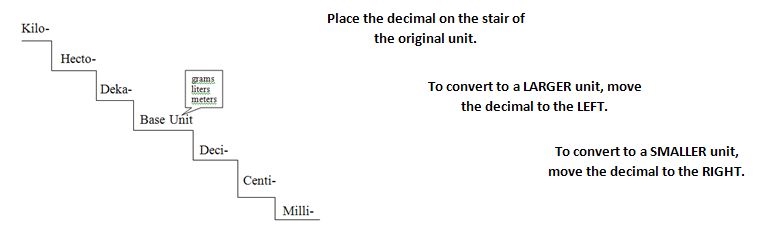
Metric Conversion: Stair-Step Method



1. Write the equivalent measurement: (.5 pt each)
2. 5 dm = \_\_\_\_\_\_ m
3. 4 mL = \_\_\_\_\_\_ L
4. 8 g = \_\_\_\_\_\_\_ mg
5. 9 mg = \_\_\_\_\_\_\_ g
6. 2 mL = \_\_\_\_\_ L
7. 6 kg = \_\_\_\_\_\_ g
8. 4 cm = \_\_\_\_\_\_ m
9. 12 mg = \_\_\_\_\_ g
10. 0.03 hg = \_\_\_\_\_\_ dg
11. 6035 mm = \_\_\_\_\_\_\_ cm
12. 0.32 m = \_\_\_\_\_\_\_ cm
13. 38.2 g = \_\_\_\_\_\_\_\_ kg

2. One cereal bar has a mass of 37 g. What is the mass of 6 cereal bars? Is that more than or less than 1 kg? Explain your answer. (2 pts)

3. Wanda needs to move 110 kg of rocks. She can carry l0 hg each trip. How many trips must she make? Explain your answer. (2 pts)

4. 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? Explain your answer. (2pts)

5. Weather satellites orbit Earth at an altitude of 1,400,000 meters. What is this altitude in kilometers? (2 pts)

6. Which unit would you use to measure the capacity? Write milliliter or liter. (.5 pt each)

a) a bucket

b) a thimble

c) a water storage tank

d) a carton of juice

7. Circle the more reasonable measure: (.5 pt each)

a) length of an ant 5mm or5cm

b) length of an automobile 5 m or 50 m

c) distance from NY to LA 450 km or 4,500 km

d) height of a dining table 75 mm or 75 cm

8. Will a tablecloth that is 155 cm long cover a table that is 1.6 m long? Explain your answer (2 pts)

9. 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? (2 pts)

10. 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? (2 pts)

*Match the terms in Column II with the descriptions in Column I. Write the letters of the correct term in the blank on the left.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ANSWER |  | Column I |  | Column II |
|  | 1. | Distance between two points |  | Time |
|  | 2. | SI unit of length |  | Volume |
|  | 3. | Tool used to measure length |  | Mass |
|  | 4. | Units obtained by combining other units |  | Density |
|  | 5. | Amount of space occupied by an object |  | Meter |
|  | 6. | Unit used to express volume |  | Kilogram |
|  | 7. | SI unit of mass |  | Derived |
|  | 8. | Amount of matter in an object |  | Liter |
|  | 9. | Mass per unit of volume |  | Second |
|  | 10. | Temperature scale of most laboratory thermometers |  | Kelvin |
|  | 11. | Instrument used to measure mass |  | Length |
|  | 12. | Interval between two events |  | Balance |
|  | 13. | SI unit of temperature |  | Meterstick |
|  | 14. | SI unit of time |  | Thermometer |
|  | 15. | Instrument used to measure temperature |  | Celsius |

*Circle the two terms in each group that are related. Explain how the terms are related.*

16. Celsius degree, mass, Kelvin \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

17. balance, second, mass

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

18. kilogram, liter, cubic centimeter

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

19. time, second, distance

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

20. decimeter, kilometer, Kelvin

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Use your prefixes sheet to answer questions 1—5.*

1. How many meters are in one kilometer? \_\_\_\_\_\_\_\_\_\_

2. What part of a liter is one milliliter? \_\_\_\_\_\_\_\_\_\_

3. How many grams are in two *dekagrams? \_\_\_\_\_\_\_\_\_\_*

4. If one gram of water has a volume of one milliliter, what would the mass of one liter of water be in *kilograms?\_\_\_\_\_\_\_\_\_\_*

5. What part of a meter is a decimeter? \_\_\_\_\_\_\_\_\_\_

*In the blank, write the term that correctly completes each statement. Choose from the terms listed below.*

**Metric standard prefixes SI ten tenth**

6. An exact quantity that people agree to use for comparison is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

7. The system of measurement used worldwide in science is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

8. SI is based on units of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

9. The first system of measurement that was based on units of ten was the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ system.

10. In SI, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are used with the names of the base unit to indicate the multiple of ten that is being used with the base unit.

11. The prefix *deci-* means \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

*Write out the stair-step SI prefixes and their meanings in the space provided… (EX: deci- means 0.1)*

*Circle the larger unit in each pair of units.*

1. millimeter, kilometer
2. decimeter, dekameter
3. hectogram, decigram
4. centimeter, millimeter
5. hectogram, kilogram

6. *In SI, the base unit of length is the meter. Use this information to arrange the following units of measurement in the correct order from smallest to largest. Write the number 1 (smallest) through 7* - *(largest) in the spaces provided.*

\_\_\_\_\_ a. kilometer

\_\_\_\_\_ b. centimeter

\_\_\_\_\_ c. meter

\_\_\_\_\_ d. dekameter

\_\_\_\_\_ e. hectometer

\_\_\_\_\_ f. millimeter

\_\_\_\_\_ g. decimeter

*Use your knowledge of the prefixes used in SI to answer the following questions in the spaces provided.*

7.One part of the Olympic games involves an activity called the decathlon. How many events do you think make up the decathlon? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. How many years make up a decade? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. How many years make up a century?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. What part of a second do you think a millisecond is? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. The left hand column consists of English measurements you should be familiar with. Write the metric measurement of approximate equal value you would use instead.

|  |  |
| --- | --- |
| English | Metric |
| Pounds |  |
| Inches |  |
| Miles |  |
| Quarts |  |
| Ounces |  |
| Yards |  |

**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