

**CHEMICAL PROBLEMS:
WITH BRIEF
STATEMENTS OF THE
PRINCIPLES INVOLVED**

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Chemical Problems: With Brief Statements of the Principles Involved by James C. Foye

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JAMES C. FOYE

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BY

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PREFACE.

THE value of problems as means for securing accuracy in a knowledge of Chemistry and as tests for attainments is recognized by the best educators in this country and Europe. Notwithstanding this there are very few volumes in the English language devoted solely to problems, and these are intended mainly to accompany certain text-books.

This work was written because the author keenly felt the need of a convenient volume of problems, while giving instruction to his classes. The inconveniences attending the dictation of problems and the liability to mistake on the part of students can be appreciated only by those who have attempted orally to meet the needs of their classes.

The plan adopted in this work is very simple. After defining the terms used as far as is thought necessary, and briefly stating the principle to be illustrated, a typical problem is solved, and from

the solution a formula of general application is deduced, which is followed by problems to be worked by the student. As the problems are given solely for the purpose of illustrating and fixing in the mind of the student some of the fundamental principles of Chemistry, the answers are appended so that he may not be perplexed by a feeling of uncertainty as to the correctness of his work. Problems after the model of those given can be multiplied very readily by the teacher, to meet the requirements of his classes.

APRIL, 1883.

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I.

WEIGHTS AND MEASURES.

THE necessary data for solving the problems in this section may be found in Tables I, II, and III in the Appendix.

1. Required the number of (a) centimetres, (b) decimetres, (c) metres in 1098765421 millimetres.

Ans. 109876542·1 centimetres.

10987654·21 decimetres.

1098765·421 metres.

2. How many square centimetres are there in 15·5 square metres?

Ans. 155,000.

3. How many square decimetres are contained in 108642 square centimetres?

Ans. 1086·42.

4. Required the number of square millimetres, square centimetres, square decimetres contained in the top of a table measuring 1 metre by 70 centimetres.

Ans. 70,000 square millimetres.

7,000 square centimetres.

70 square decimetres.