

TEMPERATURE AND ITS MEASUREMENT

Name _____

Temperature (which measures average kinetic energy of the molecules) can be measured using three common scales: Celsius, Kelvin and Fahrenheit. We use the following formulas to convert from one scale to another. Celsius is the scale most desirable for laboratory work. Kelvin represents the absolute scale. Fahrenheit is the old English scale which is never used in lab.

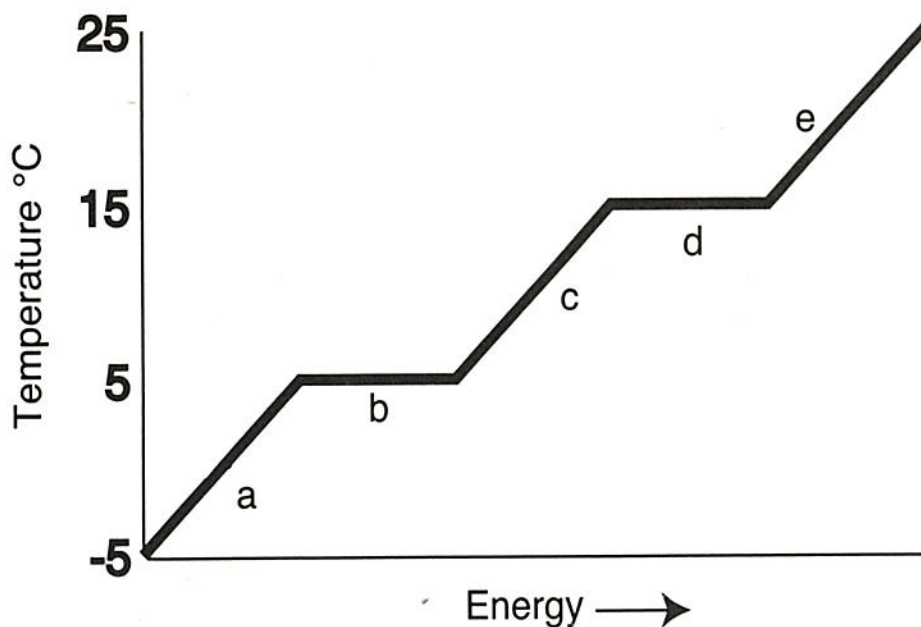
$^{\circ}\text{C} = \text{K} - 273$	$\text{K} = ^{\circ}\text{C} + 273$
$^{\circ}\text{F} = \frac{9}{5}^{\circ}\text{C} + 32$	$^{\circ}\text{C} = \frac{5}{9}(\text{F} - 32)$

Complete the following chart. All measurements are good to 1° C or better.

	$^{\circ}\text{C}$	K	$^{\circ}\text{F}$
1	0° C		
2			212° F
3		450 K	
4			98.6° F
5	-273° C		
6		294 K	
7			77° F
8		225 K	
9	-40° C		

FREEZING AND BOILING POINT GRAPH

Name _____



Answer the following questions using the chart above.

1. What is the freezing point of the substance? _____
2. What is the boiling point of the substance? _____
3. What is the melting point of the substance? _____
4. What letter represents the range where the solid is being warmed? _____
5. What letter represents the range where the liquid is being warmed? _____
6. What letter represents the range where the vapor is being warmed? _____
7. What letter represents the melting of the solid? _____
8. What letter represents the vaporization of the liquid? _____
9. What letter(s) shows a change in potential energy? _____
10. What letter(s) shows a change in kinetic energy? _____
11. What letter represents condensation? _____
12. What letter represents crystallization? _____