Volcanos

Extrusive Igneous Rocks

The Shapes of Volcanoes

Eruption Explosiveness
Basaltic Eruptions

Types of Basaltic Lava

<table>
<thead>
<tr>
<th>Aa flows</th>
<th>Rough angular blocks.</th>
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<td>Pahohoe flows</td>
<td>Ropy, fluid-like structures.</td>
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Lava Flows in the Grand Canyon

Lava Flow on Mars

Columnar Jointing

Cooling basalts frequently form these structures.

Columnar Jointing

Fingal's Cave
Pyroclastics

North of the Solitario and Big Bend State Park

Ashfall Tuff

Ashfall Tuff near Taos, New Mexico

Pumice deposits near Taos, New Mexico

Volcanic Bombs
Volcanos

Types and Styles

Generic Volcano Anatomy

Example: magma chamber under Hawaii

Magma Chamber

Types of Volcanos
Shield Volcano

Mauna Lea - Hawaiian islands are composed almost entirely of basalt flows.

Shield Volcanos

Shield Volcanos

Mons Olympus
Mars

Shield Volcanos

Shield Volcanos
Cinder Cone
Volcanos

Composed of basaltic cinders.

Capulin Mtn
New Mexico

Parícutin Volcano
Volcanic Neck
Eroded volcano near Alpine, Texas

Volcanic Neck

Volcanic Neck
Devil’s Tower, Wyoming

Composite Cone (Stratovolcano)

Typical composite volcano

Mt. St. Hellens

Nuée ardente
Incandescent cloud of superheated gas and ash.
Caldera

Caldera Formation

Caldera forms when a magma chamber collapses.

Caldera Crater

Some calderas in Big Bend National Park
The Greek myth of Atlantis was based on the explosive eruption of Mt. Santorini, which destroyed the advanced Minoan civilization that lived on the island.
The result of *Nuée ardente* near populated areas.

St. Pierre

Pompeii

Score:
Volcanos - 2
Humans - 0

Earthquake in 62 AD

Pompeii

August 24th, 79 AD

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Fissure Eruptions in Iceland

Melting oceanic plates and continental crust

Origins of most (not all) magmatism

Melting oceanic plates

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WEATHERING