

PREFACE

This book is published in two parts, in accordance with what is believed to be good pedagogical practice, viz.: To enable pupils to gain a knowledge of chemistry by *doing chemistry*, not simply by "getting it up." For this purpose it is intended that both parts of the book shall be in the hands of the scholars; and that when a topic is taken up the practical exercises relating to it shall be worked, as directed in the Manual, and the observations *necessary for the lesson* shall be recorded for reference. After the notes relating to the subject have been satisfactorily completed, it is expected that the teacher shall discuss the results with the class in a systematic way, and shall guide the pupils to proper conclusions in accordance with chemical laws and principles. In this connection the descriptive part of the Text-book will come into service.

Manifestly the pupils' note-book will be an important part of his material outfit, for it will form the connecting link between the exercises of the Manual and the description of the text.

The Chemistry of the Middle School should have a double purpose for the pupil who properly studies it. One of these aims at the development of that mental attitude called the scientific mind which investigates, weighs evidence, and forms judgments based on reason. The other consists in imparting to the student such a knowledge of the facts, the principles and the methods of the science that he will be able either to acquire further information of the same kind by independent reading, or to take up a more advanced course of chemical study.

Without doubt, the educational function is the more important one; and, while the two objects have some elements in common, there is yet divergence enough between them to cause hesitancy, at times, as to which of two courses is the preferable one to follow. Under such circumstances there must be some compromise between what is best and what is possible, especially when the work has to be curtailed to meet the requirements of a time limit.

It has been thought best to treat the subject in accordance with modern theory, and to introduce from the first the ideas and the terminology needed for that purpose, in order that the student may not have to discard, at a latter period, what he learns regarding chemistry in the High School. For these reasons the method of treatment and the choice of material will vary somewhat from those hitherto adopted. The present equipment of the schools, the relations of science to daily life, and the character and aims of secondary education in the province have all been considered in determining what shall be taken up in the course, and how it shall be dealt with.

Chemistry, though more particularly concerned with concrete materials, has almost the logical definiteness of mathematics, so that