

## **Types of Intermolecular Forces**

What is the strongest intermolecular force present for each of the following compounds?

- 1) water \_\_\_\_\_
- 2) carbon tetrachloride \_\_\_\_\_
- 3) ammonia \_\_\_\_\_
- 4) carbon dioxide \_\_\_\_\_
- 5) phosphorus trichloride \_\_\_\_\_
- 6) nitrogen \_\_\_\_\_
- 7) ethane ( $\text{C}_2\text{H}_6$ ) \_\_\_\_\_
- 8) acetone ( $\text{CH}_3\text{CO}$ ) \_\_\_\_\_
- 9) methanol ( $\text{CH}_3\text{OH}$ ) \_\_\_\_\_
- 10) borane ( $\text{BH}_3$ ) \_\_\_\_\_

## **Types of Intermolecular Forces - Solutions**

What is the strongest intermolecular force present for each of the following compounds?

- |     |   |                                 |
|-----|---|---------------------------------|
| 1)  | water                                   | <b>hydrogen bonding</b>         |
| 2)  | carbon tetrachloride                    | <b>London dispersion forces</b> |
| 3)  | ammonia                                 | <b>hydrogen bonding</b>         |
| 4)  | carbon dioxide                          | <b>London dispersion forces</b> |
| 5)  | phosphorus trichloride                  | <b>dipole-dipole forces</b>     |
| 6)  | nitrogen                                | <b>London dispersion forces</b> |
| 7)  | ethane (C <sub>2</sub> H <sub>6</sub> ) | <b>London dispersion forces</b> |
| 8)  | acetone (CH <sub>3</sub> CO)            | <b>dipole-dipole forces</b>     |
| 9)  | methanol (CH <sub>3</sub> OH)           | <b>hydrogen bonding</b>         |
| 10) | borane (BH <sub>3</sub> )               | <b>dipole-dipole forces</b>     |