

Name: _____
Hour: _____ Date: _____

Chemistry: *Unit 1 Review*

Directions: Complete the following questions using your notes and previous homework to help. Show all your work and include units, when necessary. Write in complete sentences, when necessary.

1. List three safety rules you feel are the most important rules for laboratory work.
2. List three items of information you can find on an MSDS sheet.
3. Explain the difference between acute and chronic chemical exposure. Provide an example of each.
4. Describe each step in the scientific method.
5. Compare and contrast qualitative and quantitative observations.
6. Provide three major differences between a scientific law and a scientific theory.
7. Write the four important parts of a graph.
8. Express in standard form. Express in scientific notation.
 1. 5.2×10^3 4. 780000
 2. 9.65×10^{-4} 5. 0.00000422
 3. 8.5×10^{-2} 6. 10000000

9. Examine the following data and make a graph on a separate sheet of paper.

Plant Height (cm)	Time (Weeks)
0	0
0.7	1
1.3	2
2.5	3
3.0	4
3.7	5
4.4	6
5.1	7
5.8	8
6.6	9

How tall was the plant at 2.5 weeks? 7.5 weeks?

How tall will the plant be at 10 weeks?

How many weeks had passed when was the plant 4.0cm tall?

10. Use the exponent function on your calculator to compute the following.

1. $(4.1 \times 10^{23}) (8.0 \times 10^3)$

5. $(3.2 \times 10^4) / (6.8 \times 10^3)$

2. $(3.6 \times 10^4) (13)$

6. $(4.6 \times 10^3) / (9.8)$

3. $(4.0 \times 10^{-3}) (145)$

7. $(298) / (2.7 \times 10^{-2})$

4. $(7.9 \times 10^5) (3.1 \times 10^{-8})$

8. $(5.6 \times 10^{-9}) / (3.3 \times 10^6)$

11. Complete the following calculations. Include units on your answers.

1. $\frac{(135 \text{ km})}{(3.5 \text{ h})}$

4. $\frac{(9.7 \text{ kg})}{(0.45 \text{ m} \times 0.55 \text{ m} \times 4.2 \text{ m})}$

2. $(7.2 \text{ cm}) (4.1 \text{ cm})$

5. $0.42 \text{ mm} \times 0.97 \text{ mm} \times 0.51 \text{ mm}$

3. $\frac{(5.2 \text{ kg})}{(0.7 \text{ L})}$

6. $\frac{(75 \text{ kg}) (5.0 \text{ m})}{(2.5 \text{ s}) (6.0 \text{ s})}$

12. Complete the following conversions.

1. 254.3 mm to m

4. 0.952kg to g

2. 5.68mL to kL

5. 7.18 kg/m^3 to mg/cm^3

3. How many watzits are needed for 96widgets to be used? (1system = 12 widgets = 48 watzits)

13. Explain the Law of Conservation of Mass.