

Nova's Rock Investigation Field Notes

Learning objective: To identify and describe the physical properties of different types of rocks including igneous, sedimentary, and metamorphic.

Join Nova the barn owl on an expedition to study the ground beneath our feet! Use your magnifying glass to observe your rock samples carefully. Complete each section below to create a scientific record of your findings. Remember to use your word bank to help describe the texture and appearance of your samples.

Word bank: igneous · sedimentary · metamorphic · permeable · grains · crystals · hard · durable · layering · texture

1. Rock Classification: Based on your observations, do you think your sample is igneous, sedimentary, or metamorphic? Explain why you chose this category. (3 marks)

2. Physical Properties: Describe the appearance of the rock. Is it rough or smooth? Are there visible crystals or layers? Does it have a specific colour? (3 marks)

3. The Permeability Test: Carefully place a few drops of water on your rock. Does the water soak in or stay on the surface? Explain what this tells you about the rock's permeability. (2 marks)

4. Real-world Application: If you were an architect building a wall, would you choose this rock? Give a reason for your answer based on how hard or durable it feels. (2 marks)

5. Nova's Science Question: If this rock was formed deep underground under intense heat and pressure, how might its appearance change over millions of years? (2 marks)

Extension challenge: Imagine you are a geologist. Write a short paragraph explaining how a sedimentary rock might eventually turn into a metamorphic rock if it is pushed deep into the Earth's crust.