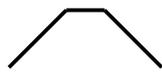


Volcano information – organized

Any attempt by human beings to categorize nature will have flaws. Volcanoes and their eruptions are much more complex and varied than what you see below. But, this is a common and useful simplification for people who are first learning about them!

	<u>Shield cone</u>	<u>Composite cone</u>	<u>Cinder cone</u>
Sketch:			
Shape:	broad, gentle, convex slopes	steep, concave slopes, small summit crater	steep, straight slopes, large summit crater
Dimensions:	BIG; up to 20 km high, 100 km wide!	medium; up to 2.5 km high	small; under 500 m
Composition:	basalt lava flows	varying layers of lava, ash	basalt or andesite tephra
Ejections:	thin basaltic lava flows	dacitic/rhyolitic tephra	thick basaltic tephra
Eruption style:	Hawaiian : calmest eruption type; can last for years; steady fountains and flows of thin basaltic lava; minor eruptive column and few tephra; erupts in many places, not just a single crater	Plinian : spectacularly explosive, sometimes destroying itself; hours to days long; most lava comes out as tephra, not lava flows; eruptive column kilometers high; pyroclastic flows and lahars	Strombolian : short-lived, explosive outbursts; may be frequent; lava ejected short distances into the air as tephra; lava flows only at the end of its lifetime

Stuff that comes out of volcanoes:

- **Lava**: molten (liquid) rock can come out along the ground (a flow) or be spayed into the air as a fountain. Lavas are categorized based on how much of the chemical “silica” is in them.
 - **Basalt**: thinnest lava type, low silica content, ~1100°C.
 - **Pahoehoe** (“pah-HOY-hoy”): less viscous, hotter, flows in smooth sheets < 1 m high.
 - **Aa** (“AH-ah”): thicker, cooler, flows in taller rolling fronts like a tractor/tank tread.
 - **Andesite**: thicker, higher silica content, ~1000°C.
 - **Dacite** and **rhyolite**: thickest lavas with highest silica content, ~800°C.
- **Tephra**: solid stuff that gets thrown up into the air by an eruption, usually starts out as lava but cools and solidifies in the air before landing. thicker lavas (with more silica) are more likely to explode into the air and become tephra rather than flowing.
 - **Ash**: very small grains
 - **Lapilli**: pea-sized to walnut-sized
 - **Bombs** or **blocks**: walnut-sized and bigger
- Gases like steam, carbon dioxide, and sulfur dioxide are common, too.

Other effects of eruptions

- **Eruptive column**
 - a tall pillar of dense, super-hot smoke and ash that rises rapidly into the sky
 - can be several kilometers high
 - winds can carry/spread the column into a huge dark cloud that drops ash over hundreds of square kilometers
 - the clouds from major eruptions can darken entire continents and even cool the Earth's climate by blocking out sunlight!
- **Pyroclastic flow**
 - when smoke and ash flow down the side of a volcano instead of rising up as a column
 - the flow is very hot and moves very fast
 - super dangerous!!
- **Lahar**
 - a boiling-hot landslide/mudslide caused by a mix of tephra (ash) and water
 - also super dangerous!