Plotting Phase Changes

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour\_\_\_\_\_\_\_

**Procedure:** A group of students’ heated ice until it melted and then turned to steam. They measured the temperature every two minutes and want you to graph the result. Using the data below, create a graph. Place temperature on the left axis and time in minutes on the bottom axis.

|  |  |
| --- | --- |
| Time in Minutes | Temperature in °C |
| 0 | -25 |
| 2 | -12 |
| 4 | 0 |
| 6 | 0 |
| 8 | 0 |
| 10 | 0 |
| 12 | 28 |
| 14 | 40 |
| 16 | 60 |
| 18 | 75 |
| 20 | 100 |
| 22 | 100 |
| 24 | 100 |
| 26 | 100 |
| 28 | 100 |
| 30 | 100 |
| 32 | 120 |
| 34 | 135 |
| 36 | 150 |
| 38 | 165 |
| 40 | 180 |

Answer the following questions and use complete sentences.

1. At what temperature did melting occur?

2. At what temperature did boiling occur

3. Describe the driving force that causes phase changes.

4. Describe what phase changes would occur if energy were taken away from a given amount of water vapor (steam) to a point of zero degrees centigrade.

5. Why doesn’t the temperature continually rise between phase changes?