Nova’s Guide to Classification Keys

Learning objective: To describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences.

Use this writing frame to create a dichotomous classification key. Think about Nova the owl's scientific method: observe carefully, ask a 'yes/no' question, and sort your living things into distinct groups.

To understand the vast diversity of life on Earth, scientists like Nova use classification keys to sort living things into groups based on their specific features.

Word bank: characteristic · classification · dichotomous · vertebrate · invertebrate · organism · whereas · consequently · specifically · distinguishable

1. Introduction: State the goal of your classification key. Which specific group of living things (e.g. mammals, insects, or trees) have you chosen to investigate? Start by saying: 'The purpose of this classification key is to identify...' (2 marks)

2. The First Branch: Identify the most important 'yes/no' question to split your group in half. Start by saying: 'The first major characteristic I have chosen to separate the organisms is...' (3 marks)

3. Developing the Key: Explain how you narrowed down your choices further. Start by saying: 'To further distinguish between the organisms, I asked the following question: ...' (3 marks)

4. Scientific Reasoning: Why is it important that classification questions have a 'yes' or 'no' answer? Start by saying: 'Using binary (yes/no) questions is effective because...' (2 marks)

5. Conclusion: Reflect on your findings. Start by saying: 'By using this key, a scientist can accurately identify a species by observing...' (2 marks)

Extension challenge: Imagine you have discovered a brand-new species! Write a short paragraph explaining which existing group it belongs to and why, using the characteristics you identified in your key.