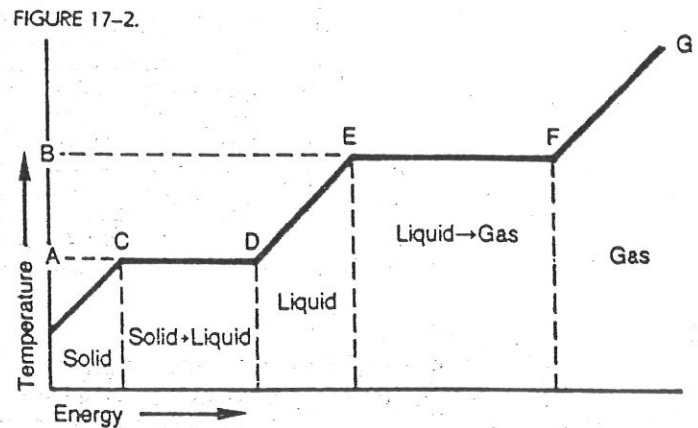
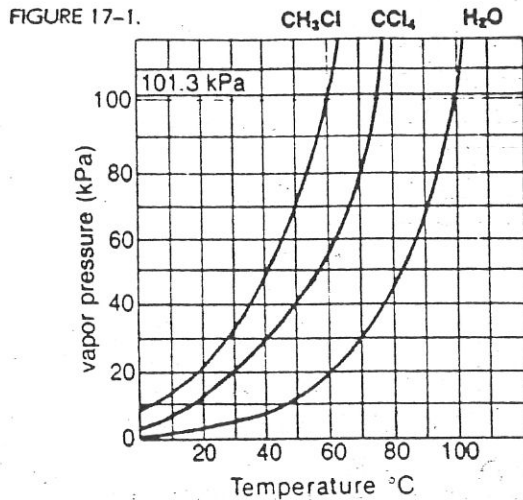


REVIEW

CHAPTER 14

CONCEPTS



Use Figure 17-1 to answer the following questions.

- When the atmospheric pressure exerted on the surface of CHCl_3 is 101.3 kPa, what will be the boiling point?
60°C
- What is the normal boiling point for CCl_4 ?
75°C
- What is the pressure when water boils at 70°C?
30 kPa
- Which liquid on the chart has molecules that exert the strongest attractive forces on each other?
H₂O
- Increasing the temperature usually causes the vapor pressure to increase. True or False?
T
- Which of the liquids in Figure 17-1 would be the easiest to evaporate?
CH₃Cl

Use Figure 17-2 to answer the following questions.

7. Identify the point on the graph where each of the following occurs.

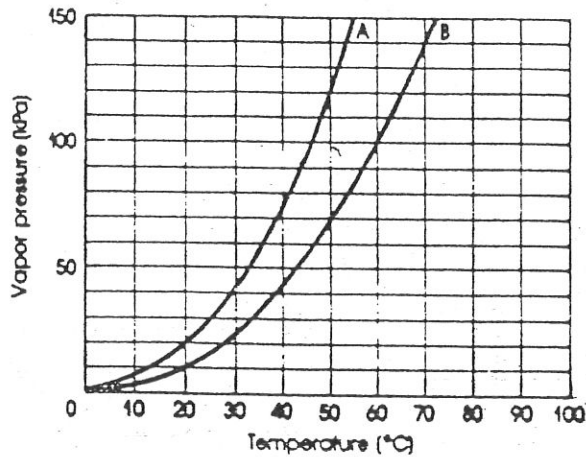
- melting begins
C
- freezing begins
D
- boiling begins
E
- condensation begins
F

- As the substance goes from D to C, it gives off heat. True or False?
T
- Why does the temperature remain constant during a phase change from E to F?
energy used to break attractions

Part B

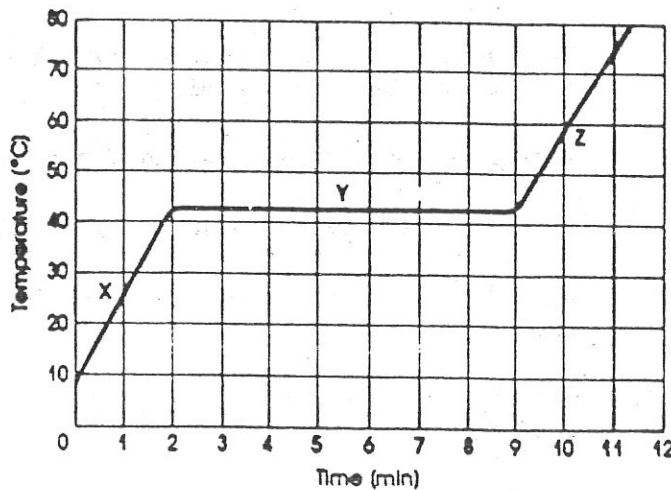
Chemistry Review - chapter 14

Use the graph below to answer each of the following questions:



- Which substance **A** or **B** is the most volatile? **A**
- What does it mean for a substance to be volatile? *evaporates easily*
- What is the boiling point of substance **B** at an atmospheric pressure of 70 kPa? **50 °C**
- Which substance **A** or **B** has strongest intermolecular forces? **B**
- The vapor pressures on this graph are measured at equilibrium. Explain what this term means. *Evap rate = Cond rate*
- If both substances are at 60 °C which has the highest kinetic energy (KE)? **same**

Use the graph below to answer questions 7 - 9:



- In part Y of the graph, which of the following is true?
 - ice melts
 - the KE is increasing
 - the molecules are using KE to change state**
 - none of the above
- Identify the processe(s) which could be represented as the substance moves from X-->Y-->Z
 - boiling
 - melting
 - freezing
 - both a and b**
 - none of these
- What is happening to KE during the Z part of the graph? **increasing**
- Liquids boil when _____
 - the temperature equals 100°C
 - evaporation = condensation
 - atmospheric pressure is < 101kPa
 - vapor pressure = atmospheric pressure**
- True or **False**. Water will only evaporate when its boiling point temperature is reached.

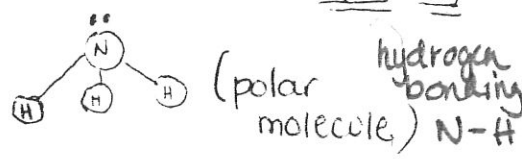
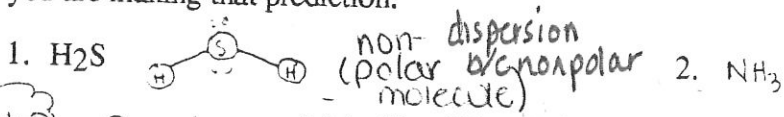
Part C

Multiple Choice: Choose the best answer.

- Nitrogen gas is able to be liquified because of
 - permanent dipoles
 - London forces / dispersion forces
 - hydrogen bonds
 - dipole-dipole forces
- Chlorine is a gas, bromine is a liquid, and iodine is a solid because of differences in the strength of their
 - hydrogen bonds
 - London forces / dispersion forces
 - dipole interactions
 - polar bonds
- Which of the following is the weakest attraction?
 - hydrogen bonds
 - dipole-dipole force
 - polar covalent bond
 - ionic bond
- Dipole-dipole forces occur between _____ molecules.
 - non polar
 - polar
 - ionic
 - none of the above
- An attraction that takes place between two molecules is called _____.
 - a bond
 - a union
 - an intermolecular force
 - a compound

e an intramolecular force.

Identification: For each of the following predict the intermolecular force which will occur and explain why you are making that prediction.



Part D

Condensed Matter Word Scramble

Use the clues provided to help you unscramble the letters below to form words related to Chapter 15. The letters in the circles will then spell out the name of a change.

CLUES

- Ionic, molecular, and network
- Kind of cell
- Not malleable
- Absorbing of and dissolving in H₂O
- Having high vapor pressure
- Alloy of mercury
- Really more like a liquid
- Lattice-forming
- Balance
- Without H₂O
- Very hard solid

1. S L S I O D

2. T I N U

3. L T I R B E T

* 4. E U I E E Q S L T N D C

5. O V I E T L L A

* 6. A A G L M M A

7. O U H A O S P M R

8. L S C A Y L R T N I E

9. Q U I R E L M U B I

* 10. R Y N D H A O S U

11. K W T O N R E

S O I I D S

U N I T

B R I T T L E

D E L I Q U E S C E N T

V O L A T I L E

A M A L G A M

A M O R P H O U S

C R Y S T A L L I N E

E Q U I L I B R I U M

A N H Y D R O U S

N E T W O R K

* we did not do these !!

SECRET WORD SUBLIMATION