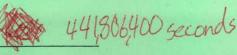
## More Conversions Worksheet

Key

Use Dimensional Analysis to solve the following problems.

1. How many seconds old is a 14 year old student?



2. How many miles in a 5 km race? 3.125 mi

3. How many kilometers in a 26 mi marathon? 46 km

4. A person's weight is 154 pounds. Convert this to kilograms. (1 lbs. = 454 grams)

5. An aspirin tablet contains 325 mg of acetaminophen. How many grains is this equivalent to? (1 gram = 15.432 grains)

6. Uncommon Conversions. Solve using the conversion factors that are listed in the table below.

Table of Weights and Measures			
Length	Area	Volume	
1 nautical mile = 6076.11549 feet 1 inch = 2.54 cm 1 league = 5 280 yards 1 cable = 120 fathoms 1 fathom = 6 feet 1 degree = 69.047 miles 1 mile = 5280 feet	1 township = 36 square miles *Derive your area conversion factors by working with length and squaring all dimensions. Ex.  12 <sup>2</sup> inch <sup>2</sup> = 1 <sup>2</sup> foot <sup>2</sup> or 144 square inch = 1 square	4 gills = 1 pint 2 pints = 1 quart 1 liter = 1.0567 quarts 1 bushel = 4 pecks = 32 quarts 1 gallon = 4 quarts	

a. Your cruise ship is leaving for a 610-league adventure. How many nautical miles is this?

610 leagues x 5280 yds x 3ft. x 1 n.m. 6076.11549 + -[1590.226522 noutrical miles]

b. Later the ship sinks and is discovered at 38 fathoms deep under water. Convert this to meters.

38 Follows  $\times$  6ft  $\times$  12in  $\times$  264cm  $\times$  1m = [69,4944 meters]

More conversions (green) edited 8/26/2013

Physics

	_	If you are rationed to 32 gills of fresh water a day. How many liters is this?
	C.	If you are fationed to 52 gms of fresh water a day, 11
		32 gills × Ipint × Iquart × 1 liter = 3.79 liters
	d.	The island has an area of 3.5 townships. How many square yards is this? (Please use scientific notation.)
		3.5 townships x 36 mil x 5290ft x 120 x 1xd = 3.90 x 108 yd2
	e.	To reach the top of a palm tree for a coconut you will have to climb 7.4 meters. How many hands is this?
		7.4 mx 100cm x 1 in x 1 hard = 72.83 hards
	f.	The island is rich with hot chile peppers. You can collect 1.6 pecks a day. How many liters could
		you collect in 1 week?    1   1   1   1   1   1   1   1   1
		week x 7days x 1.6 pecks 32 quarts 11iter = 184.79 liters
	g.	Each liter of air has a mass of 1.80 grams. How many liters of air are contained in 2.5 x10 kg of air?
		2.5x103kg x 1000g x Viter = 1.59x1062
Mu	ıltip	ole conversions
	7.	16.0 grams of food contain 130 calories. How many grams of food would you need in order to consume 2150 calories?
		2150 calories × 16.0 grams = 264, 6 grams.
	8.	The cost of 1.00 Liters of gas is 96.9 cents. How many dollars will 12.0 gallons cost?
		12.0 gallons x 4 quarts x 11 iter x 96.9 \$ = \$44.02
	9.	Light travels 186 000 miles / second. How long is a light year in meters? (1 light year is the distance
		light travels in one year)
		light travels in one year)    year x 365.25 days x 14 hours x 3600 sec x 186000 mi x 16 km x 1000 m
	10	1 mole of Si atoms contains 6.02 x10 <sup>23</sup> atoms. 6.02 x10 <sup>23</sup> atoms of Si have a mass of 28.1 g. How many atoms of Si are contained in a computer chip that masses 38.02-mg?
		38.02 mg x 19 x 6.02×102 atoms = 8.145×1020 atoms

More conversions (green)

Physics

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