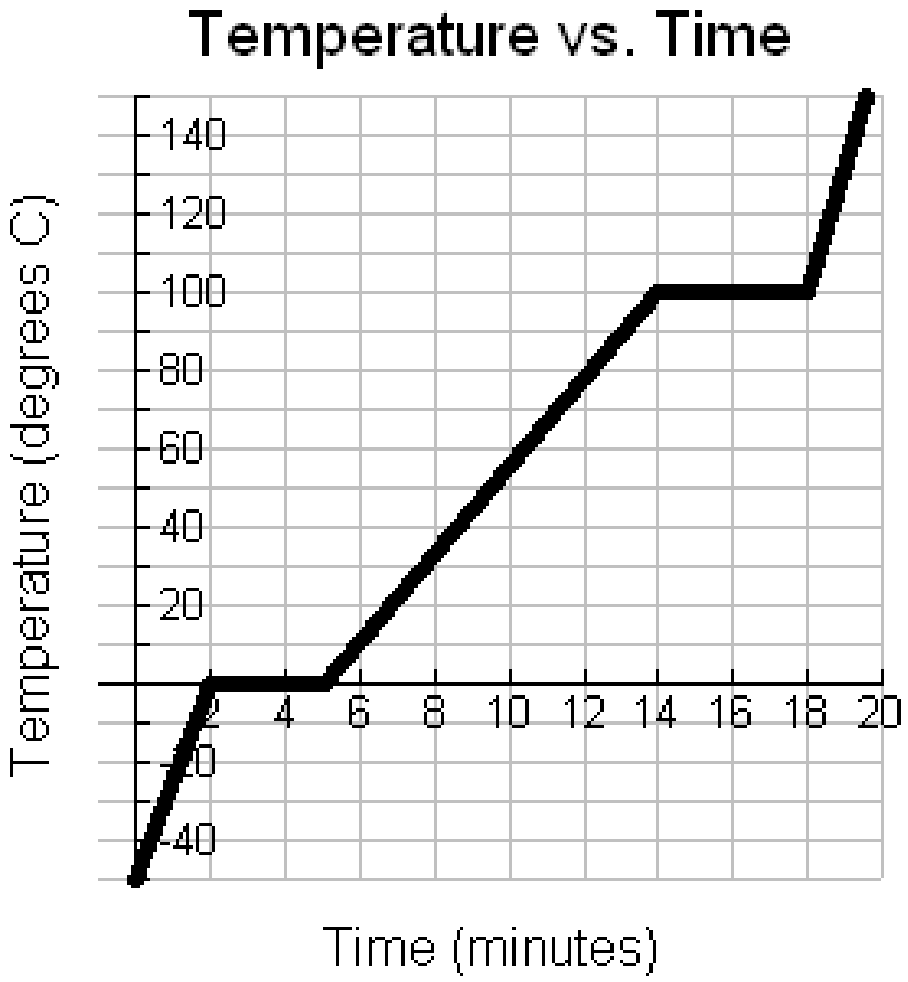
# Phase Change Diagram
# Heating Curve

Below is a phase change diagram for $H_2O$ being heated from – 50 $^oC$ to 150 $^oC$.



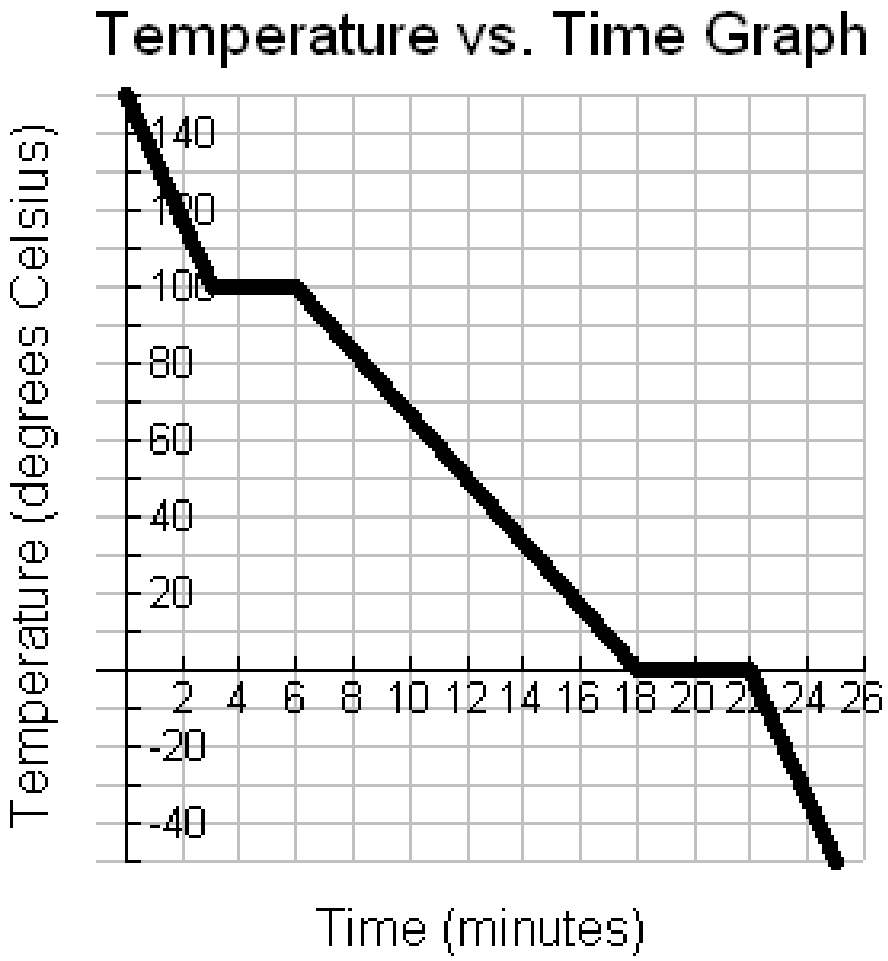

1. Label what phase of matter is present and explain what is occurring in each section of the graph.

| **Time Interval (min)** | **Phase(s) of Matter Present** | **What is happening?** |
|---|---|---|
| 0 to 2 | | |
| 2 to 5 | | |
| 5 to 14 | | |
| 14 to 18 | | |
| 18 to 20 | | |

2. According to this graph, what temperature should be associated with the melting and boiling points of $H_2O$?
3. From the graph is the value of the specific heat greatest as a solid, a liquid, or a gas for $H_2O$?

# Cooling Curve

Below is a phase change diagram for $H_2O$ being heated from 150 $^oC$ to - 50 $^oC$.




4. Label what phase of matter is present and explain what is occurring in each section of the graph.

| **Time Interval (min)** | **Phase(s) of Matter Present** | **What is happening?** |
|---|---|---|
| 0 to 3 | | |
| 3 to 6 | | |
| 6 to 18 | | |
| 18 to 22 | | |
| 22 to 25 | | |

5. According to this graph, what temperature should be associated with the freezing and condensation points of $H_2O$?
6. The freezing point is the same temperature as the _____ point
7. The condensation point is the same temperature as the _____ point.