

Year 4 Science Assessment: States of Matter

Learning objective: To identify, describe, and compare the properties of solids, liquids, and gases, and to explain how materials change state.

Read each question carefully. Answer in full sentences where required. Ensure you use scientific vocabulary correctly.

Nova the owl is observing the forest. She watches the morning dew on the leaves turn into vapour as the sun warms them. Later, she spots Max the monkey making an icy treat for his friends by chilling fruit juice in the freezer. Finally, she watches a stream of water flowing over smooth stones while the wind blows through the trees.

Word bank: solid · liquid · gas · evaporation · condensation · melting · freezing · particles · temperature

1. Name the three states of matter. Give one example of each that Nova might see in the forest. (3 marks)

2. Max puts his fruit juice into the freezer. Describe what happens to the state of the juice and why this occurs in terms of temperature. (3 marks)

3. Explain the difference between the movement of particles in a solid compared to a gas. (4 marks)

4. Nova watches the dew disappear from the leaves as it gets warmer. What is the name of this scientific process and why does it happen? (3 marks)

5. If you leave a cold glass of water on a table on a warm day, water droplets form on the outside of the glass. Explain why this happens, using the word 'condensation'. (4 marks)

6. Write a short report explaining the water cycle. Use the terms: evaporation, condensation, and freezing. Describe how these processes change water from one state to another as it moves through the environment. (8 marks)

Draw: Draw a diagram showing how particles are arranged in a solid, a liquid, and a gas. Label each box clearly.



Extension challenge: Total: /25. Think about the particles: If you were to heat a solid block of ice, what happens to the speed of the particles? Explain your reasoning.