

Physical Science
Molecular Models Lab

Your name: _____ Block: _____

Partners: _____

Your model kit contains:

24 H (white), 16 C (black), 16 O (red), 8 Halogens (green), 6 N (orange), 6 S (yellow)
10 long (for double or triple) bonds, 16 short bonds

Initial here: _____ indicating you have all of these parts when you started. If you don't, contact Mr. H before proceeding further!

For each chemical formula below:

1. Sketch the Lewis structure for the molecule, including the unshared electrons.
2. Create a model of the molecule using the balls and springs.
3. Sketch the molecules using colored pens or pencils to indicate the element. Try to show the 3-dimensional structure of the molecule. NOTE: you do NOT have enough atoms to create all the molecules at one time; you'll need to "recycle"!

A good structure has the right number of total valence electrons shown!

A good model has NO holes left open on any atom!

Your structure should match your model!

You may have trouble building good models of one or more molecules. When you have finished all of them, answer the following questions:

1. Which of these molecules are not modeled well with the kits? Do any have holes left over? Do any prevent you from putting in the correct number of bonds?

2. Describe what kind of molecules in general you think would be poorly modeled with these kits. Try to state your theory such that it covers all the good and poor models in this worksheet, and as many others as accurately as possible.

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Sketch

Formula	Lewis Structure
H_2	
H_2O	
O_2	
N_2	
CH_4	
NH_3	

CO_2	
CO	
CH_3Cl	
H_2O_2	
C_3H_8	
C_2H_4	