

Nova's Rock Classification Challenge

Learning objective: To identify and classify rocks based on their formation processes (igneous, sedimentary, and metamorphic) and their observable physical properties.

Nova the barn owl has been collecting rock samples during her night-time flights. Help her sort the samples into the correct categories by reading the descriptions below. For each rock, identify the type (Igneous, Sedimentary, or Metamorphic) and explain your reasoning based on the provided clues.

Word bank: Igneous · Sedimentary · Metamorphic · Magma · Layers · Pressure · Heat · Crystals

1. Nova finds a rock formed from cooled lava. It has visible, interlocking crystals. Which type is it and why? (2 marks)

2. A rock sample is found with clear, horizontal layers and fossilised shells trapped inside. Identify the rock type and explain how it formed. (2 marks)

3. This rock was once a different type, but deep underground, intense heat and pressure changed its structure without melting it. What is this rock type? (2 marks)

4. If a rock is very hard and has been squeezed by tectonic movement, which category does it most likely belong to? (2 marks)

5. Explain why sedimentary rocks are the most likely to contain fossils compared to igneous or metamorphic rocks. (2 marks)

Draw: Draw a diagram of the 'Rock Cycle', showing how magma turns into igneous rock, how sediments form layers, and how heat and pressure change existing rocks into metamorphic rock.



Extension challenge: Nova wants to know what happens to a rock if it is left in a stream for 100 years. Write a short paragraph describing the process of weathering and erosion that would change the appearance of the rock.