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Curriculum Units by Fellows of the National Initiative
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Volcanoes in the Solar System

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This unit is designed for Hospital/Homebound Students in grades nine through twelve, who are enrolled in Environmental Science, Earth Science, Geology, and Astronomy. It can be taught in three weeks and can be adjusted to lower grade levels. This unit is aimed at getting more young people interested in sciences that are generally offered as electives. This unit is user friendly and hopes to correct false science through teaching and modeling good science.

This unit will address the origin and characteristics of the Solar System. It will attempt to identify places in the Solar System where volcanoes exist. It will also obtain data and images from spacecraft missions to learn about volcanoes in far outer space. Volcanoes found on Earth and in space will be studied. There are many people who are unaware that there are volcanoes in outer space and who do not understand volcanoes on Earth. This unit will enlighten students about volcanoes, here on Earth and in space. Students will compare the similarities between Earth and space volcanoes. They will discover what drives or provides the energy for both kinds of volcanoes. They will identify the roles heat and plate tectonics play in the formation of active volcanoes. They will use the principle of radioactive dating to calculate the age of rocks. The decay curve will be used to differentiate between older and younger volcanoes. This unit will discuss tidal heating and the dreadful Greenhouse Effect. Manipulatives, interactive CDs, and astonishing videos will be used to enhance student learning of the science behind some of the most powerful forces in the Universe, volcanoes.

(Developed for Environmental Science, grades 9-12; recommended for Astronomy, Geology, and Environmental Science, grades 9-12)

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