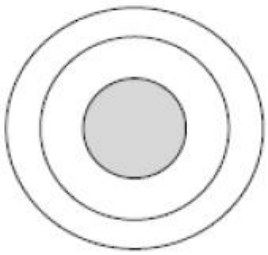
Atomic Basics Name _____

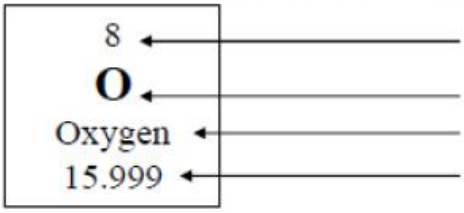
Part A: Atomic Structure



1. Draw five protons in the nucleus of the atom. Label them with their charge.
2. Draw six neutrons in the nucleus of the atom.
3. Draw two electrons in the first energy level and label them with their charge.
4. Draw three electrons in the second energy level and label them with their charge.
5. What element is represented by the diagram? _____

Part B: Atomic Calculations

6. Label the information provided in the periodic table.



7. What does the atomic number represent?

_____ or _____

8. What does the atomic mass represent?

_____ + _____

9. How would you figure the number of protons or electrons in an atom?

10. How would you figure the number of neutrons in an atom?

11. Use your knowledge of atomic calculations to complete the chart.

Element	Atomic Number	Atomic Mass	Protons	Neutrons	Electrons
Li	3	7			
P	15	31			
Cl		35	17		
Ni	28			31	
K		39			19
Ag	47			61	
H		1	1		
Si				14	14
W			74	110	
Ne				10	10

Part C: Electron Configuration

12. How many electrons can each level hold? 1st = _____ 2nd = _____ 3rd = _____

13. What term is used for the electrons in the outermost shell or energy level? _____

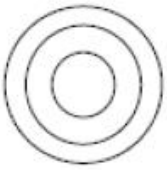
15. Calculate the missing information and then draw the Bohr Diagram and Lewis Structure for each element.

Atomic # = 3
Mass # = 7
# of P = ____
# of N = ____
# of E = ____

Li

Atomic # = 10
Mass # = 20
# of P = ____
# of N = ____
# of E = ____

Ne



Atomic # = 12
Mass # = 24
# of P = ____
# of N = ____
# of E = ____

Mg

Adding Ions to the Mix

Element	Atomic #	Charge	Is it neutral, anion or cation?	Number of Protons	Number of Electrons
Beryllium	4	2+	cation	4	2
	11	0	Neutral		
	7	3-			10
Calcium		0			
Sulfur		2-		16	
	3	1+			
		3+		13	

What about Isotopes?

Element	Atomic #	Atomic Mass	Protons	Neutrons	Isotope?
Carbon-	6	12	6	6	Nope
Carbon-	6		6	8	
Oxygen-			8	10	
Oxygen-	8	16			
Chlorine-	17			18	
Chlorine-	17			20	