Concentration Worksheet ALL TYPES

Concentration is a measurement of the amount of solute dissolved in a certain amount of solution. Various units can be used to express concentration. They include:

- g/L: grams of solute per litre of solution
- % (m/V): grams of solute per 100mL of solution
- % (V/V): mL of solute per 100mL of solution
- % (m/m): grams of solute per 100g of solution
- ppm : 1 mg of solute per 1L of solution

Some basic conversions:
1 L = 1000 mL
1 kg = 1000 g
1 g = 1000 mg

Convert the following amounts to equivalent measures:

1. 8 g of solute in 1.5 L solution
    a. _____ g/L
    b. _____ % (m/V)
    c. _____ ppm

2. 50 g of solute in 2000 mL of solution
    a. _____ g/L
    b. _____ % (m/V)
    c. _____ ppm

3. 300 mL of solute in 2 L of solution.
    a. _____ % (V/V)

4. 40 g of solute in 500 g of solution
    a. _____ % (m/m)

5. A laboratory technician needs to prepare 450mL of a 15 % (m/v**)** NaCl solution. What amount of solute will be required?

6. The following solutions were found in a school laboratory. Jason was asked to organize them in ascending order of concentration. What should the final order be?

5 g/L **4 % (m/v)** **200 ppm** **2g/100mL**