

Name: _____ Date: _____

Metric Conversions

Metric Conversion: Stair-Step Method

The **Metric System** of measurement is based on multiples of 10.

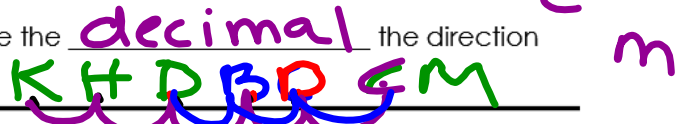
The **3 base units** are: meters gram liter

The **6 prefixes** are: kilo hecto deca deci centi milli

Without using your metric staircase notes, fill in the boxes on the metric staircase. Write the appropriate prefix, abbreviation and number meaning. When you are finished, check for any mistakes.



To use the **Stair-Step method**, you will move the decimal the direction you have to move on the stairs.



Write the equivalent measurements:

- | | |
|--|---|
| 1. $5 \text{ dm} = \underline{.5} \text{ m}$ | 6. $6035 \text{ mg} = \underline{.006035} \text{ hg}$ |
| 2. $38.2 \text{ cg} = \underline{38,200} \text{ cg}$ | 7. $75 \text{ mL} = \underline{.000075} \text{ kL}$ |
| 3. $2500 \text{ dL} = \underline{.25} \text{ kL}$ | 8. $6.5 \text{ m} = \underline{650} \text{ cm}$ |
| 4. $2 \text{ mL} = \underline{.002} \text{ L}$ | 9. $2007 \text{ mg} = \underline{2.007} \text{ g}$ |
| 5. $.03 \text{ km} = \underline{3000} \text{ cm}$ | 10. $480 \text{ cm} = \underline{.48} \text{ dkm}$ |

K H D B O C M

Compare the measurements using $<$, $>$, or $=$. ****SHOW YOUR WORK****

63 cm $<$ 6 m

43 mg $<$ 5 g

5 g $>$ 508 mg

3.6 m $>$ 36 cm

1500 mL $=$ 1.5 L

7 g $>$ 698 mg

536 cm $=$ 53.6 dm

1.1 hL $<$ 110 dL

Answer the following questions using metric conversions.

19. One cereal bar has a mass of 37 g. What is the mass of 6 cereal bars? Is that more or less than 1 kg? Explain your answer.

20. Wanda needs to move 110 kg of rocks. She can carry 10 hg each trip. How many trips must she make?

21. Dr. O is playing in her garden again. She needs 1 kg of potting soil for her plants. She has 750 g. How much more does she need?

22. Will a tablecloth that is 155 cm long cover a table that is 1.6 m long? Explain.

23. A dollar bill is 15.6 cm long. If 200 dollar bills were laid end to end, how many meters long would the line be?

24. The ceiling in Jan's living room is 2.5 m high. She has a hanging lamp that hangs down 41 cm. Her husband is exactly 2 m tall. Will he hit his head on the hanging lamp? Why or why not?