



# Discussion Guide for

## GEOLOGY OF THE EARTH: OF FORCES, ROCKS, & TIME

### OBJECTIVES

After viewing this program, students will be able to:

- Discuss the many forces that have shaped the Earth throughout history and those that continue today.
- Discuss the ongoing rock cycle. Discuss how water shapes the Earth through mechanical weathering, rivers, glaciers and waves.
- Discuss the effect of plate tectonics on the Earth's surface.
- Discuss the effects of gravity and chemical weathering.

This program is part of the AIMS Interactive Science Essentials Series. This twenty-four part series covers four subject area - Earth Science, Biology, Physics, and Chemistry. There are six programs in each subject area. The individual programs are divided into randomly accessible sections. A glossary provides written definitions of terms used in the program, and in most cases will run a section of the video where the word is used in context. A script of the narration is accessible, as well as a bulletin board containing a general introduction to the subject. A quiz allows the student to test their knowledge and the results are recorded for you. In the teacher's section you can view each student's test responses and edit or create your own quiz and test questions.

### OVERVIEW

The Geology of the Earth: Of Forces, Rocks, and Time is part three of the Earth Science Essentials series which examines modern day earth science. The program outlines the forces that contribute to shaping the Earth's surface-the movement of crustal plates, volcanic activity, physical and weathering erosion. The three major groups of rock - igneous, sedimentary, and metamorphic-and their place in the rock cycle are also detailed. With dramatic volcanic and glacial footage and spectacular shots of the Oregon coast and the canyon lands of Arizona and Utah, this program is one of the most visually exciting ever produced on the subject of geology.

### TEACHER'S PREPARATION

Before the student uses the program set up the program so that they can easily reach the mouse and the keyboard. Load the CD-ROM into the computer so that it is ready for the student to begin using. While students are able to work at their own pace, some students may benefit from using the program more than once.

### SUGGESTED DISCUSSION QUESTIONS

1. Describe the Earth as it was before life was able to be supported upon it and how the land and oceans were formed.
2. What are some signs that the Earth continues to change today? What do you think the future will bring as the Earth continues to be shaped?
3. All of the Earth's rocks were originally formed from cooling magma into igneous rocks. How do these rocks change during the rock cycle?
4. Movement of plates is a major force that shapes the Earth. In what ways have these plates helped shape the Earth?
5. How does mechanical weathering affect the Earth's surface?
6. Chemical weathering also occurs in many ways to help shape the Earth. What are some of these ways and how has man affected some aspects of chemical weathering?
7. What are the many ways and forms that water powerfully shapes the Earth?
8. Besides those already mentioned in previous questions, what are some other forces that shape the Earth?
9. What are the major factors that determine running water's erosive force? How does the steepness of a river affect patterns of erosion?

### VOCABULARY

badlands  
crust  
delta  
dunes  
earthquakes  
fossil fuels  
fossils  
Glaciers  
Gorges  
Himalayan mountains  
igneous rocks  
Lava  
Limestone  
Mantle  
metamorphic rock  
rock cycle  
sedimentary rock  
Stratification  
weathering

### PROGRAMS DETAILS

#### LENGTH:

30 minutes

#### SUBJECT AREAS: EARTH SCIENCE

#### AUDIENCE LEVELS: JUNIOR-SENIOR HIGH

Ages 6 - 11

#### ORDER NUMBER:

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