

Monday-Tuesday (8/20-8/21)

****Please turn in your lab to black tray****

1. Describe the difference between qualitative and quantitative observations.
2. What are **ethics**? What role do ethics play in science?
3. Can science answer all questions? Explain.

Agenda

- Warm Up
- Ch 1 Quizlet Live
- Notes: 1.3 and metrics review
- Metric system dominoes and practice problems

**Homework: 1.3 Section Assessment (pg 23, #s 1-5)
DUE WED/THURS**

Note: Chapter 1 “Quizam” this FRIDAY

Technology and Ethics in Science

- **Ethics-** moral principles and values held by humans
 - consider *how* scientific discoveries are used.
- **Technology-** the application of scientific research to society's needs and problems
 - positive vs. negative impacts



Measuring Quantitative Data

- Scientists around the world must understand it
- English system
 - Inches, yards, miles, pounds, ounces, gallons, pints, quarts
- International System of Units (SI)
 - Only a few basic units
 - Expressed in multiples of tens or tenths of basic unit
 - Meter (length), gram (mass), liter (volume)

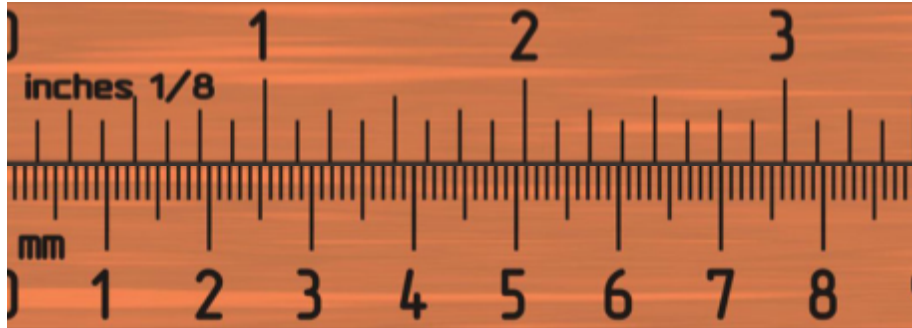
English vs. Metric Units

Which is longer?

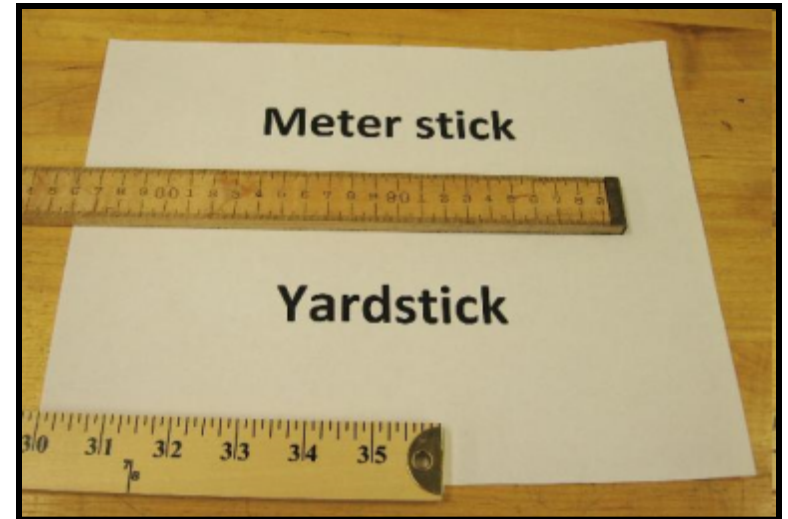
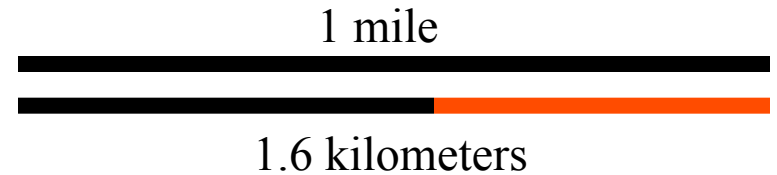
A. 1 mile or 1 kilometer

B. 1 yard or 1 meter

C. 1 inch or 1 centimeter

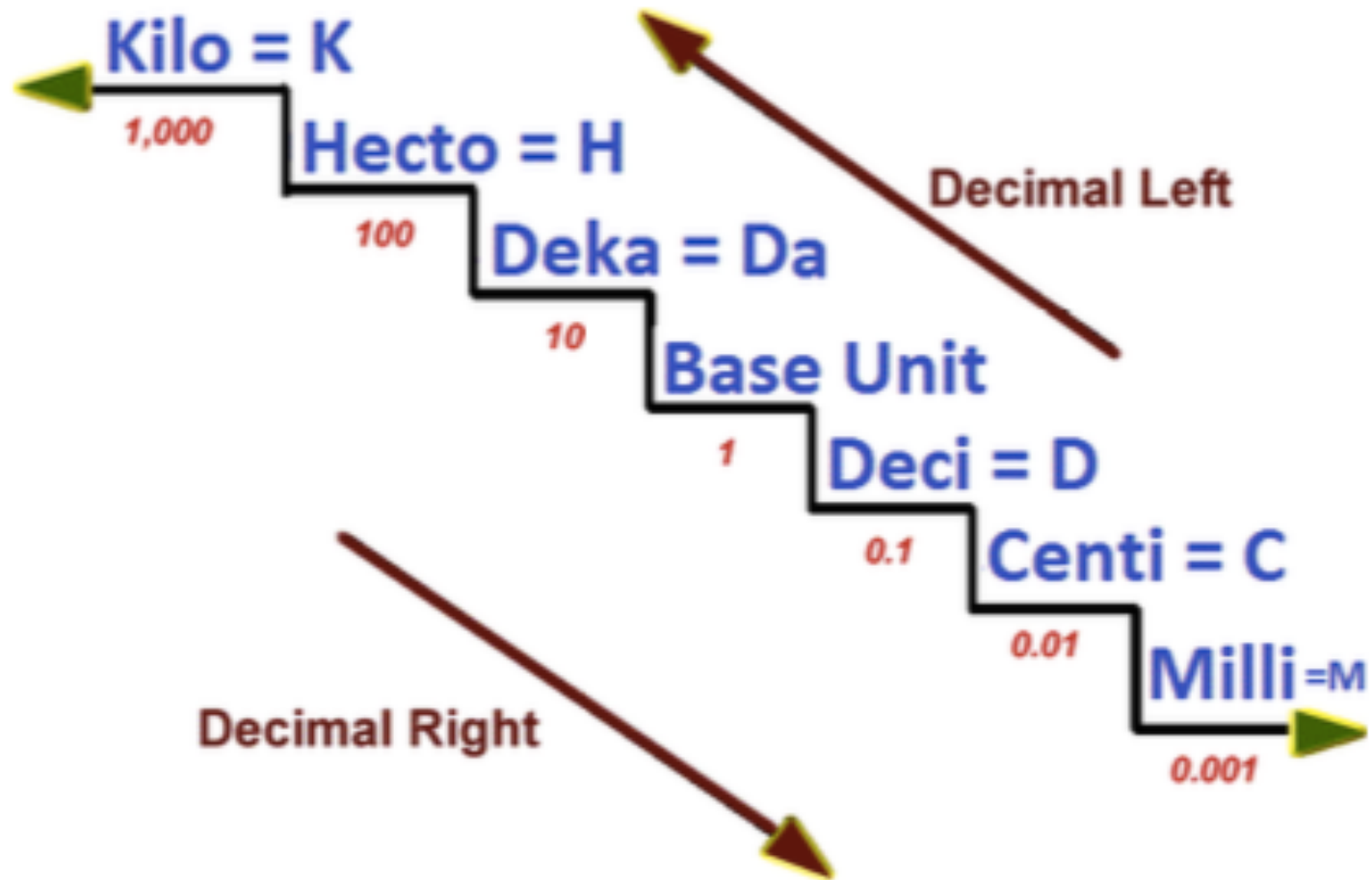


1 inch = 2.54 centimeters



1 yard = 0.9144 meters

Copy this in notebook!



<https://youtu.be/KqVQxPRobgw>

km

m

Metric Units

cm

mm

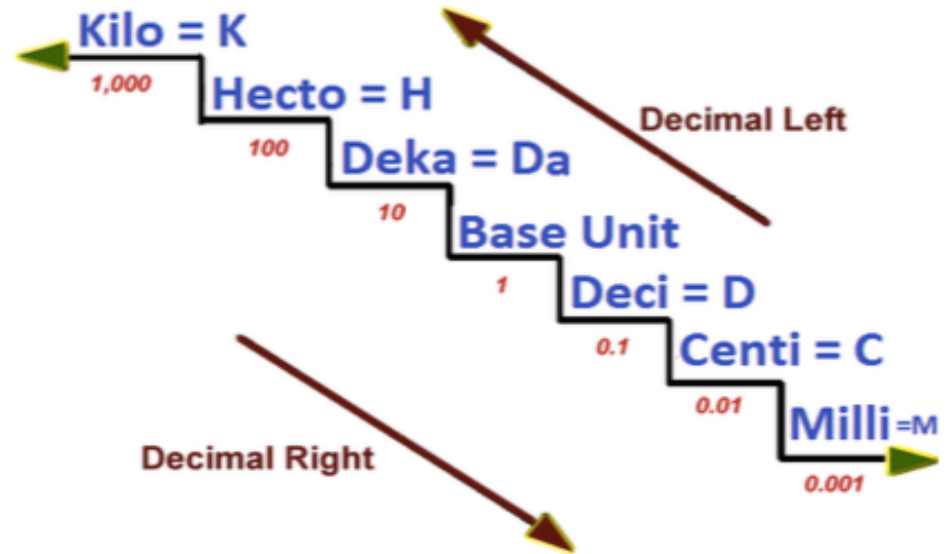


Metric Units

1 Kilometer (km) = 1000 meters

1 Meter = 100 Centimeters (cm)

1 Meter = 1000 Millimeters (mm)



Which is larger?

A. 1 meter or 105 centimeters

B. 4 kilometers or 4400 meters

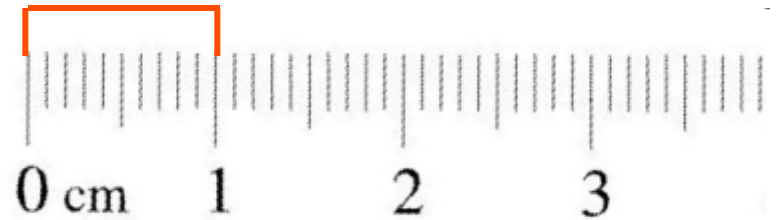
C. 12 centimeters or 102 millimeters

D. 1200 millimeters or 1 meter

Measuring Length

How many millimeters are in 1 centimeter?

1 centimeter = 10 millimeters



What is the length of the line in centimeters? _____ cm

What is the length of the line in millimeters? _____ mm



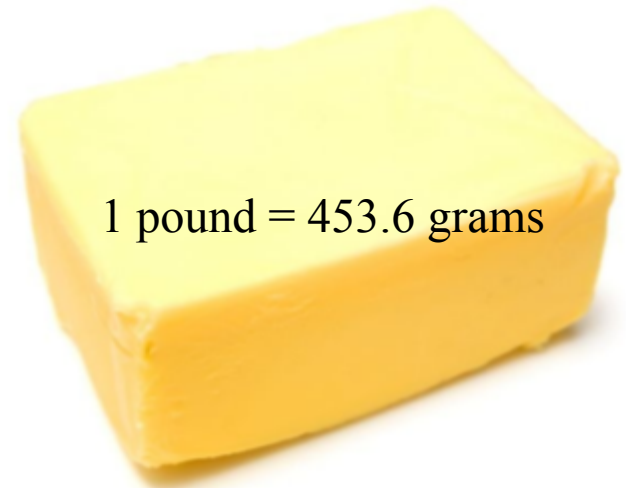
What is the length of the line to the nearest centimeter? _____ cm

HINT: Round to the nearest centimeter – no decimals.

English vs. Metric Units

Which is larger?

1. 1 Pound or 100 Grams
2. 1 Kilogram or 1 Pound
3. 1 Ounce or 1000 Milligrams



1 pound = 453.6 grams



1 ounce of gold =
28,349.5 milligrams



100 kilogram =
220 pounds

kg

g

Metric Units

cg

mg

Mass refers to the amount of matter in an object.

The base unit of mass in the metric system is the **kilogram** and is represented by **kg**.

Metric Units

1 Kilogram (kg) = 1000 Grams (g)

1 Gram (g) = 1000 Milligrams (mg)



Which is larger?

A. 1 kilogram or 1500 grams

B. 1200 milligrams or 1 gram

C. 12 milligrams or 12 kilograms

D. 4 kilograms or 4500 grams