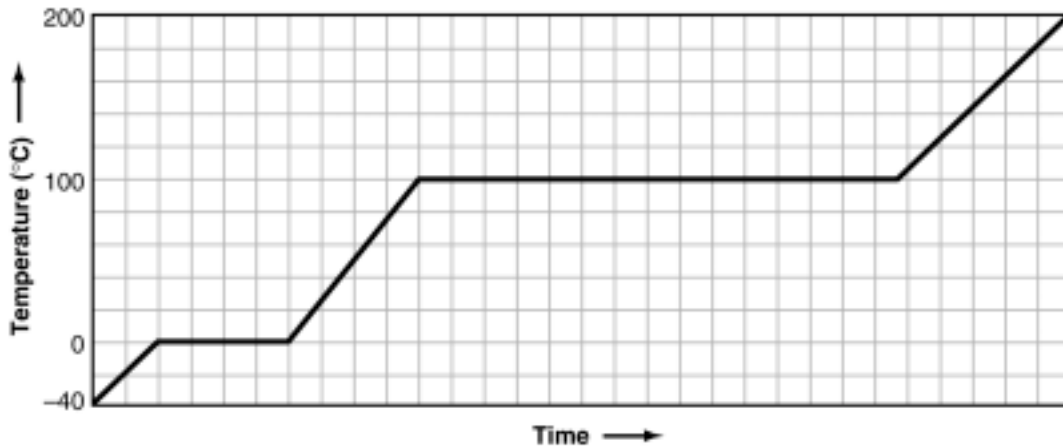


Phase Change Diagram

Enrichment Activity

Skills: interpreting graphs, applying concepts

In order for the temperature of a substance to increase, energy must be added. Energy must also be added in order for a substance to change from a solid to a liquid (melt), or from a liquid to a gas (boil or evaporate). A graph that shows the change in temperature of a substance as it changes from a solid to a liquid to a gas is called a phase change diagram. The phase change diagram below shows what happens to a sample of Substance X as it is heated. Refer to the diagram as you answer the questions that follow.



1. What is happening to the temperature of Substance X at the beginning of the time period?

2. What happens to the temperature of Substance X once it reaches 0°C? _____

3. What do you think is happening to Substance X during this time? _____

4. Notice when the temperature of Substance X begins to rise again. At what temperature does this increase stop? _____
5. What begins to happen at this temperature? _____

6. Why does the temperature of Substance X not increase during this time? _____

7. Which phase change requires more energy—solid to liquid or liquid to gas? How can you tell?

8. What is Substance X? _____