

sixteen southern states at 1,803,257, of whom 784,709 are enrolled at the schools. In Louisiana the colored people pay taxes on \$30,000,000 out of a total of \$250,000,000 in the state.

Dr. Abbott, author of *How to Parse, How to Write Clearly*, etc., gives, in his *Hints on Home Teaching*, the constructive method of teaching Latin composition. He directs teachers to select some of the longest and most difficult sentences from the author the pupil is translating. These sentences are to be taken to pieces, and each part mastered separately by the learner. "Then by degrees put the pieces together, and make the boys help you in building up the complete sentence." Dr. Abbott's plan could be easily adapted to the teaching of English composition. We now waste time by giving analysis of sentences more than its fair share of attention, while the synthesis of sentences is almost ignored, and consequently the pupil's constructive power lies unused and undeveloped.

Quite a breezy debate took place in the Nova Scotia legislature over a bill to secure better attendance at the public schools. As we, at this distance, understand the measure, its provisions for fining parents and guardians, whose children may not attend school the required minimum of days, are moderate and guarded. The opposition came from two quarters—from those who are conscientiously opposed to all compulsion, and from others who feared that the proposed machinery would induce litigation and ill-feeling, without being powerful enough to effect, to any marked extent, the object aimed at.

The following from an English exchange gives a bird's-eye view of educational progress in the mother land. Incidentally it gives a severe rebuke to the few grumblers in Canada who are continually bewailing the expense of public education:—

"A very interesting return has been prepared by the Education Department, in answer to an address of the House of Commons brought forward by Mr. Fowler. It supplies information for the last twenty years regarding the following subjects in connection with schools under inspection in England and Wales: The accommodation; number and ages of the scholars on the registers; in average attendance; examined by the Inspectors; and presented in standards suited to their age; with the average cost of their instruction; the income from subscriptions; rates; school fees; and from all other sources; and the annual grants made by the Education Department. Its array of figures is most interesting, and we can see at a glance how the elementary school system has been developing since 1862. In that year there was accommodation for 1,264,146; in 1872 it had risen to 2,295,894; while in 1882 it had increased to 4,538,329. In 1862 the numbers in average attendance were 799,158; in 1872, 1,336,158; and in 1882, 3,015,161. More striking still are the figures which represent the numbers who were examined in standards. In 1862 there were 180,005; in 1872, 661,580; and in 1882, 2,110,374. The examination of children in the upper standards has been gradually extending since 1872, the first year in which a record was kept. In that year 17 per cent. were examined in Standards IV.-VI.; but in 1882 the percentage had increased to 28. The average cost of instruction was only 19s. 10½d. in 1862. In 1872 it had risen to £1 7s. 5d., while in 1882 it was £1 16s. 8½d., a decline of twopence for each pupil compared with

1881. The income from subscriptions in 1862 amounted to £254,164, and in 1882 to £724,846. This shows a great amount of liberality in the cause of education, but there has been a steady decline since 1877, when the total was £786,245. The rates, on the other hand, have been rising rapidly, and the total from this source of income in 1882 was £808,121. The school fees also have been leaping upwards at the rate of £100,000 yearly, the total in 1882 being £1,585,928. The advocates of free schools may take the last bit of information into their serious consideration, and while they are pondering over the matter they may remember that the Government grants for the last year were £2,393,364. It is seldom that a document which costs only a halfpenny represents such an amount of information as will be found crowded together in the return from which we have been quoting. It gives a bird's-eye view of the onward march of the army of light, and is well worth more than a passing moment's consideration.

SUPERANNUATED TEACHERS.

Q. Is it necessary for a retired teacher, deriving benefit from the superannuation fund, to reside in Canada, or Ontario?

A. No.

Q. Can a teacher's superannuation allowance be garnisheed for debt?

A. This question has never been formally decided, but we learn that the Department pays the money to the teacher and to no one else.

Mathematical Department.

ARITHMETIC.—I.

1. Define involution, multiple, and *ad valorem* duty.
2. What is the shortest length of a rope which can be cut exactly into pieces 15, 18, 20, or 21 feet long?
Ans.—The L.C.M. of 15, 18, 20, and 21, which is 1260 feet.
3. A man bought a rectangular farm 140 rd. long and 40 rd. wide, at \$40 per acre. What did it cost?
Sol.—140 rd. × 40 rd. = 5600 sq. rd. ÷ 160 = 35a. × 40 = \$1500.
State points in which the above process is incorrect. Write the work correctly.
Ans.—(1) The statement is illogical in arrangement; (2) In the attempt to multiply rods by rods; (3) In the result, 140 rd. × 40 = 5600 sq. rd.; 5600 sq. rd. ÷ 160 = 35 A.; \$40 × 35 = \$1400.
4. How many pump logs, each 12 feet long, will it take to bring water to my house from a spring 1 3/75 miles distant?
Ans.—We have 5280 ft. × 1.395 = 5260 ft.; 7260 ÷ 12 = 605 logs.
5. Two ships sail at the same time from the same place; the one due north 8 miles an hour, the other due east 6 miles an hour; how far apart are they in 5 hours?
Ans.—The ships sail at right angles to each other; of the triangle thus formed we may consider 5 times 8 = 40 miles the perpendicular, and 5 times 6 = 30 miles the base; the hypotenuse = √(40² + 30²) = 50 miles, the required distance.
6. What are the contents of a cone whose altitude is 27 feet, and diameter of the base 20 feet?
Ans.—Area of base is 20² × 7854 = 314.16 sq. ft.; (314.16 × 27) ÷ 3 = 2827.44 cu. ft.
7. Add 55 ten-thousandths, 8 1/1000, 183 3/10, 1 1/2, and 81319 hundredths.
Ans.—By reduction we have .0055 + .3007 + 183.0375 + .76 + 813.19 = 1000.
8. If I pay \$1200 for a 90-day draft, when the exchange is 1/2% premium and rate of discount 9%, what is the face of the draft?
Ans.—The discount on \$1 = \$09 × 9/100 = \$01575. \$1 + .005 - .01575 = \$98925, the cost of \$1. \$1200 ÷ .98925 = \$1213.04 +, the face of draft.
6. If an article had cost 20% more, the gain would have been 25% less; what was the gain per cent?
Ans.—The second cost is 120% of the first cost, and hence on it the amount will be 1/3 as great a rate per cent. as on the first cost;