

Nova's Geological Investigation: Exploring Rocks and Soils

Learning objective: To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.

Use this writing frame to document your scientific findings. Ensure you use precise geological vocabulary to describe the samples you have examined. Remember to provide evidence for your classifications.

Nova the owl flew over the craggy cliffs, observing how the different layers of rock had been exposed by the weathering of the coastal winds.

Word bank: permeable · impermeable · sedimentary · igneous · metamorphic · texture · composition · consequently · furthermore · in contrast · durable · grain size

1. Introduction: State the aim of your investigation and identify the three main groups of rocks. Begin by writing: 'The purpose of this scientific enquiry is to classify rock samples based on their...' (2 marks)

2. Describing Physical Properties: Describe the appearance and texture of your chosen rock samples. Use the starters: 'Upon close inspection, the first sample appears... whereas the second sample feels...' (3 marks)

3. Testing Permeability: Explain the method you used to test if your rocks were permeable. Start with: 'To determine the permeability, I carefully poured...' (3 marks)

4. Justification: Justify why a specific rock type is suitable for building a house. Start your explanation with: 'I believe this rock is the most suitable for construction because...' (3 marks)

5. Comparing and Contrasting: Compare the formation process of sedimentary rocks with igneous rocks. Begin: 'Whilst sedimentary rocks are formed by..., igneous rocks are created through...' (4 marks)

6. Conclusion: Summarise your findings. Start with: 'In conclusion, the data suggests that physical properties such as hardness and permeability are...' (2 marks)

Extension challenge: Imagine a world where all rocks were permeable. What might happen to our buildings and our natural water sources? Write a short prediction justifying your reasoning using scientific vocabulary.