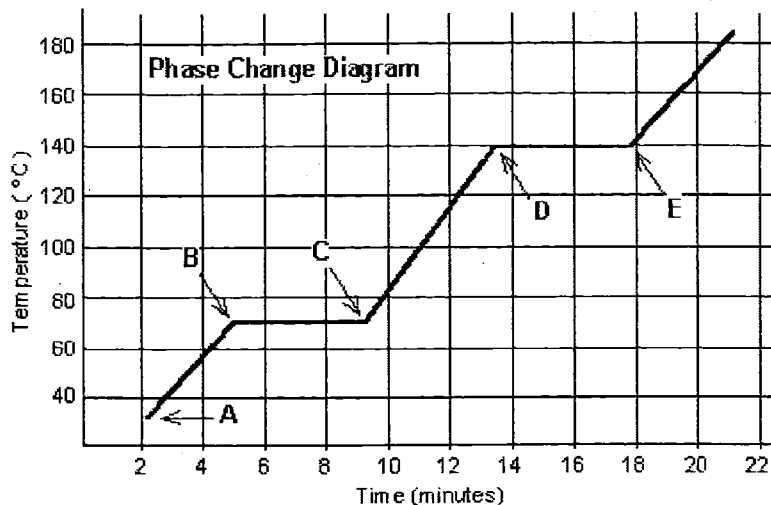


Phase Change Worksheet

Name: _____

The graph was drawn from data collected as a substance was heated at a constant rate.

Use the graph to answer the following questions.



At **point A**, the beginning of observations, the substance exists in a solid state. Material in this phase has _____ volume and _____ shape. With each passing minute, _____ is added to the substance. This causes the molecules of the substance to _____ more rapidly which we detect by a _____ rise in the substance. At **point B**, the temperature of the substance is _____ °C. The solid begins to _____. At point C, the substance is completely _____ or in a _____ state. Material in this phase has _____ volume and _____ shape. The energy put to the substance between minutes 5 and 9 was used to convert the substance from a _____ to a _____.

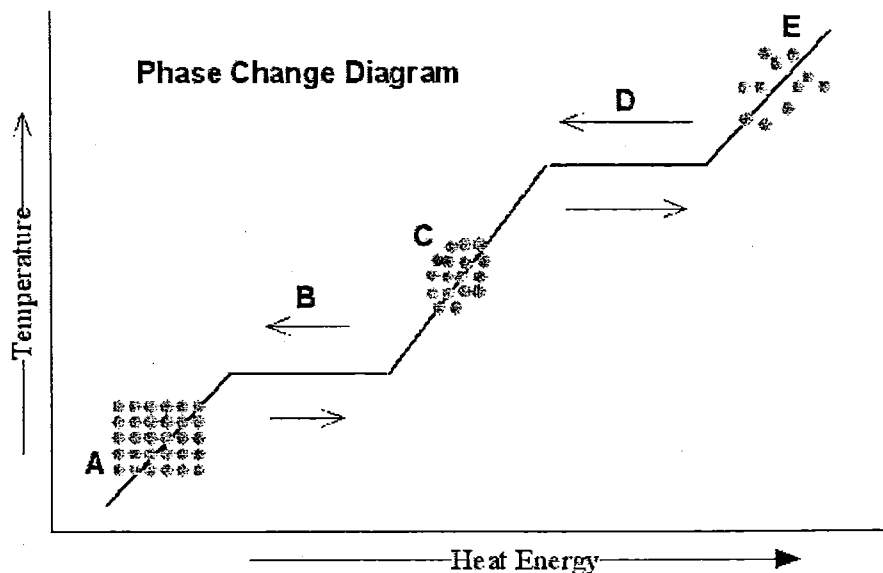
Between 9 and 13 minutes, the added energy increases the _____ of the substance. During the time from **point D to point E**, the liquid is _____. By **point E**, the substance is completely in the _____ phase. Material in this phase has _____ volume and _____ shape. The energy put to the substance between minutes 13 and 18 converted the substance from a _____ to a _____ state. Beyond **point E**, the substance is still in the _____ phase, but as the temperature continues to increase the molecules are moving _____.

Which of these three substances was likely used in this phase change experiment?

Substance	Melting point	Boiling point
Bolognium	20 °C	100 °C
Unobtainium	40 °C	140 °C
Foosium	70 °C	140 °C

Phase Change Worksheet

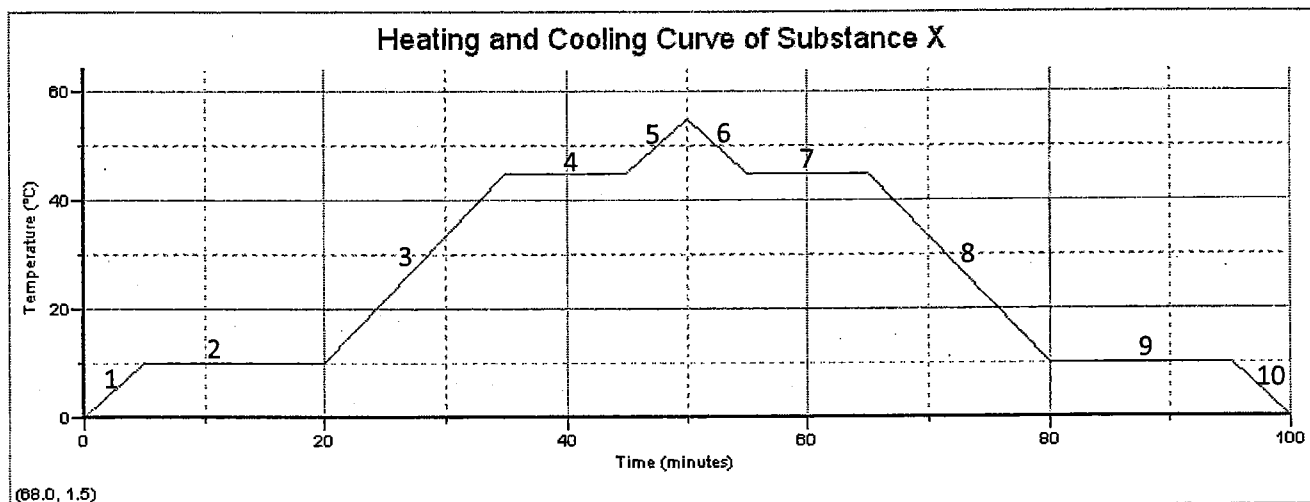
Name: _____



Label the graph with:

solid	liquid
gas	vaporization
melting	freezing
condensation	

- Does the temperature increase during melting? _____
- Is energy required for each phase change? _____
- Can both liquid water and steam exist at 100°C? _____
- What must be changed, temperature, or heat energy, during condensation? _____
- How would you describe the change in the arrangement of particles as heat energy and temperature increase? _____



(68.0, 1.5)

- At what temperature does substance X freeze? _____ boil? _____ melt? _____
- What is happening to the substance during section 3? _____
- What is happening to the substance during section 7? _____
- What is happening to the substance during section 10? _____
- During which sections is energy being released? _____ being added? _____