
Geological glossary

Alluvium Loose deposits of clay, silt sand and gravel laid down on **floodplains** by the action of rivers in the recent past.

Andesite A fine-grained volcanic or intrusive rock, intermediate between basalt and **dacite** in composition (53 to 63 per cent silica).

Angular A descriptive term for rock fragments or sand grains with sharp corners.

Bed An individual layer of sediment or a stratum of **sedimentary rock**.

Bioclastic limestone A limestone with common fragments of calcareous organisms.

Breccia A rock made up of large, **angular** fragments in a finer matrix that may be of a similar or a different material (see also, **Volcanic breccia**).

Crinoid Fossilised remains of shelly marine creatures, related to sea urchins, usually attached by a stem composed of discs (ossicles).

Cross-bedding A feature of **sedimentary rocks** formed by the movement of sand grains in currents to produce layering oblique to the margins of the **beds**.

Dacite A fine grained volcanic or intrusive rock containing 63 to 70 per cent silica; it commonly has **quartz phenocrysts**.

Deformation Any natural process that bends, twists or fractures rocks.

Diorite A medium- to coarse-grained intrusive **igneous rock** composed principally of the minerals **plagioclase feldspar**, hornblende, and/or pyroxene; the equivalent of **andesite**.

Dolomitic, dolomitised Descriptive terms for a limestone that has had some of its calcium carbonate replaced by magnesium carbonate.

Erosional unconformity (see 'unconformity')

Feldspar A commonly occurring aluminium silicate mineral of potassium, sodium and calcium (see **plagioclase feldspar**).

Floodplain The flattish floor of a valley composed of **alluvium** and prone to flooding.

Fragmental Descriptive term, usually reserved for rocks made up of volcanic fragments ranging from ash-size to blocks (see volcanic breccia).

Granodiorite A coarse-grained intrusive **igneous rock** similar to granite, but with more **plagioclase feldspar** than potassium **feldspar**.

Igneous rock Rock formed when molten **magma** cools and solidifies. It includes extrusive rocks erupted from volcanoes (e.g. **andesite**) and intrusive rocks that cool beneath the Earth's surface (e.g. **diorite**).

Intrusion A body of **igneous rock** formed from molten **magma** that has been introduced into pre-existing rock.

Laminae, Lamination The narrowest type of layering in **sedimentary rocks**, less than 1cm in thickness.

Magma Molten rock from the Earth's interior, which cools and solidifies to form **igneous rocks**.

Mudstone A fine-grained **sedimentary rock** originally composed of clay or mud.

Plagioclase feldspar A very common rock-forming aluminium silicate mineral with varying contents of calcium and sodium; usually grey in colour.

Phenocryst A relatively large and usually conspicuous crystal, surrounded by smaller crystals and formed in the mass of a **porphyritic igneous rock**.

Proximal In Charnwood Forest, a term describing rock types with particular features showing that they formed close to a volcano.

Pyroclastic flow A rapid avalanching of ash and rock fragments down the flanks of an erupting volcano.

Quartz The crystalline form of silica (silicon dioxide, SiO₂).

Quartz diorite An intrusive **igneous rock** with the same minerals as **diorite** but with between 5 and 20 per cent **quartz**.

Sandstone A **sedimentary rock** composed of sand-sized grains (i.e. generally visible to the eye, but less than 2mm in size). **Volcaniclastic sandstone** is where all of the grains are of volcanic origin.

Sedimentary rock A rock that is commonly formed by the binding together (lithification) of sediment particles (e.g. **sandstone, siltstone, mudstone**).

Scree An accumulation of broken rocks around the slopes and bases of crags.

Siltstone A **sedimentary rock** composed of silt-sized grains (i.e. only just visible to the eye).

Subrounded A term referring to the appearance of rock fragments or grains, the corners of which are not quite **angular** and which therefore have been somewhat worn by abrasion. Rounded or well-rounded fragments are called **pebbles**.

Superficial deposits Material laid down in geologically very young times as a loose (unconsolidated) mantle across the bedrock.

Tectonic Rock-deforming processes and resulting structures that affect large sections of the Earth's crust

Tuff A collective term for consolidated pyroclastic rocks (i.e. rocks formed directly from volcanic eruptions) with fragments less than 64mm in mean diameter. **Lapilli tuff** is a rock composed of pyroclastic fragments of any shape with a mean diameter of 2 to 64 mm.

Turbidite A rock formed from sediment that settled out of turbid water carrying particles of widely varying grain size. Characteristically displays **graded bedding**.

Turbidity current A current on the sea floor caused by the movement of a body of dense, turbid or sediment-laden water.

Unconformity A surface of contact between two rock units, which represents a hiatus in the geological record, usually due to a combination of erosion (**erosional unconformity**), **tectonic** activity and a cessation of sedimentation.

Volcanic block An **angular** volcanic fragment, in excess of about 6.5cm size, formed by the disintegration of a congealed lava flow or **volcanic dome**.

Volcanic breccia A pyroclastic rock composed of **volcanic blocks**.

Volcanic dome A mass of viscous lava that cools and hardens within the crater. When a **volcanic dome** forms, pressure from the volcano's gases can build up and eventually the dome disintegrates into avalanches of hot volcanic rock

Volcaniclastic A general term for rocks composed wholly or in part of volcanic fragments i.e. fragments originating from volcanic eruptions (pyroclastic material) or from the erosion of volcanoes (epiclastic material).