**Classifying Matter Pre Lab Webquest**

We have talked about the states of matter, but matter can also be classified in a few other categories. Use this link: <http://www.dummies.com/how-to/content/how-to-distinguish-pure-substances-and-mixtures.html> and copy the chart that is giving and define the words in the chart below.

Pure Substance-

* Element-
* Compound-

Mixture-

* Homogenous-
* Heterogenous-

So now we know that Matter can be either a pure substance or a mixture…Let’s look at **pure substances** first. They can be either elements or compounds. Before we take more notes let’s watch a couple reactions using some of my favorite elements and compounds…

**Element**- Alkali Metals (including potassium, cesium and others) in water! <https://www.youtube.com/watch?v=HvVUtpdK7xw>

**Compound-** Calcium Carbide self carving pumpkin <http://www.youtube.com/watch?v=RJeRN820bS8>

OK- now use the following link to fill in the chart that helps us figure out the differences between elements and compounds. <http://www.diffen.com/difference/Compound_vs_Element>

|  |  |  |
| --- | --- | --- |
|  | Compound | Element |
| Meaning |  |  |
| Distinguishing Features |  |  |
| Ability to Breakdown (separate) |  |  |
| Types |  |  |
| Representation |  |  |
| Examples |  |  |

Now onto Mixtures. Let’s draw some pictures to help us. Use this website and fill in the pictures below.

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

Elements have only ONE type of atom. Lets draw what the elements in the pictures look like and use COLORED PENCILS! Notice each element picture only has ONE color.

Argon Nitrogen

Now the compound. Notice it has 2 colors that are stuck to each other.

Water (H2O)

Now lets draw what the mixture looks like when we put all 3 of these things together. Remember a mixture is 2 or more different elements or compounds PHYSICALLY mixed together (not stuck to each other).

Mixture of Argon, Nitrogen and Water

A mixture can be separated by physical means (no chemical reaction is necessary to separate a mixture). <http://portal.norwalkps.org/sites/teachers/knapp/Documents/C3.pdf>

Define each of these separation techniques:

*Flotation/Panning-*

*Mechanical Separation*

*Ascending Chromatography-*

*Filtration-*

*Distillation-*

Now, <http://www.mheducation.ca/school/applets/bcscience7/mixtures/bcscience7_mixtures.swf>

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| --- | --- |
| Mixture | Technique |
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|  |  |
|  |  |
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|  |  |
|  |  |