BCI SCIENCE Name: ANSWERS

Chemistry Worksheet: Matter & Changes

1. A mixture (is/is not) a chemical combining of substances.

2. In a compound the (atoms/molecules) are (chemically/physically) combined so that the elements that make up the compound (retain/lose) their identities and (do/do not) take on a new set of properties.

3. The smallest identifiable unit of a compound is a(n) molecule, which is made up of elements which are chemically bonded.

4. (True) or False: A mixture is always made up of a combination of elements.

5. In a mixture, the substances (lose/retain) their identities.

6. In a mixture the substances involved (can/cannot) be separated by a simple physical process. In a compound the elements involved (can/cannot) be separated by a simple physical process because the elements are (physically combined/chemically bonded).

7. True or (False) An element can be broken down into a simpler substance.

8. The smallest identifiable unit of an element is a(n) atom.

9. From the following list of substances, circle the ones that are elements: (silver) carbon dioxide wood, alcohol, (chromium) water, (hydrogen) (carbon) (nitrogen) (oxygen) (gold) sugar, salt, air, (sulfur) (magnesium), (nickel)

INSTRUCTIONS: Classify each of the following changes in matter as physical [P] or chemical [C].

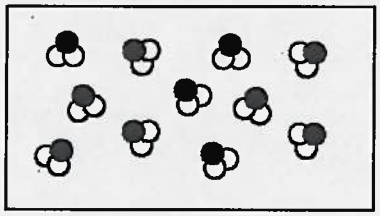
10. Grinding chalk into powder P
11. Burning gasoline C
12. Dissolving salt in water P
13. Hammering gold into foil P
14. Dissolving zinc in acid C
15. Melting ice P
16. Tearing a piece of paper P
17. Digesting food C
18. Stretching copper into wire P
19. Making hydrogen from water C
20. Breaking glass P

Elements, Compounds, and Mixtures

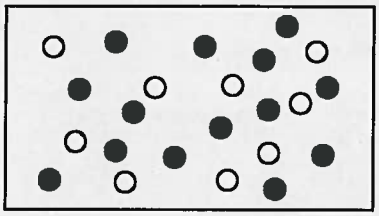
Classify each of the pictures below by placing the correct label in the blanks below:

A= Element
B= Compound
C= Mixture of elements
D= Mixture of compounds
E= Mixture of elements and compounds

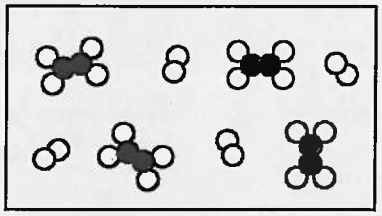
Each circle represents an atom and each different color represents a different kind of atom. If two atoms are touching then they are bonded together.



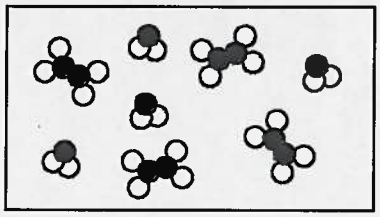
1) B



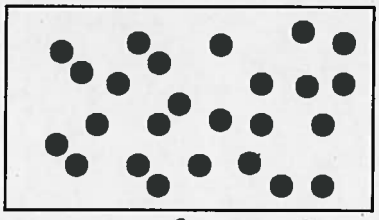
2) C



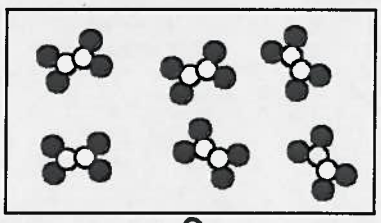
3) D



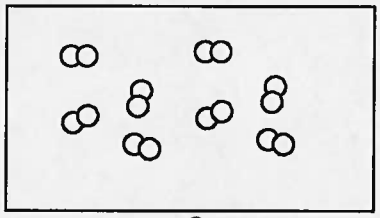
4) D



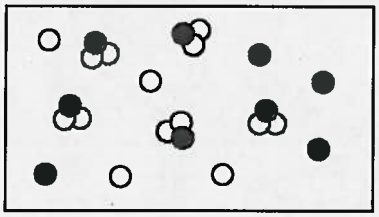
5) A



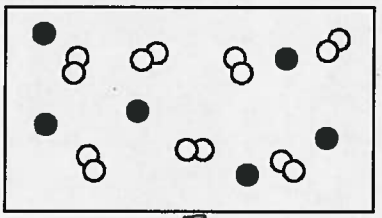
6) B



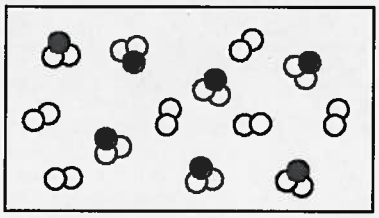
7) B



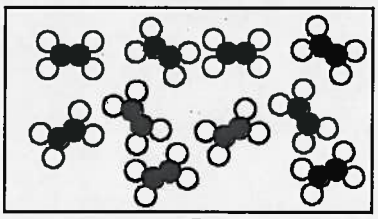
8) E



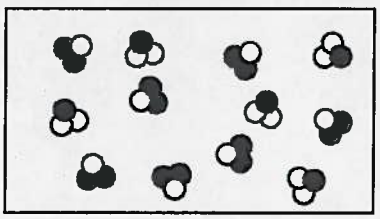
9) E



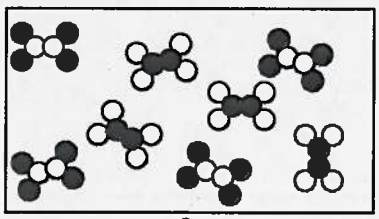
10) D



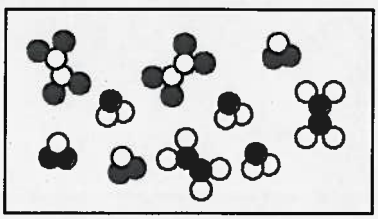
11) B



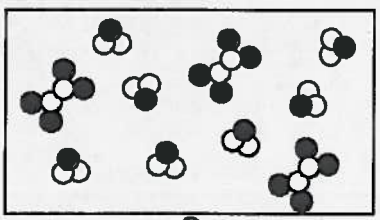
12) D



13) D



14) D



15) D

Physical and Chemical Changes

Name: ANSWERS

Date: _____ Hour: ___

Place a check in the appropriate column:

Change	Physical Change	Chemical Change
Salt dissolves in water.	✓	
Hydrochloric acid reacts with magnesium to produce hydrogen gas.		✓
A piece of copper is cut in half.	✓	
A sugar cube is ground up.	✓	
Water is heated and changed to steam.	✓	
Iron rusts.		✓
Ethyl alcohol evaporates.	✓	
Ice melts.	✓	
Milk sours (goes bad).		✓
Sugar dissolves in water.	✓	
Sodium and potassium react violently with water.		✓
Pancakes cook on a griddle.		✓
Grass grows on a lawn.		✓
A tire is inflated with air.	✓	
Food is digested in the stomach.		✓
Water is absorbed by a paper towel.	✓	
Ethyl alcohol boils at 79°C.	✓	
Paper burns.		✓
Water freezes at 0°C.	✓	
Fireworks explode.		✓
Alka-Seltzer gives off carbon dioxide when added to water.		✓
Clouds form in the sky.	✓	