This is your **REVIEW** for the **UNIT 1 EXAM** on **TUESDAY, OCTOBER 8th**. You will used these activities to practice the ideas and concepts that are on the exam. This is worth 30 Points and is to be turned in on Tuesday (the day of the exam).

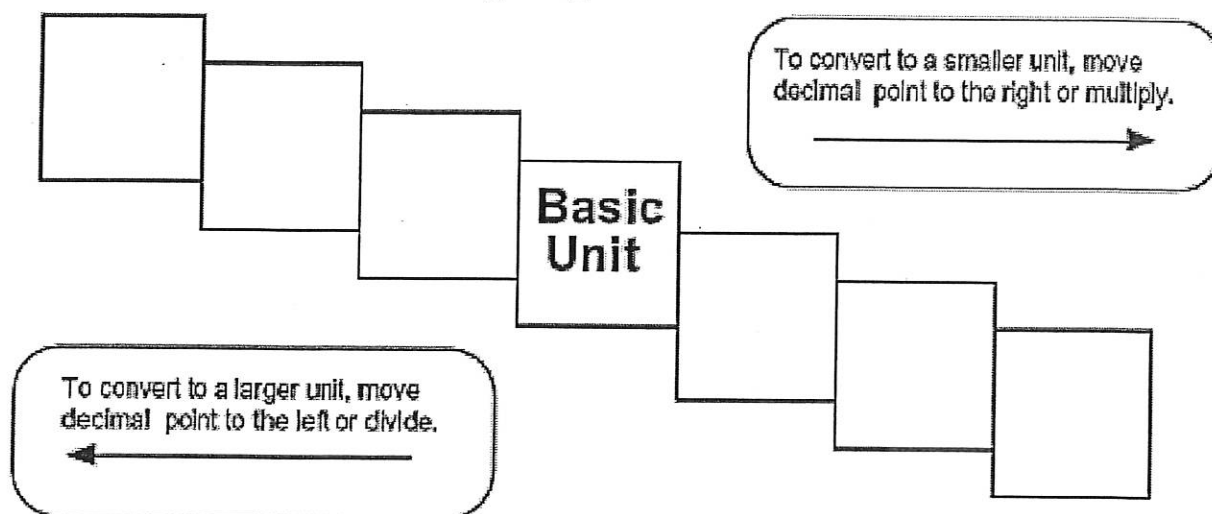*** NO LATE WORK WILL BE ACCEPTED!! This is meant to prepare you for the exam.

(Review must be completed <u>before</u> the exam for credit)

Metric Mania

Metric Conversions

Name _____

Fill in the boxes in the stair step diagram.

To convert to a smaller unit, move decimal point to the right or multiply.

Basic Unit

To convert to a larger unit, move decimal point to the left or divide.
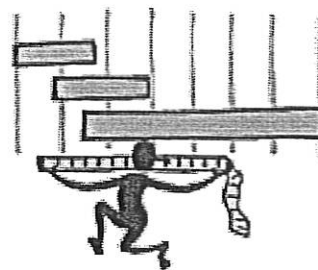
Try these conversions using the ladder method.

1000 mg = _____ g   1 L = _____ mL   160 cm = _____ mm

14 km = _____ m   109 g = _____ kg   250 m = _____ km

Compare using <, >, or =.

56 cm ◯ 6 m   7 g ◯ 698 mg

Metric Mania

Metric Conversion Practice

Name _____

Write the correct abbreviation for each metric unit.

1) Kilogram _____   4) Milliliter _____   7) Kilometer _____

2) Meter _____   5) Millimeter _____   8) Centimeter _____

3) Gram _____   6) Liter _____   9) Milligram _____

Try these conversions, using the ladder method.

10) 2000 mg = _____ g   15) 5 L = _____ mL   20) 16 cm = _____ mm

11) 104 km = _____ m   16) 198 g = _____ kg   21) 2500 m = _____ km

12) 480 cm = _____ m   17) 75 mL = _____ L   22) 65 g = _____ mg

13) 5.6 kg = _____ g   18) 50 cm = _____ m   23) 6.3 cm = _____ mm

14) 8 mm = _____ cm   19) 5.6 m = _____ cm   24) 120 mg = _____ g

Compare using <, >, or =.

25) 63 cm $\bigcirc$ 6 m   27) 5 g $\bigcirc$ 508 mg   29) 1,500 mL $\bigcirc$ 1.5 L

26) 536 cm $\bigcirc$ 53.6 dm   28) 43 mg $\bigcirc$ 5 g   30) 3.6 m $\bigcirc$ 36 cm

Explain the Water Displacement Method Below. You may draw a model or you may explain with words or both. Explain the purpose, the process, and the units used. Also explain the equivalence of liquid and solid units.

<u>Sample Experiment:</u> Density Column

1. Complete the data table by solving for the missing measurement for each of the six liquids. Round your calculations to the nearest hundredths place. Use the "Density Triangle for correct formulas.

Liquid Sample and Color	Mass of liquid	Volume	Density
A. Purple		15 mL	1.05 g/mL
B. Yellow	12.8 g	15 mL	
C. Red		15 mL	1.2 g/mL
D. Blue	20.7 g	15 mL	
E. White		15 mL	1.11 g/mL
F. Green	13.5 g	15 mL	

2. Next, create a "Density Column" by coloring each liquid layer in the "glass beaker" below. Use your calculations to determine each layer of the column. Be careful with your placement, double check calculations.

<u>Analysis:</u>

3. Label and color the "container" below with the correct layers of liquid. Provide the "Letter" (left) and the specific density (right) of each layer. The Colors should show the correct order of layers.

Liquid (letter)   Color each layer to   Density (with unit)
                         show its placement

_____   _____   _____

_____   _____

_____   _____

_____   _____

_____   _____

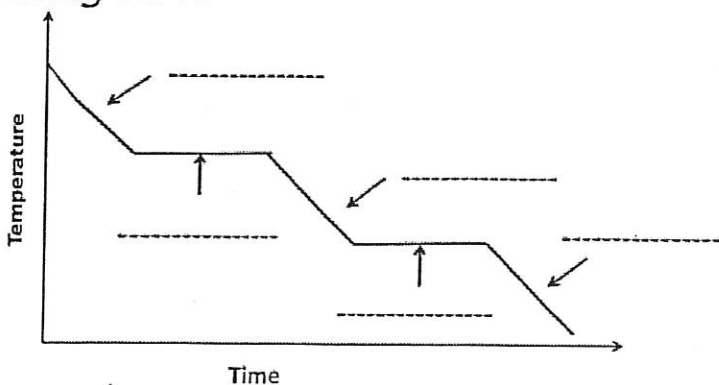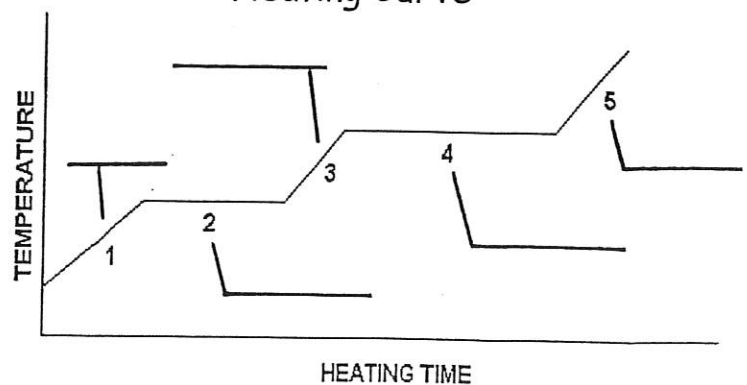_____   _____

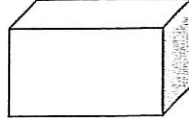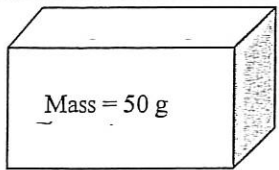Review: Label each point on the graph. Identify what is happening to the substance at each point.
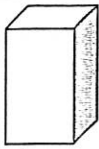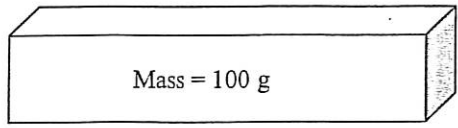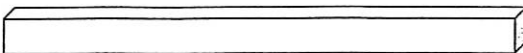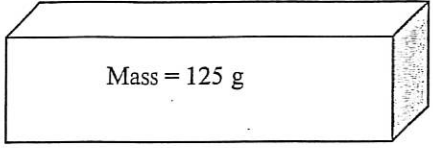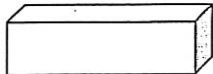
Cooling Curve   Heating Curve

Temperature / Time   TEMPERATURE / HEATING TIME

Density Problems Part II: Calculate the density of the following different sized blocks. Do not forget to include units! Recall: **Volume = Length x Width x Height.** Blocks are drawn to scale!

1	Mass = 10 g	**5**	Mass = 40 g	
	Density =		Density =	
2	Mass = 50 g	**6**	Mass = 30 g	
	Density =		Density =	
3	Mass = 100 g	**7**	Mass = 30 g	
	Density =		Density =	
4	Mass = 125 g	**8**	Mass = 50 g	
	Density =		Density =	

Density Graphing Part II: For each sample, use the data below to: 1) determine the density, 2) determine if the object will sink or float,

Object A	Sample 1	Sample 2	Sample 3	Sample 4	Density (g/ cm^3)	Sink or float?	Recall:
Mass (g)	2	4	8	16	0.5 g/cm^3	FLOAT	the density of water is
Volume (cm^3)	4	8	16	32			1.0 g/cm^3
Object B							
Mass (g)	3	6	12	24			A density
Volume (cm^3)	4	8	16	32			
Object C							
Mass (g)	1	2	3	4			then 1.0
Volume (cm^3)	1	2	3	4			sinks in
Object D							water,
Mass (g)	2	4	8	16			while a
Volume (cm^3)	1	2	4	8			density
Object E							_____then
Mass (g)	4	8	16	32			1.0 floats
Volume (cm^3)	1	2	4	8			

Metric System Challenge

Name _____

1. Instrument used to find mass. $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$ - $\underline{~}\underline{~}\underline{~}\underline{~}$ $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$

21   17

23

2. Metric unit for length $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$

20

3. Amount of space an object takes up $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$

16

4. 9.8 m/s^2 $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$

10

5. Metric unit for mass $\underline{~}\underline{~}\underline{~}\underline{~}$

15

6. Instrument used to measure volume $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$ $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$

6   8   25

7. Mass ÷ volume $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$

19   24

8. 1 meter = 100 $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$

4

9. Metric unit for weight $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$

5

10. Metric unit for liquid volume $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$

3

11. Amount of matter in an object $\underline{~}\underline{~}\underline{~}\underline{~}$

26

12. Measure of the force of gravity acting on an object $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$

18

13. Metric unit for temperature $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$

11   1

14. 1 liter = 1,000 $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$

7

15. The name of the "bubble" $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$

22

16. 1000 grams = 1 $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$

12

17. Instrument used to measure length $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$

14

18. 1 milliliter = 1 $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$ $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$

13

19. Width, height, thickness, or distance $\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}\underline{~}$

9

20. Formula for calculating volume $\underline{~}$ x $\underline{~}$ x $\underline{~}$

2

Why were the teacher's eyes crossed?

$\overline{~}\,\overline{~}\,\overline{~}$, $\overline{~}\,\overline{~}\,\overline{~}\,\overline{~}\,\overline{~}\,\overline{~}\,\overline{~}$ $\overline{~}\,\overline{~}\,\overline{~}\,\overline{~}\,\overline{~}\,\overline{~}\,\overline{~}$ $\overline{~}\,\overline{~}\,\overline{~}$ $\overline{~}\,\overline{~}\,\overline{~}\,\overline{~}\,\overline{~}\,\overline{~}$!

1 2 3   4 5 6 7 8 9 10   11 12 13 14 15 16 17   18 19 20   21 22 23 24 25 26