

**Draw Lewis Dot structures for the following  
ionic or molecular compounds:**

silicon tetrachloride

zinc sulfide

dihydrogen dioxide (peroxide)

nitrogen trihydride (ammonia)

sodium chloride

HCCH

phosphorus tribromide

C<sub>2</sub>H<sub>4</sub>

## **Exceptions to the Octet Rule**

- **Some atoms in a molecule can have fewer, or more, than a complete octet of valence electrons.**  
NO

- **Boron can have 6 electrons**  
BF<sub>3</sub>

- **Phosphorus and sulfur, sometimes expand the octet to include 10 or 12 electrons**  
PCl<sub>5</sub>                                  SF<sub>6</sub>

## **Resonance**

- **Electrons rapidly flip back and forth between different electron dot structures.**

Carbonate

Nitrite

Nitrate

Sulfate

Phosphate