



Name: \_\_\_\_\_

Collisions Username: \_\_\_\_\_

Class: \_\_\_\_\_

## Atoms Quest

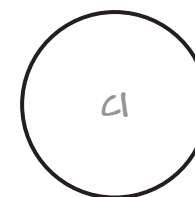
Complete this quest using the Challenge Levels 6 - 13 in the Atoms game.

### MISSION 1. GATHER YOUR INTEL

Use your Collisions gameplay experience to gather the following intel for Atoms levels 6 - 13:

1. Label the correct element symbol in the circle.
2. List the # of protons found in the atom.
3. List the # of electrons found in the atom.

Sample Target



# of Protons: 17  
# of Electrons: 17

### MISSION 2. EXPOSE THE DETAILS

Use your expertise to expose the following information for each target atom.

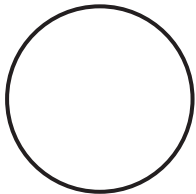
	Sample Target
Element Name	Chlorine
Atomic Number	17
Average Atomic Mass	35.453
# of Neutrons	17
Metal, Nonmetal, or Metalloid?	Nonmetal
Electron Configuration	$1s^2 2s^2 2p^6 3s^2 3p^5$
# of Valence Electrons	7
Group Name	Halogen
Number of Energy Levels	3
# of Unpaired Electrons	1

# Atoms - Challenge Level 6

## MISSION 1. GATHER YOUR INTEL

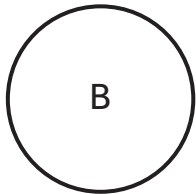
(smallest  $\longrightarrow$  largest)

Atom 1



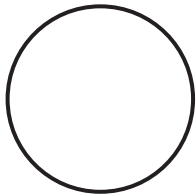
# of Protons: \_\_\_\_  
# of Electrons: \_\_\_\_

Atom 2



# of Protons: \_\_\_\_  
# of Electrons: \_\_\_\_

Atom 3



# of Protons: \_\_\_\_  
# of Electrons: \_\_\_\_

<                      <

## MISSION 2. EXPOSE THE DETAILS

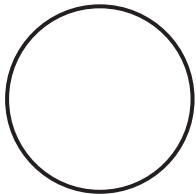
	Atom 1	Atom 2	Atom 3
Element Name			
Atomic Number			
Average Atomic Mass			
# of Neutrons			
Metal, Nonmetal, or Metalloid?			
Electron Configuration			
# of Valence Electrons			
Group Name			
Number of Energy Levels			
# of Unpaired Electrons			

# Atoms - Challenge Level 7

## MISSION 1. GATHER YOUR INTEL

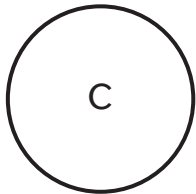
(smallest  $\longrightarrow$  largest)

Atom 1



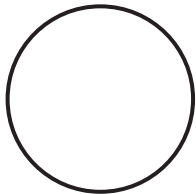
# of Protons: \_\_\_\_  
# of Electrons: \_\_\_\_

Atom 2



# of Protons: \_\_\_\_  
# of Electrons: \_\_\_\_

Atom 3



# of Protons: \_\_\_\_  
# of Electrons: \_\_\_\_

<                      <

## MISSION 2. EXPOSE THE DETAILS

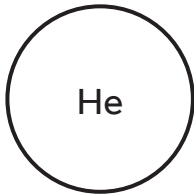
	Atom 1	Atom 2	Atom 3
Element Name			
Atomic Number			
Average Atomic Mass			
# of Neutrons			
Metal, Nonmetal, or Metalloid?			
Electron Configuration			
# of Valence Electrons			
Group Name			
Number of Energy Levels			
# of Unpaired Electrons			

# Atoms - Challenge Level 8

## MISSION 1. GATHER YOUR INTEL

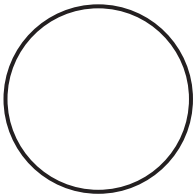
(smallest  $\longrightarrow$  largest)

Atom 1



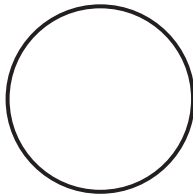
# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_

Atom 2



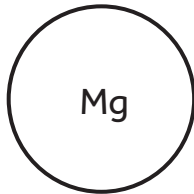
# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_

Atom 3



# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_

Atom 4



# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_

<      <      <

## MISSION 2. EXPOSE THE DETAILS

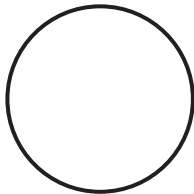
	Atom 1	Atom 2	Atom 3	Atom 4
Element Name				
Atomic Number				
Average Atomic Mass				
# of Neutrons				
Metal, Nonmetal, Metalloid?				
Electron Configuration				
# of Valence Electrons				
Group Name				
# of Energy Levels				
# of Unpaired Electrons				

# Atoms - Challenge Level 9

## MISSION 1. GATHER YOUR INTEL

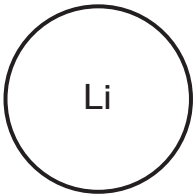
(smallest  $\longrightarrow$  largest)

Atom 1



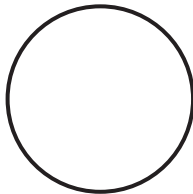
# of Protons: \_\_\_\_  
# of Electrons: \_\_\_\_

Atom 2



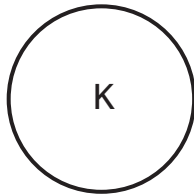
# of Protons: \_\_\_\_  
# of Electrons: \_\_\_\_

Atom 3



# of Protons: \_\_\_\_  
# of Electrons: \_\_\_\_

Atom 4



# of Protons: \_\_\_\_  
# of Electrons: \_\_\_\_

<      <      <

## MISSION 2. EXPOSE THE DETAILS

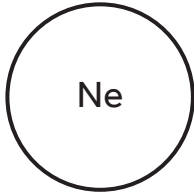
	Atom 1	Atom 2	Atom 3	Atom 4
Element Name				
Atomic Number				
Average Atomic Mass				
# of Neutrons				
Metal, Nonmetal, Metalloid?				
Electron Configuration				
# of Valence Electrons				
Group Name				
# of Energy Levels				
# of Unpaired Electrons				

# Atoms - Challenge Level 10

## MISSION 1. GATHER YOUR INTEL

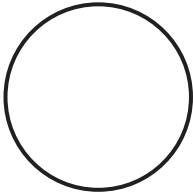
(smallest  $\longrightarrow$  largest)

Atom 1



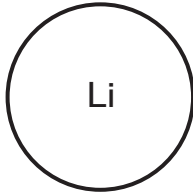
# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_

Atom 2



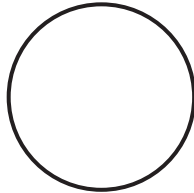
# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_

Atom 3



# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_

Atom 4



# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_

<      <      <

## MISSION 2. EXPOSE THE DETAILS

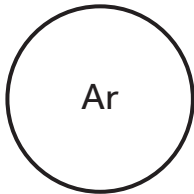
	Atom 1	Atom 2	Atom 3	Atom 4
Element Name				
Atomic Number				
Average Atomic Mass				
# of Neutrons				
Metal, Nonmetal, Metalloid?				
Electron Configuration				
# of Valence Electrons				
Group Name				
# of Energy Levels				
# of Unpaired Electrons				

# Atoms - Challenge Level 11

## MISSION 1. GATHER YOUR INTEL

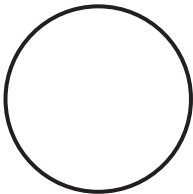
(smallest  $\longrightarrow$  largest)

Atom 1



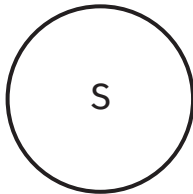
# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_

Atom 2



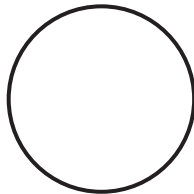
# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_

Atom 3



# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_

Atom 4



# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_

<      <      <

## MISSION 2. EXPOSE THE DETAILS

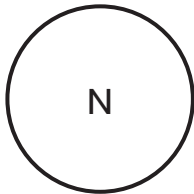
	Atom 1	Atom 2	Atom 3	Atom 4
Element Name				
Atomic Number				
Average Atomic Mass				
# of Neutrons				
Metal, Nonmetal, Metalloid?				
Electron Configuration				
# of Valence Electrons				
Group Name				
# of Energy Levels				
# of Unpaired Electrons				

# Atoms - Challenge Level 12

## MISSION 1. GATHER YOUR INTEL

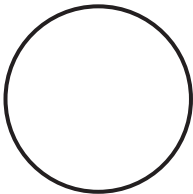
(smallest  $\longrightarrow$  largest)

Atom 1



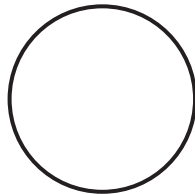
# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_

Atom 2



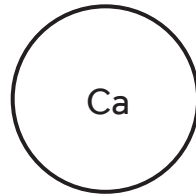
# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_

Atom 3



# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_

Atom 4



# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_

<      <      <

## MISSION 2. EXPOSE THE DETAILS

	Atom 1	Atom 2	Atom 3	Atom 4
Element Name				
Atomic Number				
Average Atomic Mass				
# of Neutrons				
Metal, Nonmetal, Metalloid?				
Electron Configuration				
# of Valence Electrons				
Group Name				
# of Energy Levels				
# of Unpaired Electrons				

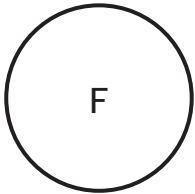


# Atoms - Challenge Level 13

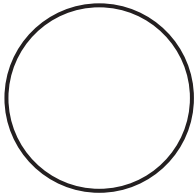
## MISSION 1. GATHER YOUR INTEL

(smallest  $\longrightarrow$  largest)

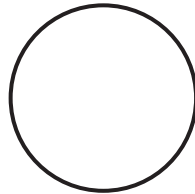
Atom 1                  Atom 2                  Atom 3                  Atom 4                  Atom 5



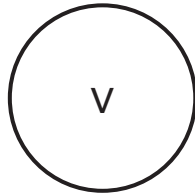
# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_



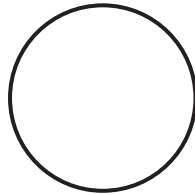
# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_



# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_



# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_



# of Protons: \_\_\_\_\_  
# of Electrons: \_\_\_\_\_

<                  <                  <                  <

## MISSION 2. EXPOSE THE DETAILS

	Atom 1	Atom 2	Atom 3	Atom 4	Atom 5
Element Name					
Atomic Number					
Average Atomic Mass					
# of Neutrons					
Metal, Nonmetal, Metalloid?					
Electron Configuration					
# of Valence Electrons					
Group Name					
# of Energy Levels					
# of Unpaired Electrons					