

Nova's Geological Journey

Learning objective: To identify and describe the functions of different rock types and the processes of their formation.

Read the text carefully and answer the questions below. Use full sentences and clear explanations where required.

Nova the barn owl loves to soar over the craggy peaks, observing the Earth beneath her wings. She knows that rocks tell the story of our planet. Deep underground, molten magma cools and solidifies to form igneous rock, which is often hard and crystalline. Over millions of years, wind and rain break these rocks into tiny fragments called sediment. These particles wash into rivers and settle at the bottom of lakes, layering up to create sedimentary rock, such as limestone or sandstone. Sometimes, these layers are pushed deep into the Earth's crust. Intense heat and extreme pressure transform these existing rocks into metamorphic rock, changing their texture and appearance entirely. Whether it is the smooth surface of marble or the rough layers of shale, Nova recognises that every stone has a unique history. Even the pebble in your garden is a tiny piece of a massive, changing geological puzzle. By studying these transformations, we can understand the forces that have shaped our landscape for aeons.

Word bank: igneous · sedimentary · metamorphic · magma · sediment · pressure · geologist

1. Identify two different types of rocks mentioned in the text and explain where each one originates. (2 marks)

2. According to the text, what is the process that turns sediment into sedimentary rock? (1 mark)

3. Why does Nova describe rocks as a 'geological puzzle'? (2 marks)

4. Explain why metamorphic rocks look different from the rocks they were before they were subjected to heat and pressure. (2 marks)

5. Justify why it is important for scientists to study rocks to understand the history of the Earth. What might happen if we stopped observing these natural processes? (3 marks)

Draw: Draw a diagram of the rock cycle showing the three main types of rock: igneous, sedimentary, and metamorphic. Label how they change from one to another.



Extension challenge: Compare and contrast the formation of igneous and metamorphic rocks. Create a short poem or a 'rock diary' entry from the perspective of a piece of limestone as it experiences being buried and turned into marble.