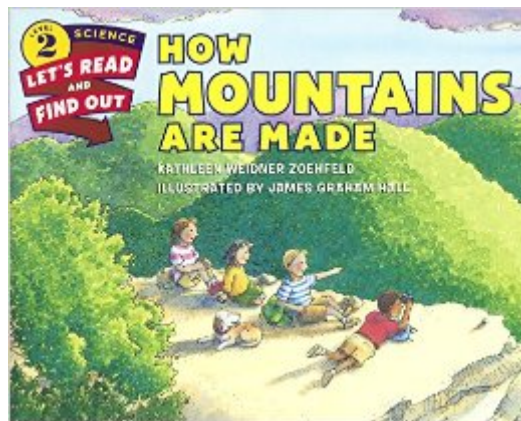


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# How Mountains Are Made (Turtleback School & Library Binding Edition) (Let's-Read-And-Find-Out Science 2)



## Synopsis

FOR USE IN SCHOOLS AND LIBRARIES ONLY. Discusses how mountains are created and eroded, describes the changes in the Earth's surface and how weather plays a role in their size and shape.

## Book Information

Series: Let's-Read-And-Find-Out Science 2

Library Binding: 40 pages

Publisher: Turtleback Books; Bound for Schools & Libraries ed. edition (October 6, 2015)

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Product Dimensions: 7.9 x 0.4 x 10 inches

Shipping Weight: 11.2 ounces (View shipping rates and policies)

Average Customer Review: 3.9 out of 5 stars [See all reviews](#) (9 customer reviews)

Best Sellers Rank: #649,569 in Books (See Top 100 in Books) #106 in [Books > Children's Books > Education & Reference > Science Studies > Nature > Rocks & Minerals](#) #358 in [Books > Children's Books > Education & Reference > Science Studies > Earth Sciences](#) #7961 in [Books > Children's Books > Science, Nature & How It Works](#)

Age Range: 4 - 8 years

Grade Level: Preschool - 3

## Customer Reviews

Unfortunately, and unusually for this series, this book is complete fiction. We got it for our daughter, and had to throw it away. The geophysics presented in this book is completely imaginary (and I should know, I'm an earth scientist). The basic premise is that the plates of the Earth's crust ride on a layer of magma. That is false. The plates move on top of the asthenosphere, which is quite solid. The enormous stresses over large distances allow it to flow, so that the plates move a few cm/year. Magma does exist here and there in small pockets. From the erroneous notion of a magma layer, a complete, and entirely fictional geophysics is constructed to explain various things about mountains -- much as the Aristotelian/Ptolemaic systems explained the cosmos from the false premise of geocentrism. There are numerous other errors also, and the volcano book in the series uses the same magma layer fiction.--Later addition--As a practicing earth scientist and member of the American Geophysical Union let me reiterate my complaint that the "geophysics" in this book are

stuff and nonsense. To the person who claims a university page said the asthenosphere was liquid, may I suggest a trip to the dictionary. "Malleable" does not mean liquid, it means solid, but deformable, like clay (very malleable) or iron (much less malleable). It's Latin for "hammerable". The mantle, including the asthenosphere, is solid, solid, solid. Under the tremendous stresses it is subject to, it deforms very slowly, over tens of millions of years, moving the plates about.

This book is anomalous to this series of educational books. As stated by a previous poster, the account of the internal structure of the Earth is false, and there are numerous other problems throughout. The errors are not trivial and will give children (and their unsuspecting parents) an erroneous misconception of the nature of geologic processes. I present my review as a geology professor with more than 15 years of teaching and research experience related to mountain building. A series of misconceptions begins on page 13 of this 32 page illustrated book. The Earth's upper layer, the crust, is illustrated as lumps of broken rock set in what appears to be a fine-grained matrix of dirt. This "layer" overlies a series of layers termed "solid rock". The text correctly identifies both these intervals to comprise the Earth's solid lithosphere. However, the text states that the crust is a single "layer" below soil and vegetation, although the illustration shows it to be a pile of rubble that could entice the reader to infer that the 35 mile-thick crust was essentially a continuation of the Earth's very thin soil horizon. The text is misleading; the illustration is incorrect and needs to be redrawn. Page 14 features a map showing 8 major plates that constitute the upper lithosphere of the Earth. The map is over-generalized to the point of inaccuracy, and children fond of maps will be quick to note numerous cartographic problems. For USA readers, the map is scientifically inaccurate with respect to California, which is shown to be entirely part of the North American Plate. Page 15 features the most egregious error - the layer of "partially melted rock called magma" beneath the lithosphere. This layer is not a magma.

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