

Use a Particle Model With Care



Use the matching sheet ID when checking answers.

Use the material to work through each task. Show the requested response.

1. Which model allows nearby particles to move past each other?

Answer: liquid

2. Which model has particles vibrating around relatively fixed positions?

Answer: solid

3. Explain why a gas occupies available container space.

Look for:

- Connects movement and spacing.

One possible response: Its widely separated moving particles spread through that space.

4. When a solid melts, must its particles themselves melt into liquid blobs?

Look for:

- Does not confuse particles with the bulk material state.

One possible response: No; their arrangement and motion change in the model.

5. Sketch particle models for solid, liquid and gas.

Look for:

- Keeps particle identity distinct from arrangement.

One possible response: Close regular arrangement; close mobile arrangement; widely spaced arrangement.

6. Why should dot size in a sketch not be used to infer actual particle size?

Look for:

- Recognizes the representation's limits.

One possible response: The diagram is symbolic and not to scale.

Open responses use criteria and an illustrative response. Other well-supported responses can be acceptable.