

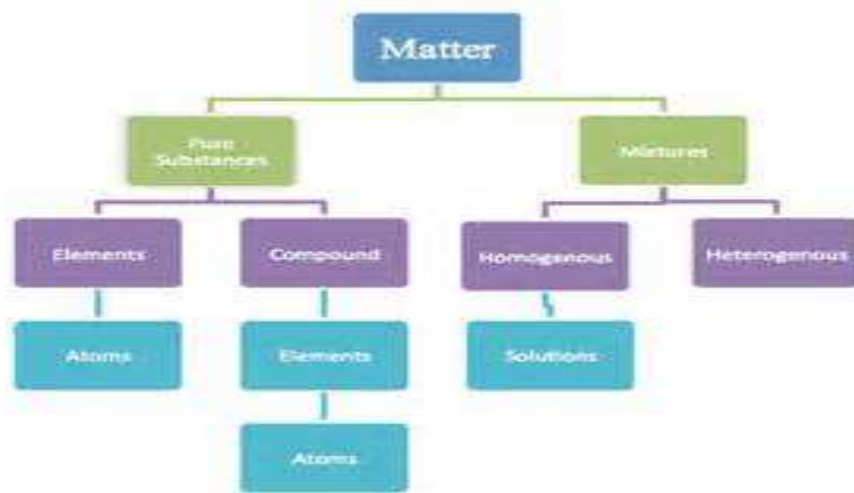
Name: _____

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Chemistry 11 Water as a Solvent

In Junior Science you learned about matter: _____.

At the start of this semester we learned that matter can be classified into: _____.



We spend a lot of time in junior sciences focusing on _____. We investigate elements in their atomic structure. Yesterday you learned that compounds can be classified as either _____. And we mentioned that water is so important because it is _____.

Today we are going to focus on _____. A mixture is when two or more pure substances combine. A mixture can be classified as either _____ or _____. In science often the name tells us the exact qualities of the substance. For instance **HOMO** in means "_____ " and **HETERO** means "_____ ". Homogenous substance appears to be the same throughout whereas heterogeneous substances look different. An example of a homogeneous mixture is a _____ (example: the result of combining _____) an example of a heterogeneous mixture is a _____ (example: the result of combining _____). DEMO OF THIS

When making mixtures there are two components to keep in mind:

The **Solute** (the stuff that is _____)

The **Solvent** (the stuff that is _____)

Yesterday we looked at different solvents (in question #17) and you may have noticed that the majority of them were classified as being “_____”. And that is because a polar solvent (which possess either the H-bond or the dipole-dipole bond) can dissolve either polar or non-polar solutes.

In a salt water solution, _____ is the solvent and _____ is the solute. In the iodine and water suspension, _____ - is the solvent and _____ is the solute.

When water and salt are combined not only does the water dissolve the salt (_____), but it also _____ (or IONIZES) the salt into its component ions:_____. When this occurs the solution that is formed can conduct an _____.

We can show this in an equation:

Here the separation of charges enables an electric current to flow through the solution and light the bulb.

When water and iodine combine the water only somewhat dissolves the iodine.

Here the lack of ions (no charges) does not enable an electric current to flow and the light bulb does not glow.

1. What do you think will happen when we combine water and sugar?
2. Because of the result what can we conclude about sugar?

Remember the process of solvation? “Like dissolves Like”?

Water is POLAR and will dissolve and dissociate a POLAR (or IONIC) solute such as salt.

Water is POLAR and will (somewhat) dissolve but not dissociate a NON-POLAR (true covalent) solute such as Iodine.

Now watch the video: “Crash Course Chemistry Water and Solutions for Dirty Laundry #7”.

Ex: 28 and 29 pg 210