

WS 2.3 Unit Conversions and the Metric System!

Name: _____ *p.* _____

<u>Metric Prefix</u>	<u>Symbol</u>	<u>Meaning</u>
Mega-	M	_____
kilo-	k	_____
deci-	d	_____
centi-	c	_____
milli-	m	_____
micro-	μ	_____
nano-	n	_____

Other Conversions

- 1 inch = 2.54 cm (exactly)
- 1 foot = 12 inches (exactly)
- 1 hour = 60 minutes (exactly)
- 1 minute = 60 seconds (exactly)
- 1 mile = 5280. feet
- 1 mile = 1.61 km
- 1 pound = 453.6 grams
- 1 mL = 1 cm³ (exactly)

YOU MUST SHOW ALL UNIT FACTORS TO RECEIVE CREDIT!!!

1. Fill out the above chart!

2. Make the following conversions:

a. 500. milligrams (mg) to grams (g)

b. 40 kilometers (km) to meters (m)

c. 2450 micrograms (μ g) to grams

d. 0.0444 meters (m) to nanometers (nm)

3. Make the following conversions:

a. 0.0023 MegaWatts (MW) into microWatts (μ W)

b. 62.3 millimeters(mm) to centimeters(cm)

c. 0.33 nanometers into centimeters

d. 0.33 nanograms to kilograms

4. A piece of paper has an area of 93.5 square inches.

a. Convert this area into square feet:

b. Convert this area into square centimeters:

5. Convert a volume of 43700 cm^3 into cubic feet.

6a. Iron has a density of $7.86 \text{ grams per cm}^3 \text{ (g/cm}^3\text{)}$
Convert this density into pounds per cubic foot. (lbs/ft^3)

b. A car is moving at a speed of $1400 \text{ meters per minute}$. Convert this speed to miles per hour.

c. A drug is being administered by IV at a rate of $85.0 \text{ micrograms per hour (}\mu\text{g/hr)}$.
Convert this into milligrams per day (mg/day).

d. A quilt is being made at a rate of $4.0 \text{ square inches per hour. (in}^2\text{/hr)}$.
Convert this rate into square centimeters per minute ($\text{cm}^2\text{/min}$)

7. Make the following conversions.

(a) 0.0567 meters to inches

(b) 27.2 inches to millimeters

(c) 0.0015 pounds to milligrams

(d) 899 mm into feet

(e) 0.0041 kilograms into milligrams

(f) 3.58 miles into meters