Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hr \_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_

**Volcanoes Notes and Practice**

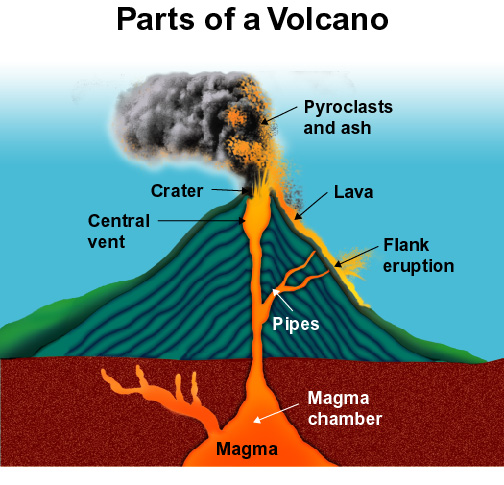
**Learning Intentions**

* Learn about the role of plate tectonics in causing volcanoes and learn what causes eruptions to be gentle or highly explosive.
* Identify the main types of volcanoes: shield volcanoes, stratovolcanoes, and cinder cones.
* Learn about other forms of volcanic activity such as geysers, hot springs, hydrothermal vents, and geothermal energy.

**VOLCANOES**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_are places where \_\_\_\_\_\_\_\_\_\_\_\_\_ (melted) rock and other materials from the earth’s \_\_\_\_\_\_\_\_\_\_ are released. \_\_\_\_\_\_\_\_\_\_\_ rock below the earth’s surface is called \_\_\_\_\_\_\_\_\_. Below ground, magma forms pools called \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Magma reaches the earth’s surface through pathways called \_\_\_\_\_\_\_\_\_\_. Areas where magma reaches the earth’s surface are called \_\_\_\_\_\_\_. Molten rock that reaches the earth’s \_\_\_\_\_\_\_\_\_\_ and erupts or flows out of a volcano is called \_\_\_\_\_\_\_.

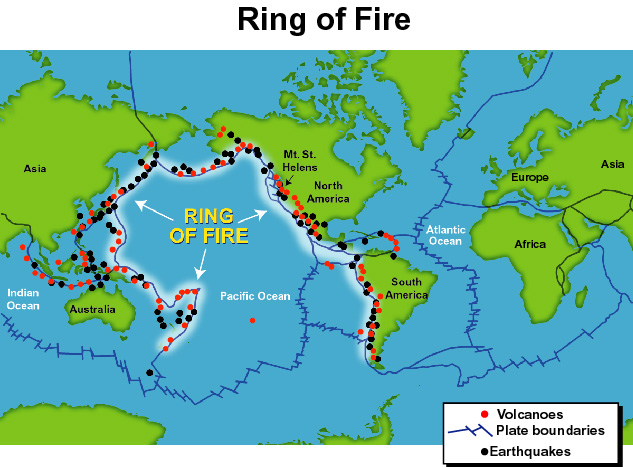
Volcanoes also release \_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ into the air. Rock fragments are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_, dust particle size fragments are called \_\_\_\_\_\_\_\_.

A \_\_\_\_\_\_\_\_\_is a depression formed at the top of a \_\_\_\_\_\_\_\_\_\_\_\_\_ mountain after an eruption. Later a lake may form in the \_\_\_\_\_\_\_\_\_.

* The eruption of \_\_\_\_\_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ in 1980 reduced the height of this mountain from 2,932 meters (9,677 feet) to 2,535 meters (8,364 feet).
* Early in the morning of May 18, 1980, an \_\_\_\_\_\_\_\_\_\_\_\_\_ triggered a landslide that caused the bulge to eject magma, water, and gases.



* Solid rock melts and becomes \_\_\_\_\_\_\_\_\_\_under certain conditions that lower the melting point of the material.
* At \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_, water is the key for solid rock to melt and become \_\_\_\_\_\_\_.
* Like \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, most volcanic activity is found at the \_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_, namely at \_\_\_\_\_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *plate boundaries,* but \_\_\_\_\_\_\_ \_\_\_\_\_\_\_ occur at \_\_\_\_\_\_\_\_\_\_\_\_\_ plate boundaries.



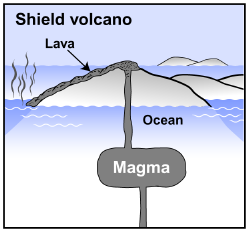
There are three main types of volcanoes:

1- \_\_\_\_\_\_\_\_\_ Volcanoes

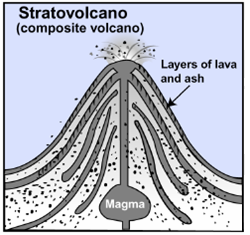
2- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (also called \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

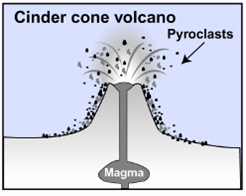
3- \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ Volcanoes

They have different \_\_\_\_\_\_\_\_\_\_\_\_\_ and are formed from different types of material: lava, pyroclasts, ash, and gases. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or thickness, of the lava flowing from the volcano is the most important factor in determining the \_\_\_\_\_\_\_\_\_\_\_ of the volcano.



* \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_, fast-flowing \_\_\_\_\_\_\_\_ is associated with shield volcanoes.
* Because this lava easily flows down hill, shield volcanoes are \_\_\_\_\_\_ \_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_.

\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ lava is associated with \_\_\_\_\_\_\_\_\_\_\_(also called composite volcanoes). These volcanoes range in height from 500 to 10,000 meters.



* \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ volcanoes are steep stacks of loose \_\_\_\_\_\_\_\_\_\_ (clumps & particles of lava).
* \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ are rarely higher than 300 meters.
* Lava viscosity also determines how \_\_\_\_\_\_\_\_\_\_\_\_\_ an eruption will be.
* Explosive eruptions occur when the lava has a lot of \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_ gases.
* Gentle eruptions are associated with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ lava from oceanic crust.



Volcanoes also form when an \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ slides under another oceanic plate.

**Hydrothermal Vents**



\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ are deep sea, chimney-like structures that occur along mid-ocean ridges.

Some \_\_\_\_\_\_\_\_\_\_\_ are also associated with volcanic activity. For example, \_\_\_\_\_\_\_\_\_\_ form at high temperatures deep underground when carbon crystallizes inside rocks called \_\_\_\_\_\_\_\_\_\_\_\_.

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ is a useful product of volcanic activity.
* When steam from \_\_\_\_\_\_\_\_\_collects below ground, it can be tapped just like water in a well.
* The pressurized steam can be used to generate \_\_\_\_\_\_\_\_\_\_\_.

**Practice: Match the vocabulary word to its definition.**

1. magma \_\_\_\_\_\_\_\_\_\_ a. The pattern of volcanoes & earthquakes that occurs at the

boundaries of the Pacific Ocean.

2. lava \_\_\_\_\_\_\_\_\_\_\_\_ b. a measure of a material’s resistance to flow

3. Ring of Fire \_\_\_\_\_\_\_ c. A bowl-shaped depression at the top of a volcano

4. magma chamber \_\_\_\_\_\_\_ d. Molten material from the mantle that reaches the earth

surface

5. crater \_\_\_\_\_\_\_\_ e. Molten material that originates in the mantle

6. Viscosity \_\_\_\_\_\_\_\_\_\_ f. A place where magma collects underground

7. Explain the difference between magma and lava. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Describe the differences between the three main types of volcanoes.