

CHEMISTRY 11 – UNIT 2 QUIZ

NAME:
BLOCK:

1. How many significant figures do each of the following numbers have?
Write each number in scientific notation.

a) 0.004210 s.f. 4
 4.210×10^{-3}

c) 83000 s.f. 2
 8.3×10^4

b) 658.0 s.f. 4
 6.580×10^2

d) 0.000401 s.f. 3
 4.01×10^{-4}

2. Perform the following operations and round off to the correct number of significant figures. Assume all numbers are measurements. (1 mark each)

a) $3.642 + 11.56$

a) 15.20

b) $(2.14 \times 10^3) - (3.12 \times 10^2)$
$$\begin{array}{r} 2140 \\ - 312 \\ \hline 1828 \end{array}$$

b) 1830

c) 82.413×9.1

c) $749.9583 = 750$

d) $(1.5 \times 10^{-1}) \div (1.63 \times 10^{-3})$

d) 92

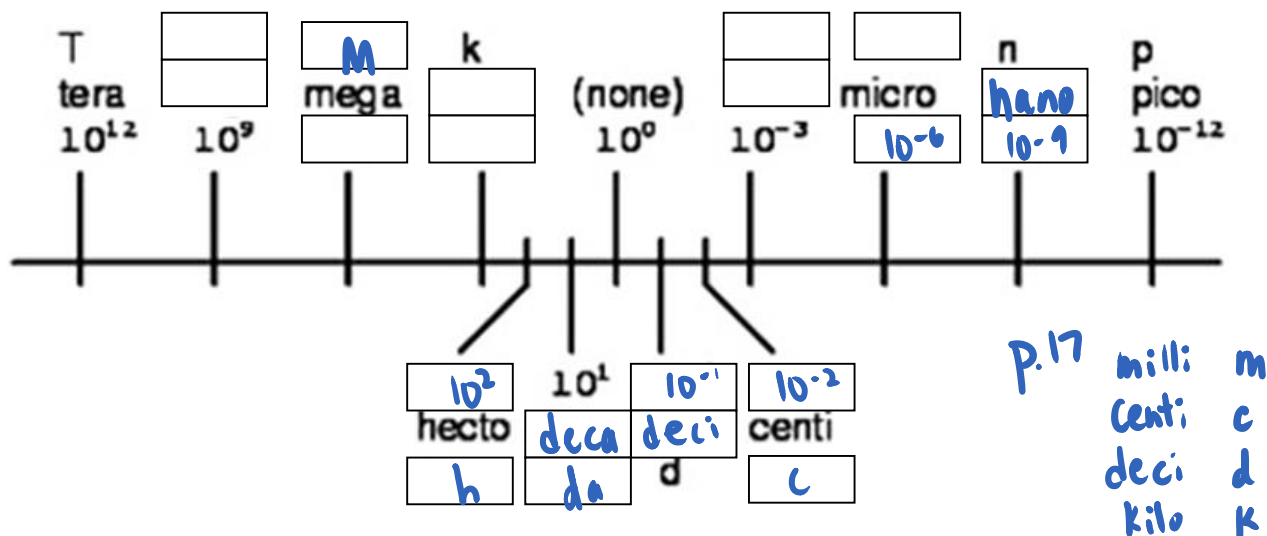
e) $\frac{(8.25)(21.2)}{(159)(1.10)}$

e) 1.00

f) $\frac{(2.56 \times 10^{-3}) + (8.1 \times 10^{-5})}{(5.21 \times 10^6)}$
$$\begin{array}{r} 0.00256 \\ + 0.000081 \\ \hline 0.002641 \end{array}$$

f) 5.07×10^{-10}

3. Fill in the boxes below with the appropriate prefix, symbol or exponential equivalent. Tera and pico are done as examples for you.



4. Convert the following:

a) 5 μg into g

$$5 \mu\text{g} \times \frac{10^{-6} \text{g}}{1 \mu\text{g}} = 5 \times 10^{-6} \text{g} \text{ or } 0.000005 \text{g}$$

b) 33500 m into km

$$33500 \text{m} \times \frac{1 \text{km}}{10^3 \text{m}} = 33.5 \text{km}$$

c) 1.6 cL into ML

$$1.6 \text{cL} \times \frac{10^{-2} \text{L}}{1 \text{cL}} \times \frac{1 \text{ML}}{10^6 \text{L}} = 1.6 \times 10^{-8} \text{ML}$$

0.000000016 ML

d) 6.9 cg/mL into dg/L

$$\frac{6.9 \text{cg}}{\text{mL}} \times \frac{10^{-2} \text{g}}{1 \text{cg}} \times \frac{1 \text{dg}}{10^{-1} \text{g}} \times \frac{1 \text{mL}}{10^{-3} \text{L}} = \frac{690 \text{dg}}{\text{L}} \text{ or } \frac{6.9 \times 10^2 \text{dg}}{\text{L}}$$

e) 8.75 m³ into cm³

$$8.75 \text{m}^3 \times \left(\frac{1 \text{cm}}{10^{-2} \text{m}} \right)^3 = 8.75 \times 10^6 \text{cm}^3$$

Essential Learning Goal	Question #	I'm a star! ★	I've got it ☺	I'm almost there...	I'll keep working on it
Count sig figs	1				
Use scientific notation	1				
Multiply/divide sig figs	2 c,d				
Add/subtract sig figs (with exponents)	2 a, b				
Multiple step sig fig calculations	2 e, f				
Prefixes and exponential equivalents	3				
Do metric conversions	4				
Multiple metric conversions	4 c-e				

What's Working

What's Not

What's Next