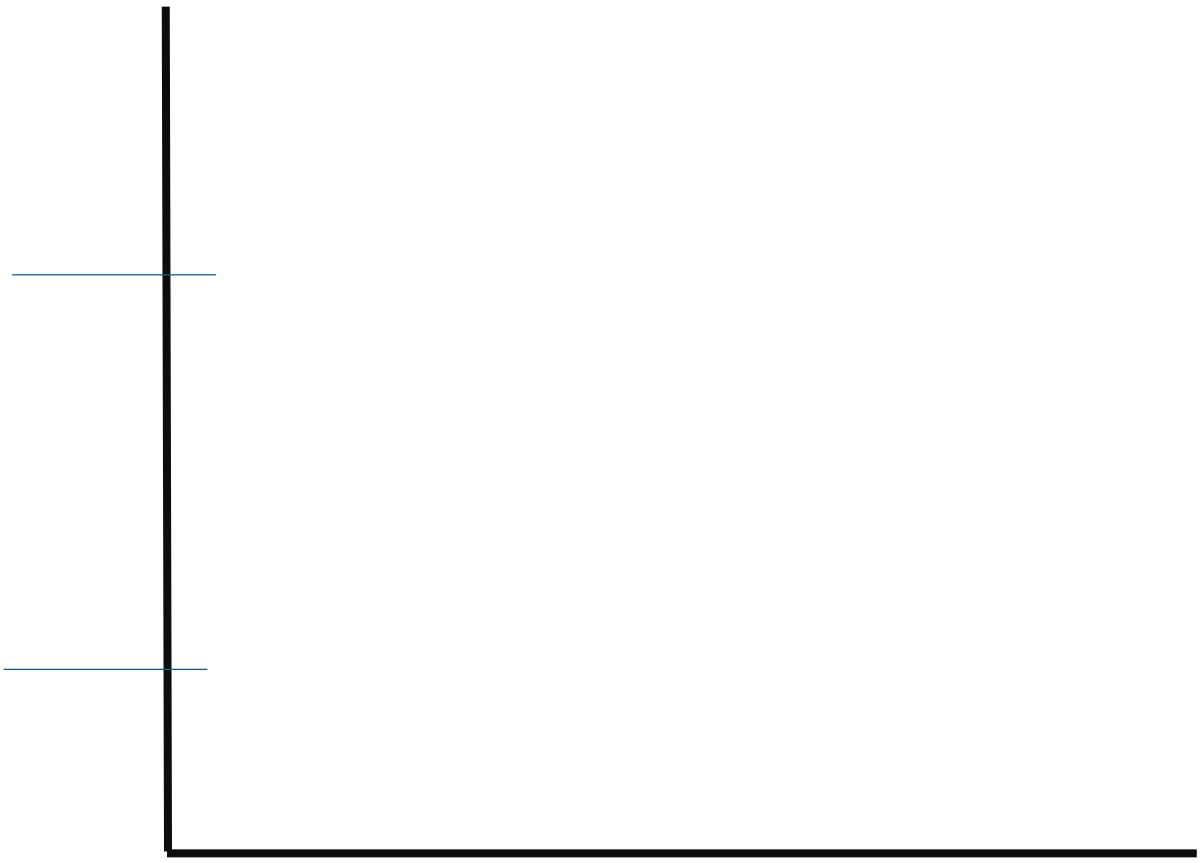
Phase HW #1 name

Directions: Read Phases BASICS, draw a Cooling Curve for Bromine. Put in dots at the end of each line segment, label the dots with the letters A to F (left to right). Title the graph, add temperatures to the Y axis. Fill in boxes with: Inc, Dec or Steady.

BOTH SIDES

Graph title:



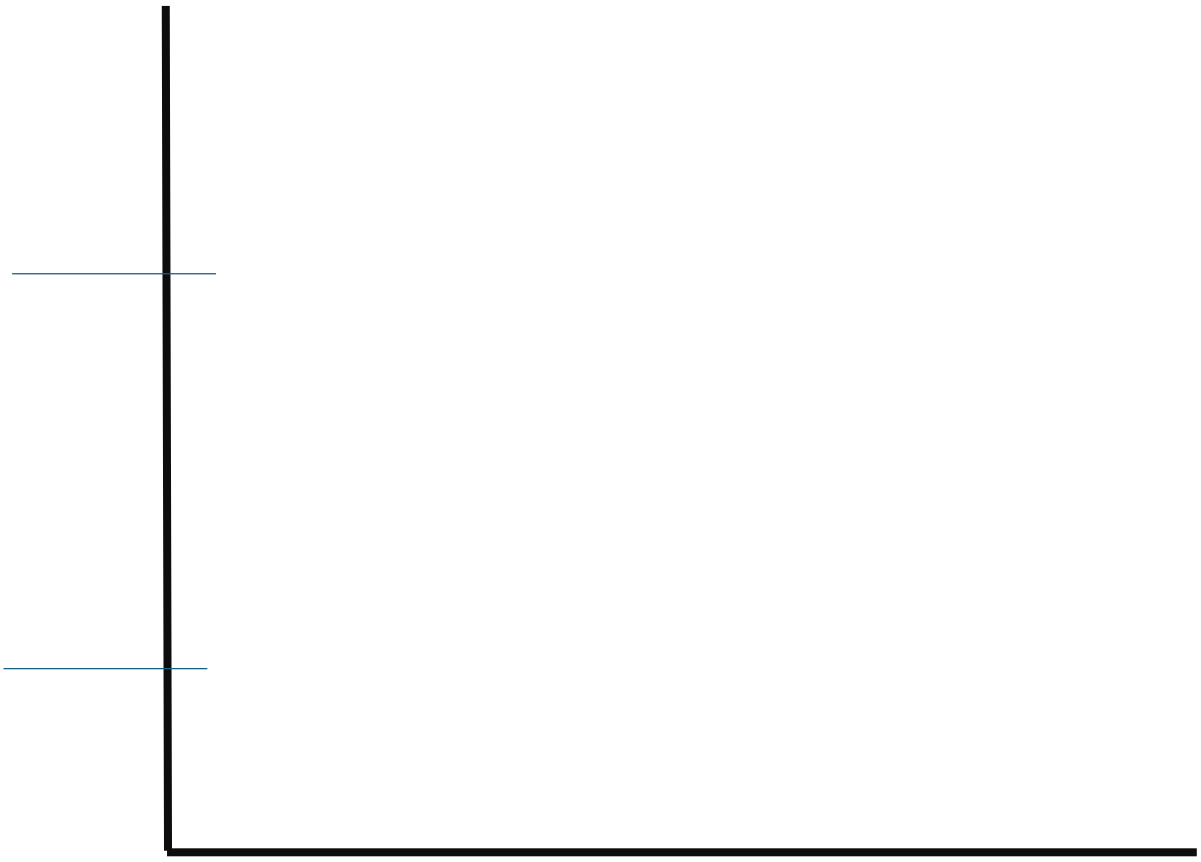
Heat removed at a constant rate

segment	phase or phases	KE	TEMP	PE
AB				
BC				
CD				
DE				
EF				

Over….

Directions: Draw a Heating curve for phosphorous.

Graph title:



Heat added at a constant rate

segment	phase or phases	KE	TEMP	PE
AB				
BC				
CD				
DE				
EF				

Phase HW #2 name

Eight gas pressure and temperature questions. Do work on the back or white paper (AND staple it on), only put answers only into the boxes. No work = no points.

1 A gas is at the pressure of 1.25 atm. What is that pressure in kPa?
2 How many mm Hg is the pressure of 135 kPa equal to?
3 On Mount Everest the air pressure is about 0.305 atm. How many pounds per square inch is that?
4 Convert 0.705 atm into mm Hg.
5 What are the temperature and pressure of STP in °C and kPa?
6 Express the temperature of STP in Kelvin.
7 Convert 125 kPa to psi.
8 Convert 75.00 psi into mm Hg.

1	2	3	4
5	6	7	8

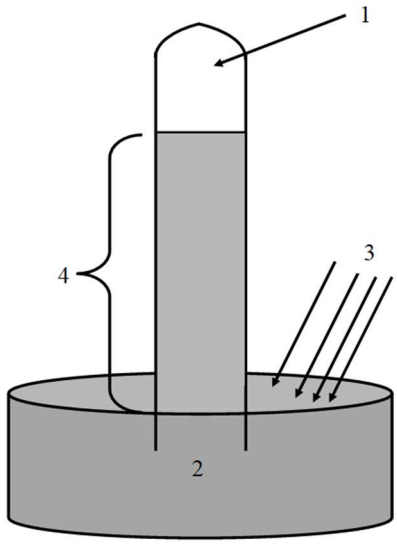
Label the BAROMETER
Put the correct numbers on the lines

____ mercury tub

____ zero pressure zone

____ air pressure pushes on Hg

____ height (mm of Hg) that indicates the air pressure

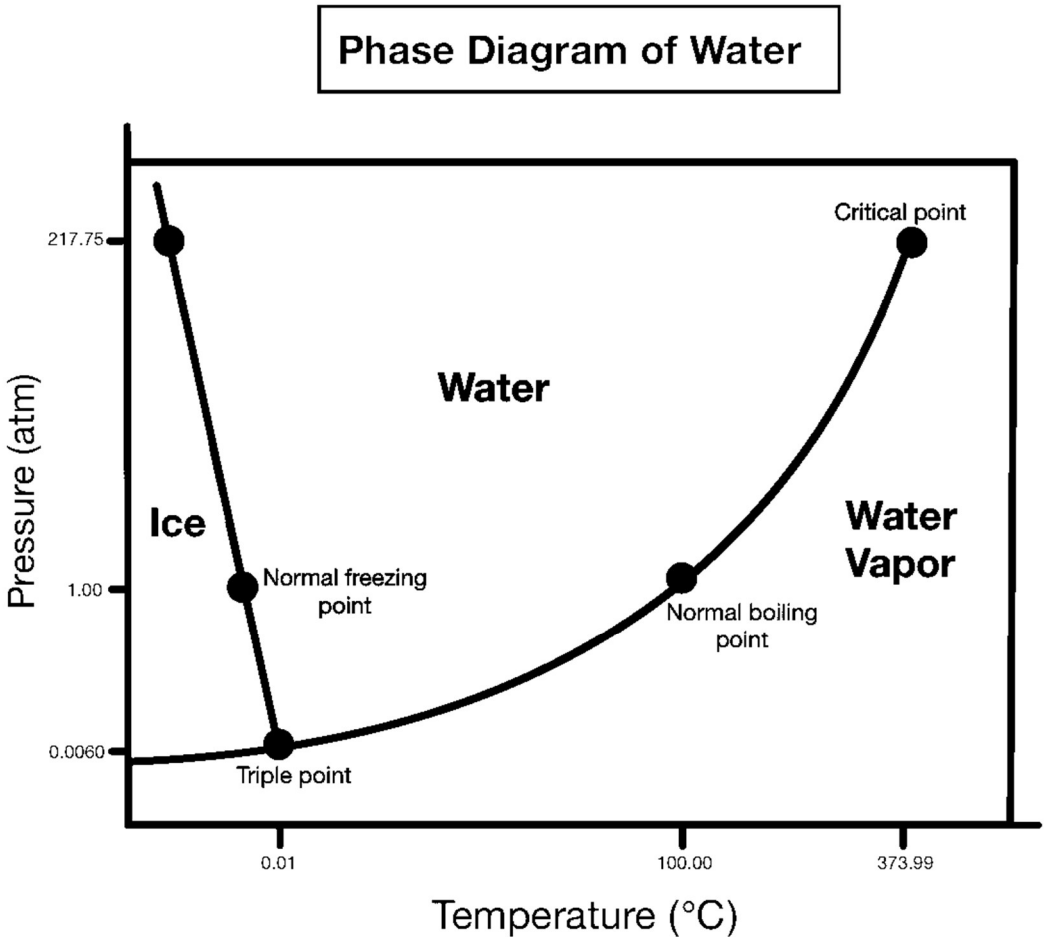


Phase HW #3 name

Phase diagrams show the phases of a substance at all temperatures and pressures. They are used to determine which phase a substance is at a given temperature & pressure. Below is the phase diagram for water.
Note: pressure is in ATM not kPa, and that's okay.

RE-DRAW the phase diagram on full sized white paper.
1. Label the triple point (TP)
2. Label the critical point (CP)
3. Label the normal freezing point (NFP) which is also the normal melting point
4. Label the normal boiling point (NBP) which is also the normal condensing point
5. Label the three sections of the graph as solid, liquid and gas phase

6. Draw a pair of arrows showing freezing (FR) and melting (M)
7. Draw a pair of arrows showing sublimation (SUB) and deposition (DEP)
8. Draw a pair of arrows showing vaporization (VAP) and condensing (CON)
9. Define Triple Point
10. Define Critical Point
11. Define normal freezing point
12. Define normal boiling point



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Phase HW #4 name

Directions: Answer the questions, SHOW ALL MATH with formulas. No shortcuts. Get our table H, you can't do this without looking (and reading first). The normal BP for water means the boiling point for water at normal pressure. Put your finger on the point on the graph now.

In Boulder, Colorado, the air pressure is much less because it's so high up into the air (above sea level). The air pressure in Boulder today is 90 kPa. Find 90 kPa on the Y axis; and slide your finger right until you touch the water curve. The Boiling point for water at 90 kPa is 97°C.

Table H can show you the vapor pressure of 4 different liquids at any temperature or can show you the boiling point at any pressure. This table can show you different things.

It can show you the Boiling Point at any pressure or show you the Vapor Pressure at any temperature.

1 What is the BP of ethanol at 90 kPa?

2 What is the BP of ethanoic acid at 80 kPa?

3 What is the Vapor Pressure of ethanol at 30°C?

4 What is the Vapor Pressure of propanone at 25°C?

5 Change the VP from question 4 into psi.

6 Change the BP from question one into Kelvin.

7 What is the BP of ethanol at 150 kPa?

8. Circle the compounds from Table H that are liquids at 60°C & 10 kPa?	P	Et	W	EA
9. Which compounds on Table H are gases at 75°C & 30 kPa?	P	Et	W	EA
10. Which compounds on Table H are liquids at 100°C & 200 kPa?	P	Et	W	EA