

Orchestral Explorer: Instrument Fact-File

Learning objective: To identify, describe, and categorise musical instruments from the four main families, explaining how they produce sound.

Choose a musical instrument to investigate. Research its history, its family group, and the mechanical process of how it creates sound. Use your best descriptive vocabulary to explain its unique timbre and role within a musical ensemble.

Word bank: percussion · woodwind · brass · strings · vibration · timbre · pitch · resonance · ensemble · acoustic

1. Instrument Identification: Name your chosen instrument and identify which of the four musical families it belongs to. Explain why it fits into this specific category. (3 marks)

2. The Science of Sound: Explain the mechanical process of how this instrument creates sound. How do vibrations travel through the instrument to produce a note? (4 marks)

3. Timbre and Texture: Describe the 'timbre' or 'colour' of the sound. Does it sound bright, mellow, harsh, or soothing? Justify your description with examples. (3 marks)

4. Compare and Contrast: Compare your chosen instrument to another instrument from a different family. What are the key differences in how they are played and how they produce pitch? (4 marks)

5. Orchestral Role: If this instrument were removed from a symphony orchestra, how would the overall sound change? Explain the impact on the ensemble's harmony. (3 marks)

6. Creative Design: If you were to invent a brand new instrument, what family would it belong to? Describe one innovative material you would use to build it and why. (4 marks)

Extension challenge: Max the monkey is trying to calculate the cost of buying an instrument for the school band. If a violin costs £145.50 and a bow costs £22.75, what is the total cost? If the school has a budget of £200, justify whether they can afford both items and calculate the remaining change.