Heating Curves and Phase Changes Worksheet

Scoring guide · one credit per question · review written work against each rubric

Heating Curves and Phase Changes

Question 1

Choice (1)

A rise in temperature corresponds to a rise in average particle kinetic energy.

Question 2

The added energy changes particle arrangement by overcoming attractions as the solid becomes liquid. Temperature and average kinetic energy stay constant during the phase change.

Question 3

Choice (3)

Some material remains liquid while some has become gas.

Question 4

After the phase change finishes, added energy raises the temperature of the liquid. There is no remaining solid to melt.

Heating a Model Substance

Question 5

Choice (2)

The first plateau occurs at 20 °C while the sample melts.

Question 6

Liquid is present. Five minutes is after the melting plateau ends at 4 minutes and before boiling begins at 7 minutes.

Question 7

The plateau runs from 7 to 11 minutes. Its duration is 11 min − 7 min = 4 min.

Question 8

Choice (3)

Boiling takes 4 minutes and melting takes 2 minutes. At constant power, energy supplied is proportional to time.