

Year 3 & 4 Knowledge Organiser – Rocks & Fossils

What should I already know?	Diagrams	What will I know by the end of the unit?
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Soil contains nutrients and these help plants to grow.

That magma is molten rock that is formed in very hot conditions inside the earth.

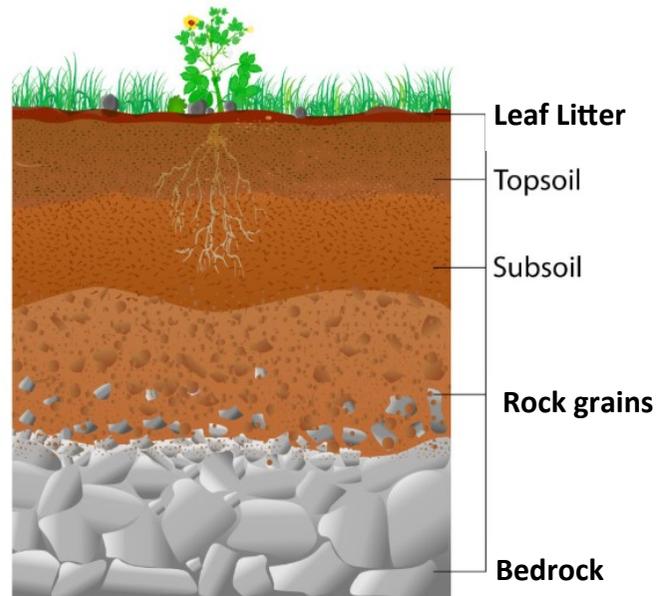
☑ Why some materials are used for certain purposes because of their properties

Key vocabulary

soil	the substance on the surface of the
igneous	rocks that are formed by volcanic action or intense heat
metamorphic	rocks that have had their original structure changed by pressure and
Sedimentary	Layers of this sediment builds up forming sedimentary rocks
magma	molten rock that is formed in very hot conditions inside the earth
permeable	if a substance is permeable, something such as water or gas can pass
porous	Something that is porous has many small holes in it, which water and air
palaeontology	the study of fossils as a guide to the

What is soil?

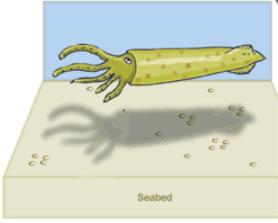
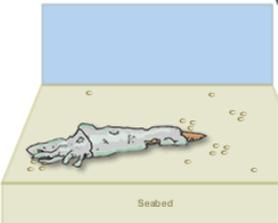
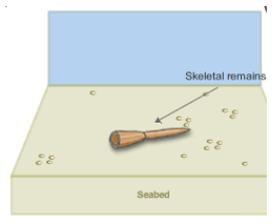
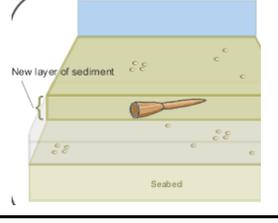
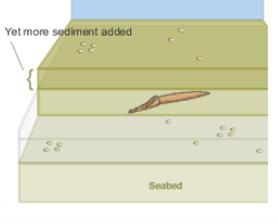
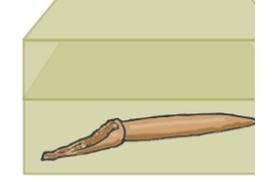
Soil is made from pieces of rock, minerals, decaying plants and water. When rock is broken down into small grains, soil is formed. There are layers of soil: above the soil is leaf litter and recently decaying plants. As the soil becomes deeper, the rock grains become larger until bedrock is reached.



- Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
- Describe in simple terms how fossils are formed when things that have lived are trapped within rock
- Recognise that soils are made from rocks and organic matter
- Rocks and soils can feel and look different.
- Rocks and soils can be different in different places/environments.

Some words you might use to discuss the properties of a rock:

hard, soft, permeable, impermeable, durable (meaning resistant to weathering), high density, low density. Density measures how 'bulky' the rock is (how tightly packed the molecules are).

 <p>A yellow, elongated, segmented creature with multiple legs is swimming in a blue body of water above a light green seabed. The seabed is labeled 'Seabed'.</p>	<h2 style="text-align: center;">How Fossils are Formed</h2> <p style="text-align: center;">A living animal swimming in the sea.</p>
 <p>The yellow creature is now lying on its back on the light green seabed. The seabed is labeled 'Seabed'.</p>	<p>The animal dies and its body sinks to the sea floor. Other animals and bacteria feast upon its body.</p>
 <p>Only the skeletal remains of the creature are left on the seabed. An arrow points to the remains, labeled 'Skeletal remains'. The seabed is labeled 'Seabed'.</p>	<p>Only the bones of the animal are left behind.</p>
 <p>A thin layer of sediment has accumulated over the skeletal remains. An arrow points to this layer, labeled 'New layer of sediment'. The seabed is labeled 'Seabed'.</p>	<p>Mud and other minerals wash over the skeleton and build up a layer over the bones.</p>
 <p>Another layer of sediment has been added on top of the first layer, further burying the skeleton. An arrow points to the new layer, labeled 'Yet more sediment added'. The seabed is labeled 'Seabed'.</p>	<p>Over hundreds, thousands and millions of years more and more layers of sediment build up burying the skeleton deeper. The layers eventually form sedimentary rocks.</p>
 <p>The final stage shows a fossilized skeleton embedded within a solid block of sedimentary rock. The seabed is labeled 'Seabed'.</p>	<p>The minerals from the skeleton are left behind in the rocks showing a 'print' of the living animal.</p>

There are three types of rocks that are formed naturally.

Igneous: When molten magma cools, igneous rocks are formed. This either cools and forms rocks under the earth's surface, or flows out of erupting volcanoes as lava.



Examples include granite and basalt. This type of rock is strong, hardwearing and non-porous.

Sedimentary: Sometimes, little pieces of rocks that have been weathered can be found at the bottom of lakes, seas and rivers. This is called sediment. Over millions of years, layers of this sediment build up forming sedimentary rocks. Examples include limestone and chalk. Sedimentary rocks are porous and can easily be worn down.



Metamorphic: When some igneous and sedimentary rocks are heated and squeezed (pressured), they form metamorphic rocks. Examples include slate and marble. Metamorphic rocks are strong. Bricks and concrete are not rocks because they are man-made.



Topic— Rocks & Fossils
Rock & Roll

Question 1 - Match the rocks to how they are formed.	Start of unit	End of unit	Question 4 - Which of these words best describes a rock that absorbs water? (tick two)	Start of unit	End of unit
igneous	weathered rocks settle at the bottom of the sea		A. permeable		
metamorphic	magma or lava cools		B. impermeable		
sedimentary	rocks that are changed through heat and pressure		C. porous		
Question 2 - The word metamorphic means?	Start of unit	End of unit	Question 5 - Place these in order in which they happen to form a fossil. (use numbers)	Start of unit	End of unit
A. rocks that are formed by volcanic action or intense heat			A. hard parts are turned into fossils over tens of thousands		
B. rocks that have had their original structure changed by pressure and heat			B. an animal dies		
C. Layers of this sediment builds up forming sedimentary rocks			C. hard parts were buried by sediment		
D. molten rock that is formed in very hot conditions inside			D. the soft parts decay or get eaten by other animals		
Question 3 - Which of these is not an example of a natural forming rock?	Start of unit	End of unit	Question 6 - Fossils are usually formed in which rock?	Start of unit	End of unit
A. igneous			A. igneous		
B. concrete			B. lava		
C. sedimentary			C. sedimentary		
D. metamorphic			D. metamorphic		