Nova’s Scientific Experiment Record: Investigating Air Resistance

Learning objective: To plan and conduct an investigation into the effect of air resistance on falling objects, recording observations and conclusions accurately.

Nova the owl is preparing to study gravity and air resistance! Use this template to document your own experiment. Choose two different shapes of paper (e.g., a flat sheet and a crumpled ball) and drop them from the same height. Record your prediction, your method, and your final scientific conclusions.

Word bank: air resistance · gravity · surface area · variable · friction · prediction · fair test · observation

1. Prediction: Which object do you think will reach the ground first and why? Use scientific vocabulary in your explanation. (2 marks)

2. Method: List the steps you took to ensure this was a 'fair test'. Which variable did you change and which did you keep the same? (3 marks)

3. Observations: Describe what you saw happen during your experiment. Did the results match your initial prediction? (2 marks)

4. Scientific Reasoning: How does the surface area of the object affect the amount of air resistance acting upon it? (3 marks)

5. Conclusion: Write a summary of your findings. What does this tell us about the forces acting on objects falling through the air? (3 marks)

Extension challenge: Challenge: If you were to repeat this experiment on the Moon, where there is no atmosphere, how would your results change? Explain your reasoning in your science journal.