

# Properties of Matter Web Quest

Name \_\_\_\_\_

<http://www.chem.purdue.edu/gchelp/atoms/elements.html>

Define each of the following:

1. Element: \_\_\_\_\_
2. Compound: \_\_\_\_\_
3. (From memory) Elements & Compounds are called \_\_\_\_\_
4. Mixture: \_\_\_\_\_

[http://www.chem4kids.com/files/matter\\_mixture.html](http://www.chem4kids.com/files/matter_mixture.html)

1. In a mixture the ingredients are combined \_\_\_\_\_. There is no chemical reaction.
2. Does producing a mixture change its chemical structure? \_\_\_\_\_.
3. What can be combined into a mixture? \_\_\_\_\_.
4. Each item in a mixture keeps its own \_\_\_\_\_ properties.

[http://www.chem4kids.com/files/matter\\_solution.html](http://www.chem4kids.com/files/matter_solution.html)

1. Solutions are another name for a special type of \_\_\_\_\_.
2. What are the two types of solutions? \_\_\_\_\_ & \_\_\_\_\_.
3. Give an example of each. \_\_\_\_\_
4. What phases/states of matter can be combined into a solution? \_\_\_\_\_.
5. In a solution, the \_\_\_\_\_ is the substance to be dissolved, and the \_\_\_\_\_ is the one doing the dissolving.
6. \_\_\_\_\_ is the ability of the solvent to dissolve the solute.
7. \_\_\_\_\_ is the term for how much solute can be dissolved into the solvent.
8. What 4 things affect the rate at which a solute dissolves? \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, & \_\_\_\_\_.

<http://phet.colorado.edu/en/simulation/concentration>

Run the simulation: Mix a solution using a solid, and evaporate the liquid away.

1. What was left? \_\_\_\_\_. How does this show a solution is mixture? \_\_\_\_\_.

Try it again with a liquid into a liquid. Is this any different? \_\_\_\_\_.

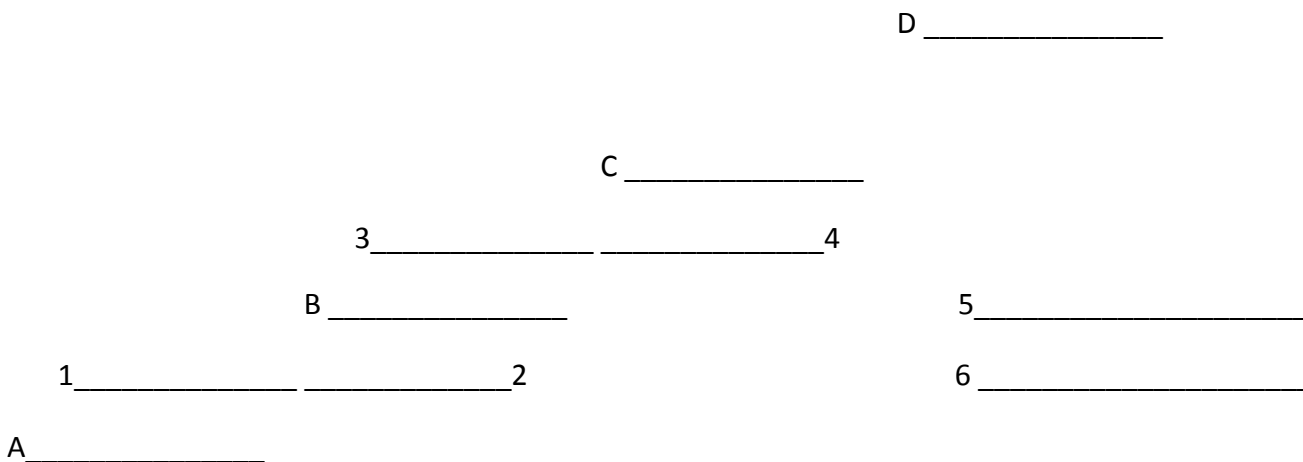
[http://www.chem4kids.com/files/matter\\_states.html](http://www.chem4kids.com/files/matter_states.html)

1. State, or phase changes occur when \_\_\_\_\_ is added or removed from the substance.
2. This causes the \_\_\_\_\_ to move faster, or slower, causing a change of state.
3. A change of state is a \_\_\_\_\_ change.
4. The temperature point at which states change:  
Solid to liquid: \_\_\_\_\_ point. Liquid to solid: \_\_\_\_\_ point.  
Liquid to gas: \_\_\_\_\_ point. Gas to liquid: \_\_\_\_\_ point.

[http://nobel.scas.bcit.ca/chem0010/unit2/2.1\\_physicalStates.htm#here](http://nobel.scas.bcit.ca/chem0010/unit2/2.1_physicalStates.htm#here)

Label A through D as lowest energy state to the highest.

Label the **transitions** from each state: 1. Solid to liquid, 2. Liquid to solid, 3. Liquid to gas, 4. Gas to liquid  
5. Solid to gas, 6. Gas to solid



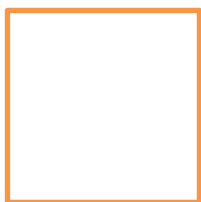
<http://www.chem.purdue.edu/gchelp/atoms/states.html>

Draw the states of matter as the particles would look in a container, and define each state.



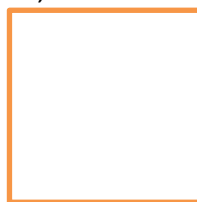
Definite \_\_\_\_\_

Definite \_\_\_\_\_



Indefinite \_\_\_\_\_

Definite \_\_\_\_\_



Indefinite \_\_\_\_\_

Indefinite \_\_\_\_\_

<http://phet.colorado.edu/en/simulation/states-of-matter-basics>

Run the simulation: What two things need to happen for a change of state to take place? \_\_\_\_\_

<http://www.chemteam.info/Matter/PhysicalChemProperties.html>

1. Define physical property: \_\_\_\_\_
2. Give four examples: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
3. Define chemical property: \_\_\_\_\_
4. Give four examples: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

[http://www.chem4kids.com/files/matter\\_chemphys.html](http://www.chem4kids.com/files/matter_chemphys.html)

1. Describe the difference between physical and chemical changes: \_\_\_\_\_

2. Give 5 examples of a physical change: \_\_\_\_\_

3. Give 5 examples of a chemical change: \_\_\_\_\_

<http://misterguch.brinkster.net/eqnbalance.html>

1. Why do we need to balance chemical equations? We need to uphold the \_\_\_\_\_ matter.

2. Write the three steps for balancing chemical equations. (this shows 4, but we only use 3)

I.

II.

III.

3. Use the steps to balance these 2 equations.



[http://www.chem4kids.com/files/react\\_acidbase.html](http://www.chem4kids.com/files/react_acidbase.html)

1. Define an acid: \_\_\_\_\_

2. On the Ph Scale, what numbers define acids? \_\_\_\_\_

3. Define a base: \_\_\_\_\_

4. On the Ph Scale, what numbers define bases? \_\_\_\_\_

<http://misterguch.brinkster.net/6typesofchemicalrxn.html>

Name the 4 types of chemical equations (this shows 6, but name the 4 we discussed):

**Also:** write the examples

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

<http://phet.colorado.edu/en/simulation/density>

Try this out!