Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
2008 Volume V: Forces of Nature: Using Earth and Planetary Science for Teaching Physical Science

When Earth Fails: How Earth's Physical Changes Cause Natural Disasters

Guide for Curriculum Unit 08.05.02
by Roberta Mazzucco

This unit was written for use in a third-grade classroom but can be easily extended to grades two through five. The purpose of the unit was to use natural disasters like landslides, avalanches, earthquakes and volcanoes as a way to talk about some basic concepts of physical science. Specifically, the unit tries to deal with Newton's second and third laws which state that an object will not move unless a force greater than its mass pushes it and that for every action there is an equal reaction which means that when an object pushes another object it will be pushed back with equal force. The unit begins with an explanation of the internal structure of the earth and how that and plate tectonics are responsible for the continuous movement of the earth. This movement of the plates leads to the basic pushing and pulling movements which are the genesis of many of earth's natural disasters. The unit contains a number of demonstrations for students to do, as well as connecting activities in the areas of reading and writing. There is a bibliography of books for students and teachers.

(Developed for Science, grade 3; recommended for Science, grades 2-5)