

Earth History glossary

Glossary

Abrasion: The physical weathering of rocks by particles rubbing against each other.

Absolute age: The exact age of an object (such as a rock or artifact); found by techniques, such as the study of growth rings in trees and radiocarbon dating.

Basin: A large area where sediments have been deposited.

Beach: A gently sloping shore next to a body of water that is washed by waves and tides and often covered by sand and pebbles.

Bedding: The division of sediments or sedimentary rock into parallel layers or beds that can be distinguished by features such as chemical composition and grain size.

Calcite: A mineral composed of calcium carbonate that fizzes in hydrochloric acid; the major component of limestone.

Canyon: A V-shaped valley eroded by a river.

Cenozoic: The current geologic era; means "recent life."

Chalk: A type of limestone; a powdery, fine-grained rock composed of almost pure calcite.

Composition: The way the parts or elements of something are put together, such as the type and amount of minerals in a rock.

Constructive processes: The ways in which Earth's surface is built up, such as mountain building and deposition.

Convection: The movement caused when cool, dense material sinks and replaces warmer, less dense material. Convection cells form within Earth's mantle when cool material near the crust sinks. It becomes heated by the core and is replaced by cooler, denser material.

Coquina: Limestone formed almost entirely of sorted and cemented fossil debris, mostly small shells and shell fragments.

Core: The densest, central layer of Earth, composed mostly of iron and nickel. The outer core is thought to be liquid, while the inner core is thought to be solid.

Correlate: To determine if two or more rocks or rock layers separated by a distance are the same.

Cross-bedding: The parallel beds in sedimentary rock, lined up at an angle to the surface upon which they were deposited. Crossbeds form from blowing sand deposited in dunes or in sediments deposited by running water.

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Cross-section: A profile or side view. For example, the Colorado River cut through Colorado Plateau rocks, revealing a cross-section of the rocks.

Crust: The outer layer of Earth, composed of relatively low-density rocks.

Crystal: A chemical element or compound in which the arrangement of atoms repeats forming a geometric solid with a surface of symmetrical planes.

Debris fan: A delta-like deposit composed of particles larger than sand, often including boulders 1 meter or more in diameter.

Delta: A fan-shaped deposit at the mouth of a river.

Deposition: The settling out of sediments carried by water, wind or ice to form sedimentary rocks.

Destructive processes: The ways in which Earth's surface is torn down, such as weathering and erosion.

Dune: A mound, hill, or ridge of windblown sand.

Ecology: The study of the relationships between organisms and their environments.

Eon: The largest division of geological time.

Epoch: A subdivision of the Tertiary and Quaternary periods.

Era: A broad span of geological time based on the general type of life existing during the time. The four eras on Earth are Precambrian, Paleozoic, Mesozoic, and Cenozoic.

Erosion: The removal and transportation of weathered materials by mass wasting and the action of water, wind, and ice.

Exposure: An outcrop of rock not covered by vegetation.

Extrusive: Describes igneous rock that erupted onto Earth's surface; formed from lava.

Fault: A break or fracture in rock along which the two sections have moved relative to each other.

Flood: The overflowing of a water body, such as a river, over its banks onto normally dry land.

Floodplain: The flat land that surrounds a stream and becomes submerged when the stream overflows its bank.

Formation: A group of rock layers composed mostly of the same rock type or combination of rock types recognizable from one place to another.

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Fossil: Any remains, trace, or imprint of an organism preserved in rock; any evidence of past life.

Frosted: Having a rough, pitted appearance resulting from impacts. Sand grains blown by the wind are usually frosted because they bang into each other.

Geology: The study of planet Earth.

Geological time: The measurement of time from the formation of Earth to the present.

Geoscientist: A scientist in any of the many fields of geology.

Geosphere: The combination of Earth's so-called spheres, including the lithosphere, hydrosphere, and atmosphere.

Headwaters: The source and upper part of a stream.

Historical geology: A major branch of geology concerned with the evolution of the Earth and its life since Earth's origin.

Igneous rock: Rock formed from molten or partially molten material.

Index: A point from which to measure; an indicator.

Index fossil: A fossil that is found over a relatively short span of geological time and can be used in dating formations.

Intrusive: Describes igneous rock that cooled below Earth's surface; formed from magma.

Journal: A daily, written record of personal experiences and observations.

Landform: A shape or feature of Earth's surface, such as a delta or canyon.

Lava: Molten rock that comes to Earth's surface through a volcano or other crack in Earth's crust.

Law of fossil succession: A geological law that states that the kinds of plants and animals found as fossils change over time and that the relative age of rocks can be figured out by the types of fossils in the rocks.

Layer: A thickness or bed of rock.

Lithification: The process that changes sediments into rocks.

Lithosphere: The solid portion of Earth.

Magma: Molten rock that forms naturally below Earth's surface.

Mantle: The layer of Earth below the crust and above the core.

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Matrix: Material that holds sediments, such as sand, together in a sedimentary rock.

Mesozoic: A geological era; means "middle life."

Metamorphic rock: A rock that has changed from another rock because of heat, pressure, or a chemical reaction.

Mineral: A naturally occurring, usually inorganic, solid consisting of a single element or compound that has a definite chemical composition and internal arrangement of atoms.

Molten: Melted; changed into liquid form by heat.

Monocline: A large section of rock layers that slopes down or droops on one side.

Mountain: A high, uplifted area with steep slopes.

Öolith: A small grain of sand, silt, or shell around which layers of calcium carbonate have accumulated.

Outcrop: The part of a body of rock that is exposed at Earth's surface.

Oxidation: Chemical weathering during which a mineral combines with oxygen. Minerals that contain iron turn red during oxidation.

Paleontologist: A scientist who studies fossils to learn about prehistoric life.

Paleontology: The study of fossils to learn about prehistoric life.

Paleozoic: A geological era; means "ancient life."

Period: A span of geological time within a period, based partly on evidence of major disturbances in Earth's crust and on the characteristics of the common rock formations.

Plain: A nearly level area that has been eroded or where material has been deposited.

Plateau: A nearly level area that has been uplifted.

Precambrian: A geological era; all of Earth's history that occurred before the Paleozoic Era.

Rapids: Fast-moving water that flows around rocks and boulders in rivers.

Reef limestone: A rock formation formed in warm shallow seas. Reef limestones are composed of the skeletons of marine organisms.

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Relative age: The age of a geological structure or event in comparison to other geological structures or events.

Rock: A consolidated mass of minerals, fossils, and/or skeletal material.

Rock cycle: The transformation of rocks from one type to another by melting, weathering, erosion, deposition, heat, pressure, or deformation.

Salol: A synthetic (manufactured) material used in a variety of plastics, suntan oils, waxes, and face creams; also called phenyl salicylate.

Sample: A piece of something larger, such as a rock layer, used for study or display.

Sediment: Particles, derived from rocks or biological materials, that have been

transported by a fluid or other natural process, and are suspended or settled in water.

Sedimentary rock: A rock made from particles, such as sand, silt, and pebbles, or by precipitation of minerals from a solution, such as calcium carbonate.

Solution: A mixture of two or more substances (solutes) that completely dissolve in another substance (solvent).

Sorting: A process by which particles are separated out from water, wind, or ice by size, shape, or density.

Stalactite: An icicle-shaped deposit hanging from the ceiling of a cave; formed by the precipitation of limestone dissolved in water.

Stalagmite: A conelike deposit growing up from the floor of a cave; formed by the precipitation of limestone dissolved in water dripping from the cave's ceiling.

Strata: Layers (or beds) of sedimentary rocks.

Stratigraphy: The study of the order and correlation of rock layers.

Superposition: A geological principle that states that layers of sedimentary rocks are formed on top of older layers.

Travertine: A hard calcium-carbonate rock often deposited around hot springs or as stalactites and stalagmites in caves.

Tufa: A calcium-carbonate rock formed from fresh water, often filling rock cavities or forming stalactites and stalagmites.

Uniformitarianism: The hypothesis that geological processes, such as erosion and deposition, have worked the same way throughout Earth's history. "The present is the key to the past."

Uplift: The upward movement of areas of Earth's crust or its landforms.

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Valley: A low area between hills and mountains, often where a river flows.

Weathering: The breaking apart of rocks by physical or chemical methods.