

**Covalent Bonding Worksheet**

Name \_\_\_\_\_

Directions: Draw the Lewis dot structure and fill in the blanks for each molecule.

**1. CH<sub>4</sub>**central atom \_\_\_\_\_  
# valence e- \_\_\_\_\_  
lone pairs \_\_\_\_\_  
# sigma bonds \_\_\_\_\_  
# pi bonds \_\_\_\_\_  
hybridization \_\_\_\_\_**2. H<sub>2</sub>O**central atom \_\_\_\_\_  
# valence e- \_\_\_\_\_  
lone pairs \_\_\_\_\_  
# sigma bonds \_\_\_\_\_  
# pi bonds \_\_\_\_\_  
hybridization \_\_\_\_\_**3. NI<sub>3</sub>**central atom \_\_\_\_\_  
# valence e- \_\_\_\_\_  
lone pairs \_\_\_\_\_  
# sigma bonds \_\_\_\_\_  
# pi bonds \_\_\_\_\_  
hybridization \_\_\_\_\_**4. SCl<sub>2</sub>**central atom \_\_\_\_\_  
# valence e- \_\_\_\_\_  
lone pairs \_\_\_\_\_  
# sigma bonds \_\_\_\_\_  
# pi bonds \_\_\_\_\_  
hybridization \_\_\_\_\_**5. CH<sub>3</sub>Br**central atom \_\_\_\_\_  
# valence e- \_\_\_\_\_  
lone pairs \_\_\_\_\_  
# sigma bonds \_\_\_\_\_  
# pi bonds \_\_\_\_\_  
hybridization \_\_\_\_\_**6. CO<sub>2</sub>**central atom \_\_\_\_\_  
# valence e- \_\_\_\_\_  
lone pairs \_\_\_\_\_  
# sigma bonds \_\_\_\_\_  
# pi bonds \_\_\_\_\_  
hybridization \_\_\_\_\_**7. NH<sub>3</sub>**central atom \_\_\_\_\_  
# valence e- \_\_\_\_\_  
lone pairs \_\_\_\_\_  
# sigma bonds \_\_\_\_\_  
# pi bonds \_\_\_\_\_  
hybridization \_\_\_\_\_**8. HCN**central atom \_\_\_\_\_  
# valence e- \_\_\_\_\_  
lone pairs \_\_\_\_\_  
# sigma bonds \_\_\_\_\_  
# pi bonds \_\_\_\_\_  
hybridization \_\_\_\_\_**9. SiCl<sub>4</sub>**central atom \_\_\_\_\_  
# valence e- \_\_\_\_\_  
lone pairs \_\_\_\_\_  
# sigma bonds \_\_\_\_\_  
# pi bonds \_\_\_\_\_  
hybridization \_\_\_\_\_**10. SiO<sub>2</sub>**central atom \_\_\_\_\_  
# valence e- \_\_\_\_\_  
lone pairs \_\_\_\_\_  
# sigma bonds \_\_\_\_\_  
# pi bonds \_\_\_\_\_  
hybridization \_\_\_\_\_**11. PBr<sub>3</sub>**central atom \_\_\_\_\_  
# valence e- \_\_\_\_\_  
lone pairs \_\_\_\_\_  
# sigma bonds \_\_\_\_\_  
# pi bonds \_\_\_\_\_  
hybridization \_\_\_\_\_**12. C<sub>2</sub>H<sub>2</sub>**central atom \_\_\_\_\_  
# valence e- \_\_\_\_\_  
lone pairs \_\_\_\_\_  
# sigma bonds \_\_\_\_\_  
# pi bonds \_\_\_\_\_  
hybridization \_\_\_\_\_