

# Particle nature of matter

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**This task is about the states of matter: solid, liquid and gas.**

Decide whether each of the statements below is true or false. Give reasons for your answers in terms of your knowledge of the particle nature of matter.

**Statement 1:** "The particles in hot water move faster and are further apart than those in cold water."

Is this true? *True / False*

Reason:

**Statement 2:** "The particles in orange juice are close together but they can move around."

Is this true? *True / False*

Reason:

**Statement 3:** "When a solid cools, the particles vibrate more slowly and get smaller."

Is this true? *True / False*

Reason:

**Statement 4:** "Liquid nitrogen has the formula  $N_2$ . When liquid nitrogen boils the gas has the formula N."

Is this true? *True / False*

Reason: