

Name _____

Date _____

Using Metric Units

The metric system is used in many countries throughout the world. The metric system is a system used for measurement. Like any system, the metric system has different terms for measuring length, mass or weight, and capacity or liquid.

The following chart expresses some of the metric equivalencies:

Length	Mass or Weight	Capacity or Liquid
1 centimeter = 10 millimeters	1 centigram = 10 milligrams	1 centiliter = 10 milliliters
1 decimeter = 10 centimeters	1 decigram = 10 centigrams	1 deciliter = 10 centiliters
1 meter = 1000 millimeters	1 gram = 1000 milligrams	1 liter = 1000 milliliters
1 meter = 100 centimeters	1 gram = 100 centigrams	1 liter = 100 centiliters
1 meter = 10 decimeters	1 gram = 10 decigrams	1 liter = 10 deciliters
1 kilometer = 1000 meters	1 kilogram = 1000 grams	

A millimeter is one one thousandth of a meter. A centimeter is one one hundredth of a meter. A decimeter is one tenth of a meter. Ten millimeters make one centimeter, and ten centimeters make one decimeter. Likewise, ten decimeters make one meter.

Since the metric system is based on the decimal system, it is easy to change metric measurements from one metric unit into another metric unit. This is done by moving the decimal point. To change from a larger unit to a smaller unit, you would move the decimal point to the right. To change from a smaller unit into a larger one, you would move the decimal point to the left.

Let's look at a few examples:

There are 10 centimeters in a decimeter. To change decimeters into centimeters, you would multiply by ten (or move the decimal point one space to the right).

$$35.9 \text{ decimeters} = 359 \text{ centimeters}$$

To change from centimeters into decimeters, you would divide by 10 (or move the decimal point one space to the left).

$$961 \text{ centimeters} = 96.1 \text{ decimeters}$$

There are 100 centimeters in a meter. To change from centimeters to meters, you would divide by 100 (or move the decimal point two spaces to the left).

$$705 \text{ centimeters} = 7.05 \text{ meters}$$

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Using Metric Units (Cont'd)

To change from meters to centimeters, you would multiply by 100 (or move the decimal two spaces to the right).

80.1 meters = 8010 centimeters

In the US, measurements are sometimes given using more than one unit. For example, we might say someone is 4 feet and 6 inches tall. When we say this, we are using two measurements – feet and inches. In the metric system, measurements are always given in one unit. For example, if something is 2 meters and 11 centimeters, we would say it is 2.11 meters or 211 centimeters.

It is also important to be able to recognize some of the abbreviations for the metric units. They are:

cm = centimeter
dm = decimeter
m = meter
mm = millimeter
km = kilometer
cg = centigram
dg = decigram
mg = milligram
g = gram
kg = kilogram
cl = centiliter
dl = deciliter
l = liter

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Using Metric Units Questions

Please write the correct abbreviation for the metric unit in the blank provided:

_____ 1. meter

_____ 2. centigram

_____ 3. millimeter

_____ 4. deciliter

_____ 5. gram

_____ 6. kilometer

_____ 7. liter

_____ 8. milligram

_____ 9. centiliter

Fill in the blank with the appropriate number:

10. 1 centimeter = _____ millimeters

11. 1 decimeter = _____ centimeters

12. 1 meter = _____ millimeters

13. 1 meter = _____ centimeters

14. 1 meter = _____ decimeters

15. 1 kilometer = _____ meters

16. 12 meters = _____ decimeters

17. 634 centimeters = _____ meters

18. 991 decimeters = _____ meters

19. 3101 meters = _____ kilometers

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Using Metric Units Answers

Please write the correct abbreviation for the metric unit in the blank provided:

___ **m** ___ 1. meter

___ **cg** ___ 2. centigram

___ **mm** ___ 3. millimeter

___ **dl** ___ 4. deciliter

___ **g** ___ 5. gram

___ **km** ___ 6. kilometer

___ **l** ___ 7. liter

___ **mg** ___ 8. milligram

___ **cl** ___ 9. centiliter

Fill in the blank with the appropriate number:

10. 1 centimeter = ___ **10** ___ millimeters

11. 1 decimeter = ___ **10** ___ centimeters

12. 1 meter = ___ **1000** ___ millimeters

13. 1 meter = ___ **100** ___ centimeters

14. 1 meter = ___ **10** ___ decimeters

15. 1 kilometer = ___ **1000** ___ meters

16. 12 meters = ___ **120** ___ decimeters

17. 634 centimeters = ___ **6.34** ___ meters

18. 991 decimeters = ___ **99.1** ___ meters

19. 3101 meters = ___ **3.101** ___ kilometers