

States of Matter: Science Check-up with Nova the Owl

Learning objective: To identify, describe, and compare the properties of solids, liquids, and gases, and to understand how materials change state when heated or cooled.

Read each question carefully. Use the word bank to help you spell the science words. Write your answers clearly on the lines provided.

Nova the Owl is looking at the world. She sees ice on the pond. She sees water in the stream. She sees steam rising from a hot drink. Everything around us is made of matter. Matter can be a solid, a liquid, or a gas.

Word bank: solid · liquid · gas · melt · freeze · evaporate · condense · particles

1. 1. Look at a wooden block. Is it a solid, a liquid, or a gas? Explain why it is a solid. (2 marks)

2. 2. Nova puts an ice cube in a warm room. What happens to the ice cube? Use the word 'melt' in your answer. (2 marks)

3. 3. Which state of matter can flow and take the shape of its container? Choose from solid, liquid, or gas. (2 marks)

4. 4. What happens to water when it is cooled down to below 0°C? Use the word 'freeze' in your sentence. (2 marks)

5. 5. Nova sees steam rising from a kettle. This is water turning into a gas. What is the name of this process? (2 marks)

6. 6. Imagine you have a cup of hot cocoa. Describe what happens to the steam if it touches a cold window. Use the word 'condense'. (4 marks)

7. 7. Extended Writing: Nova wants to explain the water cycle to her friends. Describe how water changes from a liquid in the sea to a gas in the air, and then back to a liquid as rain. Use the words: evaporate, condense, and liquid. (5 marks)

8. 8. Why does a gas spread out to fill a whole room, but a solid stays in one shape? Think about the particles. (4 marks)

Draw: Draw three boxes. In the first box, draw particles in a solid. In the second, draw particles in a liquid. In the third, draw particles in a gas.

Extension challenge: Total: /25. Challenge: If you have a puddle on the playground, why does it disappear on a sunny day? Where does the water go?