

**YEAR 7**

Particles and States of Matter

The particle model explains almost everything in this topic. Whenever a question says explain, say what the particles are doing.

Name: _____

Date: _____

Score: _____

Section A • The particle model

Arrangement, movement, and how close together they are.

- 1 Describe the arrangement of particles in a solid.

- 2 Describe the movement of particles in a solid.

- 3 Describe the arrangement of particles in a liquid.

- 4 Describe the movement of particles in a gas.

- 5 Why can a gas be compressed easily but a liquid cannot?

- 6 Why does a liquid take the shape of its container?

Section B • Changes of state

Learn all six names, including the one that skips a stage.

- 1 Name the change of state from solid to liquid.

- 2 Name the change of state from liquid to gas.

- 3 Name the change of state from gas to liquid.
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- 4 Name the change of state from liquid to solid.
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- 5 Name the change of state from solid straight to gas.
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- 6 Is melting a physical or a chemical change? Give a reason.
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Section C • Using the model to explain

State the particle behaviour first, then the consequence.

- 1 Water melts at 0°C and boils at 100°C . What state is water in at 40°C ?
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- 2 Oxygen melts at -219°C and boils at -183°C . What state is oxygen in at -200°C ?
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- 3 Iron melts at 1538°C . What state is iron in at room temperature?
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- 4 Explain, using particles, why a puddle dries up on a warm day.
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- 5 Explain why the temperature stays the same while ice is melting, even though it is being heated.
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- 6 Explain, using particles, why a balloon gets bigger when it is warmed.
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