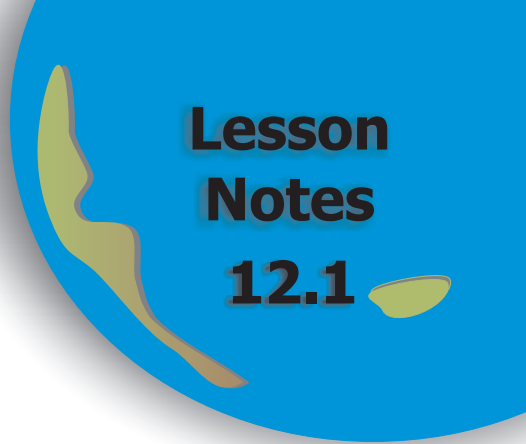


NAME _____

Module 12 Attributes and Tools
Lesson 1 Measurement Systems



Lesson Notes

12.1

Lesson Objectives

- Identify and select appropriate units and tools from both systems, customary and metric, to measure (e.g. distance with feet/meters).
- Establish through experience benchmark prefixes of milli-, centi-, deci-, deca-, hecto-, and kilo-.
- Distinguish the difference between weight and mass.
- Understand, select, and use the appropriate units and tools (metric and customary) to measure length, weight, mass, and volume to the required degree of accuracy for real-world problems.

Subtopic 1 The Customary System

Customary Units of Length

- Inches (in.)
- Feet (ft)
- Yards (yd)
- Miles (mi)

Weight is the heaviness of an object or person.

Weight is the gravitational force required to support an object against the pull of gravity.

Customary Units of Weight

- Ounces (oz)
- Pounds (lb)
- Tons (T)

Capacity is the volume of a container given in units of liquid measure.

Volume is the measure of the interior space of a three-dimensional figure.

Customary Units of Capacity

- **Fluid ounces** (fl oz)
- Cups (c)
- Pints (pt)
- Quarts (qt)
- Gallons (**gal**)

1

Choose the most reasonable customary unit of length to measure each item.

Length of laptop	Inches or feet
Distance between cities	Miles
Height of a ceiling	Feet or yards

2

Choose the most reasonable customary unit of capacity to measure the capacity of each item.

Coffee mug	Fluid ounces or cups
Perfume bottle	Fluid ounces
Swimming pool	Gallons

3

Choose the most reasonable customary unit of weight to measure each item.

A remote control	Ounces
An elephant	Tons
Box of books	Pounds

NAME _____

Module 12 **Attributes and Tools**
Lesson 1 **Measurement Systems**

Subtopic 2 **The Metric System**

Metric Units of Length

Kilometer (1,000 meters)

Hectometer (100 meters)

Dekameter (10 meters)

Meter

Decimeter (0.1 meters)

Centimeter (0.01 meters)

Millimeter (0.001 meters)

Mass

- Measures the amount of matter in an object
- Constant at any place or time
- Independent of any external force

Weight

- The force required to support an object against the pull of gravity
- Is measured using a scale

Metric Units of Mass

Kilogram (kg) (1,000 g)

Hectogram (hg) (100 g)

Dekagram (dag) (10 g)

Gram (g)

Decigram (dg) (0.1 g)

Centigram (cg) (0.01 g)

Milligram (mg) (0.001 g)

Metric Units of Capacity

Kiloliter (kL) (1,000L)

Hectoliter (hL) (100L)

Dekaliter (daL) (10L)

Liter (L)

Deciliter (dL) (0.1L)

Centiliter (cL) (0.01L)

Milliliter (mL) (0.001L)

4 Solve.

- A kiloliter contains how many liters? **1,000 liters**
- A milligram is what fraction of a gram? **$\frac{1}{1,000}$ gram**
- A centimeter is what fraction of a meter? **$\frac{1}{100}$ meter**

5 Choose the metric unit that is most reasonable for measuring each item.

- Height of a building
km or m? **m**
- Mass of a slice of cheese
g or kg? **g**
- Capacity of a juice glass
mL or L? **mL**

6 Choose the metric unit that is most reasonable for measuring each item.

- Mass of motorcycle
g or kg? **kg**
- Length of grain of rice
m or mm? **mm**
- Capacity of aquarium
mL or L? **L**