

# **SCIENCE ON THE MARCH**

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Science on the march by John A. Clark & Frederick L. Fitzpatrick & Edith Lillian Smith

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**JOHN A. CLARK & FREDERICK L. FITZPATRICK & EDITH LILLIAN SMITH**

# **SCIENCE ON THE MARCH**





# Science

## ON THE MARCH

BOOK ONE

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## P R E F A C E

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WAR has wakened the world to the importance of science. Young men anxious to prepare for any branch of the service have come to realize that mathematics and science are the two "musts" among the many and varied subjects offered in modern school curriculums. School authorities recognize that for intelligent living in an industrial world science must be taught, not only in the senior high school, but throughout the whole school program.

In the junior high school the pupils have not yet passed out of the age of wonder. "Why?" and "What makes it go?" are commonly on their lips. They are at an age when it is easy for them to acquire the scientific attitude of mind so necessary in citizens of a democracy. The foregoing considerations have greatly influenced preparation of this series.

Understanding of concepts is very desirable, but it is not the ultimate goal. It is necessary in addition that pupils develop a scientific approach to problems, and be able to apply principles in their solution. The true aim of instruction is to foster such insight and understanding, in order that science may not remain a mystery or a matter of abstract theory, but be applied in the decisions and actions of everyday life.

This book has been organized in units, their selection being determined by the content of syllabi used in leading cities and states throughout the country. Each unit is organized in the form of *problems*, the solution of which leads to a comprehension of the unit. The problems are again divided into *problem-questions*, each one of which may represent one period of work. The Review Questions and tests at the end of each unit are designed to assist both teachers and pupils in checking desirable outcomes. Particular attention is called to the items designed to check scientific attitudes.

The authors wish to express their appreciation to Francis W. Sears of the Massachusetts Institute of Technology, and to the Massachusetts Institute of Technology for their assistance in taking many of the photographs in this book.





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