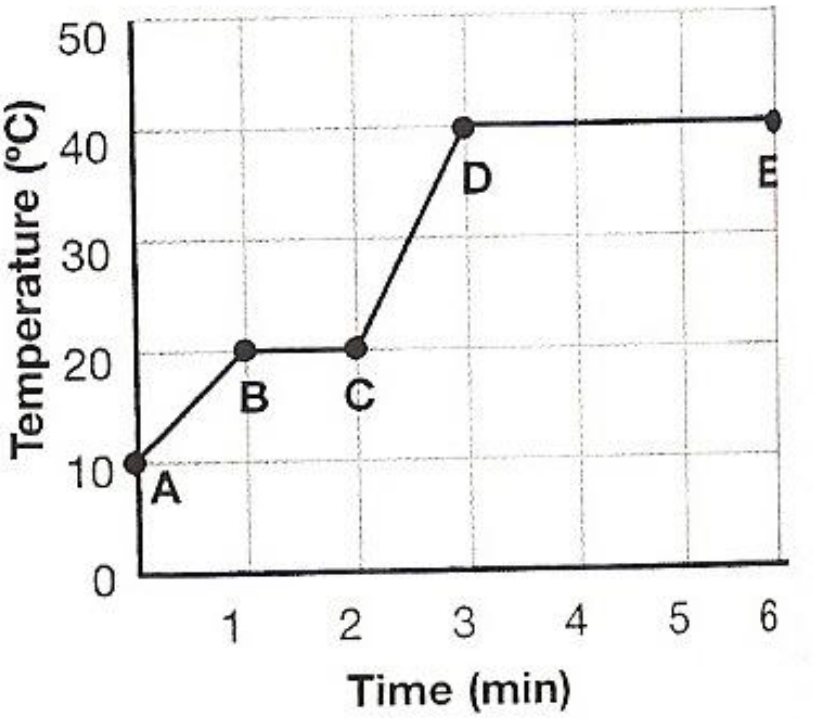
Heating Curve

GLE 0807.9.2 Explain that matter has properties that are determined by the structure and arrangement of its atoms.
GLE 0807.9.3 Interpret data from an investigation to differentiate between physical and chemical changes.
GLE 0807.Inq.2 Use appropriate tools and techniques to gather, organize, analyze, and interpret data.

The graph shows the temperature changes that occur as a solid is heated.

Place the following labels on the graph in the correct position: solid, liquid, melting, boiling.

Extend the graph beyond 6 minutes to show what happen when the entire sample has been changed to gas. Label this part of the graph with the word “gas.”



Then use the graph to answer the following questions:

1. What is the freezing point of the substance? How do you know?

2. What is the boiling point of the substance? How do you know?

3. Which line segment represents the time that both solid and liquid exist in the sample?

4. How long was the sample heated before it began to boil?

5. How long was the sample heated to bring it to a temperature of $30^{o}C$?

6. Is this substance water? How do you know?