

## Shapes of Molecules

### **Materials:**

- Four spherical balloons
- String

### **Procedure:**

1. Inflate the four balloons to approximately the same size and tie them off.
2. Use a short piece of string to tie the ends of two balloons together to make a cluster. Arrange the balloons so they are as far away from each other as possible.
3. ***Sketch the shape of this balloon cluster.***
4. Tie a third balloon to the cluster. Again arrange the balloons so they are as far apart as possible.
5. ***Sketch the shape of this balloon cluster.***
6. Tie the fourth balloon to the cluster. Again arrange the balloons so they are as far apart as possible.

7. *Sketch the shape of this balloon cluster.*

8. The balloon clusters you just constructed are models of actual molecular shapes. Scientists use the following names for the shapes you just made: **trigonal planar, tetrahedral, and linear**. ***Match these terms to the shapes you just made. Write the term next to the appropriate sketch.***

9. *Make a general statement about the way atoms arrange themselves in molecules.*