

Monday, February 9th, 2015



Learning Target: I can explain why a solution forms in terms of polarity and solubility.

Homework: Study for Quiz Thursday

As you enter...

What does it mean for a solute to **dissolve** in a substance? What are the particles doing as they mix?

Compound



ions



Note: Hand in Table G HW to bin

Big Idea: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.



9th period

- Solutions and Solubility Stations (30 min)
- Exit Tix (5 min)

*You do not need to hand this packet in.

*Your first two stations will be checked just before the end of the period.

Tix out the door



Write your name and **EMAIL** on the paper, please.

Why does NaCl dissolve in water?

Your response should include...

- polarity of NaCl and H_2O
- particle diagram of substances interacting

Tuesday, February 10th, 2015

**Learning Target:** I can explain why a solution forms or not.

Homework: Study for Quiz Thursday

As you enter...

Will the following combinations of substances form a solution? "like dissolves like"

1. nonpolar molecule + polar molecule No, insoluble
2. polar molecule + polar molecule Yes, soluble
3. nonpolar molecule + nonpolar molecule Yes, soluble

Big Idea: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.

8th period

- Introduce Final Project (25 min)
- Finish Stations (30 min)

9th period

- Recap Stations (10 min)
- Recap Video (15 min)
- Exit Tix (5 min)

<https://www.youtube.com/watch?v=9h2f1Bjr0p4>

As you watch this video...**FOCUS on**

- Why do different solutions form?
- How does polarity affect solubility?

**Tix out the door**

Write your name and **EMAIL** on the paper, please.

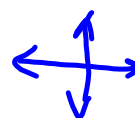
What does the phrase "like dissolves like" mean?
Give an example to support your answer.

What is polarity?

- separation of charge
- polar or nonpolar

asymmetrical

symmetrical



What is solubility? ability to dissolve

How do you know if a mixture is soluble?

..like dissolves like

"polar"	"polar"
"nonpolar"	"nonpolar"
"ionic"	"polar"

Final Project for Solutions Unit (worth test grade)

- Look over the 6 experiment options and sign your name to one that you would be most interested in exploring and presenting for your project.
- Groups will be made based on interest and max out at 4 people.
- You will have class time to perform the experiment and then you will conduct a poster presentation of your group project right after February Recess.

Before the end of the period, once you have made your decision, read over the appropriate guidelines with your group and agree on group roles with your initials.

Wednesday, February 11th, 2015



Learning Target: I can apply my understanding of polarity to predict solution formation.

Homework: Study for Quiz tomorrow

As you enter... Write out the question or rephrase it.

Identify the following molecules as **ionic**, **polar** (covalent), or **nonpolar** (covalent):

1. F_2 **Nonpolar** (covalent): 2 nonmetals, symmetrical

2. $MgCl_2$ **Ionic**

3. H_2O **Polar**

Circle the two substances most likely to form a solution.

2 nonmetals, asymmetrical

2 nonmetals, metal non.

$H-O-H$

Big Idea: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.



9th period

- Solutions, or nah?? (10 min)
- Develop Procedures for Final Project (20 min)
- Exit Tix (10 min)

--Work as a team to write out a detailed procedure for your group project. Visualize in your head how every step will be played out.

--Use your guidelines and rubric to make sure everything is included.

--Be sure to number each step.

--Be sure that every member is being held accountable for their role and that all members are participating equally.



Tix out the door

One per group...Write the names of present members on the paper.

Write a detailed list of every single piece of equipment and material that you will need to carry out your experiment tomorrow.

Thursday, February 12th, 2015



Learning Target: I can collaboratively develop a detailed procedure for my experiment.

Homework: Finish and hand in missing labs

As you enter... Write out the question or rephrase it.

Prepare for your quiz...

- You will need a calculator, a pen/pencil, and your reference tables.
- You will have 20 minutes to complete the quiz.
- *NEW QUIZ POLICY: You may retake any quiz **ONCE** during your lunch or after school.*

Big Idea: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.



8th period

- Solutions Quiz (20 min)
- Review Quiz (25 min)

9th period

- Conduct experiments (45 min)

Friday, 9th period

- 10th grade students... Black History Month Assembly
- Everyone else... Continue with project.

When you finish the quiz...

--Work as a team to write out a detailed procedure for your group project. Visualize in your head how every step will be played out.

--Use your guidelines and rubric to make sure everything is included.

--Be sure to number each step.

--Be sure that every member is being held accountable for their role and that all members are participating equally.



Tix out the door

Write your name on the paper.

Individual reflection...

1. What is the status of your experiment?
2. Did you make satisfactory progress so that you will be done with the lab part tomorrow?
3. Were you an equal contributor to your group?
4. Did you follow through on your roles and responsibilities for your team?

① 1.0 M CuSO_4 in 100 mL1. mL \rightarrow L

$$\frac{100}{1000} = 0.1 \text{ L}$$

$$2. M = \frac{\text{mol}}{\text{L}}$$

$$\frac{1.0}{1} = \frac{x}{0.1 \text{ L}}$$

$$x = 0.1 \text{ mol}$$

3. mol \rightarrow mass

$$\text{moles} = \frac{\text{mass}}{\text{gfm}}$$

$$\frac{0.1 \text{ mol}}{1} = \frac{x}{160 \text{ g/mol}}$$

$$x = 16 \text{ g CuSO}_4$$

4. Weigh 16 g CuSO_4 on a scale and add 100 mL H_2O

② Dilute to 0.5 M in 50 mL

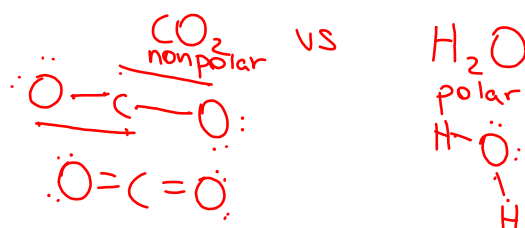
$$1. \underbrace{M_1 V_1}_{\text{stock}} = \underbrace{M_2 V_2}_{\text{dilution}}$$

$$(1.0)(x) = (0.5 \text{ M})(50 \text{ mL})$$

$$x = 25 \text{ mL stock}$$

2. Add 25 mL stock with 25 mL H_2O & stir.~~3.~~

4. Ionic, polar, or nonpolar

Ionic = metal + nonmetal
 $\text{KCl}, \text{MgCl}_2$ Polar = 2 nonmetals, (not) asymmetricalNonpolar = 2 nonmetals, symmetrical

Friday, February 13th, 2015



Learning Target : I can collaboratively perform the procedure for my experiment .

Homework: Finish and hand in missing labs

As you enter... Write out the question or rephrase it.

For your project, what does YOUR GROUP need to accomplish today and how will you do this?

What could YOU improve on from yesterday to complete your experiment today?

Big Idea: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.



9th period

- 10th grade students... Black History Month Assembly
- Everyone else... Continue with project.
- Must have detailed procedures
- Must have thorough observations
- Must record ALL data
- May want to take pictures

When you finish the quiz...

--Work as a team to write out a detailed procedure for your group project. Visualize in your head how every step will be played out.

--Use your guidelines and rubric to make sure everything is included.

--Be sure to number each step.

--Be sure that every member is being held accountable for their role and that all members are participating equally.



Tix out the door

Write your name on the paper.

Individual reflection...

1. What is the status of your experiment? Explain.
2. Did you make satisfactory progress so that you will be done with the lab part tomorrow? Explain.
3. Were you an equal contributor to your group? Explain.
4. Did you follow through on your roles and responsibilities for your team? Explain.