

Section 4

Understanding Earth and Space Systems

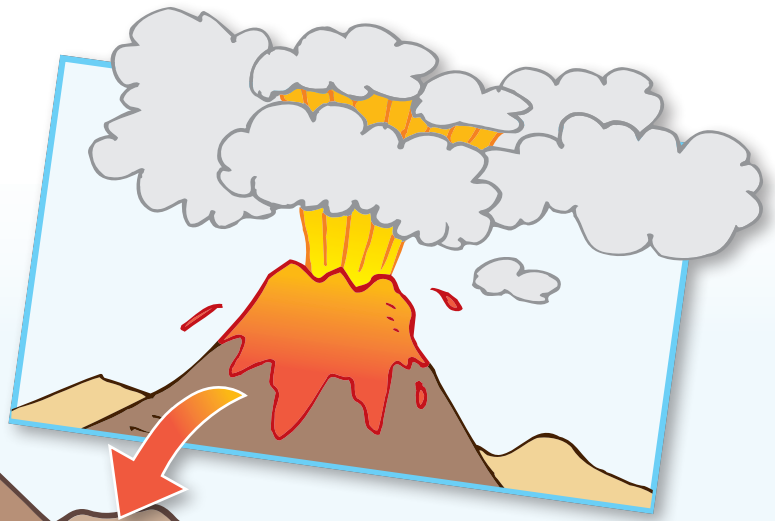
EXPLORATION 1

Volcanic Eruptions

Explore what happens when pressure builds up in volcanoes.

Volcanoes are classified as active, dormant, or extinct depending on several factors. These include the frequency of volcanic activities and the eruptions of the volcanoes. Volcanic eruptions can have devastating effects on people and the environment.

Volcanic eruptions can have positive impacts on an area as well, such as bringing rich, fertile soil, and creating new islands.



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EXPLORATION 1

Volcanic Eruptions

Try this experiment to reenact a volcanic eruption.

Do this experiment in an open area and get a towel ready to clean up the mess.

Materials:



baking
soda



vinegar



a plastic
bottle

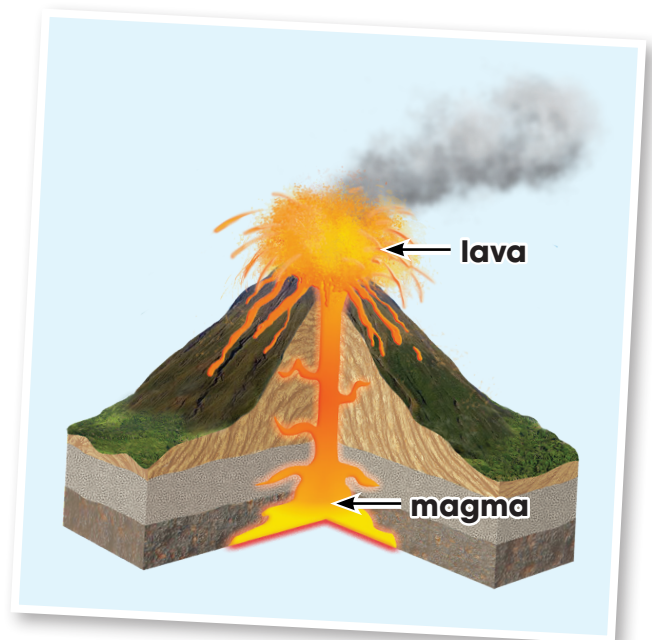


modelling
clay



Mould some modelling clay around the plastic bottle in the shape of a volcano. You can paint it to make it look more realistic. Add two spoons of baking soda in the bottle and then pour some vinegar into it. Then quickly stand back and watch as your volcano erupts.

The baking soda and vinegar reacted to form carbonic acid. As the reaction continues, pressure builds up and the substances in the bottle eventually “erupted” out of it. Similarly, the magma, which is an extremely hot liquid rock, shoots out in the form of red, hot lava, as the pressure inside the volcano builds up.



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EXPLORATION 1

Volcanic Eruptions

Write T for the true statements about volcanoes and write F for the false ones. Then do what the girl says.

Magma is rich in minerals. When a volcano erupts, these minerals come to Earth's surface as lava and ash. Eventually, the lava and ash cool and settle, and break down into rich and fertile soil. Therefore, although volcanoes are destructive, they provide some benefits.

☐

Magma is rich in vitamins.

☐

The minerals in magma come to Earth's surface as lava and ash.

☐

The minerals in lava and ash do not break down into soil.

A higher volcano with a steeper slope usually has a more violent eruption than one with a gentler slope. Which volcano below had a less violent eruption? Circle it.

