

**Volcano
Review Table**

	Flood Basalt	Shield	Mid-Ocean Ridge	Cinder Cone	Stratovolcano	Lava Dome	Caldera
Landform	extensive plateaus	low, broad mountain with slopes <5°, up to ~9,000-m high	rift valley	small mountain, 20-30° slopes, up to ~400-m high	large, steep-sided mountain, up to ~3,000-m high	small, steep-sided mountain, up to ~500-m high	large depressions 10's of km wide
Eruption Products	huge volumes of lava (10 ⁵ to 10 ⁶ km ³)	lava >> tephra	pillow lava	tephra >> lava	tephra + lava	lava > tephra	tephra >> lava
Magma Composition	mafic	mafic	mafic	mafic	intermediate	felsic	felsic
Magma Viscosity	low	low	low	low	moderate	high	high
% Gas in Magma	low	low	low	moderate	low to high	low to high	low to high
Eruption Style	high discharge rate from multiple fissures	point source & fissure "fire" fountains (Hawaiian)	submarine flows	small eruption column, fire fountain (Strombolian)	large eruption column, pyroclastic flows (Plinian)	dome collapse, pyroclastic flows (Pelean)	multiple fissure-fed pyroclastic flows (ultra-Plinian)
Explosivity	low (?)	low	low	low-moderate	very high	high	ultra-high
Magma Origin	mantle partial melting	mantle partial melting	mantle partial melting	mantle partial melting	hydrous (wet) crust/mantle melting	crustal melting	crustal melting
Plate Tectonic Setting	"hot spot" (mantle plume)	numerous	Oceanic divergent margin	numerous	mostly convergent margin (subduction zone)	numerous	numerous
Examples	Siberian Traps, Deccan Traps, Columbia River	Mauna Loa, Kilauea, Skjaldbreiður, Erta Ale, Newberry, Joes Hill	Mid-Atlantic Ridge, East Pacific Rise, Mid-Indian Ridge	Stromboli, Paricutin, Cerro Negro, SP Crater, Sunset Crater	Fujiyama, Mt. St. Helens, Popocatepetl, San Francisco Peaks	Novarupta, Mont Pelee, Mt. Unzen, Salton Buttes, Sugarloaf Mtn	Toba, Long Valley, Yellowstone, Valles, Superstition Mtns
Hazards	lava flows, gas emissions	lava flows	no significant hazards	blast, ash fall, lava flows	blast, ash fall, gases, pyroclastic flows, mud flows, landslides,	blast, pyroclastic flows	blast, ash fall, gases, pyroclastic flows, tsunami
Comments	never observed; gas emissions a factor in mass extinctions	some of the largest single mountains on Earth	>70,000 km of mid-ocean ridges on Earth	usually monogenetic (erupt once and done)	form volcanic arcs around the "Ring of Fire"	commonly associated with stratovolcanoes and calderas	eruptions rarely observed