

## Scientific Notation and Unit Prefixes

Make the following conversions:

- 1) 3.4 liters to milliliters
- 2) 876 millimeters to meters
- 3) 78,999 milligrams to grams
- 4) 0.9 centigrams to grams
- 5) 112 meters to millimeters
- 6) 45 meters to centimeters
- 7) 11.7 grams to kilograms
- 8) 0.0009 kiloliters to liters
- 9) 44 centimeters to meters
- 10) 277 kilograms to grams

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Convert the following to scientific notation:

- 11) 45,700 \_\_\_\_\_
- 12) 0.009 \_\_\_\_\_
- 13) 23 \_\_\_\_\_
- 14) 0.9 \_\_\_\_\_
- 15) 24,212,000 \_\_\_\_\_
- 16) 0.000665 \_\_\_\_\_

Name: \_\_\_\_\_  
Hour: \_\_\_\_\_ Date: \_\_\_\_\_

### Physics: Scientific Notation

**Part A:** Express each of the following in standard form.

- $5.2 \times 10^3$
- $9.65 \times 10^{-4}$
- $8.5 \times 10^{-2}$
- $2.71 \times 10^4$
- $3.6 \times 10^1$
- $6.452 \times 10^2$
- $8.77 \times 10^{-1}$
- $6.4 \times 10^{-3}$

**Part B:** Express each of the following in scientific notation.

- 78,000
- 0.00053
- 250
- 2,687
- 16
- 0.0043
- 0.875
- 0.012654

**Part C:** Compute the following.

- $(6.02 \times 10^{23})(8.65 \times 10^4)$
- $(6.02 \times 10^{23})(9.63 \times 10^{-2})$
- $\frac{5.6 \times 10^{-18}}{8.9 \times 10^8}$
- $(-4.12 \times 10^{-4})(7.33 \times 10^{12})$
- $\frac{1.0 \times 10^{-14}}{4.2 \times 10^{-6}}$
- $\frac{7.85 \times 10^{26}}{6.02 \times 10^{23}}$
- $(-3.2 \times 10^{-7})(-8.6 \times 10^{-9})$
- $\frac{(5.4 \times 10^4)(2.2 \times 10^7)}{4.5 \times 10^5}$
- $\frac{(6.02 \times 10^{23})(-1.42 \times 10^{-15})}{6.54 \times 10^{-6}}$
- $\frac{(6.02 \times 10^{23})(-5.11 \times 10^{-27})}{-8.23 \times 10^5}$
- $\frac{(3.1 \times 10^{14})(4.4 \times 10^{-12})}{-6.6 \times 10^{-14}}$
- $\frac{(8.2 \times 10^{-3})(-7.9 \times 10^7)}{7.3 \times 10^{-16}}$
- $\frac{(-1.6 \times 10^5)(-2.4 \times 10^{15})}{8.9 \times 10^3}$
- $(7.0 \times 10^{28})(-3.2 \times 10^{-20})(-6.4 \times 10^{35})$