

Atomic Structure and Periodic Table Review

Use your head, notes, and Physical Science textbook to answer all questions.

1. What is matter?
2. What is an element?
3. What is an atom?
4. What is bigger an atom or an element?
5. What are the three subatomic parts of an atom?
6. What is the positively charged particle of an atom called?
7. What charge does a neutron have?
8. What is the mass of an electron?
9. What is the mass of a proton?
10. What is the mass of a neutron?
11. What is the charge of an electron?
12. What two subatomic particles are located in the nucleus of an atom?
13. Where are the electrons located in the atom?
14. How are the electrons organized in their location?
15. How many electrons can fit in each of the "organization levels"? Be specific.
16. Define atomic number. Where is it located on the periodic table?
17. Define mass number. Where is it located on the periodic table?
18. How do you find how many protons are in an atom?
19. How do you find how many neutrons are in an atom?
20. How do you find how many electrons are in an atom?

21. True or False: The number of protons equals the number of electrons in a neutral atom.

22. Fill in the following chart:

<u>Particle</u>	<u>Charge</u>	<u>Mass (AMU)</u>	<u>Location</u>
Protons			
Neutrons			
Electrons			

23. Below is a sketch of an atom's nucleus and first three energy levels. Place each of the following words in the correct place on the sketch: 8 electrons, neutrons, protons, 2 electrons, 8 electrons.



24. Fill in the blanks for the elements in this chart. For the purposes of this chart, **round all atomic masses to the nearest whole number.**

<i>Element</i>	<i>Number of Protons</i>	<i>Number of Neutrons</i>	<i>Number of Electrons</i>	<i>Atomic Mass</i>	<i>Atomic Number</i>
<i>lithium</i>					
<i>carbon</i>					
<i>chlorine</i>					
<i>silver</i>					
<i>lead</i>					
<i>sodium</i>					

25. In the space provided below, draw a model of the atom indicated.

1. Draw a nucleus in the center of each box.
2. Draw smaller circles to represent the protons. Indicate what charge they have.
3. Draw smaller circles to represent the neutrons. Indicate what charge they have.
4. Draw the appropriate amount of energy levels around the nucleus.
5. Draw tiny circles to represent the correct number of electrons for each level. Indicate their charge.

Aluminum	Lithium

26. In the Periodic Table, explain what the trend is for each of the following: (ex. "increase from left to right" or "decrease from top to bottom")

- a. Atomic number:
- b. Atomic mass:
- c. Atomic radii:
- d. Electronegativity:

27. What is electronegativity? What does it mean if an atom has high electronegativity?

28. Where in the Periodic Table (i.e. which column or period) are the following families located:

- a. Alkali metals:
- b. Noble gases:
- c. Halogens:
- d. Alkali earth metals:

29. Is Hydrogen considered a metal or nonmetal?

30. In the chart below, indicate which elements are present in the compound and how many atoms of each element are present.

Name	Formula	# of Atoms in Formula
Calcium carbonate	CaCO_3	
Aspirin	$\text{C}_9\text{H}_8\text{O}_4$	
Magnesium hydroxide	$\text{Mg}(\text{OH})_2$	
Paradichlorobenzene	$\text{C}_6\text{H}_4\text{O}_{12}$	
Acetic acid	$\text{C}_2\text{H}_4\text{O}_2$	