

Solutions Webquest

Start by going to The Solutions Home Page and follow the instructions there!

Step One

- 1.) What are the two parts of a solution?
- 2.) Define a solute:
- 3.) Define solvent:
- 4.) In chemistry, the solvent is usually the _____ of the two and the solute is usually the _____ of the two.
- 5.) How many solutes can a solution have?
- 6.) How many solvents can a solution have?
- 7.) What does a solution concentration measure?
- 8.) Concentrated solutions have a _____ amount of solute.
- 9.) Diluted solutions have a _____ amount of solute.
- 10.) What does solution saturation compare?:
- 12.) Describe an unsaturated solution:
- 13.) Describe a saturated solution:
- 14.) What happens when you add more solute to an unsaturated solution?
- 15.) What happens when you add more solute to a saturated solution?
- 16.) What is the difference between a saturated solution and a super-saturated solution:

- 17.) Explain the process of making a super-saturated solution:
- 18.) Why is water called a “universal solvent”?
- 19.) What makes water so good at dissolving other things?
- 20.) Solutions that have water as the solvent are called _____ solutions, while solutions that have alcohol as the solvent are called _____.
- 21.) What does miscible refer to?
- 22.) Give two examples of miscible liquids:
- 23.) The “solubility” of a substance tells what about it?
- 24.) What two factors affect solubility the most?
- 25.) What does the rate of solution tell you?
- 26.) Which of the following would be the solute...80% Nitrogen, 20% Oxygen?
- 27.) A solution that contains ions is a _____ of electricity.
- 28.) A solution with no ions is a _____.
- 29.) What is the difference between dissociation and ionization?
- 30.) What is the difference between a suspension and a colloid?

**Go Back To The Solutions Home Page
Go To Step Two**

1.) The concentration of a solution...

...is a...

...represents...

...can be...

2.) What is the difference between DILUTE and CONCENTRATED?

3.) Define Unsaturated:

4.) Define Saturated:

5.) Define Solubility:

6.) There are a _____ of ways to express the relative amounts of solute and solvent in solution.

7.) List four ways to express concentration:

- | | |
|----|----|
| 1. | 3. |
| 2. | 4. |

8.) What TWO things must you have to compute the following...

- | | | |
|--------------------|-------|-------|
| 1.) % Composition: | _____ | _____ |
| 2.) Molarity | _____ | _____ |
| 3.) Molality | _____ | _____ |
| 4.) Mole Fraction | _____ | _____ |

9.) Does temperature affect the following computations?

- | | |
|--------------------|-------|
| 1.) % Composition: | _____ |
| 2.) Molarity | _____ |
| 3.) Molality | _____ |
| 4.) Mole Fraction | _____ |

10.) What is the difference between MOLARITY and MOLALITY?

**Go Back To The Solutions Home Page
Go To Step Three**

1.) Concentration generally refers to the amount of _____ contained in a certain amount of _____.

2.) Why is it important to be able to calculate and express the concentrations of solutions?

3.) What three ways can concentrations be calculated?

1.)

2.)

3.)

**Go Back To The Solutions Home Page
(use the BACK button)**

1.) The quantitative relationship between chemical substances in a reaction is known as _____.

2.) Who pioneered this field?

3.) What does MOLALITY describe?

4.) List some differences between MOLALITY and MOLARITY.

5.) What does MOLARITY describe?

6.) What does NORMALITY describe?

**Go Back To The Solutions Home Page
Go To Step Five**

1.) What is the most common way of expressing concentrations?

2.) What is the formula for MOLARITY?

$$\boxed{} = \frac{\boxed{}}{\boxed{}}$$

3.) What is the unit that is used to describe MOLARITY?

4.) What symbol represents MOLARITY?

5.) What is the difference between MOLES and MOLARITY?

**Go Back To The Solutions Home Page
Go To Step Six**

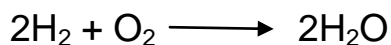
1.) When would you need to use NORMALITY?

2.) The normality of a solution is simply a _____ of the solution.

3.) In most cases the normality of a solution is just _____, _____ or _____ times the molarity.

4.) What is the symbol for NORMALITY?

5.) Using the examples shown on the webpage find the following.



a.) How many moles does each of the following have...

_____ H_2 _____ O_2 _____ H_2O

b.) What is the NORMALITY of H_2 when compared to H_2O ?

c.) What is the NORMALITY of O_2 when compared to H_2O ?

**Go Back To The Solutions Home Page
Go To Step Seven**

1.) On this webpage you will find a box that gives you problems to solve. It is your job to do 10 problems. When you solve one click the check answer to see how you did. The lower box will tally your results as you go.

$$\text{Molarity (M)} = \frac{\text{Moles Of Solute}}{\text{Liters}}$$

$$\text{Moles of Solute} = \text{Molarity} \times \text{Liters}$$

$$\text{Liters} = \frac{\text{Moles of solute}}{\text{Molarity}}$$

1.) M= Moles= L=

2.) M= Moles= L=

3.) M= Moles= L=

4.) M= Moles= L=

5.) M= Moles= L=

6.) M= Moles= L=

7.) M= Moles= L=

8.) M= Moles= L=

9.) M= Moles= L=

10.) M= Moles= L=

Number Right

Number Wrong