

Grade 4 Science Assessment: States of Matter

Learning objective: To understand the properties of solids, liquids, and gases, and how materials change state through heating, cooling, and evaporation.

Read each question carefully. Use your scientific knowledge to provide clear explanations. Ensure all units are used correctly where required.

Nova the owl is observing the natural world. She notices that a puddle disappears from a stone path on a sunny day, while the ice in her water bowl turns to water when the temperature rises. Meanwhile, Max the monkey is busy sorting his collection of items to see how they behave when placed in different containers.

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

1. Nova observes that a solid block of ice turns into a liquid when left in the sun. Name this process and explain what happens to the temperature of the ice. (2 marks)

2. Max has a bottle of water and a wooden block. Explain why the water takes the shape of its container, but the wooden block does not. (3 marks)

3. List three properties that are specific to a gas. (3 marks)

4. Explain the difference between evaporation and condensation. Use the water cycle as an example. (4 marks)

5. Max decides to mix sugar into a glass of warm water. Is this a reversible or irreversible change? Explain your reasoning. (4 marks)

6. Imagine you are explaining the water cycle to a younger student. Write a short explanation (using a paragraph) describing how water changes state as it travels from the sea, into the clouds, and back down to the ground as rain. Include the terms: evaporation, condensation, and precipitation. (9 marks)

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



Extension challenge: Total: /25