

Glossary

acid mine drainage Very acidic (low pH) water created mostly when microbes eat sulfide minerals at mine sites.

convergent plate boundary A zone where two tectonic plates move toward each other. If one of the plates is made of oceanic lithosphere, then the oceanic plate will sink into the mantle, creating a subduction zone.

divergent plate boundary A place where two tectonic plates move apart.

extrusive igneous rock A rock formed when magma cools on the surface. These include hardened lava flows, but also rocks made of volcanic ash or other particles erupted from a volcano. These rocks have invisible crystals or no crystals at all, because the magma cooled quickly.

felsic Used to describe magma or igneous rock containing a high (>65%) proportion of silica (SiO_2).

hot spots Places with igneous activity (magma and volcanoes) that are not on plate boundaries.

hydrothermal fluid Hot, reactive water (and other chemicals) that is usually heated by magma. The water either comes from the surface (ocean water, groundwater derived from precipitation) or from the magma itself.

intermediate composition of magma/lava Used to describe magma or igneous rock containing an intermediate (52–65%) proportion of silica (SiO_2).

intrusive igneous rock A rock formed when magma cools below the surface. These rocks tend to have large, visible crystals because the magma cooled slowly.

lava What geologists call magma when it erupts from a volcano.

mafic Used to describe magma or igneous rock containing a low (45–51%) proportion of silica (SiO_2).

magma Liquid (melted) rock.

metamorphic rock Rock formed when another rock (a parent rock or protolith) changes (by becoming more compact, minerals changing size, new minerals growing, minerals aligning) into a new rock. This happens when the parent rock is exposed to high pressure, high temperature, and/or hydrothermal fluids.

ore deposit Another name for mineral reserve, a place where geologic processes have concentrated a mineral resource.

pH A measure of a liquid's acidity or alkalinity. If pH values are less than 7, the liquid is acidic (and lower values are more acidic). If pH values are greater than 7, the liquid is an alkali (and higher values are stronger alkalis).

plutonic igneous rock Another name for intrusive igneous rock.

subduction The sinking of an oceanic plate.

subduction zone A place where an oceanic plate sinks into the mantle at a convergent plate boundary.

sulfide minerals Minerals containing the sulfide ion, such as pyrite (FeS_2), galena (PbS), chalcopyrite (CuFeS_2), sphalerite (ZnS). *Sulfides* is a mineral group (recall, most minerals are in the *silicate* mineral group).

volcanic igneous rock Another name for extrusive igneous rock.

volcano A place where magma reaches Earth's surface. Some, but not all, volcanoes are mountains or cones.