

Name: _____ Date: _____ Period: _____

Atoms vs. Ions worksheet

Cations:

Have a positive charge

Have lost electrons

Anions:

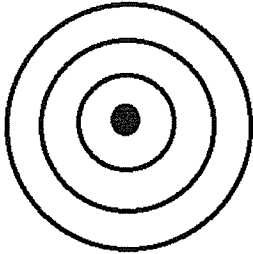
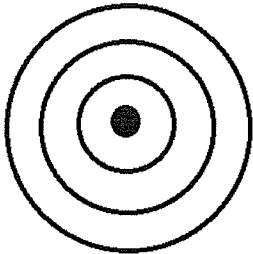
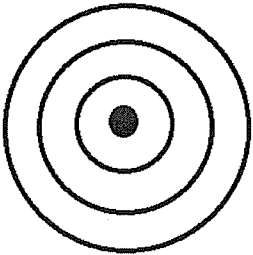
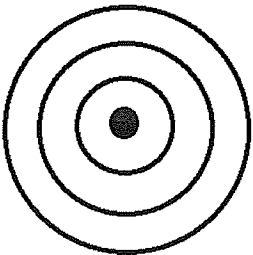
Have a negative charge

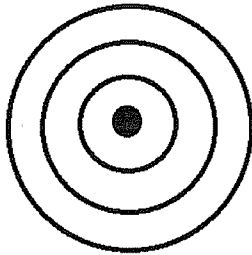
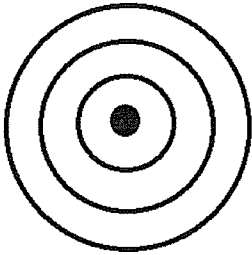
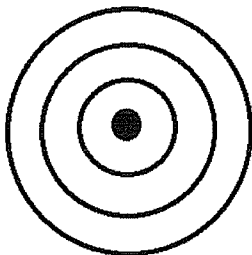
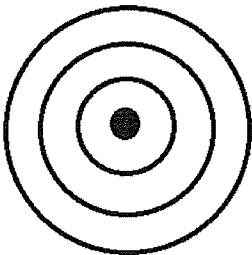
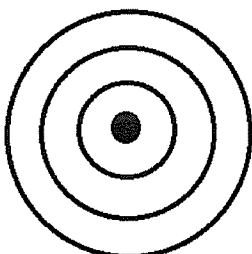
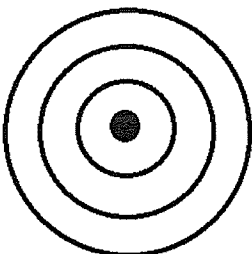
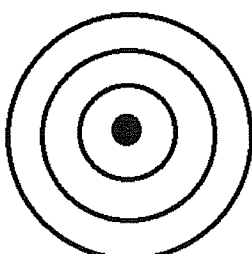
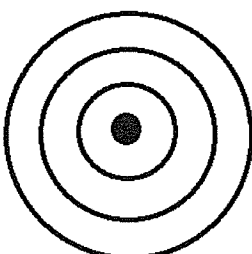
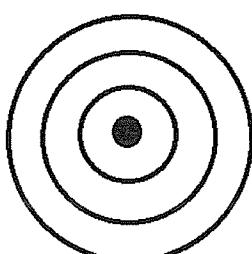
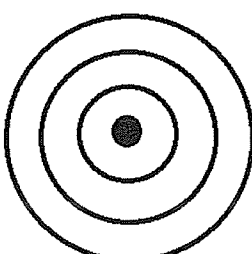
Have gained electrons

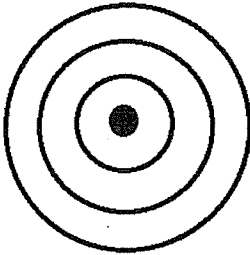
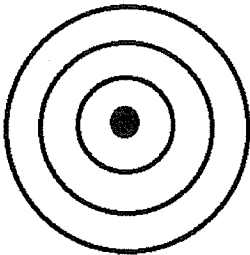
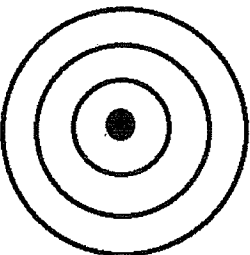
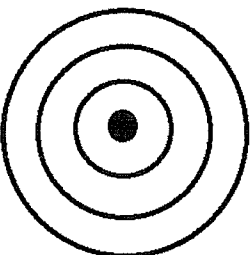
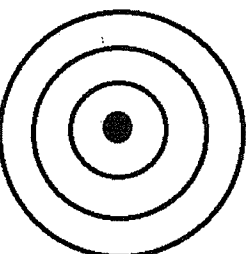
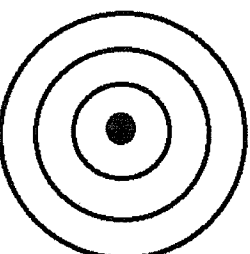
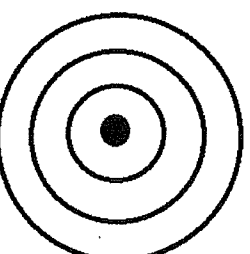
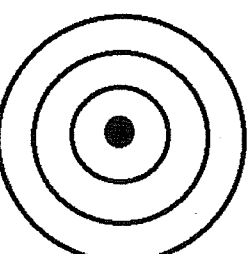
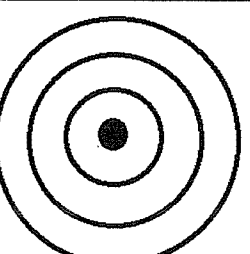
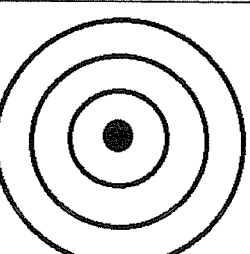
Ion symbol:

To write the ion symbol, you must write the element symbol with the charge written on the top right.

Example: Ca^{2+} , Zn^{2+} , Ag^{1+}

 		Lithium atom	Lithium ion
		Atomic number:	Atomic number:
		Mass number:	Mass number:
		Protons:	Protons:
		Neutrons:	Neutrons:
		Electrons:	Electrons:
		Cation/Anion:	Ion symbol:
 		Beryllium atom	Beryllium ion
		Atomic number:	Atomic number:
		Mass number:	Mass number:
		Protons:	Protons:
		Neutrons:	Neutrons:
		Electrons:	Electrons:
		Cation/Anion:	Ion symbol:

		Boron atom	Boron ion
		Atomic number:	Atomic number:
		Mass number:	Mass number:
		Protons:	Protons:
		Neutrons:	Neutrons:
		Electrons:	Electrons:
Boron atom	Boron ion	Cation/Anion:	Ion symbol:
		Nitrogen atom	Nitrogen ion
		Atomic number:	Atomic number:
		Mass number:	Mass number:
		Protons:	Protons:
		Neutrons:	Neutrons:
		Electrons:	Electrons:
Nitrogen atom	Nitrogen ion	Cation/Anion:	Ion symbol:
		Oxygen atom	Oxygen ion
		Atomic number:	Atomic number:
		Mass number:	Mass number:
		Protons:	Protons:
		Neutrons:	Neutrons:
		Electrons:	Electrons:
Oxygen atom	Oxygen ion	Cation/Anion:	Ion symbol:
		Fluorine atom	Fluorine ion
		Atomic number:	Atomic number:
		Mass number:	Mass number:
		Protons:	Protons:
		Neutrons:	Neutrons:
		Electrons:	Electrons:
Fluorine atom	Fluorine ion	Cation/Anion:	Ion symbol:
		Sodium atom	Sodium ion
		Atomic number:	Atomic number:
		Mass number:	Mass number:
		Protons:	Protons:
		Neutrons:	Neutrons:
		Electrons:	Electrons:
Sodium atom	Sodium ion	Cation/Anion:	Ion symbol:

		Magnesium atom	Magnesium ion	Magnesium atom	Magnesium ion
		Atomic number:	Atomic number:	Atomic number:	Atomic number:
		Mass number:	Mass number:	Mass number:	Mass number:
		Protons:	Protons:	Protons:	Protons:
		Neutrons:	Neutrons:	Neutrons:	Neutrons:
		Electrons:	Electrons:	Electrons:	Electrons:
Magnesium atom	Magnesium ion	Cation/Anion:	Ion symbol:	Cation/Anion:	Ion symbol:
		Aluminum atom	Aluminum ion	Aluminum atom	Aluminum ion
		Atomic number:	Atomic number:	Atomic number:	Atomic number:
		Mass number:	Mass number:	Mass number:	Mass number:
		Protons:	Protons:	Protons:	Protons:
		Neutrons:	Neutrons:	Neutrons:	Neutrons:
		Electrons:	Electrons:	Electrons:	Electrons:
Aluminum atom	Aluminum ion	Cation/Anion:	Ion symbol:	Cation/Anion:	Ion symbol:
		Phosphorus atom	Phosphorus ion	Phosphorus atom	Phosphorus ion
		Atomic number:	Atomic number:	Atomic number:	Atomic number:
		Mass number:	Mass number:	Mass number:	Mass number:
		Protons:	Protons:	Protons:	Protons:
		Neutrons:	Neutrons:	Neutrons:	Neutrons:
		Electrons:	Electrons:	Electrons:	Electrons:
Phosphorus atom	Phosphorus ion	Cation/Anion:	Ion symbol:	Cation/Anion:	Ion symbol:
		Sulfur atom	Sulfur ion	Sulfur atom	Sulfur ion
		Atomic number:	Atomic number:	Atomic number:	Atomic number:
		Mass number:	Mass number:	Mass number:	Mass number:
		Protons:	Protons:	Protons:	Protons:
		Neutrons:	Neutrons:	Neutrons:	Neutrons:
		Electrons:	Electrons:	Electrons:	Electrons:
Sulfur atom	Sulfur ion	Cation/Anion:	Ion symbol:	Cation/Anion:	Ion symbol:
		Chlorine atom	Chlorine ion	Chlorine atom	Chlorine ion
		Atomic number:	Atomic number:	Atomic number:	Atomic number:
		Mass number:	Mass number:	Mass number:	Mass number:
		Protons:	Protons:	Protons:	Protons:
		Neutrons:	Neutrons:	Neutrons:	Neutrons:
		Electrons:	Electrons:	Electrons:	Electrons:
Chlorine atom	Chlorine ion	Cation/Anion:	Ion symbol:	Cation/Anion:	Ion symbol:

Atoms and Ions Worksheet

Name _____ Period _____

Fill in the missing spaces in the charts below. Do **NOT** use your periodic table.

Element	Symbol	Atomic Number	Mass Number	Protons	Neutrons	Electrons
Carbon		6	14			
	O	8			10	
Potassium				19	20	
		19	41			
	$^{197}_{79}\text{Au}$					
Tin	Sn	50			68	
Zinc			64	30		
			66			30
			68	30		
Cobalt	Co	27			32	
Boron				5	6	
			10			5
	$^{56}_{26}\text{Fe}$					
		26			28	

Ion	Symbol	Atomic Number	Mass Number	Protons	Neutrons	Electrons
Iodine	I^{-1}		127	53		54
	Cl^{-1}		35	17		
Hydrogen			1	1		0
	Br^{-1}	35			46	
		35	79			36
	B^{+3}	5	11			
Oxygen	O^{-2}		16	8		
Nitrogen				7	7	10
Aluminum	Al^{+3}		27			10
	Fe^{+2}		56	26		24
	Cu^{+1}	29			34	
			63	29		27