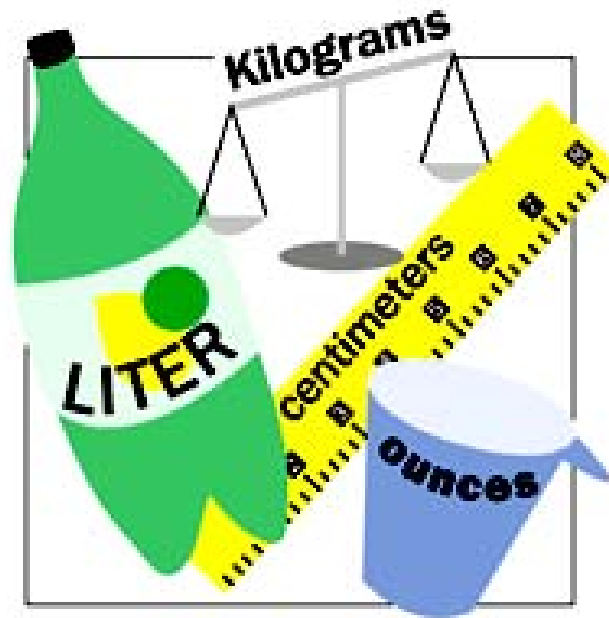


Measurement-A Common Language



Length

A Standard Measurement System

The Metric System

When and why was the metric system invented?

- The metric system was invented in 1790
- The metric system was invented because countries were using many different systems of measurement causing confusion and lack of consistency

Who invented the metric system?

- The metric system was invented by a group of French scientists

Metric System

- A system of measurement used by the majority of countries on Earth based on the number 10

A Standard Measurement System

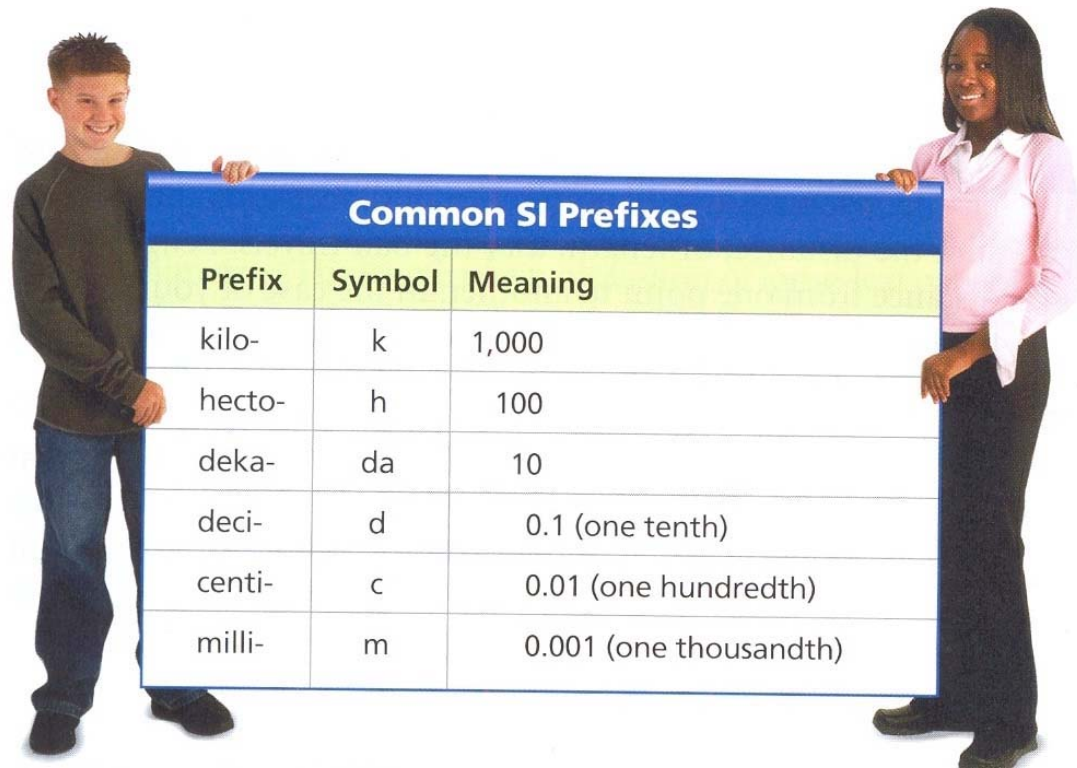
The International System of Units (SI)

Scientists all over the world use the International System of Units to measure:

- Length
- Volume
- Mass
- Density
- Temperature
- Time

Figure 1: **Calculating** - How much larger is a kilo- than a deka-?

- 100 times



Common SI Prefixes		
Prefix	Symbol	Meaning
kilo-	k	1,000
hecto-	h	100
deka-	da	10
deci-	d	0.1 (one tenth)
centi-	c	0.01 (one hundredth)
milli-	m	0.001 (one thousandth)

✓ Reading Checkpoint (page 45): SI units are based on multiples of what number?

- SI units are based on multiples of 10
 - Add a zero
 - Subtract a zero

Key Concept: Why do scientists use a standard measurement system?

- Using SI as the standard system of measurement allows scientists to compare data and communicate with each other about their results
- Using SI measurement also allows experiments to be repeated and most importantly achieve a desired result

Length

What is length?

- Length is the distance from one point to another

Length

Units of Length

The basic unit of length in the SI system is the ...

- The basic unit of length in the SI system is the meter

The two units that measure the length of smaller objects are, ...

- millimeter
- centimeter

Complete the Table Below

<u>Prefix</u>	<u>Meaning</u>	<u>Unit of Length</u>
milli		
	one-hundredth	
		meter
	one-thousand	

Complete the Table Below

<u>Prefix</u>	<u>Meaning</u>	<u>Unit of Length</u>
milli	One-thousandth	
	one-hundredth	
		meter
	one-thousand	

Complete the Table Below

<u>Prefix</u>	<u>Meaning</u>	<u>Unit of Length</u>
milli	One-thousandth	millimeter
	one-hundredth	
		meter
	one-thousand	

Complete the Table Below

<u>Prefix</u>	<u>Meaning</u>	<u>Unit of Length</u>
milli	One-thousandth	millimeter
centi	one-hundredth	
		meter
	one-thousand	

Complete the Table Below

<u>Prefix</u>	<u>Meaning</u>	<u>Unit of Length</u>
milli	One-thousandth	millimeter
centi	one-hundredth	centimeter
		meter
	one-thousand	

Complete the Table Below

<u>Prefix</u>	<u>Meaning</u>	<u>Unit of Length</u>
milli	One-thousandth	millimeter
centi	one-hundredth	centimeter
none		meter
	one-thousand	

Complete the Table Below

<u>Prefix</u>	<u>Meaning</u>	<u>Unit of Length</u>
milli	One-thousandth	millimeter
centi	one-hundredth	centimeter
none	one	meter
	one-thousand	

Complete the Table Below

<u>Prefix</u>	<u>Meaning</u>	<u>Unit of Length</u>
milli	One-thousandth	millimeter
centi	one-hundredth	centimeter
none	one	meter
kilo	one-thousand	

Complete the Table Below

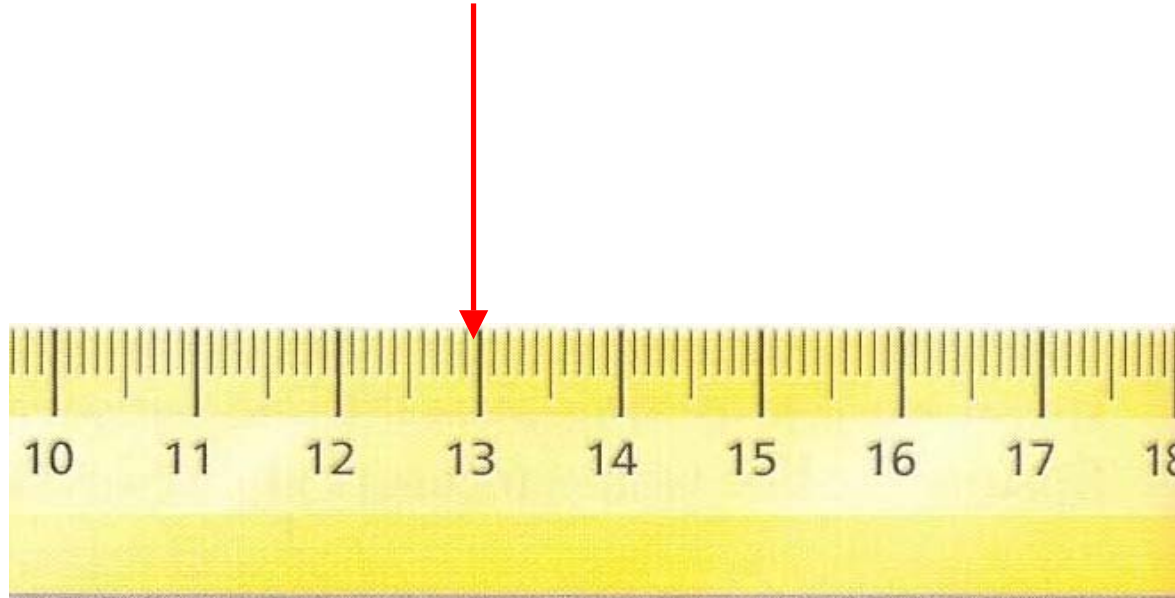
<u>Prefix</u>	<u>Meaning</u>	<u>Unit of Length</u>
milli	One-thousandth	millimeter
centi	one-hundredth	centimeter
none	one	meter
kilo	one-thousand	kilometer

Length

Measuring Length

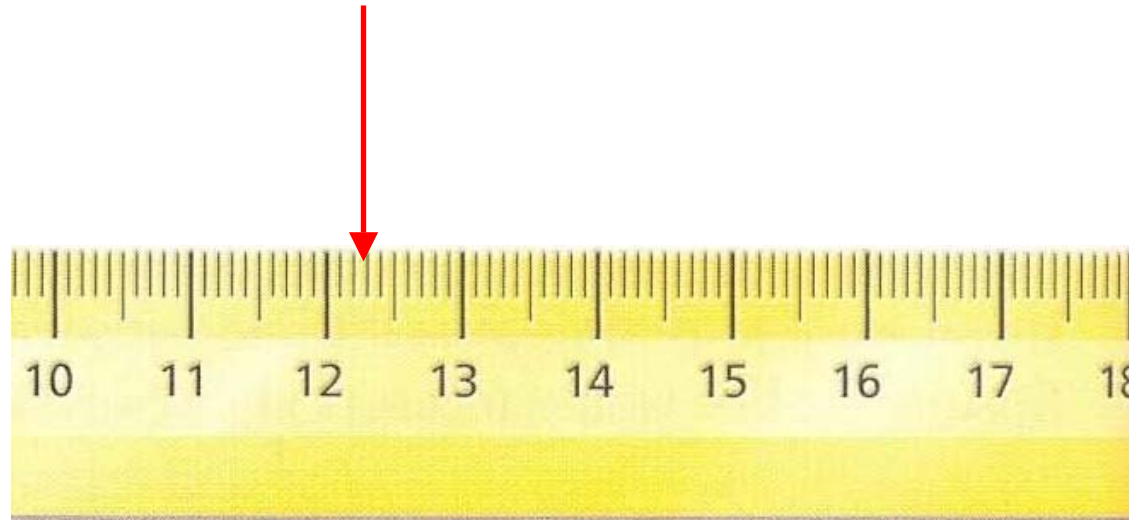
The longer lines on the metric ruler are called...

- centimeters



The shorter lines on the metric ruler are called...

- millimeters



✓ Reading Checkpoint (page 48) One centimeter is divided into how many millimeters?

- 10 millimeters (mm)

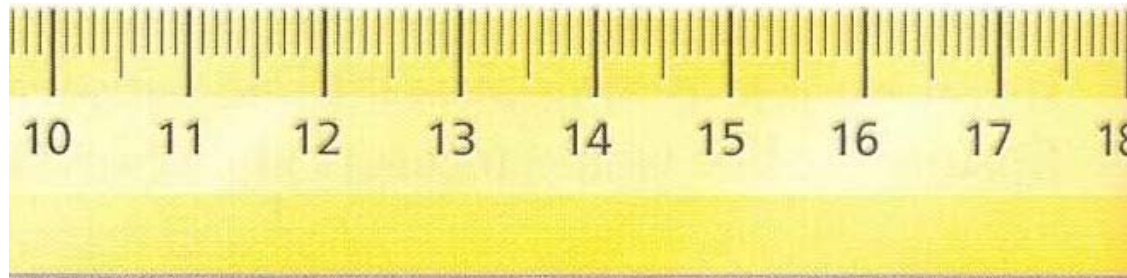


Figure 2: Calculating: Measure the turtle in figure 2 from the rear of its shell to the tip of its nose. Record its length in both centimeters and millimeters.

- 10.5 cm
- 105 mm

