

Name: AXON

Survey of Physical Science Newsflash

Newsflash Topic	MATTER/ELEMENTS
DUE DATE	

Newsflash Directions:

If there is a reading assignment you should:

- 1) READ
- 2) HIGHLIGHT IMPORTANT INFORMATION YOU FIND
(do NOT highlight the entire thing)
- 3) Answer any questions

If there is a measurement, graphing or other activity you should:

- 1) READ all DIRECTIONS because you might need things like
Glue, scissors, colored pencils or a calculator
- 2) FOLLOW all DIRECTIONS to complete the assignment

****IF YOU NEED HELP - LET MS. AXON or MR. CLOUGH know ****

Name: _____

New Words Chart

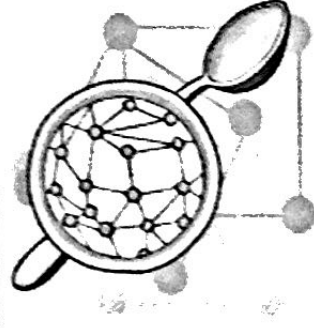
Directions:

- As you read your newsflash article, you are responsible for identifying 2 new words.
- You will write the new words in the chart and then find the definition for each word.
- Write the definition in the chart below.

WORD	DEFINITION

Matter, Elements, Molecules, and Compounds

By Cindy Grigg



¹ What is matter? Matter is the stuff that makes up everything in the universe. Matter has mass and takes up space. Matter is made of atoms. Solids, liquids, gases, and plasma are all matter. When all atoms that make up a substance are the same, then that substance is an element. Elements are made of only one kind of atom. Because of this, elements are called "pure" substances. An atom is the smallest piece of an element that still has the properties of that element. For example, aluminum is a lightweight, shiny metal. If we took a piece of aluminum and cut it into small pieces, it would still be aluminum. It would still be a lightweight, shiny metal. The smallest piece would be called an atom. Atoms are so small they cannot be seen even with a microscope. Atoms consist of a nucleus that has protons and neutrons surrounded by electrons outside the nucleus.

² Atoms of different elements can combine to make new substances. A molecule is formed when two or more atoms join together chemically. If atoms combine that are of two or more different elements, we call that a compound. All compounds are molecules, but not all molecules are compounds. When two hydrogen atoms combine with one oxygen atom, it becomes the compound water. The oxygen we breathe is actually two atoms of oxygen combined, so it is a molecule of oxygen. We use abbreviations for elements, molecules, and

compounds. These abbreviations are called chemical symbols. The chemical symbol for an oxygen molecule is O_2 .

³ The compound water has a chemical symbol of H_2O . This is like the "recipe" for water. It tells us that a water molecule is made of two atoms of hydrogen and one atom of oxygen. Oxygen is a gas that we can't see, hear, smell, taste, or feel. But it's in the air we breathe, and without it, we would die. Hydrogen, also a gas, is the lightest substance on Earth. When two atoms of hydrogen join together with one atom of oxygen, those two gases make a liquid compound we call water. Water, a liquid at room temperature, is a very different substance from the two gases that it is made of. Many different compounds can be made when different atoms combine.

⁴ There are about 92 elements that naturally occur on Earth. Different sources will say different numbers of elements occur naturally. Many elements have been made by scientists in a laboratory. With that many elements to form combinations, many millions of different molecules and compounds can be made. How is that possible? Think of our alphabet. The English alphabet has 26 letters. Those 26 letters can be combined in different ways to make millions of words. Atoms are like the letters of the alphabet and the compounds they make are like words.

⁵ Now that you have learned the language of chemistry, you are ready to learn more about elements, atoms, and the ways they combine.



Name _____

Date _____

Matter, Elements, Molecules, and Compounds

<p>1. What is matter?</p> <p><input type="radio"/> (A) The stuff that makes up everything in the universe</p> <p><input type="radio"/> (B) Has mass and takes up space</p> <p><input type="radio"/> (C) Is made of atoms</p> <p><input type="radio"/> (D) Can be solid, liquid, gas, or plasma</p> <p><input type="radio"/> (E) All of the above</p>	<p>2. What is an element?</p> <p><input type="radio"/> (A) A pure substance</p> <p><input type="radio"/> (B) Made of only one kind of atom</p> <p><input type="radio"/> (C) Both A and B</p> <p><input type="radio"/> (D) None of the above</p>
<p>3. What is an atom?</p> <p><input type="radio"/> (A) The smallest piece of an element that still has the properties of that element</p> <p><input type="radio"/> (B) A gas</p> <p><input type="radio"/> (C) A solid</p> <p><input type="radio"/> (D) A metal</p>	<p>4. Atoms consist of _____.</p> <p><input type="radio"/> (A) Two or more molecules</p> <p><input type="radio"/> (B) Gases</p> <p><input type="radio"/> (C) Solids</p> <p><input type="radio"/> (D) A nucleus that has protons and neutrons with electrons outside</p>
<p>5. Abbreviations for elements, molecules, and compounds are called _____.</p> <p><input type="radio"/> (A) Abbr.</p> <p><input type="radio"/> (B) Shorthand</p> <p><input type="radio"/> (C) Chemical symbols</p> <p><input type="radio"/> (D) Letters</p>	<p>6. Elements are called "pure" substances. Which synonym of "pure" best fits the original meaning of this sentence?</p> <p><input type="radio"/> (A) Unmixed</p> <p><input type="radio"/> (B) Uncontaminated</p> <p><input type="radio"/> (C) Complete</p> <p><input type="radio"/> (D) Clean</p>

Name _____

Date _____



Matter, Elements, Molecules, and Compounds

7. Hydrogen, also a gas, is the lightest substance on Earth. What is meant by the word "lightest"?

A Weighing the least amount

B Having the most luminosity

C Having the least amount of darkness

D Having the least amount of color

8. Atoms are like the letters of the alphabet and the compounds they make are like words. This sentence:

Name _____

Date _____

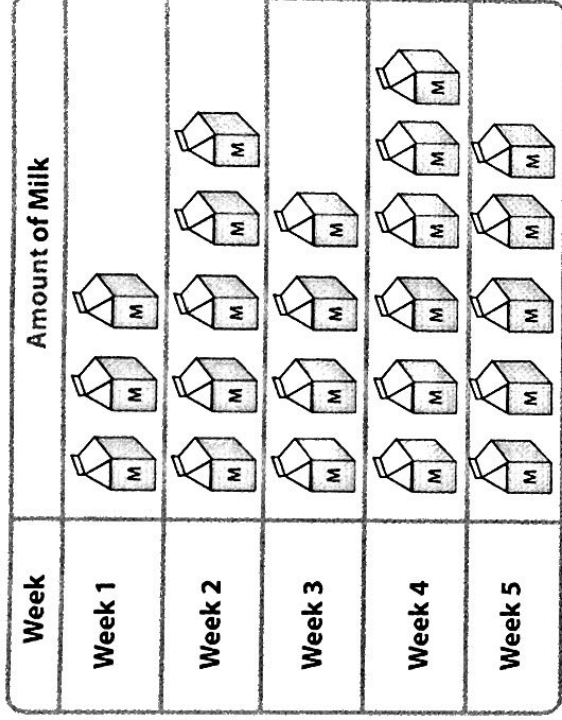
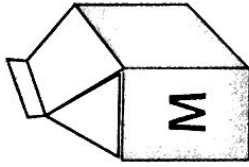


Matter, Elements, Molecules, and Compounds

Describe how a chemical symbol is like a recipe.

Milk Helps You Grow: Reading a Pictograph

Have you had your milk today yet? Use the pictograph to see how many Tommy had in the past few weeks and answer the questions below. Note: Each milk container in the pictograph stands for 3 glasses.



= 3 glasses of milk

Questions:

1. How many glasses of milk did Tommy have in the first week?

Answer: _____

2. How many glasses of milk did Tommy have in week 4?

Answer: _____

3. Which week did Tommy have the least amount of milk?

Answer: _____

4. Which week did Tommy have the most milk? How much more was this compared to week 5?

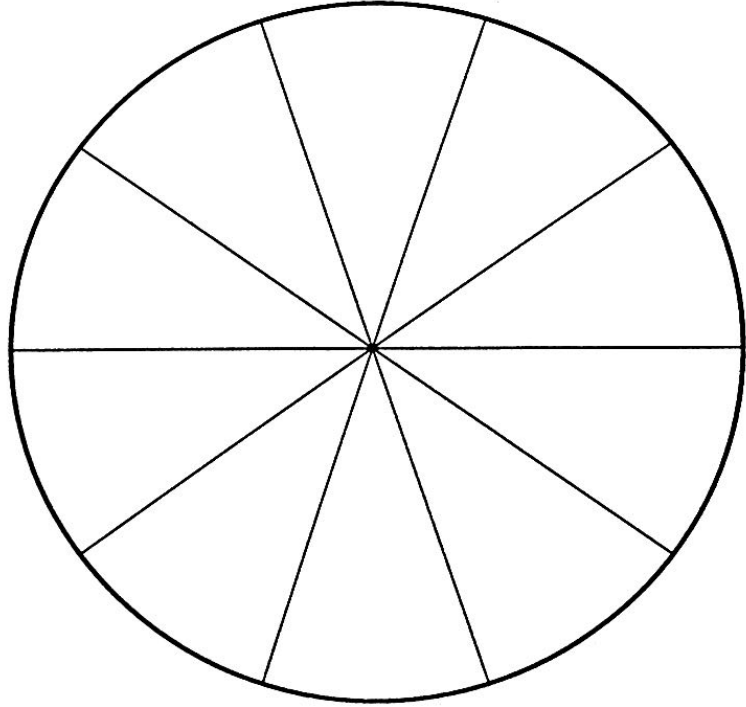
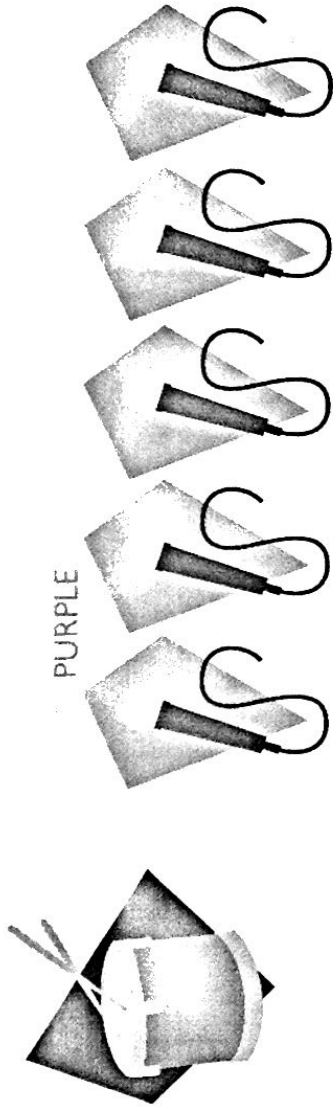
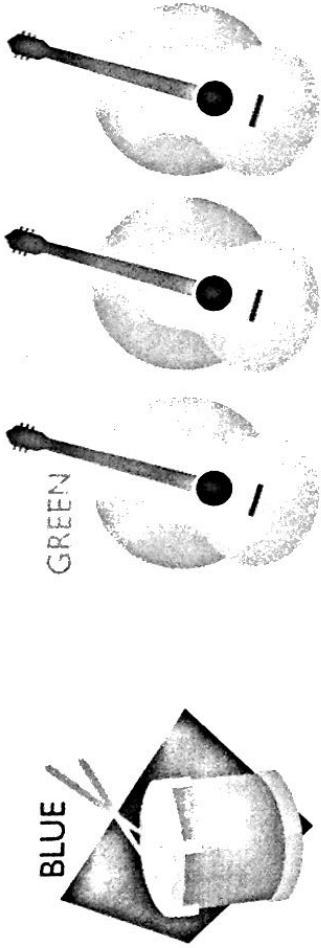
Answer: _____

5. How many glasses of milk in total did he drink from week 1 to week 5?

Answer: _____

In the Band Diagram

Each picture represents an instrument. How many children in the band play each instrument? Color one slice for each instrument, using the colors below.



1. How many kids play guitar?
2. How many kids play drums?
3. How many more kids sing than play drums?
4. Each member plays only one instrument.
How many kids are in the band?