

Nova's Rock and Fossil Investigation

Learning objective: To identify and describe the physical properties of igneous, sedimentary, and metamorphic rocks and understand how fossils are formed in sedimentary rock.

Read each question carefully and use your knowledge of rocks and fossils to provide detailed answers. Remember to use scientific vocabulary where possible.

Nova the owl has been exploring the cliffs near the coast. She has found three different types of rocks and wants to know how they were made and why some contain fossils.

Word bank: sedimentary · igneous · metamorphic · magma · fossil · permeable · layers · pressure

1. Nova finds a rock that has clear layers and contains a small shell fossil. Which of the three types of rock is this, and how do the layers form? (2 marks)

2. Explain the difference between igneous rock and metamorphic rock in terms of how they are created. (2 marks)

3. If you were choosing a rock to build a garden wall that needs to withstand lots of heavy rain, why might you choose a non-permeable rock instead of a permeable one? (2 marks)

4. Describe the process of how a creature becomes a fossil inside sedimentary rock over millions of years. (3 marks)

5. Max the monkey found a rock that is very hard and has crystals inside. Based on his discovery, would you classify this as igneous, sedimentary, or metamorphic? Explain your reasoning. (2 marks)

Draw: Draw a diagram of a sedimentary rock formation showing at least three distinct layers. Label one layer where you might expect to find a fossil.



Extension challenge: Nova wants to buy a display case for her rock collection. The case costs £12.50. If she has £20.00, how much change will she receive? If she also buys three magnifying glasses at £1.50 each, how much money will she have left in total?