

Year 6 Science Assessment: The Rock Cycle

Learning objective: To identify, describe, and explain the formation and characteristics of igneous, sedimentary, and metamorphic rocks, and to understand the role of fossils.

Read each question carefully. Use scientific vocabulary where appropriate. Write your answers clearly in the spaces provided.

Nova the barn owl has been exploring the local quarry. She has found three different types of rocks and wants to understand how they were formed. Some rocks were once liquid deep underground, some were made from layers of crushed sand and mud, and others were changed by extreme heat and pressure.

Word bank: sediment · magma · permeable · fossil · metamorphic · igneous · sedimentary · pressure · erosion

1. 1. Explain how igneous rocks are formed. Mention what happens to the molten rock when it reaches the Earth's surface. (2 marks)

2. 2. Max the monkey found a rock with layers in it. Which type of rock is this, and what process causes layers to build up over millions of years? (2 marks)

3. 3. Why are fossils almost exclusively found in sedimentary rocks rather than igneous or metamorphic rocks? (3 marks)

4. 4. Describe the conditions required to turn an existing rock into a metamorphic rock. (2 marks)

5. 5. A builder is choosing a stone to build a garden wall. Explain why it is important to test if the rock is permeable or impermeable before using it outside. (3 marks)

6. 6. Imagine you are a geologist like Nova. Describe the journey of a rock through the rock cycle. Start with magma cooling, explain how it becomes sediment through erosion, and finish by describing how it could eventually become a metamorphic rock. Use the scientific terms: erosion, sedimentation, heat, and pressure. (8 marks)

7. 7. If a sample of rock costs £2.50, how much would it cost to buy 12 different rock samples for a classroom collection? (5 marks)

Draw: Draw a labelled diagram showing the three layers of the Earth: the crust, the mantle, and the core. Use arrows to show where magma might originate.



Extension challenge: Research one use of rock in our everyday lives (e.g., in construction or jewellery) and explain why that specific rock type is suitable for that purpose. Total: /25