

GEOLOGY TOUR GLOSSARY

ABRASION - a form of mechanical weathering involving the scraping of a rock surface by friction between rocks and moving particles during their transport by wind, glaciers, waves, gravity, running water, or erosion

BIOLOGICAL WEATHERING – a type of chemical weathering in which biologically produced chemicals breakdown rocks, soils and minerals

BIOTITE - a common dark-brown, dark-green, or black mineral of the mica group

CHEMICAL WEATHERING - the direct effect of atmospheric and/or biological chemicals on the breakdown of rocks, soils and minerals

COUNTRY ROCK - rock that is native to an area

EXFOLIATION - the process in which rocks weather by peeling off in sheets rather than eroding grain by grain

FALL ZONE - the geomorphologic break between an upland region of relatively hard crystalline basement rock and a coastal plain of softer sedimentary rock; distinguished by a drop in elevation and waterfalls in rivers

FAULT - a planar fracture or discontinuity in a volume of rock, across which there has been significant displacement along the fractures as a result of earth movement

FELDSPAR - an abundant, rock-forming mineral that varies in color from pink, yellow-orange, tan-white. Large bits often have squared edges. About 60 percent of the Earth's outer crust is composed of feldspar

GEOLOGY - the study of the history and structure of the Earth, the rocks that the Earth is made of, and the processes that form and change the rocks

GNEISSIC BANDING - a type of foliation in metamorphic rock consisting of roughly parallel dark and light bands of rock

GRANITE - a hard, granular, igneous rock, formed as magma solidifies far below the earth's surface. Granite is composed mainly of quartz, mica, and feldspar, and is often used as a building material

IGNEOUS ROCK - rocks formed as MAGMA (molten rock) crystallized and solidified as it cooled

INTRUSION - the movement of magma from within the earth's crust into spaces in the overlying strata to form igneous rock

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LICHEN - a fungus that grows symbiotically with algae, resulting in a composite organism that characteristically forms a crust-like or branching growth on rocks or tree trunks

MAGMA - molten rock found in pockets under the earth's surface

MAGMA CHAMBER - a large underground pool of liquid rock found beneath the surface of the Earth

MANTLE - a highly viscous layer between the Earth's crust and its outer core. The mantle is a rocky shell about 2,900 km (1,800 mi) thick that constitutes about 84% of Earth's volume

METAMORPHIC ROCK - rocks that have undergone a change in structure by heat and pressure or chemical reaction

MINERALS - naturally occurring solid inorganic substances. Each type of mineral has a specific chemical makeup and crystalline structure. Different combinations of minerals form different types of rock

MOSESSES - small, non-vascular, spore-bearing land plants in the Bryophyte division. Mosses are simple and ancient plants that have survived nearly unchanged since the Permian (290–248 million years ago)

MYA - abbreviation for 'Million Years Ago'

OFFSET VEINS - zig-zag patterns that occur when rock cracks and shifts along small faults due to pressure (stress)

PETERSBURG GRANITE - a geologic formation composed of K-feldspar, quartz, plagioclase with minor amounts of biotite and muscovite. This igneous rock solidified deep in the crust during the late Paleozoic (~300 Ma). It was first identified in the Fall Zone city of Petersburg, Virginia

PHYSICAL (MECHANICAL) WEATHERING - the breakdown of rocks and soils through direct contact with atmospheric conditions, such as heat, water, ice and pressure

PLUTONS - a body of intrusive igneous rock that is crystallized from magma slowly cooling below the surface of the Earth

POTHOLES - deep, round or oblong holes formed in rock by the grinding action of small pebbles, sand, and stones whirling in strong rapids or waterfalls

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QUARRY - a type of open-pit mine from which rock or minerals are extracted

QUARTZ – the most common mineral in the continental crust. Can be clear or cloudy and present in a variety of colors

SEDIMENTARY ROCK- rocks broken down by weathering and cemented back together

SLICKENSIDES - inside surfaces of the crack have polished, grooved sides that create mirrored faces formed as cracked pieces of rock shift and slide against one another, frictional forces scoured the surfaces

SPHEROIDAL WEATHERING - a process of chemical weathering by which granite breaks down most rapidly at corners, less rapidly at edges, and slowest at the center of the faces of the block, leaving behind rounded boulders. Also called concentric weathering or onion-skin

SUBDUCTED - the process by which one tectonic plate moves under another tectonic plate and sinks into the mantle as the plates converge. This process takes place at the convergent edges of the two plates

TECTONIC PLATES - massive, irregular slabs of rock generally composed of both continental and oceanic lithosphere which float on and travel independently over the mantle. Much of the earth's seismic activity occurs at the boundaries of these plates

VEIN - a distinct, sheet-like body of crystallized minerals embedded within a rock. The minerals were injected as a molten fluid (magma) into cracks and then crystallized as fluid cooled, changing to igneous rock

WEATHERING - the breaking down of rocks, soils, and minerals through contact with the Earth's atmosphere, biota, and waters

WEDGE AND FEATHER - a method of cutting and harvesting rock. A wedge and two "feathers" made of iron were lubricated and placed in each hole along the line. Each wedge was hammered once, moving down the line in consecutive order. The wedges had to be hammered at the same pressure for the rock to split in an even line

XENOLITHS - 'foreign rock'; a piece of rock within an igneous mass that is not derived from the original magma but has been introduced from elsewhere

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Definition Sources

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