Solutions Pre Quiz

1. Convert the following units to %.

55 g/L	33 ppm	42 mg/L
$\frac{55}{1000mL} = \frac{x}{100\,mL}$	$\frac{33}{1000\,000mL} = \frac{x}{100mL}$	$\frac{.042}{1000mL} = \frac{x}{100}$
(5.5%)	(.0033%)	(.0042%)

2. Convert the following units to ppm.

44 g/L	2 %	150 mg/L
$\frac{44}{1000} = \frac{x}{1\,000\,000}$	$\frac{2}{100} = \frac{x}{1\,000\,000}$	$\frac{.15}{1000} = \frac{x}{1\,000\,000}$
(44 000 ppm)	(20 000 ppm)	(150 ppm)

3. Put the following concentrations in order from weakest to strongest.

A- 5%	B- 450 g/L	C- 0.003 ppm	D- 15 mg/L
$\frac{5}{100} = \frac{x}{1000000}$	$\frac{450}{1000} = \frac{x}{100000}$	(.003ppm)	(15 ppm)
(50 000 ppm)	(450 000 ppm)		

Order __C – D – A–B__

4. You want to make a glass of chocolate milk. You dissolve 35 g of powder in 500 mL of milk. What is the concentration in g/L?

$$\frac{35}{500} = \frac{x}{1000} = (70g)$$

5. You test the quality of drinking water in your house by taking 350 mL sample and you find it contains 900 mg of contaminant. What is the concentration of the contaminant in %?

$$\frac{.9}{350} = \frac{x}{100} = \boxed{0.26\%}$$

6. You decide to see if 2 different fish aquariums have too much blue algae. Anything above 0.009 ppm is considered a lethal quantity to the fish. You test the water in each aquarium and find the following results:

   Aquarium 1 has 0.001 g/L of contaminant in the water
   Aquarium 2 has 1.9 % of contaminant in the water

   Determine if either aquarium has too much contaminant.

Aquarium 1	Aquarium 2
$\dfrac{.001}{1000} = \dfrac{x}{1000\,000}$ 1 ppm Too high	$\dfrac{1.9}{100} = \dfrac{x}{1000000}$ 19 000 ppm Too high

Lethal = .009 ppm