**Metric Conversions By the Ladder Method**

What is the order of the prefixes from Biggest size to Smallest size?

**\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_Base Unit\_ \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_**

**Try these conversions, using the ladder method.**

1. 1000 mg = \_\_\_\_\_\_\_\_\_ g
2. 1 L = \_\_\_\_\_\_\_\_\_ mL
3. 160 cm = \_\_\_\_\_\_\_\_\_ mm
4. 14 km = \_\_\_\_\_\_\_\_\_ m
5. 109 g = \_\_\_\_\_\_\_\_\_ kg
6. 250 m = \_\_\_\_\_\_\_\_\_ km
7. 5 kg = \_\_\_\_\_\_\_\_\_ mg
8. 450 mL = \_\_\_\_\_\_\_\_\_ L
9. 17 cm = \_\_\_\_\_\_\_\_\_ mm
10. 1,750 mL = \_\_\_\_\_\_\_\_\_ L

**Compare the two values and convert one side so that they are both using the same unit. Then circle the side that is a larger value.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 56 cm vs 6m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7g vs 698 mg \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 178 mm vs 15cm \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 18 L vs 45 ml \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 27 km vs 75 m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Scientific Method Practice**

For each of the examples below, find the independent variable, dependent variable, control(s), and constants.

1.    Bailey wants to find out which frozen solid melts the fastest:  soda, gatorade, or orange juice.  She pours each of the three liquids into the empty cubes of an ice tray, along with a forth liquid, plain water. She then places the ice tray in the freezer over night.  The next day, she pulls the ice tray out and sets each cube on its own plate.  She then waits and watches for them to melt.  When the last part of the frozen liquid melts, she records the time.

Independent Variable:

Dependent Variable:

Control(s):

Constants:

2.    Jack wants to find out which laundry detergent cleans the best.  So, he takes a cotton sheet and cuts it up into equal squares.  He stains four squares with chocolate.  He washes one of each of the squares in each of the 3 detergents, and the final square is washed in plain water.  For each wash load, he used:  the same amount of water, the same amount of detergent, and the same temperature of water.

Independent Variable:

Dependent Variable:

Control(s):

Constants:

3.    Maverick wants to find out whether or not Miracle Grow really makes plants grow faster.  He takes two identical pots, puts ½ cup of dirt into each one, puts 3 pea plant seeds into each one, and tops each off with ½ cup more dirt.  He waters the plants the same amount at the same time each day.  The only difference is that one plant is watered with regular water, while the other is watered with water that has Miracle Grow in it.

Independent Variable:

Dependent Variable:

Controls(s):

Constants: