

SECTION 2: Law of Conservation of Matter

3. Can matter be created or destroyed? Please answer yes or no and then site one piece of evidence from class that supports your answer.

SECTION 3: Phases of Matter

4. Draw 3 examples of matter (solid, liquid, gas) explain what particle models demonstrate.

5. Explain why an ice cube will float in water and sink in rubbing alcohol.

SECTION 4: Classification of Matter and Phase Changes

6. Rain exhibits what type of phase change? This change is from a _____ to a _____.

7. Compare and contrast heterogeneous and homogeneous mixtures. Give an example of each one.

8. Compare and contrast atom and molecule.

SECTION 5: Physical and Chemical Changes and Properties

9.

VOCABULARY WORD	DEFINITION
Physical Property	
Physical Change	
Chemical Property	
Chemical Change	

10. Identify the following as either a chemical (c) or physical (p) change.

- Broken glass _____
- cutting grass _____
- fireworks exploding _____

11. Complete the table.

Part of the Atom	Charge
Proton	
	Negative
	No charge

12. The atomic number on the periodic table tells you what information about the atom of a certain element?

13. If an element has an atomic mass of 23 amu and has 11 protons. How many neutrons does an atom of this element have?

14. The nucleus of the atom is made of _____ and _____

15. Complete the table. Fill in the missing information.

Element	Protons	Neutrons	Electrons
Carbon		6	
	9	10	
Magnesium			12
	8		8
		14	13

16. The energy required to remove electrons from a gaseous atom or ion is called what?

17. The tendency to want 8 electrons and if atoms do not have this electron configuration they bond with other atoms to get this configuration is called?

18. Define a covalent and ionic bond.

a. Covalent Bond _____

b. Ionic Bond _____

19. Another name for electrons in the outer shell is _____

20. Horizontal rows on the periodic table are called _____

21. Vertical columns on the periodic table are called _____

22-23. Draw the electron Bohr diagram for the following elements. Please redraw next to the question.

a. Na

b. P

24. What is an isotope? – Circle the correct answer.

- a. Different atoms of the same element but with a different number of neutrons and the same number of protons.
- b. Different atoms of the same element but with the same number of neutrons and the same number of protons.
- c. Different atoms of the same element but with the same number of neutrons and a different number of protons.

25. The atomic number tells you? —Circle the correct answer

- a. Number of protons and electrons
- b. Number of neutrons
- c. Number of protons and neutrons

26. How do you find the number of neutrons? —Circle the correct answer

- a. Atomic number
- b. Atomic mass- atomic number
- c. Atomic number – mass number

27. Fill in the tables below.

	Oxygen	Neon
# of protons		
# of neutrons		
# of electrons		

28. Sodium-24 has a half-life of 15 hours. How much sodium-24 will remain in an 18.0 g sample after 60 hours?

Identify the following reactions in the blank following the reaction. Word Bank: combustion, single displacement, double displacement, synthesis, decomposition

