

Name _____

Nature of Matter Chapter 2 Notes/Study Guide

**Compound/Mixture
Brainpop**

Physical properties _____

**Periodic Table
Brainpop**

Chemical Properties _____

**Atoms
Brainpop**

Substance _____

Mixture _____

Element _____

Compound _____

Atom _____

Chemical symbol _____

Molecules _____

Chemical formula _____

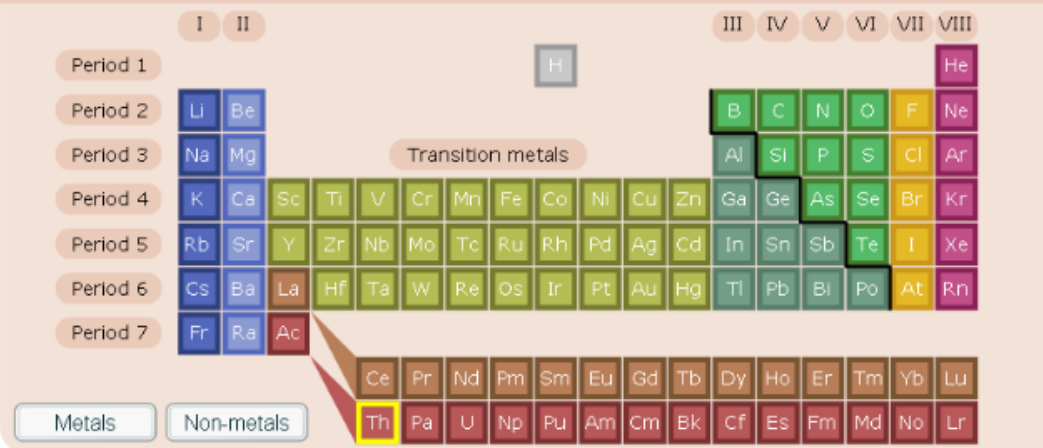
The Periodic Table represents elements in such a way as to highlight their similarities and differences.

INSTRUCTIONS

Explore the Periodic Table below by clicking on the elements.

You can use the '- Select Element -' drop-down menu to quickly jump straight to an element. More information can be found out about periods (rows) and groups (columns) by clicking on the relevant button along the left-hand side or along the top of the table.

There is also a game you can play to test your knowledge.



Fill-ins = use pages C34-C43

1. _____ are characteristics that can be measured or detected by the senses.
2. Color, size, and density are all examples of _____.
3. Chemical properties describe how matter changes _____.
4. A substance is a material that has the same _____ and _____.
5. A/An _____ is a substance that cannot be broken down by _____ into any other substance.
6. A compound is a substance made up of _____ that are chemically combined.
7. A/An _____ is the smallest particle of an element that has the chemical properties of that _____.
8. _____ is one or two letters that stand for the name of an element.
9. Each block of the periodic table includes information about a particular _____.
10. Linked atoms form _____.
11. A _____ is a group of symbols that show the element in a compound.

Investigation 1 Questions

1. What do elements and compounds have in common? How do they differ?

2. What is the meaning of the formula H_2O ?

3. The formula for carbon dioxide is CO_2 . The formula for sulfur trioxide is SO_3 . The formula for carbon tetrachloride is CCl_4 . Infer the meanings of the prefixes di, tri, tetra.

4. A certain element has the atomic number of 53. What is its name and symbol? Is it more similar to oxygen or chlorine? Explain.

Fill-ins = use pages C48-C51

1. The formula for water is _____. This shows that a single molecule of water is made up of _____ atoms and _____ atom.
2. _____ is an element found in all living things.
3. The term element was coined by _____, a famous Greek philosopher. Greeks consider the four basic kinds of matter as _____, _____, _____, and _____.
4. Air is a _____ of gases.
5. The different materials in a mixture can almost always be separated from each other by some _____ means.

Investigation 2 Questions

1. Explain why a mixture cannot be represented by a chemical formula.

2. What is the difference between a mixture and a substance?

3. Suppose you had a mixture of iron pellets, pebbles, and small wood spheres, all about the same size. How can you separate this mixture?

4. How can mixtures of the same substance differ?

Solution _____

Solute _____

Solvent _____

Suspension _____

Alloy _____

Fill-in the following using pages C56-C60

1. A mixture in which the different particles of matter are spread evenly throughout is called a _____.
2. In a mixture, a _____ is the material that is present in the greater amount.
3. The _____ is the material present in the smaller amount.
4. _____ also affects the rate at which materials dissolve.
5. A/An _____ is a solution of two or more metals with properties of its own.
6. One of the first alloys ever prepared was _____, which is a mixture of copper and tin.

**Be able to give similarities and differences between compounds and mixtures.

**Be able to give examples of mixture, elements, or compounds.

Investigation 3 Questions

1. Explain why salad dressing is not a solution.

2. What do compounds and mixtures have in common?

3. Why is an alloy both a mixture and a solution?

4. What methods would you use to dissolve a large crystal of salt, known as rock salt, in water? Explain all the factors that affect the rate at which the salt will dissolve.
