

**ELEMENTARY PHYSICS
AND CHEMISTRY.
FIRST STAGE**

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Elementary Physics and Chemistry. First Stage by R. A. Gregory & A. T. Simmons

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R. A. GREGORY & A. T. SIMMONS

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FIRST STAGE

BY

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PREFACE.

A FEW words will explain the scope and purpose of this little book. In 1898 a course of elementary physics and chemistry was introduced into the Code of the Education Department as a "specific subject" in which instruction could be given in the upper standards of elementary schools. The syllabus is divided into three parts, and the first of these is here dealt with.

The course is well adapted for experimental work by individual children, and, as it forms a satisfactory introduction to the study of science, it is suitable for the lower forms of secondary schools as well as for pupils in the upper standards of elementary schools.

Every teacher now understands the importance of practical exercises in all scientific instruction, however elementary. Unfortunately, it is not as yet always possible to provide accommodation and apparatus sufficient to enable individual pupils to experiment. This difficulty has been borne in mind in designing the form of the following lessons, each of which is divided into two parts—the first consisting of instructions for the performance of simple experiments, the second of explanations of the principles taught by the practical work.

When circumstances permit, every child should perform the experiments, but when this is impossible the teacher should

use the practical work as demonstrations before the class. The descriptive text will provide suitable reading lessons in class, or can be studied by the pupil at home.

Our object has been to arrange a practicable and instructive first course of science based upon sound educational principles. Most of the illustrations are new, and all of them have been inserted with the object of simplifying the text.

For the advice readily given us, before we decided upon the plan of the lessons, by Mr. T. G. Rooper, M.A., one of Her Majesty's Inspectors of Schools, Mr. J. A. Humphris, and Mr. Chas. Davis, we gladly take this opportunity of recording our thanks.

R. A. GREGORY.

A. T. SIMMONS.

LONDON, *March*, 1899.

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