TEACHER'S COLUMN.

Devoted to the Interests of the Provincial Teachers.

In Which We Publish the Entrance, Monthly and Final Examination Papers Used in the Normal School.

This Column is Open For Communications, and Will Contain Articles of Special Interest to Every Teacher.—Teachers Wishing for Information on Any School Question Can Obtain the Same by Enquiring Through This Column.

Normal School Examination.

(Continued from last issue.)

Arithmetic.

II.   Time, 1½ hrs.

1. If any three of the four numbers that form the Divisor, Dividend, Quotient and Remainder be given, show how to find the fourth. The Quotient is six times the Divisor and the Divisor is six times the remainder, and the three together amount to 516, find the Dividend.

2. Deduce a rule for finding the L. C. M. of any given number and by it find the L. C. M. of the nine digits.

3. How many rails will enclose a field 23023 feet long by 17765 feet wide, the fence being straight and six rails high, the rails all of equal length and the longest that can be used?

4. Add $\frac{7}{8}$, 9-10, and 15-16 and give the reason for each step.

Simplify $\frac{1}{\frac{3}{2}+4+5-6} \times \frac{486\frac{2}{3}}{4147} \div (1\frac{1}{8} - \frac{23}{38})$

5. (a) Divide three thousand and ninety-six hundreds of thousandths by seventy-two millionths and explain the reason for each step.

(b) How many yards of matting 2.4 feet broad will cover a floor that is 27.3 feet long and 20.16 feet broad?

6. Explain clearly and illustrate the difference between Simple and Compound Interest. Find at what rate Simple Interest in two years a sum of money would amount to the same sum as at 4 per cent Compound Interest.

Natural History.

Class II   Time, 1 hr.

1. Mention the more commonly occurring non-metallic minerals. Describe them briefly, and state how far they are capable of useful application.

2. From what sources do we derive our chief supply of the following substances: Iron, Chalk, Mineral Paint, Plaster, Sulphur, Lime, Salt, Phosphate, Gold.

3. "The plant exists ready-formed in the seed." Illustrate this statement.

4. What special features of Leaf, Flower or Fruit characterize the following plants: Buttercup, Pea, Aster, Mint and Pine?

5. The Onion, the Potato and the Turnip are often spoken of as "root-crops." Are they all equally entitled to the designation of roots. Give reasons for your answer.

6. Compare the appearance of a transverse section of Beech or Maple with that of Indian corn. What other features of difference, in leaf or flower, accompany those of their stems?

7. How are plants nourished before and after appearing above ground?

8. Compare the following animals as to general structure viz: Man, Monkey, Lion, Whale, Bat, Pigeon, Frog, Beetle, Oyster and Star fish and deduce therefrom a scheme for their classification.

9. What functions do the Shell, Nerves, Brains, Tendons and Joints of animals respectively serve?

Note.—Five questions constitute a full paper.

Geography.

II.   Time, 1 hr. 30 min.

Part I.

1. Describe the physical features and present condition of either the island of Cape Breton, Prince Edward Island, the Annapolis valley, or the valley of the St. John.

2. Trace the probable course of a vessel like the Viking ship in sailing from Norway to the World's Fair at Chicago, mentioning particularly the artificial waterways through which she must pass; or, trace a railway journey from St. John to Chicago by C. P. R. and connecting lines, confining attention to one of the following points: (a) the engineering difficulties of the road; (b) the general character of the country along the line.

3. Where are the following places, and for what noted: Cairo, Moscow, Honolulu, Tokio, Birmingham, Vancouver, Lucknow, Quito, Melbourne, Berne?

4. How much of the continent of Africa lies south of the equator?

5. Where is the Tropic of Cancer, and how is its position determined?

Part 2.

6. Draw an outline map of North America.

Note.—The Examiner will allow 70 marks for Part 1 and 30 for Part 2.

English and Canadian History.

Class II and III.   Time, 1½ hrs.

Part I.—English.

1. Under what circumstances did the death of the following sovereigns occur Harold, William II., Charles I., Edward II., Henry IV.

2. Explain the connection of the following persons with English history: Becket, Wallace, Simon of Montford, Cardina, Wolsey, John of Grant, Lady Jane Gray.

3. By what steps did Richard II. seek to obtain unlimited power? By whom was he opposed and with what results?

4. State what you know of the following: Canterbury Tales, Introduction of Printing, Abolition of Slavery, Gunpowder Treason.

5. Describe the steps and the results of the strife between King and Parliament in the reign of Charles I.

6. What circumstances led to the following battles, and what results followed in each case: "Battle of the Standard," Bannockburn, Flodden, Dunbar, Trafalgar, Waterloo, Quebec, Yorktown.

Part II.—Canadian.

1. State what you know of the earliest settlement of New Brunswick. When, and under what circumstances did it become a part of Canada?

2. Give a summary of the events which occurred along the Niagara frontier in the spring of 1813.

3. Describe the methods by which the laws of the Province are (1) made, and (2) executed.

4. Describe any two of the following events. Exploration of the Mississippi, Founding of Halifax, Battle of Ticonderoga, Battle of the Chesapeake, Siege of Louisburg.

5. What several places have successively been the seat of government for Canada. Explain the causes of such transfer.

6. State what you know of the following: Clergy Reserves Rebellion Losses Bill, the "Five Nations," Aroostook War, Montgomery's Attack on Quebec.

Note.—Four questions in Part 1 and four in part II make a full paper.

Arithmetic.

III.   Time, 1 hr. 30 min.

Six questions make a full paper.

[Exhibit the operations clearly. Questions in which the proof or explanation is required, are of greater value than the others. The explanation is reckoned of as much or greater value than the operation, but the unitary method is held to include both.]

1. A hogshead of molasses containing 120 gals. cost $40. Twenty gallons leaked out. At how much per gallon must the remainder be sold in order to gain 20 per cent?

2. What will the carpeting required for a floor, 15 ft. 6 in. long and 12 ft. 6 in. wide, cost at $2.40 per yard, the carpeting being 30 in. wide?

3. A and B together can do a piece of work in 3 days. A alone can do it in 5 days. In what time could B do it? Explain the operation, or work by the unitary method.

4. Find the greatest common measure of 273 and 2808 without factoring, and prove that the result must be the g. c. m.

5. Reduce 3-16 to a decimal, and divide the result by four thousand five hundred and ninety-six and eighty-seven thousand and ninety-four millionths until the quotient contains three digits. Explain the method by which you determined the place of the point in the quotient.

6. Find the difference in pints between 5-18 of a gallon and .0875 of a bushel.

7. $56.25.   Fredericton, June 12, 1891. One year after date, for value received, I promise to pay John Smith, or order, fifty-six and 25-100 dollars, with interest from date at 6 per cent.

William Jones.

Endorsement June 12, 1892, $40.
What was due on Dec. 15, 1893?

Geography.

III.   Time, 1 hr. 30 min.

Part I.

1. Define isthmus, oasis, river basin, zone, meridian.

2. Explain the cause of day and night.

3. Name the coast waters, islands and headlands to be seen in a voyage from St. Stephen to Campbellton, or the rivers and towns passed in a railway journey between the same points.

Mention the chief towns on the St. Lawrence and the Great Lakes; or, the principal seaports of Great Britain and Ireland.

Part II.

5. Draw a map of New Brunswick. Note.—The examiner will allow 70 marks for Part I. and 30 for Part II.

Useful Knowledge.

III.   Time, 1 hr.

1. What are the different kinds of cotton, linen, wool and silk? Where is silk chiefly manufactured? How is the raw material obtained?

2. From what sources are the following common things derived: Glass, parchment, steel, ink, paper?

3. State what you know about cork, sponge, coral.

4. Name the principal minerals found in New Brunswick, and the uses to which they are severally applied.

5. Describe as if to a class in the third reader, the cause of the seasons.

Grammar and Analysis.

I.   Times 1½ hrs.

1. Give the general and particular analysis of:—

"I lived in hope that sometime you
    would come
To these my lists with him whom best
    you loved;
And there, your cousin, with your meek
    blue eyes,
The Truest eyes that ever answer'd
    Heaven,
Behold me overturn and trample on him.
Then, had you cried, or knelt, or pray'd
    to me,
I should not less have kill'd him."

Parse the italicised words in this selection.

3. Give the derivation of: Belfry, daisy, dandelion, birge, orchard, constable surgeon, sexton.

4. What is meant by Etymology, Syntax, Concord? State and illustrate the rule that determines the number of the verb when its subject is a collective noun.

5. State the chief sources of the English vocabulary, and mention the different

How to Make a Will-o'-the-Wisp.

Of course you know that a real Will-o'-the wisp is the effect of hydrocarbon gas generated by decomposing organic matter in a marsh, and in a state of combustion. But did you know that you could produce this phenomenon in your own homes? This is how it is done. Take an open-mouthed glass jar and place some baking-soda in the bottom, over which pour a little diluted sulphuric acid, muriatic acid, or strong vinegar. Now lower a lighted candle into the gas until it goes out, leaving the top of the flames still burning upon the surface of the invisible gas. The flames will be fed by the gases coming from the smouldering wick. This Will-o'-the-wisp lasts but a short time, but it may be reproduced by raising the candle until the wick relights, then lowering it again. In order to make a success of this experiment see that the air of the room is very still.

Grandmother's Cat.

Here is an amusing game one which will in no way harm poor pussy. Its object is to see how many adjectives one can call to mind. Each player is to apply to "Grandmother's Cat" some adjective commencing with the letter A. One may say he is an ancient cat, another that he is an able cat, and so on. None can use an adjective that has been already given by a previous player. When one can think of no new adjective suitable to apply, he must retire from the game. The game is continued until all the adjectives beginning with A have been thought of, and all the members have retired. Then a turn is taken with the adjectives beginning with P. And so on until the company weary of the game.

The Waterphone.

In the matter of invention it is a curious fact, says the New York World, that Professor Bell's latest device of importance, the "waterphone," for locating leaks in water pipes, was suggested to him by observing a plumber's apprentice endeavoring to find a leak by means si a small rod which he held in his mouth and touched against the pipe.
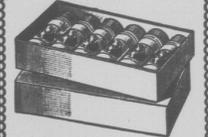
Had 'Em Twice at Once.

"I had the mumps twice," said little Ab.
"You can't have mumps twice," retorted Bob.
"Well, I had. I had 'em twice all once—once this side, and once the other," said Ab, triumphantly.

True Philanthrophy.

To the Editor:
                Please inform your readers that I will mail free to all sufferers the means by which I was restored to health and manly vigor after years of suffering from Nervous Weakness. I was robbed and swindled by quacks until I nearly lost faith in mankind, but thanks to heaven, I am now well, vigorous and strong. I have nothing to sell and no scheme to extort money from anyone whomsoever, but being desirous to make this certain cure known to all, I will send free and confidential to anyone full particulars of just how I was cured. Address with stamps:
Mr. Edward Martin (Teacher),
P. O. Box 143, Detroit Mich.
May 20—4m.