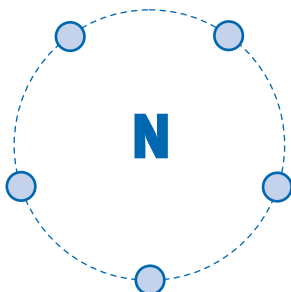
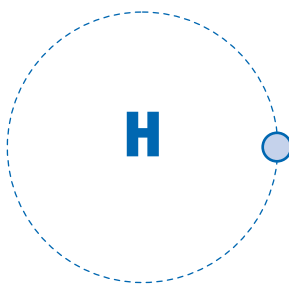


# Making Molecules

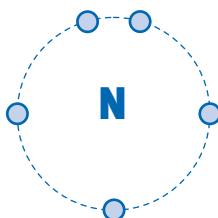
1. This nitrogen atom has five electrons in its outer energy level.  
How many more does it need to complete the level? \_\_\_\_\_



2. This hydrogen atom has one electron in its energy level.  
How many more does it need to complete the level? \_\_\_\_\_



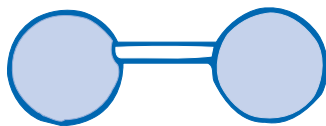
3. In the space below, add hydrogen atoms around the nitrogen atom until all of the atoms have complete outer energy levels. (Recall the diagram of  $\text{CO}_2$  your teacher drew on the board earlier.) Draw circles around the pairs of electrons that are being shared by the atoms.



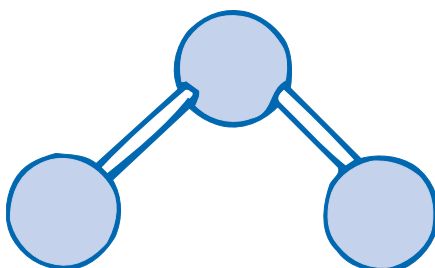
# Making Molecules

4. Make the molecules listed below from the materials in your trough, according to the following rules:

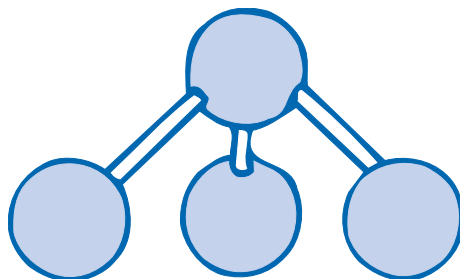
- Molecules with two atoms are always linear.



- Molecules with two atoms on either side of a central atom have a bent shape.



- Molecules with three atoms around a central atom are shaped like a pyramid.



a. CO<sub>2</sub>

b. H<sub>2</sub>O

c. NH<sub>3</sub>

d. N<sub>2</sub>

e. NO<sub>2</sub>

f. CuO

- List any molecules you made that are pure elements. \_\_\_\_\_
- List any molecules you made that are linear. \_\_\_\_\_
- List any molecules you made that are bent. \_\_\_\_\_
- List any molecules you made that are pyramid-shaped. \_\_\_\_\_
- List any molecules you made that are covalent compounds. \_\_\_\_\_
- Using the colored balls and pipe cleaners, create a molecule that you have not seen before. On the back of this sheet, give the formula for your molecule, give the molecule a name, and provide any other information you can about it.