

RECOMMENDATION No. 27
concerning
THE INTRODUCTION TO NATURAL SCIENCE
IN PRIMARY SCHOOLS
(1949)

The International Conference on Public Education,

Convened at Geneva by the United Nations Educational, Scientific and Cultural Organization and the International Bureau of Education and being assembled on the fourth of July for its twelfth session, adopts on the ninth of July, nineteen hundred and forty-nine, the following recommendation:

The Conference,

Bearing in mind that the encouragement of the scientific spirit of observation and experiment, through the spontaneous interests of children, is one of the foremost aims of education, and that the introduction to natural science is particularly suitable as an instrument for such training,

Bearing in mind also that it is necessary to associate schools in common action for the protection of nature,

Submits to the Ministries of Education of the various countries the following recommendation:

- 1) That natural science be introduced as from the first classes of the primary school;
- 2) That, even if such introductory study is given as a separate subject, natural science be nevertheless correlated with the teaching of other subjects (language, drawing, handicrafts, etc.);

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3) That this introduction to natural science achieve the following objectives:

a) develop a child's intellect by the use of activity methods based as far as possible on individual observation and experiment,

b) stimulate the imagination and the sensitiveness of a school child by making him love nature and her beauties and by interesting him in natural phenomena and the various manifestations of life,

c) support and foster all activity tending to protect and conserve nature;

4) That, since an introduction to natural science in primary schools should be based on observation and experiment, the following be made available in and out of school, for the use of the children, without restricting their own initiative:

a) optical instruments (magnifying glasses, etc.), terraria, aquaria, school gardens, etc. (wherever direct observation is feasible), and

b) educational films, slides, wall pictures and collections (wherever for any reason direct observation is impossible);

5) That children be trained to undertake group research and to check each other's observation and interpretation of facts;

6) That such research go hand-in-hand with expression in picture and word;

7) That children be encouraged to collect things for the class or school museum, for which they will have vivid feelings of personal attachment through thus having contributed to it;

8) That support be given to organizing lessons in the open air, which lend themselves especially well to really educational teaching of natural science, and which conform to the demands of educational theory;

9) That preference be given always, not to the morphological or descriptive, but to the functional method, the method which studies the organs and structure of living creatures, in connection with life, with other living creatures, and with the problems of the locality; and that living creatures never be observed as isolated units;

10) That the teaching of natural science never begin with lists of names, definitions, classifications, laws, etc., as these should rather be the end-products of observation and experiments which the children have themselves made, and of the knowledge they already possess;

11) That, without prejudice to the above points, curricula be flexible enough to allow for the adaptation of teaching to local resources;

12) That, furthermore, if the locality itself is not able to provide certain objects needed for observation, the children be enabled to procure them through inter-school exchanges;

13) That the books used for teaching consist above all of books containing information so written that it stimulates the children to inquire and observe for themselves;

14) That among out-of-school activities (walks, excursions, nature clubs), special preference be given to those tending to develop a love of nature and a desire to conserve natural resources by such means as reforestation, the protection of plants and animals, and the battle against erosion;

15) That teachers occasionally describe how scientific discoveries have been made, and tell their pupils something of the lives of those who have contributed to the advance of science throughout the world;

16) That special attention be paid to the training of teachers, in order that they may be informed of the various methods of teaching natural science, and of such phases of a child's intellectual development as may prove of use in their work;

17) That periodical meetings, conferences and refresher courses keep teachers in touch with developments in science and educational theory and method, and with the results of experiments in the teaching of natural science.