

N. S. SUMMER SCHOOL OF SCIENCE, 1888.

The School will convene on Monday, July 23rd, at 7.30 p. m., in the Convocation Hall of Pictou Academy, and will close August 2nd.
Opening address by F. H. EATON, M. A.

FACULTY OF INSTRUCTORS:

A. H. MAC KAY, A. B., B. Sc., F. S. Sc., [Lond.],
Principal Pictou Academy, President
and Instructor in Zoology.
A. G. McDONALD, A. M., Inspector of Schools,
Antigonish, Instructor in Land Survey-
ing and Field Work.
F. H. EATON, A. M., Normal School, Truro,
Instructor in Physics.

E. J. LAY, Esq., Inspector of Schools, Amherst,
Instructor in Botany.
H. W. SMITH, School of Agriculture, Truro,
Instructor in Chemistry.
JOHN STEWART, M. D., [Edin.], Pictou, Instruc-
tor in Physiology and Hygiene.
A. J. DENTON, A. B., Halifax Academy, Halifax,
Instructor in Geology.

A. J. PINEO, A. B., Pictou, Instructor in Min-
eralogy.
A. CAMERON, Esq., Principal of Yarmouth
Academy, Instructor in Astronomy.
J. B. HALL, Ph. D., Normal School, Truro,
SECRETARY.
J. D. SPRAGUE, Esq., Liverpool Academy,
ASST. SECRETARY.

Courses of Study:

ZOOLOGY.

Lectures.—[a] Collection and general classification; [b] Insects; [c] Birds; [d] Dissection of a few type forms.

Preparatory Work.—[a] Classification as in Dawson's *Hand-Book* down to orders; [b] Dissection and description of any ten species as in Colton's *Practical Zoology*; [c] Collection of fifty Zoological specimens (Nova Scotian), as insects; microscopic slides, bird skins, etc.

BOTANY.

Lectures.—[a] Plant morphology; [b] Relation of parts of flower; [c] Classification and Explanation of *Key to the Orders*; [d] Analysis of common Phenogamous plants; [e] Study of trees, grasses, ferns and mosses; [f] Hints on preparing and preserving specimens.

Preparatory Work.—[a] Gray's *How Plants Grow*; [b] Analysis (or drawings illustrating important points of structure) of fifteen plants not figured or described in detail in books; [c] Fifty Nova Scotian Species named and mounted.

PHYSICS.

Lectures.—[a] Physical properties of matter; [b] Atmospheric Pressure; [c] Specific Gravity; [d] Work and Heat.

Preparatory Work.—[a] Properties of matter; Dynamics of Fluids and Heat, as in Gage's *Physics*, Chapters I. II. and III.; [b] Written report of experiments performed during the year, with des-

criptions of apparatus used. Experiments illustrating the above subjects performed in presence of instructor. Those who intend to take this course are asked to notify the instructor at once; and to make a report at the end of each month.

CHEMISTRY.

Lectures.—[a] Hydrogen and Oxygen; [b] Nitrogen with its compounds; [c] Carbon and its compounds; [d] Chlorine and its compounds; [e] Atomic Theory.

Preparatory Work.—[a] Chemistry Primer; [b] Written report of experiments performed during the year, with a description of the apparatus, materials, and results; [c] Experiments performed in presence of instructor.

PHYSIOLOGY.

Lectures.—[a] Anatomical data; [b] Chemistry and Physics of the Digestive System; [c] The Circulatory system; [d] The Respiratory system; [e] Nervous system; [f] Practical Application of the Laws of Physiology to Individual and Social Health.

Preparatory Work.—Huxley and Youman's text-book.

Land Surveying and Field Work.

Lectures and Practical Demonstrations.—[a] Adjustments and use in the field of Transit and Theodolite; [b] Determination of magnetic variation; [c] Chain and Traverse surveys of some irregular field, and keeping of necessary

Field Book; [d] Determination of Heights and Distances.

ASTRONOMY.

Lectures and Demonstrations.—[a] Use of Sextant in determining Latitude and Longitude; [b] Evening Study of Constellations.

Preparatory Study.—Lockyer's *Astronomy* and Belcher's almanac for 1888. Those who wish to take this course are requested to correspond with the instructor, notifying him of the fact, and stating what part of the study is most interesting to them, and what difficulties they may have encountered.

GEOLOGY.

Lectures.—[a] Aqueous Agencies, [b] Igneous Agencies; [c] Pre-carboniferous Rocks; [d] Carboniferous Rocks; [e] Post-Carboniferous and Drift. Special reference to Nova Scotia Geology.

Preparatory Work.—[a] Shaler's *First Book in Geology*; [D. C. Heath & Co., Boston]. [b] Collection of 50 fossil rocks or other geological illustrations.

MINERALOGY.

Lectures.—[a] Principles of Classification; [b] Directions for Laboratory work and Supervision of same.

Preparatory Work.—[a] Crosby's *Common Rocks and Minerals*; [b] Collecting and naming 50 Nova Scotian minerals; [c] Determination by blow-pipe and chemical tests of fifteen Nova Scotia species selected by examiner.

Examinations, Certificates, Prizes and Exercises.

Before the close of the school, each instructor will hold an examination in the subjects of his department, and to those students who shall be reported as having undergone a satisfactory examination in three or more subjects, the faculty will award a certificate or diploma.

For examination purposes, the work of each subject will be divided into three sections of equal value as follows: [a] Prescribed text-book and lectures; [b] Practical and original work, such as dissecting, experimenting, etc.; [c] Collections, mountings, apparatus. The purpose of this arrangement is to lay the chief stress on *real* knowledge of a practical character, rather than on knowledge derived chiefly from text-books.

The lectures and demonstrations during the session of the school are intended especially to elucidate facts and principles that are more or less obscure, and to exhibit the best methods of teaching elementary science. All laboratory work will be done by the aid of the simplest equipments such as are within

the reach of the common schools of Nova Scotia.

A prize of \$10.00 will be given for the best set, and another prize of \$5.00 for the second best set, of home made apparatus adapted for the use of common schools in illustrating the principles of Physics and Chemistry.

Excursions to the Coal Mines, Glass Works and Nova Scotia Steel Works will be arranged. In addition, there will be numerous excursions in various directions for collecting specimens in Botany, Zoology, and Mineralogy.

Besides affording its students an opportunity to become acquainted with the best methods of acquiring and teaching the natural sciences, the Summer School brings together in pleasant holiday association many of the best teachers of the province; and so not only enlarges each one's circle of acquaintance, but helps to promote a higher professional enthusiasm, and to cultivate a more liberal educational spirit.

In addition, Pictou with its bracing air, magnificent harbor and unique scenery, is unsurpassed as a summer resort; and those interested in the objects of the school cannot spend two weeks elsewhere in midsummer more pleasantly and profitably.

To defray necessary expenses a tuition fee of \$3.00, payable in advance, will be charged. Board may be obtained for \$3.00 per week. Prescribed books may be had at the Pictou bookstores. It is expected that reduced rates will be available on all railway and steamboat lines.

Applications from those wishing to attend the school should be made to the Secretary as early as possible—at latest before June 1st, 1888. In order to facilitate the construction of a time-table, the applications should specify the courses which the applicant intends to take.

Further information may be obtained from the President, the instructors, or the Secretary.

J. B. HALL,
Secretary.

Truro, March 1st, 1888.