

## Dog Kennel Hill Primary - Science

**Topic: Rock**

**Year: 3**

**Strand: Chemistry**

### What should I already know?

- Distinguish between an object and the material from which it is made.
- Identify and name a variety of everyday materials, including wood, plastic, glass, water and rock.
- Describe the simple physical properties of a variety of everyday materials.
- Compare and group together a variety of everyday materials on the basis of their physical properties.
- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses
- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

What are the types of fossils?

There are two main types of fossils: body and trace fossils.

- **Body fossils** - Body fossils are fossils where some portion of the actual organism's body remains as part of the fossil. This might be a tooth or piece of bone.
- **Trace fossils** - Trace fossils are fossils where there isn't any actual part of the original organism, but "traces" of the organism are preserved in rocks and minerals. There are many different types of trace fossils including molds, animal tracks, casts, and impressions.

### What will I know by the end of the unit?

What are the different types of rocks?

- Sedimentary
- Metamorphic
- Igneous

Why is soil important?

At first you may think of soil as just dirt. Something you want to get rid of. However, soil plays a very important role in supporting life on Earth.

- **Plants** - Many plants need soil to grow. Plants use soil not only for nutrients, but also as a way to anchor themselves into the ground using their roots.
- **Atmosphere** - Soil impacts our atmosphere releasing gasses such as carbon dioxide into the air.
- **Living organisms** - Many animals, fungi, and bacteria rely on soil as a place to live.
- **Nutrient cycles** - The soil plants an important role in cycling nutrients including the carbon and nitrogen cycles.
- **Water** - The soil helps to filter and clean our water.

How do rocks change over time?

Rocks are constantly changing in what is called the rock cycle. It takes millions of years for rocks to change.

What is a fossil?

A fossil is the preserved remains or impressions of a living organism such as a plant, animal, or insect. Some fossils are very old. Studying fossils helps scientists to learn about the past history of life on Earth.

### Vocabulary

#### Name of Rocks

Chalk	Chalk is a soft, white, porous sedimentary rock which is made from a form of limestone. Chalk is most commonly white-coloured but not always.
Limestone	Limestone is a sedimentary rock. It has many different fragments of marine habitat e.g. coral, molluscs and forams.
Granite	Granite in its natural form. Granite is an igneous rock which is very common all over the world
Slate	Slate is a fine grained metamorphic rock. This sedimentary rock is made up of clay and or volcanic ash through metamorphism
Marble	Marble is a metamorphic rock, made from highly compressed limestone.

#### Types of Rock

Sedimentary	This is when the igneous rocks are worn down and carried by rivers and wind to the sea where they form sediment. Over time, layers of sediment build up and are compressed into rocks. These rocks are softer than igneous rocks and sometimes contain fossils.
Metamorphic	This when the structure of the rock has been changed due to intense pressure and heat. Shale turns to slate, and limestone turns to marble.
Igneous	This is when molten rock has cooled. Igneous rocks contain crystals. The igneous rocks that have cooled slowly contain large crystals, those that cool quicker have smaller crystals

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rocks	rocks are made up of grains that are packed together
mineral	Minerals are solid chemical substances that occur naturally – examples include diamond, quartz, gypsum. Each grain that makes up the rock is made from a mineral.
permeable	Allowing water to pass through it
petrologist	Someone who studies rocks
magma	Liquid rock inside a volcano
lava	Liquid rock that flows out of a volcano. Fresh lava ranges from 1300 to 2200 degrees Fahrenheit (700 to 1200 degrees centigrade) in temperature and glows red hot to white hot when it flows.
Molten rock	A rock that has been reduced to liquid through heating.
fossils	the remains or impression of a prehistoric plant or animal embedded in rock
soil	Soil is a mixture of tiny particles of rocks, organic matter from animals and plants, as well as air and water