

Assignment 2: Minerals and igneous rocks

Define/distinguish the following terms:

sedimentary

igneous

metamorphic

rock cycle

crystallization

melting (fusion)

deposition

weathering

erosion

magma

lava

cooling rate

intrusive (plutonic)

pluton

batholith

stock

dike

sill

extrusive (volcanic)

shield volcano

stratovolcano (composite)

maar

caldera

texture

grain size

phaneritic

aphanitic

porphyritic

vesicular

glass

composition

mafic

intermediate

felsic

Bowen's reaction series

continuous series

discontinuous series

fractional crystallization

viscosity

pyroclastic

pyroclastic flow

tephra

lahar

harmonic tremor

If a mineral melts at 800°C, at what temperature does it freeze?

Quartz melts at about 600°C. A rock rich in quartz (but not entirely made of quartz) is heated to 650°C; describe what the rock would look like.

Mauna Kea is a broad shield volcano on the island of Hawai'i. The uppermost 1000 feet or so is, however, a composite volcano. Describe the history of the formation of Mauna Kea.