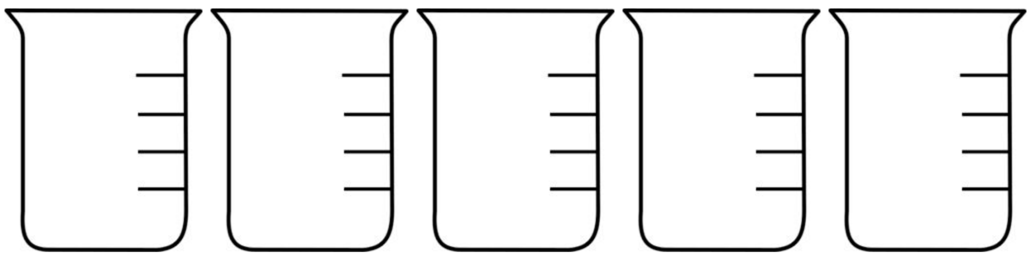
Name: ________________________ Pattern: ________ Date: ______________________

Calculating and Comparing Concentrations

1. In your own words, define <u>concentration</u> of a solution: ______________________
____
____

2. Colour the beakers below to show a change in concentration from <u>dilute</u> to <u>concentrated</u>. (use pencil crayon)



Dilute **Concentrated**

3. Identify the <u>solute</u> and <u>solvent</u> in each example below.

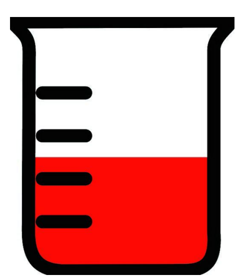
Solution	Hot Chocolate 	Ocean Water 	Orange Crush 
Solute			
Solvent			

4. Which beaker has a higher concentration?

Beaker A:

10g of solute in 25 mL of water

OR



Beaker B:

25 g of solute in 65 mL of water

Name: ______________________ Pattern: ________ Date: ____________________

5. Calculate the concentration of each solution below. **Please show your work and include the proper units.**

Concentration = <u>Mass (g)</u>
Volume (mL)

10 g of chocolate in 50 mL of water	**3 g of sugar in 300 mL of water**	**5 g of maple syrup in 25 mL of water**
C = ________g mL		
C = __________ g/mL		

Mixtures and Solutions

A R N X C O P D R M S W O W Q N W J I S N W B B

K M E I D I E C E B L R M D B O M Q U P M J Y M

B Q E N E S E C T A H L T M N J T K N R J G K U

P D S L I W F C A S S O S M N V L F V E G W V T

N P Q O B A Q A W Z U T V E H K H Q V A U W S U

E B K T L I R R N S G B N L I F O D H D L G P B

Q G X W L U S T P L C I S E A T N H M S V E Z B

G Q F Q L A T I S O Z I W T C R I N V T A N O I

I G U B K P S E V F I K S R A W V T E N Z W Y C

K Y C G Q I Z E T N S I V M Y N A V N K J D Y E

K I M Z J R D S Z N I Q R T E C C K H E O D B C

H D T M P A O R V E E H H I F O F E T M D E G R

W Q F P N L R B H V J V B D D N A S S B Q I C E

R K B O U R P I J E M A L T F Z U Q H W A V Y A

E U M T X D K Q Y N V U Z O V E M K I S C R O M

H E I K O A T E D L U H U K S Z Y X N L Y V F Y

L O E D U G G E E Y S M O T Y W J E Q Z M F F G

N I T X E E J L N E S E I T R E P O R P R V N F

B J T O N C W J P G I F K H T R Q Y V S A T P B

Q C P H A I Z A J U A B Y A Z Y S D D G G R N S

T I P K S N R O R J O M S Q J A B R C E U F U U

W J N E Q A L A H J T S Z E R U T X I M S F K K

T V K F T E Y K W L F S E A Z N L G R M S G B F

S V A E L G K X E U U P O S E V L O S S I D Y J

sand	substances	solvent	separate
properties	lemonade	icecream	water
strainer	invisible	evenly	sugar
spreads	solute	salt	magnet
identities	dissolves	solution	mixture

Concentration worksheet
Show all work and use the correct units

1. 65 g of sugar is dissolved in 750ml of water what is the concentration of the solution?

2. Which is more concentrated 34 g of salt dissolved in 100 ml of water or 100 g of salt in 1500 ml of water?

3. If the solubility of salt in water was determined to be .5 g/ml would a solution that had 50 g of salt in 150 ml of water be considered saturated?

4. The solubility of sodium nitrate in water is .8 g/ml at 0 degrees Celsius. The solubility increases to 1.9 g/ml at 180 degrees Celsius. Explain why this happens.

5. If the concentration of a solution is determined to be .27 g/ml and it was dissolved in 200 ml of solvent how much solute was used to make it?

6. If the concentration of sugar in water is determined to be .45 g/ml and 100 g of sugar was used to make the solution how much water was used?

7. Why does pop go flat at room temperature more easily than in the refrigerator?

8. What is the difference between a mixture and a compound?

9. How are the 3 types of mixtures different?

10. Sand is insoluble in water. If you have 50g of sand how much water would you need to dissolve it?