

**Study/Guide/Practice Chapter 17&19 Test**

Test Date: \_\_\_\_\_

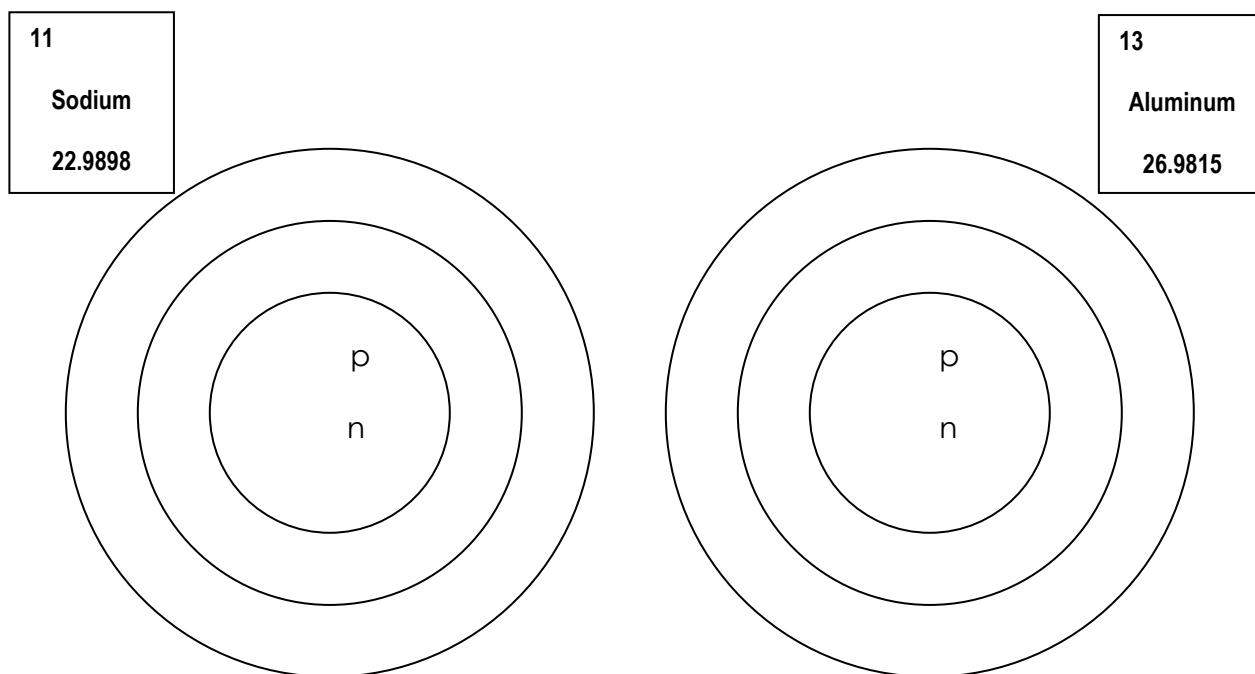
Atomic Structure and Periodic Table**Multiple Choice:** Please find the best answer and place it on the space provided.

- \_\_\_\_ 1. The identity of an element is determined by the  
a) number of electrons      b) number of protons      c) protons + neutrons
- \_\_\_\_ 2. The sum of the protons and neutrons in the nucleus is called the  
a) atomic charge      b) atomic mass      c) mass number      d) atomic number
- \_\_\_\_ 3. The charge of the nucleus is  
a) positive      b) negative      c) neutral      d) none of the above
- \_\_\_\_ 4. The central core of an atom is called the  
a) epicenter      b) hub      c) kernel      d) nucleus
- \_\_\_\_ 5. The atomic number can tell you two things about an element's structure. Name them.  
a) number of protons and neutrons      c) number of electrons and neutrons  
b) number of protons and electrons      d) number of protons and positrons
- \_\_\_\_ 6. As you move from left to right within a period of the periodic table,  
a) atomic number decreases      c) average atomic mass decreases  
b) number of electrons decreases      d) metallic properties decreases
- \_\_\_\_ 7. According to modern atomic model theory, there must be a positively charged nucleus surrounded by enough electrons to make the net charge on the atom \_\_?  
a) neutral      b) negative      c) positive      d) all of the above
- \_\_\_\_ 8. The maximum number of electrons in the second energy level of an atom is  
a) 2      b) 4      c) 8      d) 18
- \_\_\_\_ 9. Which statement is true?  
a) # of neutrons must equal protons      c) # of neutrons can be different than protons  
b) # of neutrons is equal to the atomic number      d) none of the above
- \_\_\_\_ 10. The horizontal rows of the periodic table are called  
a) clusters      b) quarks      c) groups      d) periods
- \_\_\_\_ 11. Elements arranged in vertical columns in the periodic table are called  
a) clusters      b) quarks      c) groups      d) periods
- \_\_\_\_ 12. If an element has 26 protons, 26 electrons, and 30 neutrons, what is its mass number?  
a) 30      b) 52      c) 56      d) 82
- \_\_\_\_ 13. Seven electrons in the outermost energy level is characteristic of  
a) Group 7 elements      b) Group 17 elements      c) Group 18 elements      d) Noble Gases
- \_\_\_\_ 14. A very stable electron arrangement in the outer energy level is characteristic of what chemical family?  
a) alkali metal      b) halogen      c) metalloid      d) noble gas
- \_\_\_\_ 15. Neutrons are located inside an atom's  
a) nucleus      b) protons      c) energy levels      d) electrons

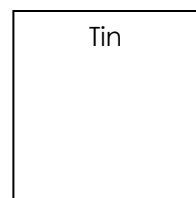
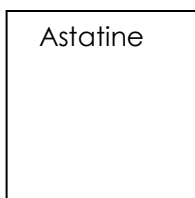
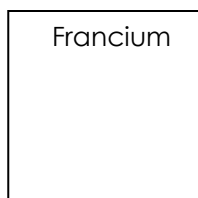
16. Please fill in the requested information.

Element Name	Atomic #	Mass #	# of Protons	# of Neutrons	# of Electrons
Helium	2			2	
Nickel		59			28
Silver		108	47		
Uranium		238			92
Sodium			11	12	

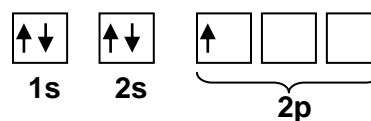
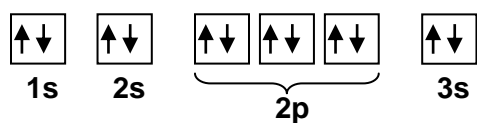
17. **Atomic Structure (Model):** Label the number of protons, electrons, and neutrons.



18. Draw a Lewis Dot Diagram for the following elements.



19. Identify the elements represented by each of the following orbital notations.





38. The most reactive nonmetal is \_\_\_\_\_.
39. Elements in a \_\_\_\_\_ have similar properties. (*group, period*)
40. Elements with an atomic number over 84 are \_\_\_\_\_.
41. Many elements that are essential for life like carbon, hydrogen, and oxygen are part of what classification? \_\_\_\_\_ (*metal, non-metal, metalloid, transition*)
42. Which of the following is not a property of a metal? \_\_\_\_\_.  
(*Malleability, Poor conductor, Ductility*)
43. What category do the elements iron, cobalt, and nickel belong to? \_\_\_\_\_  
(*metal, non-metal, metalloid, transition*)
44. Which of the following alkali metal is most reactive? \_\_\_\_\_  
(*lithium, sodium, cesium*)
45. Which of the groups on the periodic table contain only nonmetals? \_\_\_\_\_
46. Which of the following groups combines most readily to form compounds? \_\_\_\_\_  
(*Transition elements, Alkali metals, Noble gases*)
47. Substances that can be drawn into wires without breaking are \_\_\_\_\_.
48. A brittle, non-conducting, solid might belong to which group? \_\_\_\_\_  
(*Alkaline earth metals, Actinide series, Oxygen group*)
49. Substances that can be hammered or rolled into sheets are \_\_\_\_\_.
50. Which of the following alkaline earth metals is radioactive? \_\_\_\_\_  
(*Calcium, Radium, Magnesium*)
51. Which metal is most abundant in Earth's crust? \_\_\_\_\_
52. Which element is the most chemically active of all the elements? \_\_\_\_\_
53. O<sub>2</sub> is a \_\_\_\_\_ molecule because it is a molecule with two atoms.
54. A family of elements that contains the most reactive metal is the \_\_\_\_\_.
55. Elements made in a laboratory are \_\_\_\_\_.

56. Complete the table below by filling in the required information.

Element Name	Element Symbol	Group Number	Period Number	Valence Electrons	Energy Levels	Metal, Nonmetal, or Metalloid?
Silicon						
Arsenic						
Beryllium						
Aluminum						
Neon						
Polonium						

57. What is the difference between an element's atomic mass and mass number?

58. Why is it important to always capitalize the first letter of the element symbol; but the second letter must be lowercased? Provide an example.

59. Why is it that some elements have symbols that "don't match". The letter(s) used for the symbol aren't the same letters used to spell the element. Provide an example.

60. What group do the Lanthanide and Actinide elements belong to? Why aren't they placed on the Periodic Table with the other elements of this group?