

All About Rocks

Instructions: Read the text. Find the bold science words. Then answer the questions.

Rocks

Rocks are hard, natural materials. Most rocks are made from one or more **minerals**. You can find rocks on the ground, on beaches, and in hills and mountains.

There are three main rock types: **igneous**, **sedimentary**, and **metamorphic**. Rocks can change slowly over a long time. This is called the **rock cycle**.

Weathering and erosion

Rocks can break into smaller pieces. This is called **weathering**. Wind and water can move the pieces. This is called **erosion**. When the pieces drop and build up somewhere else, it is called **deposition**.

The small pieces are called **sediment**. Sediment can make layers. The layers get pushed down by **pressure**. After a long time, the layers can turn into sedimentary rock.

Different rocks



Layers of rock



Igneous rocks

Deep underground, rock can melt. This melted rock is called **magma**. When magma cools and becomes hard again, it makes **igneous** rock. When melted rock comes out of a volcano, it is called **lava**.

Volcano lava



Metamorphic rocks

Some rocks get changed deep underground by **heat** and **pressure**. They do not melt, but they can change. This makes **metamorphic** rock. Some metamorphic rocks have lines or bands.

Heat and pressure



Sedimentary rocks: built from layers

Sedimentary rocks are made from layers of **sediment**. Over a long time, the layers get pressed together. Some sedimentary rocks have **fossils** inside them.

Sedimentary layers



How scientists describe rocks

Scientists can describe rocks by looking closely. They look at the rocks colour and if it has grains or crystals. They can test how hard it is. These clues help them work out what kind of rock it is.

Rock clues



The rock cycle in action

The **rock cycle** is how rocks change over time. Rocks can break into sediment. Sediment can turn into sedimentary rock. Heat and pressure can change rocks into metamorphic rock. Some rocks can melt into magma and cool again.

Rocks shape landscapes

Rocks help to make hills, cliffs, and beaches. When rocks break down, they can help make **soil**. People use rocks for building and making things.

Earth processes and hazards

Earth can change slowly, but sometimes it changes quickly. A volcano can erupt and send out **lava**. Earthquakes can crack the ground. Rocks can help scientists learn about Earth.

Stay safe: Be careful near steep cliffs and rocky places. Some rock sites are special, so we should look after them.

Rock cycle



Rocks in nature



Stay safe



Glossary

Word	Meaning
Rock	A natural solid material made from one or more minerals.
Mineral	A natural material that makes up rocks (for example, quartz).
Lava	Melted rock that comes out of a volcano.
Igneous	A rock made when melted rock cools and becomes hard.
Sedimentary	A rock made from layers of sediment pressed together.
Metamorphic	A rock changed by heat and pressure deep underground.
Weathering	When rock breaks into smaller pieces.
Erosion	When wind or water moves the small pieces of rock.
Sediment	Small pieces of rock, like sand or tiny stones.
Pressure	A strong pushing force. Deep underground, pressure can squash layers of sediment.
Magma	Melted rock deep underground.
Rock cycle	How rocks change over a long time.

Questions

1. Using the first section, explain what a **rock** is and state two places where rocks can be found.

2. What does the word **minerals** mean in this text, and how are minerals linked to rocks?

3. Complete this summary by naming the three main rock types: _____, _____, and _____.

4. Put these events in order: **weathering**, **erosion**, and **deposition**. What happens at each step?

5. How is **erosion** different from **weathering**? Use evidence from the text in your answer.

6. Why does **deposition** matter when sedimentary rock is forming?

7. Find two examples of **sediment** mentioned or suggested by the text.

8. Explain how layers and **pressure** change sediment into **sedimentary** rock.

9. Where is **magma** found, and what kind of rock can it form when it cools?

10. Compare **lava** and **magma**. What is the same, and what is different?

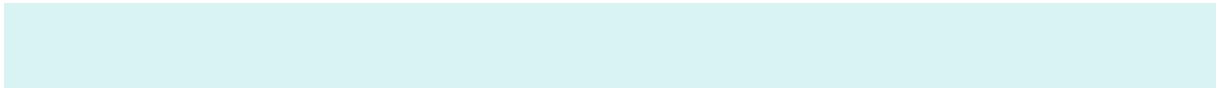
11. What can you infer about where **metamorphic** rocks form? Use the words **heat** and **pressure** in your answer.

12. Which type of rock might contain **fossils**, and why?

13. How do scientists use clues such as colour, grains, crystals, or hardness to identify a rock?

14. Using science words from the text, explain one possible journey a rock could take through the **rock cycle**.

15. The text says some rock sites are special. Why should people look after them? Explain using ideas from the passage.



Answers

1. A rock is a hard, natural material made from one or more minerals. Rocks can be found on the ground, on beaches, and in hills or mountains.
2. Minerals are natural materials that make up rocks. The text explains that most rocks are made from one or more minerals.
3. The three main rock types are **igneous**, **sedimentary**, and **metamorphic**.
4. First, **weathering** breaks rocks into smaller pieces. Next, **erosion** moves those pieces by wind or water. Finally, **deposition** happens when the pieces drop and build up somewhere else.
5. Weathering breaks rock into smaller pieces, but erosion moves those pieces. The text says wind and water can cause erosion.
6. Deposition matters because it is the stage when sediment drops and builds up in layers. These layers can later be pressed together to form sedimentary rock.
7. Sediment is made of small pieces of rock. Two examples are sand and tiny stones.
8. Sediment settles in layers. Over time, pressure pushes the layers down and presses them together until they turn into sedimentary rock.
9. Magma is found deep underground. When it cools and becomes hard, it forms igneous rock.
10. Both lava and magma are melted rock. The difference is that magma is underground, while lava has come out of a volcano.
11. You can infer that metamorphic rocks form deep underground because the text says they are changed by heat and pressure there.
12. Sedimentary rock might contain fossils because it is made from layers of sediment, and the text says some sedimentary rocks have fossils inside them.
13. Scientists look closely at clues such as colour, grains, crystals, and hardness. These features help them work out what kind of rock they are studying.
14. One possible journey is that a rock is broken down by weathering into sediment. The sediment is pressed into sedimentary rock, then heat and pressure change it into metamorphic rock, and later it may melt into magma and cool as igneous rock.

15. People should look after special rock sites because they help scientists learn about Earth and they are part of the natural landscape. The text also reminds us to be careful and protect these places.