenchers, and pupils too.

I see John anay in one corner, anxinus to get his head bohind the boy in font of him. That means ho is going to whisper. Now, what is the use of waiting for John to dothat? I don't wait. I say, "John, do you want nnything?" Of course he lies, and says, "Nu, str." "Why," I say, "what wero you going to whis. per about ""
" I was only going to ask him to tako his kmfo."
"Well, do take it; only lot me know when you want anything hke that, and don't get down behind Tom in that fashion. Tom, will you let Jolm tako your knife?"
Out comes the knife, John takes it, uses it, and, whon ho gets through with it, looks at me with lifted eyobrows, and points the knife at Tom. I nod, Tom takes the knifo; and that is all there is to it. Another time when John wants anythng, ho asks for it, man fashion, for two good reasons: he knows he can have what he wants if it is necessary; and he knows he will be caught if he don't. So, then if they do care to whsper, you can stop the whispering by watching them.

I hope I shall not shock any of you teachers when I tell you that I have a great deal of sympatty for a boy, big or little, who has smuggled an apple into the school room. Ho has brought it with him with the best intentions in the wurd. He duesn't expect to be mean about it. He hasn't the slightest iden of eating it. He does take it from his pocket, but that is because the apple is so largo that it is painful there, and he puts it into his desk for safe-keeping. For the first half-hour he forgets all about it : but when he stops a moment, tired with his work, with his elbow on the desk aud his head upon tho palm of his left hand, thero comes floating up from that desk to the nostrils of that school-boy an aroma that the perfumes of Arabia cannot equal. Even then, no thought of guile drifts like a fincy across his uind. It smells so good that he puts his hand under to rub the luscious fruit, and carries to his eager huse the perfumed hand. Then the temptation comes ; then, the head gues duwn, then, quicker than light, the sharp teeth cut the red skin; and for the next five minutes that is the most studious boy in the rumm.

Now, I like apples, and I suppose I ha o done what that b. y has just been dums a govel many tames in my $h_{1}$ a. I satw him when his hand went mete the desk; when that big bite left the apple I heard it, and I sath uvery ejo in that nemghorhoud turn to the to seo if I knew what was gong un. Frum that day to this the rest of those schoul-buys beliore that $I$ never knew abuat that applo beng eaten. A day or two afterward, when thoy had furgotten it, and the appleeater happened tu be at my desk, I satid to him quietly : "I didn't hance you much tho uther day when you ate that applo. It was a soud uthe, and if it hadit been in schuol I'i have ashed you fur a Bite. You'd better not bring any more-do you think you had? It was wurth half a-dullar tu see that buy upen his oyes and to hear the "vmler-tunt in hic vice, as ho exclaimed, "Did you see me ""
Sco you," sind I, " of cuurso I did, but I theught you would'nt du it asain, if I asked you not to, and you won't will you?"
"No, sir ;" and it came out in that honest hearty voice which a teacher likes to hear. I dun't think he ever did, for two gocd reasuns. I had used him as I wuld like to be used under the same circumstances, and he felt sure that he would be caught again if he did. Su, I say that buys can be kept from eatiag apples by Butrhiug then, and treatin'i them with a dose of tho Gulden Rule, if you get a chance.-Am. Sournal of Ed.

## (EDucational fotes and flews.

There are in the United States about 400 colloges and universitics, empluying nearly 4,000 professors, sud having naarly 40,000 students, and about the same number of students in the preparatory departreents.

The school hours are :-In Holland, from 9 to 12, and 2 to 4, with Wednesday and Saturday half holidays, lenving 20 hours' teaching. In Saxony, there are four hours in the morning-from 7 to $1_{i}$ in summer, and $\&$ to 12 in winter; and two hours in the afternoon-2 to 4 ; with two half holidays; leaving 32 hours. But no teacher works so long. In the higher schools in Leipzig, the maximum time is 22 hours. In the Elementary schools, uppor and Jower, it is 26. Though the schools are in session 32 hours per week, the younger children have much less. In Berlin the sehool hours are from $8 \mathrm{a} . \mathrm{m}$. to $1 \mathrm{p} . \mathrm{m}$. , that is, five hours daily, with two sliort pauses of fifteon minutes orch, at 10 and 12 o'clock, and at 1 o'clock all work is done; that gives 30 hours weekly, and in addition each class may have two hours' drill or, one afternoon in the week, but this is given by the special drill master.

In Holland there is a certified assistant for every 45 children. In the higher elemen, ary schools one assistant is allowed for overy 25 pupils. In Saxony the staff is reckoned at one for 50 ; but the general sizes of classes is $28,30,32,36,40,44,48$, ©c. In Prussia, Hanover, and Rhenish Prussia the classes are considerably larger, the average number being about sixty. Of the 200 classes into which the children of the elementary schools of Dusseldorf are arranged, 11 have from 80 to 90 children, 67 from 70 to 80,64 from 60 to 70 , and only 2 below 30.
Howard Univorsity, at Washington, has just graduated 29 young men from its medical department, 10 of whom were colored. It has 50 students this year in its Theological Department, two of whom are white, and the remainder colored.

An eraertaimment was huld in the school house, Scarboro village, on Wednesday the 15 th inst., and proved a great success. Mr. Bean, teacher, acted as chairman, and in an opening speech stated that the object of the entertainment was to obtain mottees and flowers for the decoration of the school. Miss Mimnic Jackson prestded at tho instrument and Miss Famnio Chester led the choir. The recitations by the scholars and readings by the teacher were highly appreciated by the audiesco and ofton encored. Although the children taking part in the tableaux were quite young: they performed their parts wall and reflected great credit on themelves and teacter. Mr. Jackson, by special request gave a song in his usual fine style. The proceeds amounted to $\$ 1 \overline{0} .50$. - Com.

Mr. J. E. Tom, of the St. Mary's Collegiate Instit:ete staff, follows his former chief, Mr. J. E. Wetherell, to Strathroy, where he takes the position of science master at a salary of $\$ 900$.
High Scl:ools-Midsummer Examinations.-The following circular has been issued from the Education Department:-The examinations for admission to high schools at midsuramer willbe held this year on Thursday and Friday, 2nd and 3rd of July. Tho examination in the non-professional subjects for third and second class teachers will begin on Monday, 6th of July. For first class, grado C, on Wednesdity, 15th of July ; for grades A and B, on Thursday, 23rd of July. The professinnal examination for first class will be held on Wednesday, 22nd of July.

Miss Belen Reynolds, of Mt. Furest, carried off the irst scholarship in the Women's Medical Cullege, Kingston, and Mias Oliver, of Kingstun, takes the secund. They graduate this 5car. Shel burne Frce Press.

Mr. Munroo, teacher, who took charge of tho Flesherton public school a few months agy, has resigned has pusition. Mr. Casper Sproule takes the situation.-Shelburne Free Press.
An exe Put Out.-At a meeting of the High School Board held on Monday last, a lettor from Mr. John Aıkens was read clamman damages for the loss of his son's oye, which occurred in the school some tıneaço. It will be rememberod that during the recess a boy placed a gun cap on one of the stuves, whinch another lad struck, a piece of it flying, and striking young Aikens in the eye, resulting in the destruction of the sight. The chairman produced written :egal advice, which said the members of the Buard were not responsible, etther in their public or private capacity, as the occurrence was purely accidental. On mution of A. Dent, seconded by R. Francis, a resulution was unanimuusly passed rofusing to acknuwledge the claim, and expressing sympathy for Mr. Aikens. Mr.

Elliott, head master, was present, and described how the accident nccurred. He was informod that no blamo whatever was attachod to eithor himself or his assistant, ns it happened during recess, and was a boy's trick, and took place in has absence from the room. Soveral small accounts passed, and meeting adjourned.-Mitchell Advocate.
School Inspector Brown and Daughter started for Oswego, N.Y., on Afonday, with the intention of spending a little time in noting methods and apphnices in the Kimdergarten Schools in connection with the State Normal School in Oswego. Miss Brown has charge of tho Primary Division of the Morrisburg Public School, and she proposes to introduco such features of the Kindergarten as may $\because$ o practicable, the School Board, with commendable public spirit having given her leave of absence with that end in view.-Dundas County Merald.
Following is the Circular recently issued by the Minister of Education.

Tononto, April 16, 1885.
Sin. - From reports made to me from timo to time, as well as from personal observation, it appears that in the majority of cases very little attention is paid to the improvement of school grounds and premises. Nutably there appears to be an almost utter absence of shade and omamental trees, very fow walks and flower beds, and only here and there a well-kept lawn and shrubbery. I need not peint ont that the elfect of such a state of things is necessarily mjurious not only from a sanitary puint of view, but educationally. From a sanitary point of view it is well known that shrubbery absorbs the puisonous gases and efluvia too often prevalent around schcol-houses. Educationally, it ne ds no argument to show that the more attractive you make the school-house and its surroundings, the more interest will you arouse in both parents and pupils.

Order, neatness, cleanliness and system, should form part of every child's er ucation, both inside and outside of the school-room. The education of the school-yard is in many respects quite as important as the cducation of the school-room. Refinement can be cultivated in the arrangement of the schuol-grounds just as well as through buoks and problems.
In order thus to furnish an occasion for making a special effort for improving the school prenises and planting suitable shade and ornamental trees and shrubbery, I hereby proclaim Friday. che 8th day of May, a holiday in every rural village school, to be known as Arbor Diy, subject to the approval of the Trustees. The programme for the day should be somewhat as follows :-

1. Arrangements should be made during the forenoon for lovelling the school grounds properly, laying out walks to the rear and front, and making such walls passable by means of gravel or plank.
2. Where the soil is suitable, a few flower-beds might be laid out, or a part of the ground sodded, or seeded down with lawn grass seod.
3. In the afternuon the trees selected for ornament or shade should be carefully planted in the presence of the pupils. Soft and hard maples, clms, basswoods, wahuts, butternuts, birches, chestnuts, or other deciduous trees, are preferable for purposes of shade. Spaces might be left fur the evergreens, wheh should not be plunted before the first week in June.
4. On the fullowng Friday afternoon the teacher might spend an huar with has pupils dis uscing Canadian furestry and the different species oi trees and shrubs to be found in Ontario, their uses, commercial value, characteristice, ete. Many excellent hterary allusions alsu might be made in connectho with thas lesson. After the grounds aro land out and tho trees planted the teacher should see that some care is uxercised in preserving them from mjury. If the pupils are made partnes. in the imprusements, and therr couperation secured in erory part of tha work of the day, there need be little fear they will wantuhl, destruy that which their own labor created.

Will you kindly communicate with trustees and teachers, and urge upun them the propriety of carrying out as far as pussible the vews of the Department. I shall le glad also to have a report from you as to the number of trees planred and the general result
of local cfforts on this our first Arbor Day. of local efforts on this our first Arbor Day.

George W. Ross, Minister of Education.
In remarkeble cuntrast to the negleut sluwn by the Russian Govermment cowards elumentiry education is the anmety which th has displnyed to establish efficient techncal schuols. Fcr the purpose of encouraging mechanical and manufacturing skill, nether energy nor money has been spared. It seems to be the great ambition of
the Russian administration to dispense with the obligation under which it has always lain of employing foreigners in its gervice, from the lack of native talent. Only last year an instruction was sent mund to all the Government workshnps ar railways and elsewhere that not a single manager or foreman must be employed who is no: a Russian, or who will not become naturalized. Whether this order can be carried out, except at cunsuderable cost to the ethenency of the service, is very doubtful. For, as Mr. Mather remarhs, the presence of foreigners at present in almost all the impurtant positions in railways, workshops, and other undertakings, though many of them had but little theoretical scientific trainiug, shows that, great as has been the desire to empley natives only in responsible posts: it has not hitherto been found possible to do so. Tho fureign workman in Russia, when promoted to the position of manager or foreman, is found worth a salary twice or thrice that which it is worth while to pay to a far more highly educated native. If he is to be displaced, therefore, at can only be by a still mure rigt ap. glication of that prinsiple of protection to native industry which compels the Russian railway companies to buy all the nails they require of Russian makers. It mis be worth consideration whether there is any natural zeason why lussians prove themselves sus fir inferior to German ami Englishmen in occupations requirinf terhnica! skill, or whether in the institutions where they are trained at great cost they do not receive too much theuretical instruction and too little practical. What is certain is, that the expenditure opon such institutions is lavish, and either they aro uot properly conducted, or the Russian is wantagig in aptitude ty profit by the les sons they impart, if it is necessary tu protect him by law frum furcisa competition. The Imperial Technical Schood of Mus ow is a regular university for civil and mecianical engincers, chemists, and othur scientific workers. Th, est-blishment possesses ant endowment of about $400,000 l$. It has all the appliances and facilties which can be considered necessary, practice is combined with theory in its curriculum, and yet the results are mot satisfactory According to Mr. Mather, the school has no marked effect upon tive development of civil or mechanical esgineering, or of manuiacturing industry, in the last twenty-five years. St. Petersburg possesses a grand Technological Institute and a mast number of technical schuols of one sort and another, but their pupils do not appear to be more successful than those of Muscors. A striking proof of the difficulty which attrnds institutions that do not, so so say; grow out of the actual wants of a country, is found in the anon-success of the Ljceum nt Moscow: This was intended by its founder, th: Grand Duke Nicholas, brother to the late Emperor, to be a Rusenas Eton, where buys of the hichest classes might be educated together. Prorision was made for 600 boys, who were to pay 1206 a year for cducation and board. There appears to be nothing to complans of in the teaching, but the school is not appreciated, and instead of 600 scholars it has only 120.-Lendon Glube.

## QUEBEC.

From our own Criespondent.
The Hon. Dunald A. Smith, has supplemented his former gift of $850,000 \mathrm{by} 570,000$ fur the support of cullegiate classes fur wenten, on condition that separate classes be provided throughout the enture course. The endomment is to be called the "Donalda Endosrment" This will enable MeGill Viniversity to offer special advantages to goung wo aen desiring to take a Cniversity Course and also enable them to strengthen the teacining staff of the Arts Faculty.
The election of Sir William Darson, Principal of McGill Cis versity, as President of the British A isociation for the adrancement of science for 1850, will be regarded with great satisfaction not only in the Prorince of Quebec, hut also throughout the Dominiou as a remarkable recognitic no Scientific Work in Canadi.
The Scientists of Montreal, are makinga strong effort to establish Rotanic Gardens on the slones of Mount Rngal. The City Conne! and the Lncal Legislature hare been approached in this mat er, and it is expected that funds will bo obtained to carry out the schemo at an carly date. This is a most important morement and rill bo productice of great good.
Arbor Das has been appointed by the Lientenent Gorernor of tho Prorince, fur the Jth and 19th days of May nuxt, for the weatorn and esstern sactions of the Prorince. This is the thurd jaar that the day has been officially proclaimed. A circular has been issued by the Superintendent of l'ublic Instruction, calling upon all those ongaged in Educational Work to take part in the celebration.

The Persion Aet for teachers which is strongly criticised by some teachera, and as strongly supported by others, has been under;
cunsideration of the sovernment. Passed in 1880 it does come intu forceso far as the payment of pensions is concorned until lat of July next.

In the meanting it has been found that the income is not sufficient to pay the pensions promised, and it bec mes necessary to amend the Act befure it comes into force, and therefore during the presunt session. The Protestant Peachers and tho Protestant Commatte lave pronounced agimet the Act, amd the Roman C.thovic Tuschers and the luanan Cathole Commateo have promonnced in favor of it. Thu Supermtendent is also strongly in firwor of tho Act. Tho government seem at a loss to know just "hat to do under the carcumstance. There secms to be a general fechay in fator of abolashang the present Act, and begiaming on a new basis.
The I'airersity vo Bidhop's Cillege, Lenauarill, has not yet secureL a principal to replate Rev. Dr. Lobby. A large number of applica tions hate been recerved from which two or throe have been selected for special enquary, and it is expected that at satisfactory selection will som be nate. The canvass for subsciptions carried on by the Rev. Dr. Ruwe, his been very successful, and the linancial pusition of the Cuiversity has been very much strengthened.

Principal Pussnure uf Att. Fransis Culleye, retires from his pusition at the close of the year.

Mr. G. W. Parmeice of St. Francis Cellege, has been appointed Head Master of the lBuys Mudel Schuol, in conmection with the M. Gill Nurmal Schwol. Mr. Jwhn Purher of Leeds Mudel School, takes the place of Mr. Parmelec at St. Francis Cullege.
Mr. Iscar 1hma, French Secretary of the Department of Public Instruction, died very suddenly at Quebec on the līth instant, Mr. Dum was a juurnalist of some reputation and held the posi tion of secre -.. forthree years.
The reurement of two hear-master's from the city schools of Montreal, under peculatr circumstances has led to a change all rumbl in the liead-Miasters. Among the changes it is satisfactory to me.tice the return of Mr. S. 1' Rewell, from a private school, to the charge of his cold school in Ann Street.

## Corresponionce.

## THE NEW READERS.

## Tu the Eiditur of Tue Casaba School Jounsal.

Sun, When so many changes are being made in our Text Book system, I deem it the duty of all teachers to express their opinions on the subject for who should be more competent judges, than the persons who use these books? Allow me to refer to the "Heading Boaks" First. let us ask : Was there any necessity for changing the old Second, Third and Fourth Readers? I think the two prarts of the First livok might be profitably changed, but the other bowks mentioned, may be used to as great advantage as any wher series that has been, or may be authorized. For what is a leadi:g Hook placed in the hands of a pupil? Is it merely for what literary instruction it contains? Is it not rather for the purpose of giving exercises for use in learning "horr to read"; viz fur practice in the principles of Emphasis, Intonation and Inflection. When pupils leave school for uther pursuits, and wish to puraue their literary studies, they do not resort to their old Reading Berks for reading matter. Then our Reading Books are simply used as a means of teaching readong. I believe reading can be taught just as successfully by selections from nerspapers-for there you find all the principles of reading exemplified-as from any other exiracts; and probably it might bo thus taught with greater profit, for such a selection may contain matter in which the pupils are practically interested. This would secure closer attention than otherwise, and consequently better reading. But 80 me will Bay, "The pupils have hecome tired of those old books.' Perhaps so, but this should not be the case No pupil should go through a Reading lhook more than once. By the timo he has had a thonough drill in the reading of the various selections sny, in the Third Book, from begmang to end, he rill be quite qualified to be promoteite the Fourth Book.

Whats the above jdeas before me, I cannot sec wherein the old series of the Second, Third and Fourth Bcok is defective. I have more to say, but vill wait for another oppo,tunity.

> A Yosio Teaczer.

West Gwillimbury Townshup, April 18th, 1885.

## Titctary © Chit-© hat.

The Empress Eugenie is abuut to publish an autublugraphacal work entitled, "Some Recollections of My Life."
E. P. Dutton $\&$ Co., N. Y., will shurtly publish $\mathfrak{a}$ little bouk called "Living Waters," by the autor of " Bible Lilies."

The May number of Harler's Mayazine legins its serenticth volume. Though so near three score and ten it is still in vigorous health.

Had John Brown lived he would have been eughty five years old on the $9, n$ of May. On that day Mr. Sanborn is to publish a "Life" of the wrould-be emancipator.

De.s Plumtre's "Spirits in Prisun, und other Studnes on the Sife aft ar Death," recently published by Themas Whittaker, has already entered on its second thousand.

Irarper \& Bros. havo nearly ready "Lives of Greck Statesmen: Sulou-Themistocles, by rev., Sir George Cox, author of "Mythology of the Aryan Nations," etc., etc.
D. Lothrop \& Co. will issue at once a little bock entitled "Baby Barefoot," by Mrs. Mary Ei. MicQueen, of Brooklyn, N. Y.; and the long-expected boci on "Alaska." by Miss E. M. Scilmore.
D. Appleton © Co., are about to publish is work by E. P. Vining in which the authur attempts to show that Amertea was dhscovered in the fifth century, by a party of Buddhist monks from Afghanistan. The titlo of the bouk is to be "An Inglorious Culumbus."
"At Lore's Extremes," is the title of a novel by Maurice Thompson, which is about being pubhshed by Messrs. Cassell \& Co., New York. The scene of the story is laid in the monntains of North Carolna. The two heroes are Englishmen, but the tale is said to be thoroughly American. Thas is, we beheve, the author's first novel, though he is well known as a writer of graceful prose ana poetry.

James R Osgood $\mathcal{S}$ Co. have now ready "Literary Landmats of Lundon," by Laurence Hutton, an creellent little hand-book, giring tho haunts and homes of every English writer of note that has frequented the city, with precise indicitions of their present condition. They have also issucd "England and Russia in Central Asia," by G. MI. Torle, a compast statement of the Afohan problem, with the [military] positions of the Enylish and Russians, the great political and commercial questions involved, and the strategic value of various points in Afghanistan.

## stiscdlamcons.

## INDIA-RUBBER.

The elastic gum is procured from several sorts of trees, but the species which gields the bost and largest proportion is the Castillon elastica, indigenous to Brazil. The very numerous and arious usen to which caoutchouc is now applied have led to an enormous demand for the articic. Our readers may be aware that it is simply the sap of the treo which exides on an incisson bemg made, and which is conducted to moulds, where it takes any desired form. The natives of Brazilian forests, not being satisfied with the slow process, have cut down the whole woods, consisting of tress 150 or 200 fect high, in order to insure a larger and more immediate yield. The English Governenent foresceng that a tamo would come when the supply would fail, determined to introduce the culture of the Indin-rubber tree into Ceylon and Singapore. But a difficulty arese: the seeds rere found to dry up so rapidly that out of 90,000 sent from Brazil only 2,500 arrived in grod state. On tho other hand, when once sown, they grow with amazing rapidity. Thoso above-mentioned were all sown immediately on a small space of ground, and in only a fers days some of the seedings had attained the height of eighteen inches, and in tro monthe several of them furnished a small quanitity of tho gum of cxcellent qualits. The joung trecs will bo gradually transplanted te favorabio sitcs, and no doubt seems to exist that tho

Castillor elastica rill bo acclimatized in the places selected. The fruit resembles a pear, is green, and contains numerous seeds of the size and shape of a coffee-berry, and so rapid is their vitality that they frequently germinate in the pulp which surrounds them. Several new proparations of India-rubber are now used for various purposes. Among theso are what is called rubber parchment, which can bo used instead of gelatm paper, guld-beaters' shm, or parchment in sealing bottles, etc. It takes a very brilliant color by the application of various substances, such as ultra-marine, chrome-green, etc. A second comparatively new substance is the e vegetable-ivory which is used for umbre:'a handles. This is prepared by adding calcined magnesia to a solution of India-rubber and compressing the mass in a hydraulic press in hot cast-iron moulds. Many other articles can bo manufactured from tho same substauce.-Selected.

JOHN KEATS.
" Kents, when ho died, had just completed his four-and-twentieth year He was under tho middle height; and his lower limbs were small in comparisun with the upper, but neat and well turned. His shouluers were very broad. for his size; he had a face in which energy and sensibility were remarkably mixed up; an eager power, checked and made patient by ill health. Every feature was at once strongly cut and delicately alive. If there was any faulty expression it was in the mouth, which was not without something of a character of pugnacity. The face was rather long than otherwise; the upper lip projected a littlo over the under; the chin ras bold, the cheeks sunken, the eyes mellow and glowing, large, dark, and sensitive. At the recital of a noble action or a beautiful thought, they would suffuse with tears, and his mouth trembled. In this there was ill health as well as imagination, for he did not like these betrayals of cmotion ; and he had great personal as well as moral courage. He once chastised a bitcher, who had been insolent, by a regular stand-up fight. His hair, of a brown color, was fine, and hung in naturad ringlets. Tho head was a puzzle for the phrenologists, being remarkably small in the skull; a singularity which he had in common with Byron and Shelley, whose hats I could not get on. lieats mas sensible of the disproportion above noticed, between his upper and lower extremities; and he would look at his hand, which was faded and swollen in the veins, and sisy it was the hand of a man of Gifty."-Personal Traits of British Authors.

A little discussion has arisen concerning the use of the word "pedasogue" as applied to teachers. The following may help in settling the question. "Smith's History of Greece," chapter 35, page 413, section 10, says: "The pedagogue or private tutor was not a teacher; he vas seldom a man of much knowledge, often, indeed, a slare, and his office was merely to watch over his pupils in their idle hours and on their way to the schonls." The position of a pedagngue amony the Romans may be gathered from Plautua, who says:
"Scretm: uниi miltit, qui oiim a puero parculo mihi padagogu fucrat"-A tutor was both guard (or sercant) and instructor. A predagogus anong the Romans was a sercant that followed his young master, took care of his beharior, particularly attending him to school, sometimes giring tho most elementary instruction in letters.

Eschenburg's Manual says that the pedagogi in Roman times garo some elementary inatruction. Thero was a drifting away from their first duties as porformed among the Greelia.

## (Qucstion Bratucr.

## QUESTIONS.

Will Mental Arithandic be required at July Entrance Examina. tions 1
M. 13.

Please send mo a list of the work necessary for candidates preparing for the Entrance Examinations.
K. A. L.

1. What is the highest rate Trustees can charge per month for non-resident pupils \{
2. How must a teacher, who wishes to discontinue parment to the Superannation Fund, proced to get bate the part of his sub. scription allowed him?

Tescier.

1. Will you kindly inform me, through the columns of your Jounsal, if first-class honoms obtatined in the first year examination of a Camadan umbersty is cymatent to the non-prufegsional examination for tirst-class is certiticate?
2. If $s o$, is the holder ot such honors required to pass the professional examination for a second-class certificate, before presenting himself for the first-chass examinatom? A Sumember.

What amount of work in Drawiog is required of pupils preparing for the Entrance Exammations? Do they requare both series of cards, or only the lirst series? What blank-books are the best to be submited for mspucton at the exammatoms if Walter Smith's, how many are required!
J. S. McCutemeon.

## ANSWERS.

## M. B. - Yes.

K. A. L.-The work necessary for candidates preparing for the Entrance Examination will be found in the Scmoo Jourasal, No. 6, Feb. 12, IS8j.

Teacher-1. Fifty cents.
2. Write to the secretary of the Departuent of Education for a blank form of application.

A Subscmuet.-1. Yes, first-class hunors taken in any one of the departments of Mathematics, Classics, or Mudern Languages, will be taken as an equivalent.
2. Les, only graduates an Arts who hase had experience in teach mg are admatted to the exammation for tirst-class certificates with out having prevously tahen second and third class certificates.
J. S. Mcletenzon. - The new Draning Books published by the

- Canada Yublishung Cumpany, I'urts I. and II. 10 ceats each), contann all that is necessary bacludag blanh examples; for entrance next July. Pupnis who du, nut use these can be prepared by a teacher usiug Walter Smith's Primary Manual.

In answer to a question asked in the Jotranal of April 9th, concerning an alleged demonstration of a method of trisecting a plane rectimeal angle by Elementary Geometry alune, we are infurmed that such an attempt vas made by Mr. Duyle, and alsu by another Canadian mathematician, but that buth attempts are demonstrably unsuccessful. If vur correspondent is anxious to procure the japers, we can prubably give hitn an addr.ea to which to apply

Several questuons in previous numbers, relating to points in Enghsh Grammar, have not been answered. Where are our grammatical experts 1

## Answer to question of February 5th .-

$A$ could do the worh in 9 days, his wages $\$ 10$ a days.
$\bar{x}=\beta \mathrm{B}$ wages ${ }^{\text {rect }}$ day, $y=$ thac vier the five days they should work, supposine $C$ had not come.
$x(\overline{0}+y)=b$ 's wages
$10(j+y)=A ' s$ wascs.
$x(\overline{5}+y)-\bar{j} x=3.75$.
$x(5+y)+50 \div 10 y=90$.

From 1st equation $\begin{aligned} & x y=37 \\ & 2 y=7 \frac{1}{2}\end{aligned}$
$2 y=7 \frac{1}{2}$
Subtract $5 x+10 y=30\}$
$x+2 y=7 \frac{1}{3}$
$x+\frac{7 \mathrm{t}}{2}=7 \frac{1}{2}$
$x^{2}+15=30 x$
$x-\underset{4}{4}=15$
$\left.x-7 y=\sqrt{2}-x^{2}+x^{2} 9\right)^{2}$
$x=2^{2} y^{2} \pm 19=6 \$ 90 \div 6=15$ times $B$ could do the work.
Taking 90 days for $A$ to do it, his wages is a day:
$x(\bar{j}+y)-\overline{0} x=3.7 \overline{0}$
$x(5+y)+\overline{5}+y=90$

$x=8_{3}^{2} \pm 8$ nearly $90 \div-16_{6}^{2}=57^{7}-5$

## Joun Moser.

## 

(Any book reviewed in this culumn may be ordered through the office of the Casama School. Jounsam.)
The Nomth Ambucas Revew for May, has the following attractive table of Contests.

1. Has Cumstanity Benefittrd Womax? By Elizabeth Cady Stanton the Right liev. J. I. Spalding, D.D., Bishop of Peoris
II. Inntstmal Co-opemation. By David Dudley Field.
III. Success is Fiction. Dy James Payn.
IV. Wuit is Acabenic Fazelon? By Mrof, Andrew F. West.
V. Tus Sisw Buddia. 3y Hobert Buchanan.
VI. Wur Chide is Increasino. By J. L. Pickard, LLL.D., President of the State University of Iows.
VII. Suparstition in Esolish Life. By the Rev. T. F. Thisclon Dyer.
VIII. Comaznts.

Oun Litilf. Folks and Neasemr Thiq delighful journal is at hand agam, filled with its usual choico collection of captivating picturos and stories for the little ones.

Madas Liow aso Iadi Wiay, on Finst Lessong in Earth Lore por Chmmans, by Charles Eingsley This charming littlo work comes to us as one of the series of " Globe Readings from Standard Author." The title of I the book and tho reputation of tho authos are sufficiont recommendation in |inemselves, whale the neat budag, clear type nud appropriato illustras tuous add much to thattractivencss. Evers hos and girl would profit by the reading. 60 cents, Williamson \& Co., 5 King St., West, Toronto.
Latise fur March is late in cuming whand, but is an excellent number. The firnit irucle, a Latin Yastora! in immitation of Virgil's Eclogues, by Thomas J. Garsun, $s$ especially notewurthy. And the heautiful Latin Eymn, begumag " Pone Luctum, Magdalena," by an unknowa author, wath a Grcek versson and an Euglish Paraphrase is very interesting. So is "From Old Rome," a Teacher"s Letter to his "Pupils," adapted from the Germans. The Latin ode ly L'rofessor Wilson, Fing's College, Nova Scotia, las quate $\quad$ IIoratiau ring.
Th Limbans Magazins, fur May, is an unusually large nud interesting anmber. It contanas 160 pages and amongst about forty articles, repro duced are suchatirachwo ones as, "Nature's Organic Riddle"" by St. Georg* Mivart: "The Urgamsation of Demucracy;" by Goldwin Smith; "Co operation an England," by Thomas Hughes, "Gone Over," by Jean Iuge low ; cte., etc.
IHe Mavitona anio Nonth-Wyst Moxthis, is full of interesting and necful mformation in regard to the resources of the great North. Weist.

Sr. Nicutons for Mas, coutains almost more than its usarl woaltn of fino illustration and captiostiag story. "Tho Tricycle of the Futuro," by Frank R. Suckton, contains an ideal tricycle on $a$ maminoth scalo which may be a prophecy. "Mis One Fault," by J. T. Trowbridgc, is continaed. " Bathmends" (rom tho İreuch) of Florian, by H. II. (Helen Jacksoa), and "Ihe 3rownies and tho Spinning Wheel," by Palmor Cox, aro illustrated poems which will rarish the eye and cars of the littlo folks. Tho Fholo make up of the number is fuis up to the reputation of this princoof Magazines for tho joung.

