Rocks Spring 1	Lostwithiel Primary School Science Knowledge Organiser	Year 3

Prior Learning to Reactive

- Identify and describe a variety of every day materials, including rocks (Year 1)
- Compare and group together a variety of everyday materials (Year 1)
- Identify and compare the suitability of a variety of everyday materials for particular purposes (Year 2)

Scientific Skills

Observing rocks, including those used in buildings and gravestones, and exploring how and why they might have changed over time using drawings to record findings
Using a hand lens or microscope to help them to identify and classify rocks according to whether they have grains or crystals, and whether they have fossils in them.
Researching and discussing the different kinds of living things whose fossils are found in sedimentary rock and explore how fossils are formed.
Exploring different soils and identifying similarities and differences between them and investigating what happens when rocks are rubbed together or what changes occur when they are in water.
Raising and answering questions about the way soils are formed.

Key vocabulary

geologist	A scientist who studies rocks.
Igneous rock	A type of rock formed by volcanic action.
Metamorphic rock	A type of rock formed by heat and pressure deep under the ground.
Sedimentary rock	A type of rock formed by layers of sediment.
organic	Anything living or made from living matter.
fossil	The impression of a dead animal or plant preserved in rock.
mineral	A solid, naturally occurring non living substance.
soil	The upper layer of the earth in which plants grow, made from a mix of rock, water and organic matter.
particle	A very small amount of matter.

Linked documents: Class Overview, Science Whole School Progression document and Class Medium Term Planning.

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Key learning

A rock is a solid collection of mineral grains that grow or become cemented together. Each type of rock is made from one or more minerals which give rocks their unique shape, size and colours. The study of rocks is called geology.

Geologists classify rocks according to how they were formed. There are 3 types of rock: igneous, sedimentary and metamorphic.

Igneous rocks are formed when hot, liquid magma from inside the Earth cools and becomes solid. Example include obsidian, granite and pumice. Sedimentary rocks are formed by pressure exerted upon layers of buried sediment. Examples include shale, sandstone and limestone. Metamorphic rocks are formed by changes in heat and pressure on existing rocks. Examples include marble, slate and serpentine.

Fossils are formed in stages over millions of years. The animal or plant dies and is covered by a layer of sand, mud or other organic matter. Over time, the living tissue rots away and water fills the space. The water contains minerals which slowly harden into stone in the same shape as the original animal or plant.

Soil is a mixture of rock, dead plants and animals, air and water. Different soils have different properties, depending on their composition. Sandy soils are light and have large particles. Clay soils are sticky and have small particles. Chalky soil is light and will allow water to drain quickly through it. Peat does not contain rocks and is rich in nutrients.

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