

Types of Volcanoes based on shape

1. Ash & Cinder Cone (explosive)

These are the smallest of the volcanoes, and are built entirely of pieces of solidified (hardened) lava thrown from a central vent. They form where a high percentage of gas in the molten rock causes it to froth into a bubbly mass to be ejected from a vent with great violence. The lava breaks up into small fragments which solidify as they are ejected and fall as solid particles near the vent.

These small fragments accumulate to form a cinder cone. Still finer particles of ash and volcanic dust build up within a few miles of the eruption. Cinder cones rarely grow to more than 500 ft -1000ft. The material in the cone is loose and absorbs heavy rain without surface run off. The central vent in the cone is quite large. Cinder cones will usually occur in groups.

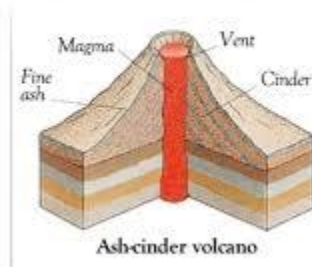
Examples: Mt. Nuovo near Naples (Italy)

Paricutin in Mexico

Volcano de Fuego in Guatemala

Cinder Cone Diagram

Cinder Cone Volcanoes



2. Composite Cone or Strato-volcano (explosive)

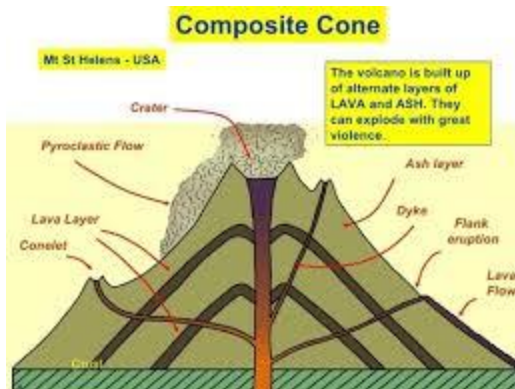
This is the most common and typical type of volcano. They are built up over a long period of time as a result of a number of eruptions and consist of alternating layers of lava and cinder ash.

They include most of the highest volcanoes of the world. (Ojos del Salado in Chile is the highest Volcano in the world). This type of volcano begins each eruption with great violence which accounts for the layers of ash. As the eruption gets underway, the violence stops and the lava pour out forming layers on top of the ash.

The steep sided form of the cone is controlled by the angle at which the cinder and ash lies. The lava layers provide strength and bulk to the volcano.

Examples: Vesuvius (Italy), Mt. St. Helens and Mt. Rainier (USA)
Etna (Italy), Stromboli (Italy),
Fujiyama (Japan)
Popocatepetl (Mexico)

Composite Cone Diagram



Quiet Volcanoes

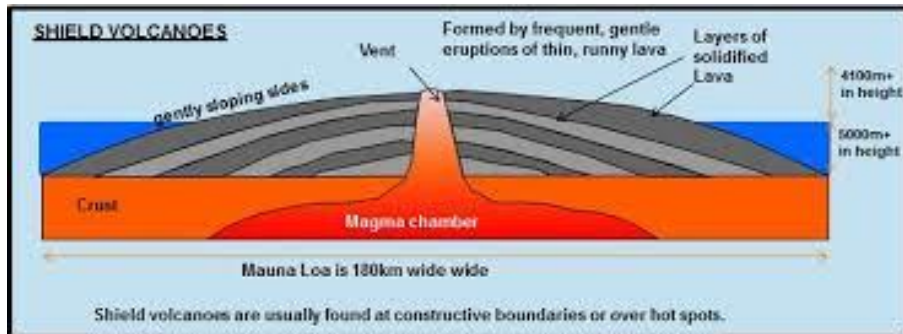
3. Shield volcanoes

These are the largest in terms of volume, and in diameter can be tens to hundreds of kilometers across or more. It gets its name from appearance. It is large in terms of area but is flatter than the other types of volcanoes. When seen from

above it looks like a warrior's shield, slightly raised in the center with long gently sloping sides. The lava which comes from this volcano is basaltic, which has a low viscosity (a

measure of the ability of a fluid to flow). The lava from a shield volcano flows quickly and can cover a large area. They erupt regularly and for long periods of time.

Examples: Mauna Loa (Hawaii), Kilauea (Hawaii), Diamond Head(Hawaii), Mauna Kea (Hawaii)



Intrusive Volcanic Features

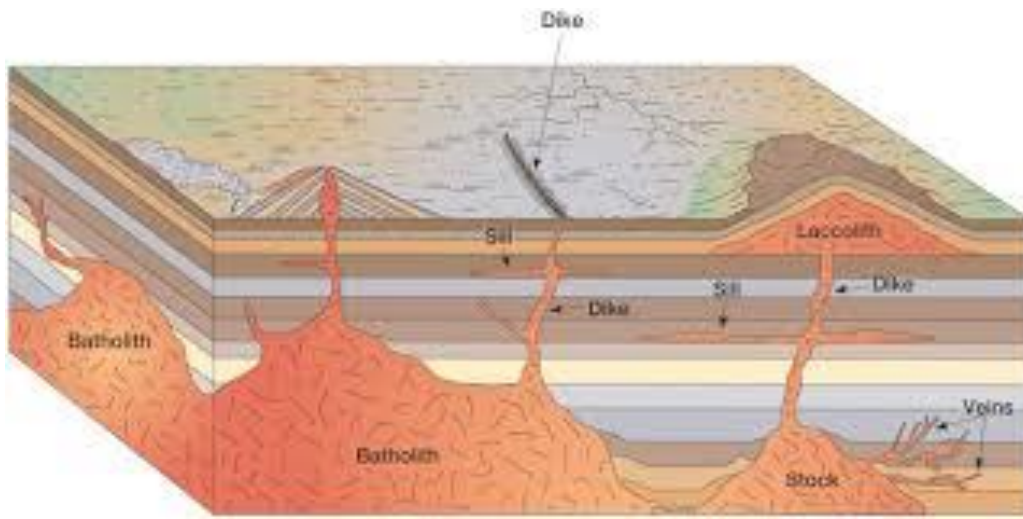
Intrusive features are those formed inside a volcano or beneath the earth's crust.

They are:

1. Sill
2. Dykes/Dike
3. Batholith
4. Laccolith

These features are formed when magma cools and hardens in rock layers beneath the earth's surface.

1. **Sills**- This is formed when a sheet of magma lies horizontally along the bedding plane of sedimentary rocks.
2. **Dyke**- This is formed when a mass of magma cuts vertically across the bedding plane and forms a wall-like feature. Sometimes dykes are exposed to the surface by erosion.
3. **Batholith**- A huge mass of magma which forms the root of mountains. A Batholith is often made of granite (Igneous Rock) and can become exposed to the surface by erosion of overlapping rocks.
4. **Laccolith**- this is a large blister or igneous mound which is shaped like a dome. The Magma which forms the Laccolith is formed in the upper surface.



Extrusive (outside /external) volcanic features

These are features which are formed on the top of the earth's surface. They are:

1. Volcano or volcanic cone
2. Lava flow or lava platform

