INTERPRETING GRAPHICS

8

Use with Section 8.3

Linear triatomic

Trigonal planar

Bent triatomic

Pyramidal

Tetrahedral

Trigonal bipyramidal
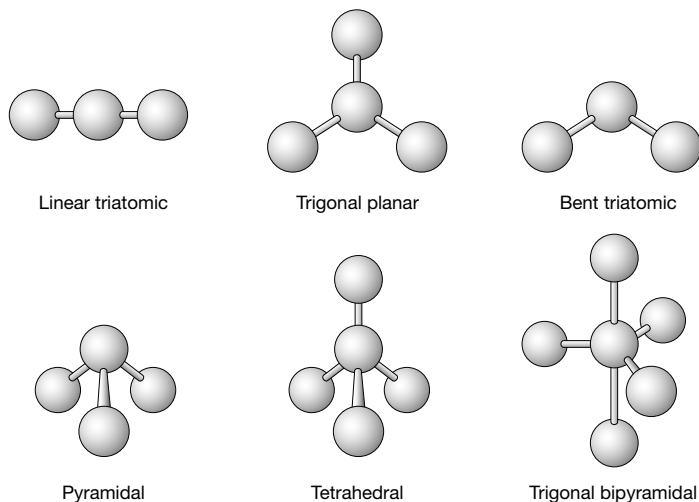
Figure 1 Common Molecular Shapes

Use what you have learned in Chapter 8 to complete the table on the following page.

Table 1 Arrangement of electron pairs about an atom

Number of valence electron pairs about the central atom	Arrangement of valence-electron pairs
2	linear
3	trigonal planar
4	tetrahedral
5	trigonal bipyramidal

Table 2 Molecular Geometries

Molecule	Electron Dot Structure	Shape	Bond Angle	Resonance Structures
1. CO_2				
2. CH_4				
3. SO_3				
4. BeF_2				
5. PF_3				
6. PCl_5				
7. H_2O				

8. If you have access to a molecular model set, construct three-dimensional models of each of the molecules in the table. Compare your models to the shapes shown in Figure 1. With a protractor, measure all the bond angles in your models. Compare these angles to those predicted by VSEPR theory and label each of the illustrations in Figure 1 with the correct bond angles.