

**STORIES OF ROCKS AND
MINERALS FOR
THE GRAMMAR GRADES**

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Stories of rocks and minerals for the grammar grades by Harold W. Fairbanks

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HAROLD W. FAIRBANKS

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OF
Rocks and Minerals

FOR THE
GRAMMAR GRADES

BY
HAROLD W. FAIRBANKS, Ph.D.
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PREFACE.

The great value of Nature Study in the primary grades is its training of the observational powers, and the cultivation of clear mental images. It should be made the beginning of geography.

In the grammar grades Nature study or elementary Science has an additional value because of the information which it conveys. It is an important feature of the new geography, which deals with a world of related rather than of isolated facts.

A scheme of education is fundamentally wrong which permits children to undertake the struggle for their existence entirely ignorant of the physical world with which they come in contact.

Although elementary science now has a standing in all well organized courses of study, there has been a tendency to make it one sided. It has been too often natural history alone, with little or no attention given to the physical conditions upon which life depends.

The study of nature in the grammar grades should not be differentiated as it is in the high school, but it should include an elementary treatment of all the natural sciences. The study of rocks and minerals, their origin, and the changes which they undergo in fitting the world to be a home for plants and animals, should equally with the elements of botany, zoology, meteorology, etc., be included in a symmetrical course.

Stories of rocks and minerals are fully as interesting as those of the other sciences, and in some respects have a

greater cultural value because dealing with factors and relations which call the imagination into play.

Books for the grammar grades, taking up the study of organic nature, are numerous, but up to the present time very little has appeared dealing with inorganic nature.

It is not the intention of the author to offer this little book as a systematic treatise upon minerals and rocks. Only the common ones are discussed, and in the treatment of these the effort has been not so much to impart information, as to arouse the interest of the pupil; to lead him to see in rocks and minerals and the changes which they undergo illustrations of the great processes which have shaped the earth and fitted it for habitation.

Rocks and minerals in themselves are often attractive. Many of them are intimately bound up with our every-day experiences. This is not all; they have not existed eternally as they are now. They all have had histories which are often of exceeding interest; histories which, when understood in even the most simple way, add greatly to the intelligence and pleasure with which we can study them.

The method employed in presenting the subject has been chosen, not because it is the logical one, but because it is believed to be the one most likely to make it attractive. The formal stating of definitions in advance has been avoided. The chemistry of the subject, as far as introduced, has been made as simple as possible. The minerals and rocks have been discussed and described by the aid of their physical properties.

It is hoped that the book, aided by a small collection of specimens, will be found of value in arousing the attention of both teachers and pupils to a much neglected but important field.

HAROLD W. FAIRBANKS.

Berkeley, Cal.

