

St. Patrick's Catholic School
Science and Technology
Volcanoes and Earthquakes

There are natural disasters which can affect the ecosystems that surround us. Two of these natural disasters are volcanoes and earthquakes.

Volcanoes

A volcano is an *opening* in the earth's crust through which *magma, volcanic ash, and gases escape*.

Remember! *Volcanoes are not always mountains*. They come in different shapes.

Volcanoes can happen under water. They can also happen in ice. For example, the volcanoes in Iceland.

Someone who studies volcanoes is called a *volcanologist*.

How Volcanoes Happen

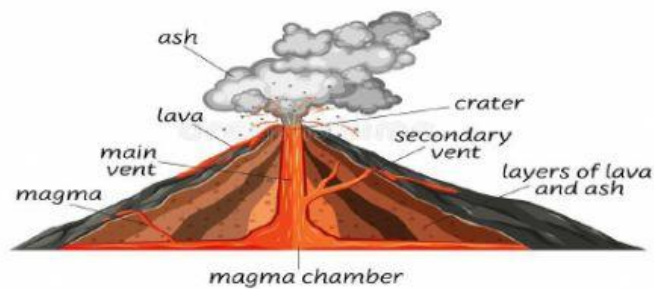
Volcanoes erupt when molten rock called magma rises to the surface. Magma is formed when the Earth's mantle melts.

Melting may happen where *tectonic plates are pulling apart or where one plate is pushed down under another*.

Magma is lighter than rock so it rises towards the Earth's surface. As the magma rises, bubbles of gas form inside it.

Runny magma erupts through openings or vents in the earth's crust before flowing onto its surface as lava.

Parts of a Volcano



Types of Volcano

An active volcano is one that is **erupting or may erupt in the near future**. For example: Kick 'em Jenny in Grenada and La Soufriere in St. Vincent.

A dormant volcano is one **which has not erupted in 10,000 years but may erupt in the future**. For example: Mt. Catherine in Grenada.

An extinct volcano is one **which will not erupt again**. For example: Grand Etang Lake and Lake Antione.

Effects of Volcanoes

Advantages

1. The ash of the volcano has minerals which makes the soil fertile (good for planting).
2. Some countries benefit from tourism when people visit volcano sites. For example, Hawaii.
3. If a volcano erupts underwater, new land can form.

Disadvantages

1. Volcanoes can destroy the animals and plants in its path.
2. Volcanoes destroy the habitat (home) of animals.
3. Volcanoes can cause other natural disasters like mudflows, avalanches and tsunamis.

Earthquakes

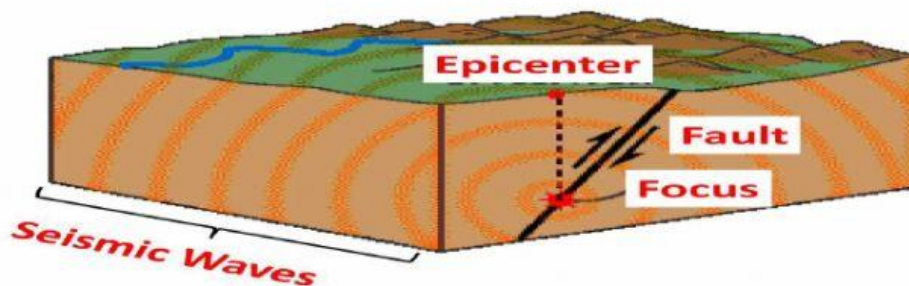
An earthquake is *the sudden shaking of the Earth's surface or crust.*

Earthquakes can *happen at anytime and cannot be predicted.*

How Earthquakes Happen?

An earthquake happens when tectonic plates suddenly slip past one another. The surface where they slip is called the *fault plane*. The location below the earth's surface where the earthquake starts is called the *hypocenter* or *focus*. The location directly above it on the surface of the earth is called the *epicenter*.

Parts of an Earthquake



The instrument used to measure the intensity of an earthquake is called a *seismometer*.

An expert who studies earthquakes is called a *seismologist*.

Effects of Earthquakes

Earthquakes are bad for the environment. They can:

1. Destroy the habitats (homes) of animals.
2. Destroy plants and animals.
3. Cause fires when gas lines get damaged.
4. Cause other natural disasters such as volcanoes, tsunamis, avalanches and mudflows.