

Write one important fact from each paragraph in this space.

## Science Shorts -6

### Volcanoes

There are over 500 known active volcanoes in the world and thousands of extinct volcanoes. Volcanoes are found on every continent except Australia. There are about 80 active volcanoes under the oceans. Volcanoes are both terrifying and fascinating. In order to understand why volcanoes happen, it is necessary to know some things about how the Earth is made.

The part of the Earth we live on is an 18-mile-thick layer of solid rock called the crust. Beneath the crust, in a layer called the mantle, it is hot enough to melt some of the rock, creating magma.

When the magma finds cracks in the Earth's crust it rises up. Gas bubbles inside the magma grow bigger and try to escape, as the molten rock gets closer to the Earth's surface. When the gas bubbles can't be held back any longer, the volcano erupts. If the magma is runny, and the gas can escape easily, the eruption is gentle. But if the magma is thick, the gas has to build up more pressure to escape. Then the eruption is explosive.

When a volcano erupts, the molten rock that flows from it is called lava. The lava may run for some distance, or it may pile up near the volcano making the mountain larger. Runny, smooth lava is called aa, while thick, rough lava is called pahoehoe. The entire island chain of Hawaii is made up of land created by volcanoes.

Volcanoes have been a major force in the formation of our planet for thousands and thousands of years. Today geologists continually observe active volcanoes for signs of eruption. Using modern instruments, they are usually able to issue a warning before the volcano erupts.

**Match the geological terms with their meanings.**

- |             |   |
|-------------|---|
| 1. crust    | a. melted rock                                |
| 2. lava     | b. layer under the crust                      |
| 3. magma    | c. runny, smooth lava                         |
| 4. mantle   | d. magma that has escaped onto<br>the surface |
| 5. aa       | e. thick, rough lava                          |
| 6. pahoehoe | f. top layer of the earth                     |

Many subjects studied in school end with *ology*. The suffix *ology* means "the study of." The suffix *ist* means "one who practices." The word part *geo* refers to the earth. So a geologist is "one who studies the Earth."

**Match each ology word with its meaning.**

- |                   |                              |
|-------------------|------------------------------|
| 7. biologist      | a. study of bacteria         |
| 8. musicology     | b. study of crime            |
| 9. criminology    | c. one who studies cosmetics |
| 10. bacteriology  | d. study of music            |
| 11. cosmetologist | e. one who studies life      |

**Draw a volcano below. Label the following parts:**

12. crust      13. magma      14. mantle      15. lava