

ve us men to guide our families, to lead our armies, to inspire our legislatures!

"Out of every youth that cometh unto me and gathereth wisdom at my feet," quoth the good angel of study, "I make a man," a man in truth, of whom may well and truly be predicated the immortal lines of the deathless bard of Avon:

The elements so mixed in him, that Nature might stand up
And say to all the world, This was a man!
Home Study.

The Ontario Educational Association meets on the usual days during Easter vacation. We should have a good meeting.

SCIENCE.

J. B. TURNER, B.A., Editor.

FORM IV. 1898—BIOLOGY.—(FIRST PAPER.)

1. Make enlarged drawings of the parts of the submitted plant, naming the structures of importance and adding any explanations which you consider necessary.

2. Draw and describe the submitted section. From what organ is it taken? Is it monocotyledonous or dicotyledonous? Give reasons for your answer to these questions.

3. Compare the asexual generations of a fern and an equisetum.

4. What are the typical features of the Gymnosperms? In answering refer to the pine or spruce.

(SECOND PAPER)

1 (a) Make an enlarged drawing of the anterior quarter of the submitted animal (i) from the dorsal, (ii) from the ventral surface.

(b) Open along the median dorsal line and make an enlarged drawing of the anterior quarter of the intestine.

(c) Remove and draw the anterior quarter of the nervous system.

In each case name the important features and make any necessary explanations.

2. Give a general account of the axial endoskeleton in the Vertebrata, describing the elements of which it is composed, the regions into which it is divided, and the functions which it performs. Exclude the skull from your account.

3. Describe the structure of the heart and circulatory apparatus in the Fishes and compare with them the similar organs of the Mammals.

4. Indicate the general features of external structure in the tadpole, and explain what changes it undergoes in becoming a frog.

5. Describe the external form of the pond-snail, and give an account of its habits with special reference to its mode of respiration, locomotion, feeding and oviposition. (egg-laying).

ONTARIO NORMAL COLLEGE.

METHODS IN SCIENCE FOR SPECIALISTS.

1. "The pupil must never seek information by constructing an equation. Observation is the only source of information, and the equation simply expresses the quantitative relations observed. All exercises in writing equations, and rules for constructing them, as if they were mathematical expressions, must be rigidly excluded."

(a) Discuss the soundness of the above statements with reference to (i) Third Form, (ii) Fourth Form classes.

(b) At what stage in the Third Form course would you introduce equations?

(c) Outline a lesson introducing the subject of equations.

(d) How would you deal with a Fourth Form class in which there is a strong tendency to give only equations in written answers to reactions?

2. (a) Give the order in which you