

Metric Mastery

Estimation
Measurement
Conversion

<http://store.soinc.org/p-37-problem-solvingtechnology-cd.aspx>

<http://www.sciencenc.com/event-help/examples/MetricMasteryMeasurementMania/Metric%20Mastery%20Sample%20Test.pdf>

Part I

- Estimate lengths of different items such as
- Boxes, ropes, straw etc.
- Estimate area of circles, triangle, volume of rectangular prism, or volumes of spheres.
- Estimate angles
- Estimate mass (Estimate the mass of 100 nickels using the 5 nickel provided).
- Estimate how many ml of water the container holds (can, cup)

Part II

- Exact measurement (tools will be supplied)
- For all the previous stations.

Part III

- Conversion within the same system

Measurements

U.S. Measurement Units

in. = inch

ft = foot

min = minute

sec = second

gal = gallon

yd = yard

pt = pint

oz = ounce

c = cup

mi = mile

hr = hour

lb = pound

qt = quart

T = ton

Part III

Metric Units

mm = millimeter

cm = centimeter

km = kilometer

m = meter

mL = milliliter

cL = centiliter

L = liter

kL = kiloliter

mg = milligram

cg = centigram

g = gram

kg = kilogram

Part III

U.S. AND METRIC CONVERSIONS

U.S.

$$12 \text{ in.} = 1 \text{ ft}$$

$$1760 \text{ yd} = 1 \text{ mi}$$

$$2 \text{ c} = 1 \text{ pt}$$

$$4 \text{ qt} = 1 \text{ gal}$$

$$2000 \text{ lb} = 1 \text{ T}$$

$$3 \text{ ft} = 1 \text{ yd}$$

$$5280 \text{ ft} = 1 \text{ mi}$$

$$1 \text{ c} = 8 \text{ oz}$$

$$2 \text{ pt} = 1 \text{ qt}$$

$$16 \text{ oz} = 1 \text{ lb}$$

Metric

$$1000 \text{ mm} = 1 \text{ m}$$

$$1000 \text{ m} = 1 \text{ km}$$

$$1000 \text{ mL} = 1 \text{ L}$$

$$1000 \text{ mg} = 1 \text{ g}$$

$$0.001 \text{ m} = 1 \text{ mm}$$

$$0.001 \text{ g} = 1 \text{ mg}$$

$$0.001 \text{ L} = 1 \text{ mL}$$

$$100 \text{ cm} = 1 \text{ m}$$

$$100 \text{ cL} = 1 \text{ L}$$

$$100 \text{ cg} = 1 \text{ g}$$

$$1000 \text{ g} = 1 \text{ kg}$$

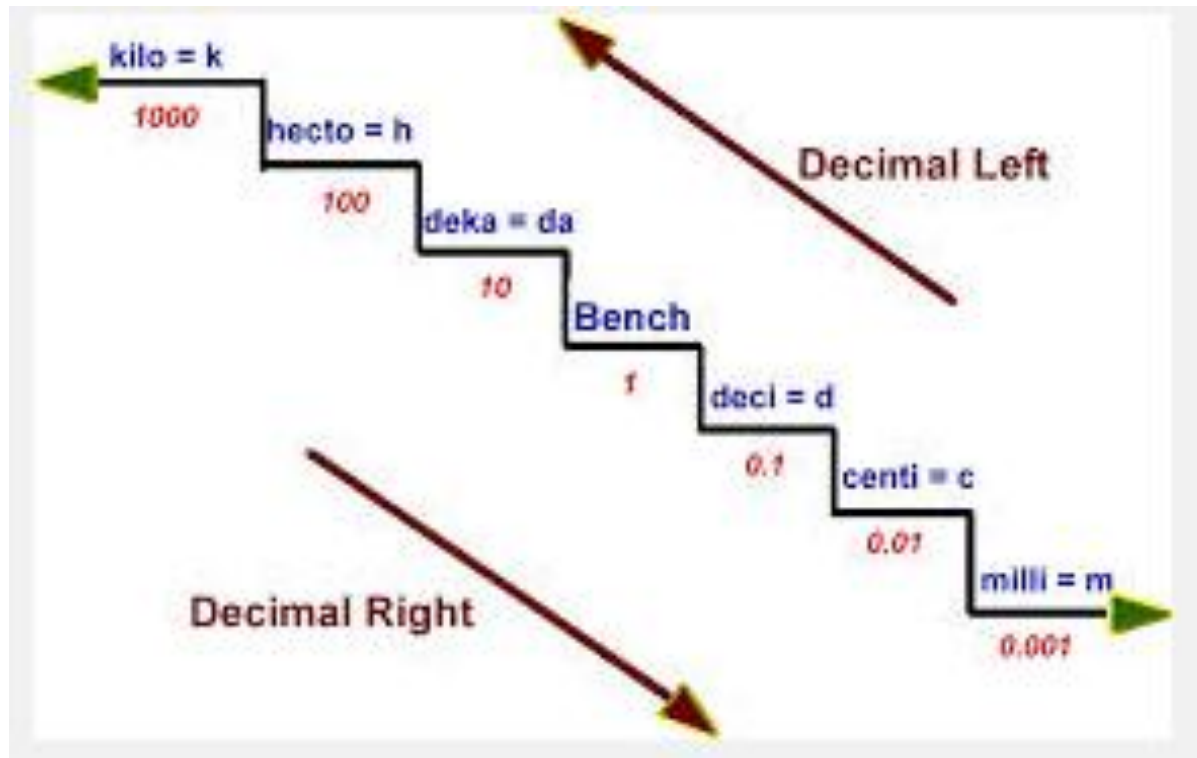
$$0.01 \text{ m} = 1 \text{ cm}$$

$$0.01 \text{ g} = 1 \text{ cg}$$

$$0.01 \text{ L} = 1 \text{ cL}$$

Metric Staircase

Fill in the missing units.



Converting Meters and Centimeters (B)

$1 \text{ m} = 100 \text{ cm}$	$1 \text{ cm} = 0.01 \text{ m}$
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$1.76 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$473 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$

$345 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$

$25 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$

$4.55 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$193 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$

$270 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$

$0.02 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$2.72 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$0.44 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$239 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$

$3.66 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

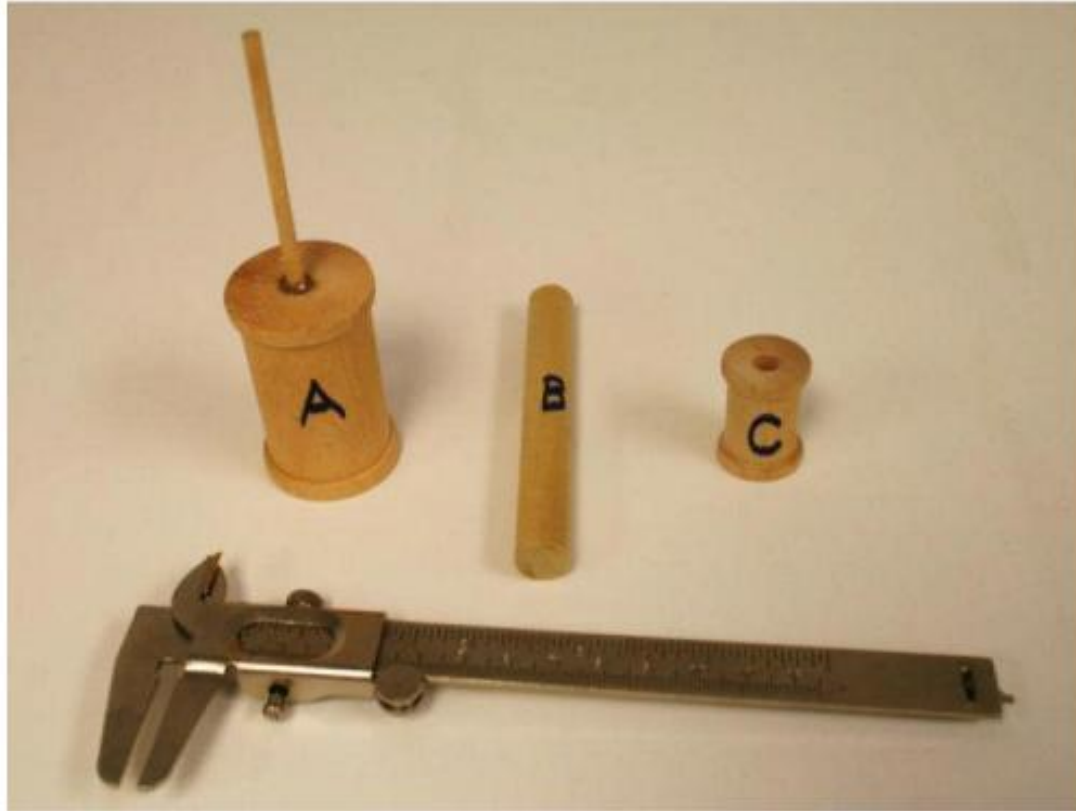
$3.47 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$4.64 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

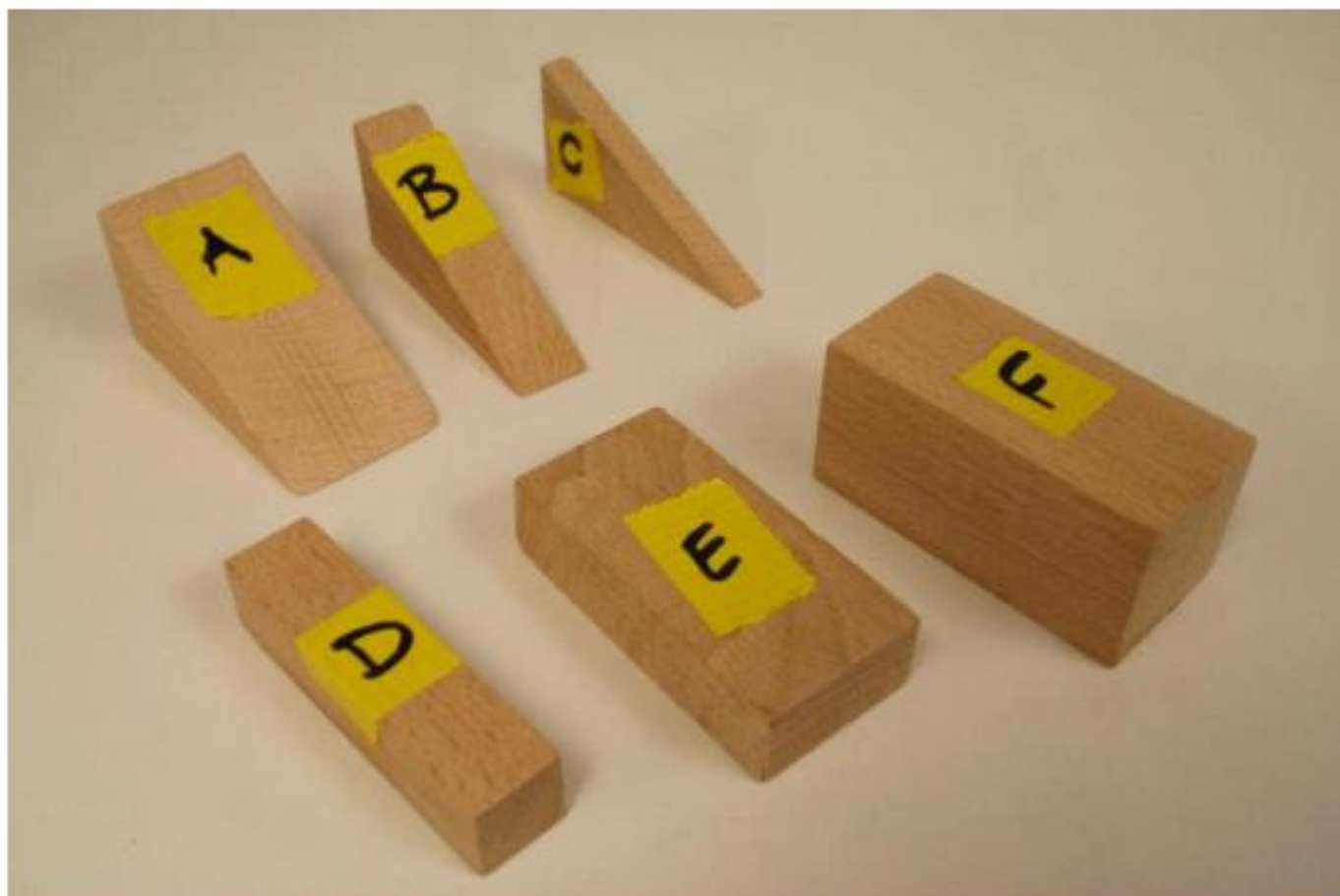
$295 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$



9. Which object has a greater volume, the rock or the fishing weight?



- . What is the diameter of part A in mm?
- . What is the radius of part B in mm?
- . What is the circumference of part C in mm?



How many liters of dark soda are there total?

How many mL of light soda are there total?

If you subtract the light soda from the dark soda, what is left in mL?

