

Nova's States of Matter Challenge

Learning objective: To identify, describe, and compare the properties of solids, liquids, and gases, and observe how they change state.

Help Nova the owl sort her science findings! Read each question carefully and write your answers clearly. Some questions are multiple choice, some are true or false, and some need a quick one-word answer.

Answer Key: 1. B (Solid), 2. True, 3. False (Gases spread out), 4. Liquid, 5. Melting, 6. Condensation, 7. True, 8. Gas, 9. Evaporation, 10. Solid.

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

1. 1. Which state of matter keeps its own shape and cannot be squashed? A) Liquid B) Solid* C) Gas D) Vapour (1 mark)

2. 2. True or False: Liquids take the shape of the container they are poured into. (1 mark)

3. 3. True or False: Gases have a fixed shape. (1 mark)

4. 4. If you pour water from a jug into a glass, what state of matter is the water? (One word) (1 mark)

5. 5. What do we call the process when a solid turns into a liquid because it gets warmer? (1 mark)

6. 6. What is the process called when water vapour cools down to turn back into liquid water droplets? (1 mark)

7. 7. True or False: Particles in a gas are far apart and move around very quickly. (1 mark)

8. 8. Which state of matter is invisible and fills all the space available in a room? (One word) (1 mark)

9. 9. What is the term for a liquid turning into a gas, often caused by heat? (1 mark)

10. 10. An ice cube is an example of which state of matter? A) Gas B) Liquid C) Solid* D) Plasma (1 mark)

Draw: Draw a scientific diagram showing the three states of matter. In the first box, draw 'Solid' with particles packed tightly together. In the second, draw 'Liquid' with particles flowing past each other. In the third, draw 'Gas' with particles spread far apart.



Extension challenge: Nova wants to know: If you leave a puddle of water on the pavement on a sunny day, it disappears by the end of the afternoon. Where does the water go? Explain your answer using the word 'evaporation'.