Title:
Rock Types on Other Planets
Author:
Jessica Smay, San Jose City College, jessica.smay@sjcc.edu
Karen Kortz, Community College of Rhode Island, kkortz@ccri.edu

Rock Types on Other Planets

On Earth there are igneous, sedimentary, and metamorphic rocks. Understanding the way they form allows us to determine whether or not we are likely to find them on other planets.

1) Match the rock type with the correct statement describing its formation.

_____ Formed where the atmosphere or liquid water causes erosion and movement of rock pieces which pile up forming thick layers.

_____ Formed mostly near convergent tectonic plate boundaries where the temperature and pressure can be very high.

_____ Formed in places where the interior is so hot that rock melts and then cools to form rock.

On the Moon, the first rocks to form when it was molten were the outermost, low-density rocks that cooled to form the highlands. Then molten rock filled in the lower areas and cooled. This rock is called the mare basalt.

2) Based on these descriptions, of what type of rock are the highlands and mare basalt composed?

Highlands: (circle one)	igneous	sedimentary	metamorphic
Mare basalt: (circle one)	igneous	sedimentary	metamorphic

Planet	Water	Atmosphere	Molten interior	Plate Tectonics
Mercury	no	no	early only	no
Venus	no	thick	yes	no
Earth	liquid, ice	medium	yes	yes
Moon	no	no	early only	no
Mars	ice	thin	for a while, no more	no

3) Where in our solar system might we find igneous rocks? Explain your choice based on what factors are necessary for an igneous rock to form.

4) Where in our solar system might we find sedimentary rocks? Explain your choice based on what factors are necessary for a sedimentary rock to form.

5) Where in our solar system might we find metamorphic rocks? Explain your choice based on what factors are necessary for a metamorphic rock to form.

6) What is the most common rock type in the Solar System? _____