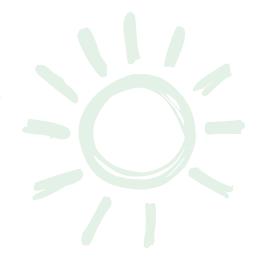


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STUDENT HANDOUTS

 Reading Comprehension
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3. What Are Elements?
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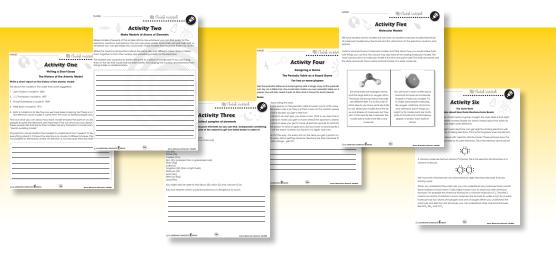
EASY-MARKING™ ANSWER KEY

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NAME:

W Before You Read

B elements.

c molecules.

D particles.

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Atoms, Molecules & Elements CCP4505-4

After You Read

NAME:

What Are Compounds?

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

atoms compounds	molecules particles	elements pure materials
a)	Which particles make up	all elements?
b)	Which particles are alway atom?	ys made of more than one
c)	What is made of one kind molecule?	of atom or one kind of
d)	Which materials are mad	de of one kind of atom?
e)	What are single atoms or	single molecules called?
	Which materials are made	de of more than one element?

2. a) Circle the words that are elements. hinum sugar oxygen gold copper water **he** the words that are compounds. aluminum salt sugar oxygen rust gold water copper

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Atoms, Molecules & Elements CCP4505-4

NAME:





What Are Compounds?

ou 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

Sugar Oxygen

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.

Remember we learned that all pure materials are made of just one kind of atom or just one

Explain why water is a COMPOUND and not an element.

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.

kind of molecule. Also pure materials are made of only one element or only one compound.

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

We have been studying t words that are easy to cor atoms, molecules, elements, and compounds. This diagram may help you ke 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.

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NAME:

These are materials are always ELEMENTS can be in the to form are always MOLECULES COMPOUNDS are usually 8 Atoms, Molecules & Elements CCP4505-4

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 compoun
- 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.

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Alchemists

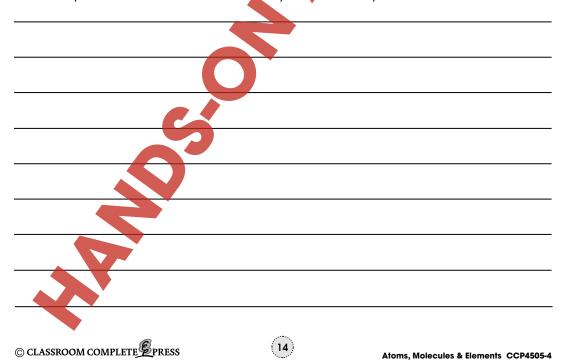
Today, scientists that study elements and compounds are called CHEMISTS. Hundreds of years ago they were called ALCHEMISTS. They used science, but they were also something like magicians or wizards. They did discover many of the elements and laws of science, but they had some ideas that seem strange today. What they studied was called "alchemy."



Hands-On Activity # 4

Write a short report about the **history of the alchemists**. Find out which elements they discovered. Did they know what elements were? Is the story true that alchemists thought they could change lead into gold?

Use the space below to write notes as you conduct your research.



NAME: _____ After You Read

Word Search

Find all of the words in the Word Search. Words are written horizontally, vertically, diagonally, and some are even written backwards.

В	0	С	Р	Е	R	I	0	D		C
D	Х	F	G	Н	Р	J	N	K		W
R	-	T	Υ	U	R	U	Р	S	D	L
Е	D	K	R	J	0	Н	0	D	F	Α
L	Е	Е	L	Р	T	Е	Z	R	Χ	I
С	S	Υ	М	В	0		S	Α	Ð	R
I	N	0	0	0	N	E	В	V	С	Е
Т	С	М	Т	N	1	M	R	W	L	Т
R	L	Р	Α	D	Y	E	T	Е	R	Α
А	Е	K	J	Н	В	N	С	G	F	М
Р	V	T	С	M	Х	Т	Z	U	S	D
В	N	М	5	T	R	Е	N	_	L	Q
Υ	Т	N	M	0	D	Е	L	R	W	Е
Р	S	D	N	Е	U	T	R	0	Ν	F

ATOM INERT PERIODIC BOND MATERIAL PROTON COMPOU MOLECULE SYMBOLS **ELECTRON** NUMBER **NEUTRON ELEMENT** OUTER MODEL OXIDE GAS **GROUP PARTICLE**

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Atoms, Molecules & Elements CCP4505-4





NAME:

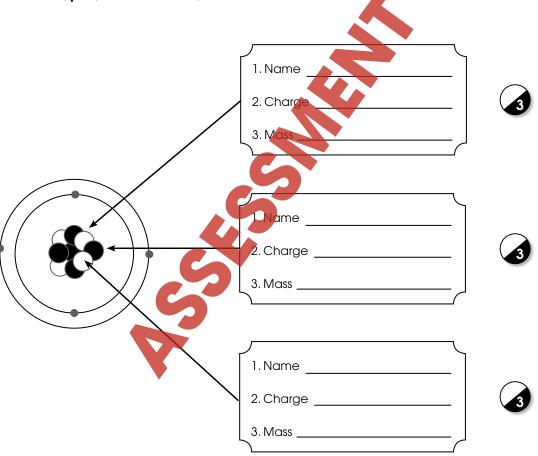
Comprehension Quiz



Part A

This is a model of a beryllium atom.

Label each part of the atom. Tell the name, charge, and mass of the part. For charge, write **minus**, **plus**, or **zero**. For mass, write **not much** or **a lot**.



(17)

SUBTOTAL: /

Atoms, Molecules & Elements CCP4505-4

Mendeleev's Periodic Table

					6						7			I
	VIII				Fe=56, Co=59 Ni=59		Ru=104, Rh=104 Pd=106				O=195, h=197 Pt=198			
	VII		F=19	CI=35.5	Mn=55	Br=80	?=100	J=127					,	
THE PARTY OF THE P	VI		0=16	S=32	Cr=52	Se=78	Mo=96	Te=125			W=184		U=240	
	Λ		N=14	P=31	V=51	As=75	Nb=94	Sb=122	Y		Ta=182	Bi=208		lic Table
	IV		C=12	Si=28	Ti=48	?=72	Zr=90	Sn=118	?Ce=140		?La=180	Pb=207	Th=231	Mendeleev's Periodic Table
	III		B=11	AI=27.3	?=44	8 9= 2	2Yt=88	In=113	?Di=138		?Er=178	TI=204		Mendele
l	II		Be=9.4	Mg=24	Ca=40	Zn=65	Sr=87	Cd=112	Ba=137			Hg=200		
	I	H=1	Li=7	Na=23	K=39	Cu=63	Rb=85	Ag=108	Cs=133			Au=199		
	Group Period	1	2	3	4	5	9	7	8	6	10	11	12	

NAME:		





What are Compounds?

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

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

5.	Tell what	compounds are	usina 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:

- 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.

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Elements contain one kind of atom.

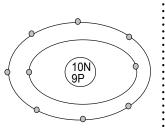


Molecules contain more than one atom.

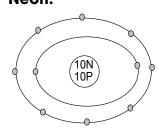


Compounds are made of more than one element.

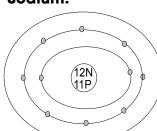




Neon:



Sodium:



c) carbon, hydrogen, oxygen

d) Accept any verifiable answer



a) hydrogen, oxygen
b) silicen, oxygen

 $\langle 11 \rangle$