

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

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

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

## Covalent Bonding Quest

Now that you have completed the Covalent Bonding Challenges, you are ready to conduct this Covalent Bonding Quest.

### MISSION 1. GATHER YOUR INTEL

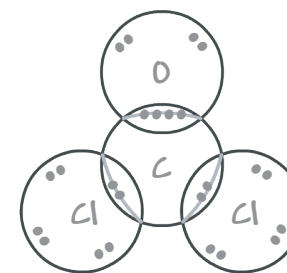
Use your Collisions gameplay experience to gather the following intel:

1. Label each atom of the molecule with the correct element symbol.
2. Draw in each electron on the molecule.
3. List how many bond types (single, double, and triple) exist in the molecule.

### MISSION 2. EXPOSE THE DETAILS

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

Sample Target



# of Bond Types:

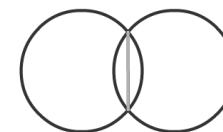
2 Single  
1 Double  
 \_\_\_ Triple

Sample Target	
Chemical Formula	$\text{COCl}_2$
Molecular Name	Phosgene
Lewis Structure	
Molecular Shape	Trigonal Planar
Bond Angle	$120^\circ$
Formula Mass (g/mol)	98.91g/mol

# Covalent Bonding - Challenge Level 1

## MISSION 1. GATHER YOUR INTEL

Target 1



# of Bond Types:  
\_\_\_ Single  
\_\_\_ Double  
\_\_\_ Triple

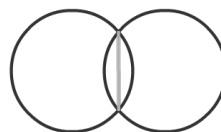
## MISSION 2. EXPOSE THE DETAILS

	Target 1
Chemical Formula	
Molecular Name	
Lewis Structure	
Molecular Shape	
Bond Angle	
Formula Mass (g/mol)	

# Covalent Bonding - Challenge Level 2

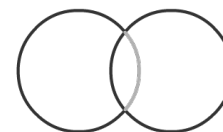
## MISSION 1. GATHER YOUR INTEL

Target 1



# of Bond Types:  
\_\_\_ Single  
\_\_\_ Double  
\_\_\_ Triple

Target 2



# of Bond Types:  
\_\_\_ Single  
\_\_\_ Double  
\_\_\_ Triple

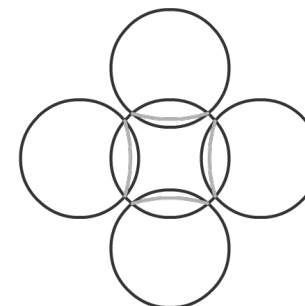
## MISSION 2. EXPOSE THE DETAILS

	Target 1	Target 2
Chemical Formula		
Molecular Name		
Lewis Structure		
Molecular Shape		
Bond Angle		
Formula Mass (g/mol)		

# Covalent Bonding - Challenge Level 3

## MISSION 1. GATHER YOUR INTEL

Target 1



# of Bond Types:  
\_\_\_ Single  
\_\_\_ Double  
\_\_\_ Triple

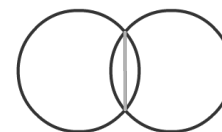
## MISSION 2. EXPOSE THE DETAILS

Target 1	
Chemical Formula	
Molecular Name	
Lewis Structure	
Molecular Shape	
Bond Angle	
Formula Mass (g/mol)	

# Covalent Bonding - Challenge Level 4

## MISSION 1. GATHER YOUR INTEL

Target 1



# of Bond Types:  
\_\_\_ Single  
\_\_\_ Double  
\_\_\_ Triple

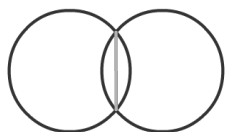
## MISSION 2. EXPOSE THE DETAILS

Target 1	
Chemical Formula	
Molecular Name	
Lewis Structure	
Molecular Shape	
Bond Angle	
Formula Mass (g/mol)	

# Covalent Bonding - Challenge Level 5

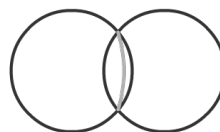
## MISSION 1. GATHER YOUR INTEL

Target 1



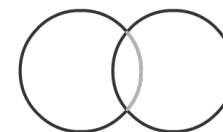
# of Bond Types:  
\_\_\_ Single  
\_\_\_ Double  
\_\_\_ Triple

Target 2



# of Bond Types:  
\_\_\_ Single  
\_\_\_ Double  
\_\_\_ Triple

Target 3



# of Bond Types:  
\_\_\_ Single  
\_\_\_ Double  
\_\_\_ Triple

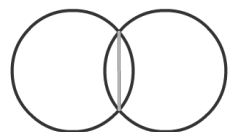
## MISSION 2. EXPOSE THE DETAILS

	Target 1	Target 2	Target 3
Chemical Formula			
Molecular Name			
Lewis Structure			
Molecular Shape			
Bond Angle			
Formula Mass (g/mol)			

# Covalent Bonding - Challenge Level 6

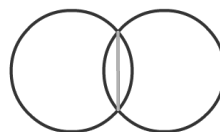
## MISSION 1. GATHER YOUR INTEL

Target 1



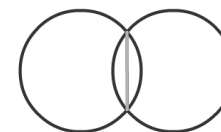
# of Bond Types:  
\_\_\_ Single  
\_\_\_ Double  
\_\_\_ Triple

Target 2



# of Bond Types:  
\_\_\_ Single  
\_\_\_ Double  
\_\_\_ Triple

Target 3



# of Bond Types:  
\_\_\_ Single  
\_\_\_ Double  
\_\_\_ Triple

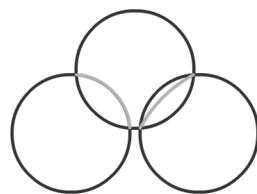
## MISSION 2. EXPOSE THE DETAILS

	Target 1	Target 2	Target 3
Chemical Formula			
Molecular Name			
Lewis Structure			
Molecular Shape			
Bond Angle			
Formula Mass (g/mol)			

# Covalent Bonding - Challenge Level 7

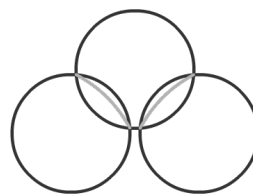
## MISSION 1. GATHER YOUR INTEL

Target 1



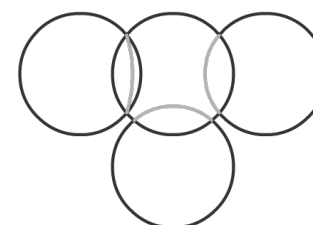
# of Bond Types:  
 \_\_\_ Single  
 \_\_\_ Double  
 \_\_\_ Triple

Target 2



# of Bond Types:  
 \_\_\_ Single  
 \_\_\_ Double  
 \_\_\_ Triple

Target 3



# of Bond Types:  
 \_\_\_ Single  
 \_\_\_ Double  
 \_\_\_ Triple

## MISSION 2. EXPOSE THE DETAILS

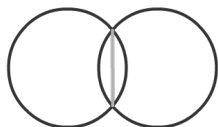
	Target 1	Target 2	Target 3
Chemical Formula			
Molecular Name			
Lewis Structure			
Molecular Shape			
Bond Angle			
Formula Mass (g/mol)			



# Covalent Bonding - Challenge Level 8

## MISSION 1. GATHER YOUR INTEL

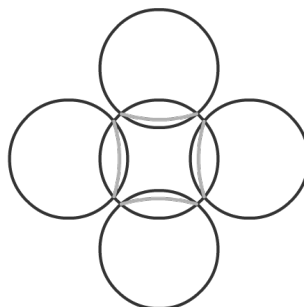
Target 1



# of Bond Types:

- \_\_\_ Single
- \_\_\_ Double
- \_\_\_ Triple

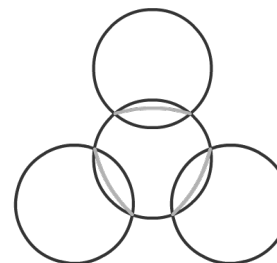
Target 2



# of Bond Types:

- \_\_\_ Single
- \_\_\_ Double
- \_\_\_ Triple

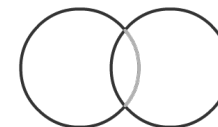
Target 3



# of Bond Types:

- \_\_\_ Single
- \_\_\_ Double
- \_\_\_ Triple

Target 4



# of Bond Types:

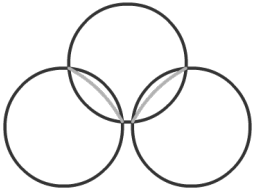
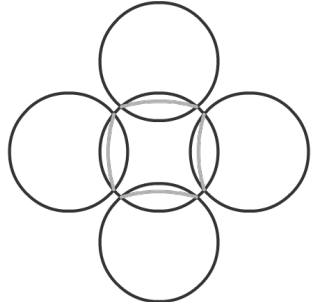
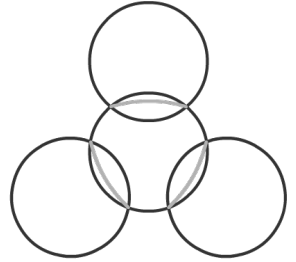
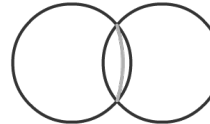
- \_\_\_ Single
- \_\_\_ Double
- \_\_\_ Triple

## MISSION 2. EXPOSE THE DETAILS

	Target 1	Target 2	Target 3
Chemical Formula			
Molecular Name			
Lewis Structure			
Molecular Shape			
Bond Angle			
Formula Mass (g/mol)			

# Covalent Bonding - Challenge Level 9

## MISSION 1. GATHER YOUR INTEL

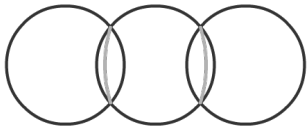
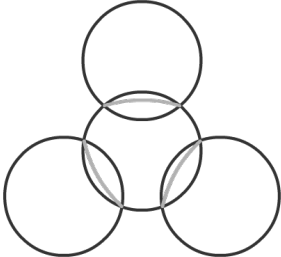
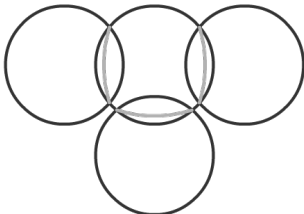
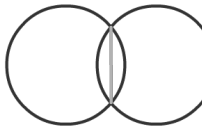
Target 1	Target 2	Target 3	Target 4
			
# of Bond Types: ___ Single ___ Double ___ Triple	# of Bond Types: ___ Single ___ Double ___ Triple	# of Bond Types: ___ Single ___ Double ___ Triple	# of Bond Types: ___ Single ___ Double ___ Triple

## MISSION 2. EXPOSE THE DETAILS

	Target 1	Target 2	Target 3	Target 4
Chemical Formula				
Molecular Name				
Lewis Structure				
Molecular Shape				
Bond Angle				
Formula Mass (g/mol)				

# Covalent Bonding - Challenge Level 10

## MISSION 1. GATHER YOUR INTEL

Target 1	Target 2	Target 3	Target 4
			
# of Bond Types: ___ Single ___ Double ___ Triple	# of Bond Types: ___ Single ___ Double ___ Triple	# of Bond Types: ___ Single ___ Double ___ Triple	# of Bond Types: ___ Single ___ Double ___ Triple

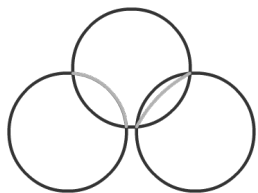
## MISSION 2. EXPOSE THE DETAILS

	Target 1	Target 2	Target 3	Target 4
Chemical Formula				
Molecular Name				
Lewis Structure				
Molecular Shape				
Bond Angle				

# Covalent Bonding - Challenge Level 11

## MISSION 1. GATHER YOUR INTEL

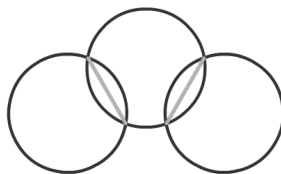
Target 1



# of Bond Types:

- Single
- Double
- Triple

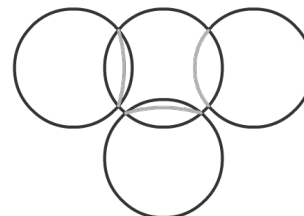
Target 2



# of Bond Types:

- Single
- Double
- Triple

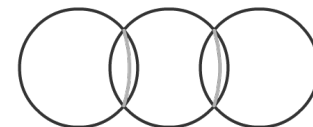
Target 3



# of Bond Types:

- Single
- Double
- Triple

Target 4



# of Bond Types:

- Single
- Double
- Triple

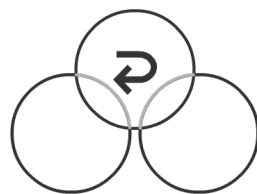
## MISSION 2. EXPOSE THE DETAILS

	Target 1	Target 2	Target 3	Target 4
Chemical Formula				
Molecular Name				
Lewis Structure				
Molecular Shape				
Bond Angle				
Formula Mass (g/mol)				

# Covalent Bonding and Atoms - Connected Level 1

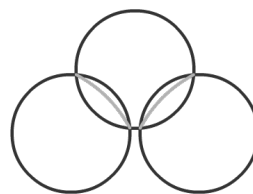
## MISSION 1. GATHER YOUR INTEL

Target 1



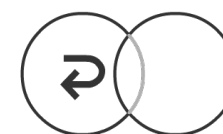
# of Bond Types:  
 \_\_\_ Single  
 \_\_\_ Double  
 \_\_\_ Triple

Target 2



# of Bond Types:  
 \_\_\_ Single  
 \_\_\_ Double  
 \_\_\_ Triple

Target 3



# of Bond Types:  
 \_\_\_ Single  
 \_\_\_ Double  
 \_\_\_ Triple

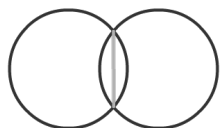
## MISSION 2. EXPOSE THE DETAILS

	Target 1	Target 2	Target 3
Chemical Formula			
Molecular Name			
Lewis Structure			
Molecular Shape			
Bond Angle			
Formula Mass (g/mol)			

# Covalent Bonding and Atoms - Connected Level 2

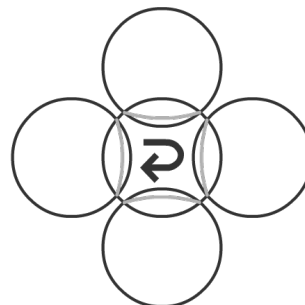
## MISSION 1. GATHER YOUR INTEL

Target 1



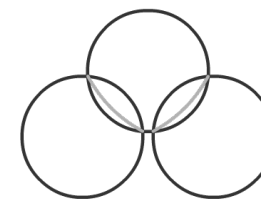
# of Bond Types:  
\_\_\_ Single  
\_\_\_ Double  
\_\_\_ Triple

Target 2



# of Bond Types:  
\_\_\_ Single  
\_\_\_ Double  
\_\_\_ Triple

Target 3



# of Bond Types:  
\_\_\_ Single  
\_\_\_ Double  
\_\_\_ Triple

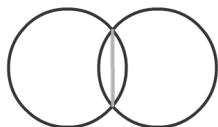
## MISSION 2. EXPOSE THE DETAILS

	Target 1	Target 2	Target 3
Chemical Formula			
Molecular Name			
Lewis Structure			
Molecular Shape			
Bond Angle			
Formula Mass (g/mol)			

# Covalent Bonding and Atoms - Connected Level 3

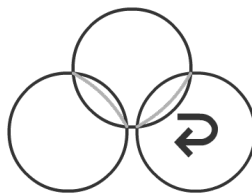
## MISSION 1. GATHER YOUR INTEL

Target 1



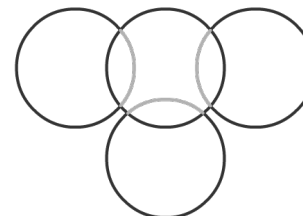
# of Bond Types:  
 \_\_\_ Single  
 \_\_\_ Double  
 \_\_\_ Triple

Target 2



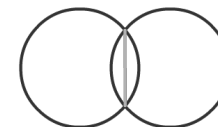
# of Bond Types:  
 \_\_\_ Single  
 \_\_\_ Double  
 \_\_\_ Triple

Target 3



# of Bond Types:  
 \_\_\_ Single  
 \_\_\_ Double  
 \_\_\_ Triple

Target 4



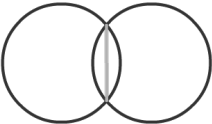
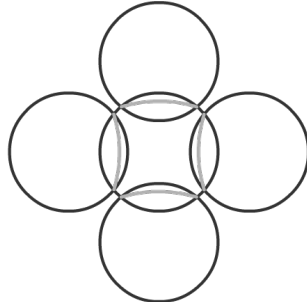
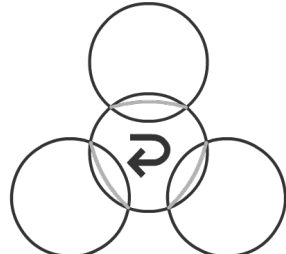
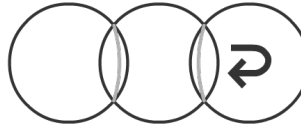
# of Bond Types:  
 \_\_\_ Single  
 \_\_\_ Double  
 \_\_\_ Triple

## MISSION 2. EXPOSE THE DETAILS

	Target 1	Target 2	Target 3	Target 4
Chemical Formula				
Molecular Name				
Lewis Structure				
Molecular Shape				
Bond Angle				
Formula Mass (g/mol)				

# Covalent Bonding to Atoms - Connected Level 4

## MISSION 1. GATHER YOUR INTEL

Target 1	Target 2	Target 3	Target 4
			
# of Bond Types: ___ Single ___ Double ___ Triple	# of Bond Types: ___ Single ___ Double ___ Triple	# of Bond Types: ___ Single ___ Double ___ Triple	# of Bond Types: ___ Single ___ Double ___ Triple

## MISSION 2. EXPOSE THE DETAILS

	Target 1	Target 2	Target 3	Target 4
Chemical Formula				
Molecular Name				
Lewis Structure				
Molecular Shape				
Bond Angle				
Formula Mass (g/mol)				