

Igneous Rock Samples

Sample number	Rock name	Origin	Grain Size	Classification	Color	Content	Origin
28 large box	Andesite, p. 199	extrusive	fine	intermediate	intermediate, medium	55-65% silica	andesitic volcanoes, second only in abundance to basalt, often associated with subduction zones, as in the Andes mountains
34, large box	Basalt, p. 202	extrusive	fine	basic	mafic, dark	45-55% silica, apatite and magnetite nearly always present	cooling of highly mobile basaltic lava, principal rock of the ocean floor
11, small box	Basalt, vesicular, p. 203	extrusive	fine	basic	mafic, dark	similar to basalt, calcic-plagioclase feldspar and pyroxene, olivine and magnetite	forms from the cooling of basaltic lava
12, small box	Diorite, p. 187	intrusive	coarse	intermediate	intermediate, medium, dark	55-65% silica, plagioclase feldspar and hornblende	in independent intrusions such as dikes, but usually part of major granitic masses
33, large box	Gabbro, p. 189	intrusive	coarse	basic	mafic, medium	poorer in silica than granites, about 50% by weight, composed of calcic plagioclase, pyroxene, olivine, magnetite	major plutonic intrusions, which are commonly layered
32, large box	Granite, p. 180	intrusive	coarse	acid	felsic, light	total silica content greater than 65% and minimum quartz content of 20%	pink granite forms at depth; white granite in plutonic environments; porphyritic granite from magma cooling in two stages
29, large box	Obsidian, p. 197	extrusive	very fine	acid	dark	silica-rich with glass as main component, glassy with less than 1% water content	volcanic, rapid cooling of viscous lava
31, large box	Pumice, p. 205	lava, ash	fine	acid to basic	felsic, medium	like rhyolite, silicate minerals such as feldspar and ferromagnesians, considerable amount of glass	frothy lava associated with rhyolitic volcanic eruptions
14, small box	Rhyolite, p. 196	extrusive	fine	acid	light	like granite, rich in quartz and alkali feldspar, glass is often a major component, biotite mica usually present	erupt from volcanoes with explosive violence, result of the cooling of viscous lava, my plug the volcano's vent causing a pressure buildup
13, small box	Syenite, p. 188	intrusive	coarse	intermediate	light, dark, looks like granite without quartz	light-colored intermediate with total silica content between 55 and 65%, alkali feldspar and/or sodic plagioclase, biotite, amphibole, or pyroxene	minor intrusions, dikes, sills, often associated with granites
30, large box	Tuff, p. 204	pyroclast/extrusive	fine, holes	acid to basic	medium	lithic fragments/ crystal fragments	ashes blown out of volcanoes, can appear like stratified sedimentary rock