Worldwide Volcanoes

Chapter 1

Volcanoes form a variety of shapes and sizes on the continents and deep in the oceans. The **vent** of a volcano is the opening on the surface of the Earth where volcanic eruptions originate. Large stratovolcanoes often have more than one vent. Magma that solidifies in the throat of a volcano forces new magma to find another path to the surface before an eruption can occur.

Most people typically think of a volcano as a conical hill or mountain. A volcano can also be a vent through which molten rock erupts out of the ground or onto the seafloor. Paricutin, a cinder cone in Mexico, began an eruption when a crack opened up in the middle of a cornfield. The family was clearing the land to plant a crop of corn at the time the eruption began.

The skylight above is a hole in the roof of a lava tube on Kilauea. The skylight allowed scientists to sample the flowing lava during the eruption. AVO/USGS

Shield volcanoes and cinder cones

Shield volcanoes are made entirely of fluid lavas that form a volcano with gently sloping sides resembling a warrior's shield. The largest volcanoes on Earth are shield volcanoes.

Cinder cones (scoria cones) are small, steep-sided volcanoes made of fluid lavas that contained a high percentage of dissolved gases. They are made entirely of small volcanic rocks that formed when the molten rock was blown into the air during an eruption.

Stratovolcanoes and dome volcanoes

Stratovolcanoes are steep sided volcanoes that reach great heights on the continents. The volcanoes expel a variety of stiff pasty lavas that form thick lava flows.

Magma Chambers

Activity 1

Introduction

Magma chambers are areas underground where magma, molten rock, collects. The areas are not empty caverns beneath the Earth's surface. Magma chambers form as molten rock forces its way through rocks creating spaces between country rocks (rocks native to the area) that enlarge as more hot magma forces its way into the air.

Magma chambers become plutons of solid rock when the flow of new magma ceases. The solid rock contains large interlocking crystals. Students will be making a gelatin magma chamber that contains large pieces of fruit similar to minerals crystallizing forming interlocking crystals in granite.

Jello magma chamber with fruit crystals

Materials

- Box of red jello
- Pineapple chunks and
- Miniature marshmallows

Directions

1. Cook the jello according to directions on the package.
2. Allow the jello to cool for 30 minutes.
3. Pour the mixture into the tall glass or steep sided bowl.
4. Stir in drained pineapple and miniature marshmallows.

Table of Contents

Chapter 12

Chapter 13

Chapter 14

Chapter 15