



Name _____

Date _____

Come for assistance and cheerful encouragement after school
Tues, Thurs, every day at lunch

ANSWERS

#1

Step One: Underline the lonely unit (the unit that is not paired with another unit). Circle pairs of units. Draw a box around the unit the answer should be in.

If a beachcomber finds a copper coin that contains 8.0×10^{22} atoms of copper, what is the volume of the coin? Assume that 255 atoms of copper have a mass of 2.69×10^{-20} grams. Also assume that the density of copper is 8.98 grams per mL.

Step Two: Solve below using dimensional analysis. Choose words before numbers.

$$8.0 \times 10^{22} \text{ atoms} \times \left(\frac{2.69 \times 10^{-20} \text{ grams}}{255 \text{ atoms}} \right) \left(\frac{1 \text{ mL}}{8.98 \text{ grams}} \right) = 0.94 \text{ mL}$$

#2

Step One: Underline the lonely unit (the unit that is not paired with another unit). Circle pairs of units. Draw a box around the unit the answer should be in.

If a beachcomber finds a copper coin with a volume of 66.0 mL, how many atoms of copper did the beachcomber find? Assume that 255 atoms of copper have a mass of 2.69×10^{-20} grams. Also assume that the density of copper is 8.98 grams per mL.

Step Two: Solve below using dimensional analysis. Choose words before numbers.

$$66.0 \text{ mL} \times \left(\frac{8.98 \text{ grams}}{1 \text{ mL}} \right) \left(\frac{255 \text{ atoms}}{2.69 \times 10^{-20} \text{ grams}} \right) = 5.62 \times 10^{24} \text{ atoms}$$

#3

Step One: Underline the lonely unit (the unit that is not paired with another unit). Circle pairs of units. Draw a box around the unit the answer should be in.

If the density of iron is 7.87 grams per 1 mL, find the mass in grams of 22.03 liters of iron.

Step Two: Solve below using dimensional analysis. Choose words before numbers.

$$22.03 \text{ L} \times \left(\frac{1000 \text{ mL}}{1 \text{ L}} \right) \left(\frac{7.87 \text{ g}}{1 \text{ mL}} \right) = 173000 \text{ grams}$$

#4

Step One: Underline the lonely unit (the unit that is not paired with another unit). Circle pairs of units. Draw a box around the unit the answer should be in.

If a beachcomber finds one copper penny every 355 minutes, and copper pennies have a mass of 2.48 grams, how many grams of copper will the beachcomber find in 7.25 hours?

Step Two: Solve below using dimensional analysis. Choose words before numbers.

$$7.25 \text{ hours} \times \left(\frac{60 \text{ min}}{1 \text{ hrs}} \right) \left(\frac{1 \text{ penny}}{355 \text{ min}} \right) \left(\frac{2.48 \text{ grams}}{1 \text{ penny}} \right) = 3.04 \text{ grams}$$

ANSWER
3.04 grams