**Chapter 6 Volcano Eruptions**

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_--** is a vent or fissure in the Earth’s surface through which molten rock and gases are expelled.
* Molten rock is called **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**
* Magma that flows onto the Earth’s surface is called **\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**Nonexplosive Eruptions**

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are the most common type of volcanic eruptions. These eruptions produce relatively \_\_\_\_\_\_\_\_\_\_ flows of lava in huge amounts.
* Vast areas of the Earth’s surface, including much of the sea floor and the Northwestern United States, are covered with lava from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ eruptions.
* While \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_eruptionsare much rarer than non-explosive eruptions, the effects can be incredibly destructive.
* During an explosive eruption, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ rapidly shoot out from a volcano.
* An explosive eruption can also blast millions of tons of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from a volcano, and can demolish and entire mountainside.

**What is inside a volcano?**

* The interior of a volcano is made up of \_\_\_\_\_\_\_\_\_\_\_\_ main features.
* The **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  is the body of molten rock deep underground that feeds a volcano.
* The **\_\_\_\_\_\_\_\_\_\_\_\_\_** is an opening at the surface of the Earth through which volcanic material passes.

**What Makes Up Magma?**

* By comparing magma from different eruptions, scientists have learned that the composition of the magma affects \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The key to whether an eruption will be explosive lies in the \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_ content of the magma.
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are an Explosive Combination** If the water content of magma is high, an explosive eruption is more likely.
* While \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, magma is under intense pressure and water in it stays dissolved. If the magma quickly moves to the surface, pressure suddenly decreases and the water and other compounds become \_\_\_\_\_\_\_\_\_\_\_\_\_.
* As gases expand rapidly, an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_can result.
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** and with a high silica content, also tends to cause explosive eruptions.
* Silica-rich magma has a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ consistency, so it flows slowly and tends to harden in a volcano’s vents. As a result, it \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* As more magma pushes up from below, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ increases. If enough pressure builds up, an explosive eruption takes place.

**What Erupts from a Volcano?**

* Magma erupts as either \_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ material.
* **\_\_\_\_\_\_\_\_\_\_\_\_\_** is liquid magma that flows from a volcanic vent.
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  forms when magma is blasted into the air and hardens.

**Types of Lava**

* The viscosity of lava, or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, varies greatly. Lava that has high viscosity is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Lava that has low viscosity is more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The viscosity of lava affects the surface of a lava flow in different ways. Four types of lava are shown on the next slide.



**Types of Pyroclastic Material**

* When magma explodes from a volcano and solidifies in the air, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ material is formed.
* Pyroclastic material also forms when powerful eruptions \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ existing rock.

**There are four types of pyroclastic material:**

**1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** are large blobs of magma that harden in the air.

2. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** are pieces of solid rock erupted from a volcano. Volcanic blocks are the largest pieces of pyroclastic material.

**3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**are small, pebblelike bits of magma that hardened before they hit the

 ground.

4. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  forms when the gases in stiff magma expand rapidly and the walls of the gas bubbles explode into tiny, glasslike slivers. Ash makes up most of the pyroclastic material in an eruption.

**What Erupts from a Volcano?,** *continued*

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** are dangerous volcanic flows that are produced when enormous amounts of hot ash, dust, and gases are ejected from a volcano.
* Pyroclastic flows can race downhill at speeds of more than \_\_\_\_\_\_\_\_\_\_ km/h.
* The temperature at the center of a pyroclastic flow can exceed \_\_\_\_\_\_\_\_°C.