Particle theory to describe the arrangement of particles in a...

use particle theory to describe the arrangement of particles in a substance, including the motion of and attraction between particles, and relate this to the properties of the substance

Learning intention

- use particle theory to describe the arrangement of particles in a substance, including the motion of and attraction between particles, and relate this to the...

Teach and model

- using and constructing models, diagrams or virtual simulations to represent changes in particle arrangement as substances change state
- relating motion and energy of particles to distances between particles of the same substance in different states
- comparing attractive forces in the solid, liquid and gaseous states of the same substance and relating this to relative position and movement of particles

Check understanding

- Explain the main idea in particle theory to describe the arrangement of particles in a... using an example.
- Show the idea in a second way: with words, a model, a diagram or symbols.
- Apply the idea to a short unfamiliar situation and justify the result.

Teaching cautions

- Ask the student to explain their choice, not only state an answer.
- Check that key vocabulary is understood in a new example.
- Mix representations so the skill is transferred rather than copied.

Quick lesson sequence

- Connect to prior knowledge and introduce the key vocabulary.
- Model one clear example, then solve a second example together.
- Finish with an independent check and a short student explanation.