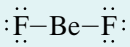
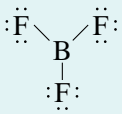
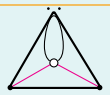
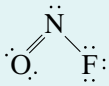
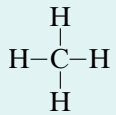
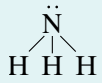
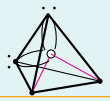
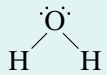
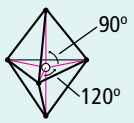
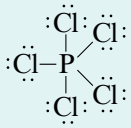
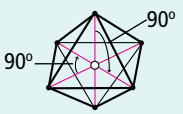
In **Figure 22b,** note that the bond angles in ammonia and water are somewhat less than the 109.5° bond angles of a perfectly tetrahedral molecule. These angles are smaller because the unshared electron pairs repel electrons more strongly than do bonding electron pairs.

Table 5 also includes an example of an AB_2E type molecule. This type of molecule results when a central atom forms two bonds and retains one unshared electron pair.

Finally, in VSEPR theory, double and triple bonds are treated in the same way as single bonds. And polyatomic ions are treated similarly to molecules. (Remember to consider *all* of the electron pairs present in any ion or molecule.) Thus, Lewis structures and **Table 5** can be used together to predict the shapes of polyatomic ions as well as molecules with double or triple bonds.

TABLE 5 *VSEPR Theory and Molecular Geometry*

	Molecular shape	Atoms bonded to central atom	Lone pairs of electrons	Type of molecule	Formula example	Lewis structure
Linear		2	0	AB_2	BeF_2	
Trigonal-planar		3	0	AB_3	BF_3	
Bent or Angular		2	1	AB_2E	ONF	
Tetrahedral		4	0	AB_4	CH_4	
Trigonal-pyramidal		3	1	AB_3E	NH_3	
Bent or Angular		2	2	AB_2E_2	H_2O	
Trigonal-bipyramidal		5	0	AB_5	PCl_5	
Octahedral		6	0	AB_6	SF_6