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STUDENT HANDOUTS

- Reading Comprehension

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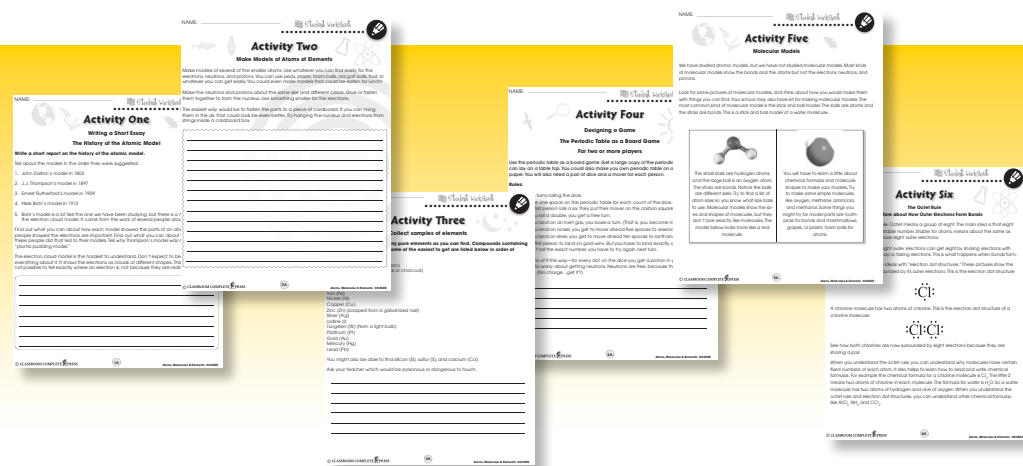
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What Are Compounds?

1. Circle **T** if the statement is TRUE or **F** if it is FALSE.

- T F a) Atoms are made of molecules.
 T F b) Molecules and atoms are particles.
 T F c) Pure materials are made of one kind of particle.
 T F d) Atoms can be thought of as the building blocks of matter.
 T F e) Water is an element.
 T F f) Electrons are one kind of atom.

2. Put a check mark (✓) next to the answer that is most correct.

a) Which of these is an element?

- A air
 B gold
 C sugar
 D water

b) Which of these is made of more than one atom?

- A a bond
 B a nucleus
 C a molecule
 D an electron

c) There are about 100 different

- A electrons.
 B elements.
 C molecules.
 D particles.



What Are Compounds?

You have learned that molecules are particles made of more than one atom. If the atoms in the molecules of a material are the same, the material is an element. If the atoms in the molecules of a material are different, the material is a **compound**.



Remember that atoms and molecules are very small particles. Elements and compounds are materials made of many particles. The particles in a compound are always molecules, not atoms. Because the particles of a molecule have more than one kind of atom, they must have more than one atom. Particles with more than one atom are molecules.

Explain why water is a **COMPOUND** and not an element.

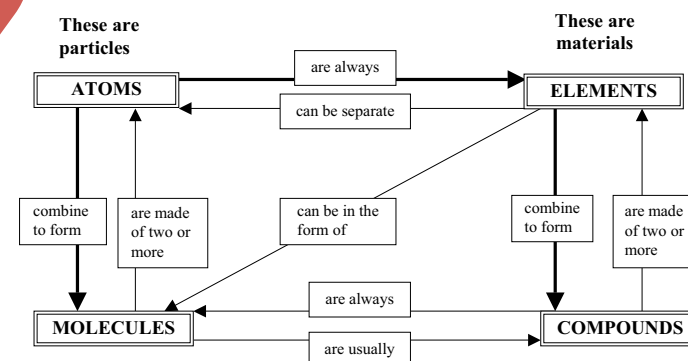


Remember we learned that all pure materials are made of just one kind of atom or just one kind of molecule. Also pure materials are made of only one element or only one compound.

These are some common elements you may have heard of: hydrogen, helium, carbon, nitrogen, oxygen, neon, aluminum, chlorine, calcium, nickel, copper, silver, iodine, gold, tin, mercury, and lead.

These are some common compounds you may have heard of: salt, sugar, water, rust, and carbon dioxide.

We have been studying four words that are easy to confuse: atoms, molecules, elements, and compounds. This diagram may help you keep them straight. Follow the direction that the arrows point to make sentences. For example, at the top: "**ATOMS** are always **ELEMENTS**." The most important sentences have thick arrows.



What Are Compounds?

1. Use the words in the list to answer each question.

atoms	molecules	elements
compounds	particles	pure materials

- _____ a) Which particles make up all elements?
 _____ b) Which particles are always made of more than one atom?
 _____ c) What is made of one kind of atom or one kind of molecule?
 _____ d) Which materials are made of one kind of atom?
 _____ e) What are single atoms or single molecules called?
 _____ f) Which materials are made of more than one element?

2. a) Circle the words that are elements.

aluminum	salt	sugar	oxygen
rust	copper	gold	water

b) Underline the words that are compounds.

aluminum	salt	sugar	oxygen
rust	copper	gold	water



What are Compounds?

3. Tell what elements are using the word "atom."

4. Tell what molecules are using the word "atom."

5. Tell what compounds are using the word "element."

Extensions & Applications

6. Find out what **elements** have combined to form some of the **common compounds** you see around you. You may have to look them up in the dictionary, a science book, or on the Internet. Ask your teacher for the best place to look.

Find the elements that make up these compounds:

- a) water

 b) glass (It is the same compound as sand.)

 c) sugar

 d) Try to find **two** more materials you think are compounds. Read about them to see if they really are compounds. If they are compounds, find which elements are in them. See if they have scientific names.

NAME: _____

After You Read 



What are Compounds?

3. Tell what elements are using the word "atom."

4. Tell what molecules are using the word "atom."

5. Tell what compounds are using the word "element."

Extensions & Applications

6. Find out what **elements** have combined to form some of the **common compounds** you see around you. You may have to look them up in the dictionary, a science book, or on the Internet. Ask your teacher for the best place to look.

Find the elements that make up these compounds:

a) water

b) glass (It is the same compound as sand.)

c) sugar

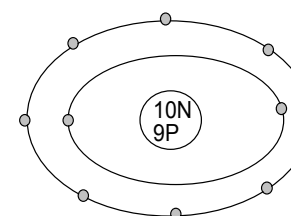
d) Try to find **two** more materials you think are compounds. Read about them to see if they really are compounds. If they are compounds, find which elements are in them. See if they have scientific names.

3. Elements contain one kind of atom.

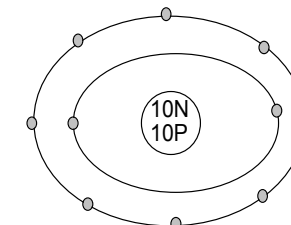
4. Molecules contain more than one atom.

5. Compounds are made of more than one element.

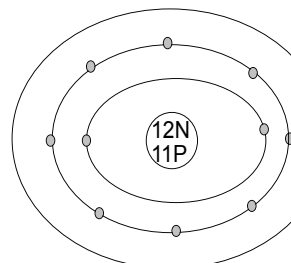
Fluorine:



Neon:



Sodium:



- 6.
- a) hydrogen, oxygen
 - b) silicon, oxygen
 - c) carbon, hydrogen, oxygen
 - d) Accept any verifiable answer

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EASY MARKING ANSWER KEY