Name___

Matter Review

1. A cube of sugar has the following properties. Mark each of the properties as a Physical Property (P) or Chemical Property (C)

Properties of a cube of sugar	Physical (P) or Chemical (C)
1. Mass = 2 grams	
2. Density = 8 g/cm^3	
3. Burns when heated	
4. Shaped like a square	

2.

Substance	Physical	Reaction to Acid	Reaction to	Reaction to
	Description	(weak HCl solution)	Water	Heat
Sugar	Small, white,	None	None	Caramelizes
	hard crystals			(turns brown and bubbly)
Salt	Small, white,	None	None	None
	hard crystals			
Baking Soda	Fine, white,	Bubbles and fizzes	None	None
	smooth powder			
Flour	Fine, white,	None	None	None
	smooth powder			

Which 3 tests measured chemical properties?

- 3. **Circle** Which of the following are the chemical properties of iron?
 - It can melt It can rust It can bend It can break into pieces It is non-flammable
- 4. List **3 Physical Properties** of a Tennis Ball.
- 5. List the **4** characteristics of a **chemical change**.
 - 1-
 - 2-
 - 3-
 - 4-

6. Suppose you place several ice cubes in a glass of water. Describe at least two physical changes that might occur over a period of time.

7. How are a camp fire burning and cellular respiration in living things similar?

8. Why does a liquid change to gas when heated?



Circle all letters where a phase change is occurring.

1	n	
Τ	υ	•

Describe a chemical change you have observed during which heat energy was given off.	Explain how you would gather evidence that energy was released.
a.	b.

11. Circle all examples of common chemical reactions

- a. Evaporation
- b. Rust
- c. Combustion
- d. Photosynthesis
- e. Respiration
- f. Condensation

12.			
Give an example of	Explain how heat	Give an example of	Explain how heat
when heat is given	can be given off in	when heat is taken	can be taken in
off in a chemical	a chemical change.	in during a	during a chemical
change.		chemical change.	change.
a.	b.	С.	d.

13. The **reactants** of Respiration have 6 Carbons, 12 Hydrogen and 18 Oxygens. How many atoms of Carbons, Hydrogens and Oxygens should the **product** of Respiration have? Explain the reasoning for your answer.

14. Students wanted to test which method (stirring, heating or crushing) would increase the rate of dissolving an effervescent tablet the best. Students timed the seconds it took for the tablet to dissolve. See the data in the chart below.

Control	Stirring	Heating	Crushing
57	45	20	?
seconds	seconds	seconds	

Predict the seconds it would take for a crushed effervescent tablet to dissolve. Explain the reasoning for your prediction.

Continued on back.....

15. An engineering company wants to test 3 different bridge designs to see which design will hold the greatest load. The designs are: A-Steel, B-Wood, or C-Steel/Wood. Identify the following parts of the experiment as if you were to plan out and conduct the test on your own.

•	What is a possible "Hypothesis"?
•	What is the "Independent variable"?
•	What is the "Dependent variable"?
•	What are the "Controlled variables"?
•	What visual format would you use to display and summarize your data so it can be analyzed and a conclusion can be made?