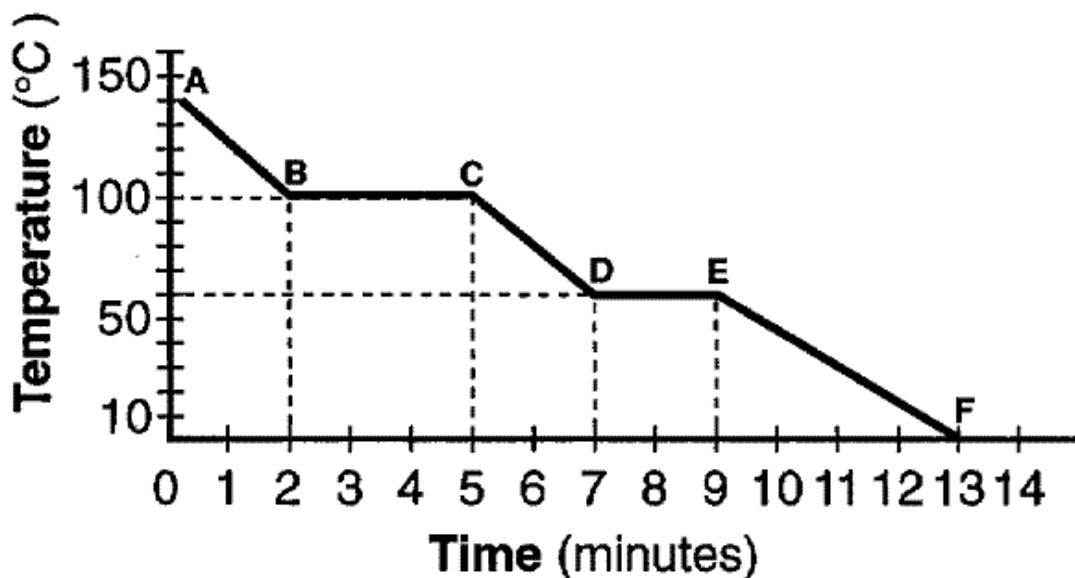


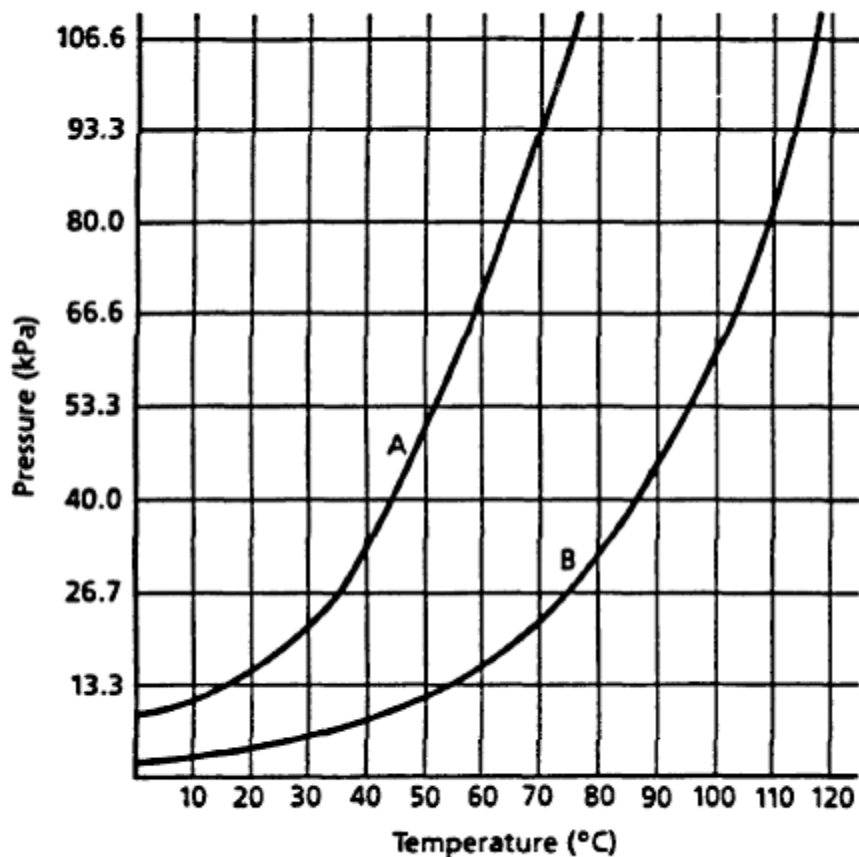
Physical Properties of Matter Review

1. What are the four phases of matter?
2. Using the kinetic molecular theory, describe the characteristics of
 - a. solids.
 - b. liquids.
 - c. gases.
3. Describe and give an example of an ionic crystalline solid and a covalent network solid.
4. What is the relationship between temperature and kinetic energy?
5. Consider the following cooling curve.



- a. Which segment of the curve represents a time when both the liquid and solid phases are present?
 - b. What is the melting point of the substance?
 - c. What is the boiling point of the substance?
6. Explain each of the following in terms of the kinetic molecular theory. (Diagrams may be used)
 - a. Melting
 - b. Boiling
 - c. Why the evaporation of a liquid can be described as a cooling process.

7. Consider the following vapor pressure chart.



- At 60°C with pressure 80.0 kPa, which substance would be boiling?
- Which substance would evaporate most rapidly at room temperature?
- Which substance has the weakest intermolecular forces of attraction between particles?

8. A substance is a solid at 15°C. A student heated a sample of the solid substance and recorded the temperature at one-minute intervals in the data table below.

Time (min)	0	1	2	3	4	5	6	7	8	9	10	11	12
Temperature (°C)	15	32	46	53	53	53	53	53	53	53	53	60	65

- Plot the data from the data table.
- Based on the data, what is the melting point of this substance?
- What is the evidence that the average kinetic energy of the particles of this substance is increasing during the first three minutes?
- Describe the change in the curve if a different solid were melted.