

## Atoms and Ions Worksheet

1. What is the charge on an atom? Explain why this is so.
2. Beryllium has an atomic number of 4 and a mass number of 9.
  - (a) Beryllium has \_\_\_\_\_  $p^+$ , \_\_\_\_\_  $n^0$ , and \_\_\_\_\_  $e^-$ .
  - (b) Draw a Lewis (electron dot) diagram for beryllium.
3. How is an atom different from an ion?
4. Why do atoms gain or lose electrons to get 8 in the valence shell?
5. What is an anion? How does an anion form?
6. What is a cation? How does a cation form?

7. Complete the following table.

Element Name	Chemical Symbol	Number of Valence Electrons	Does the element lose or gain electrons?	Ionic Symbol
Lithium				
	N			
Boron				
	F			
Sulfur				
	P			
Oxygen				
	Ca			
Magnesium				
	Na			
Potassium				