



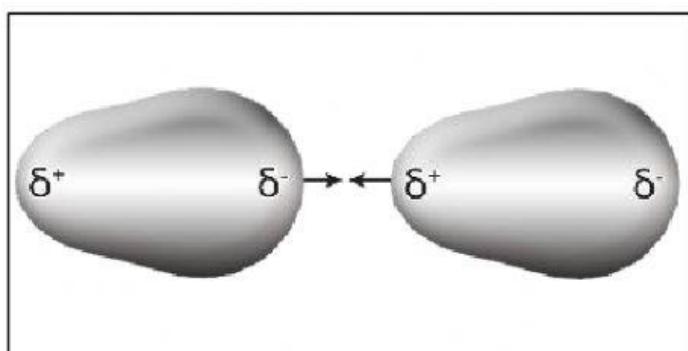
## What's New

### Activity 1: Description of Intermolecular Forces

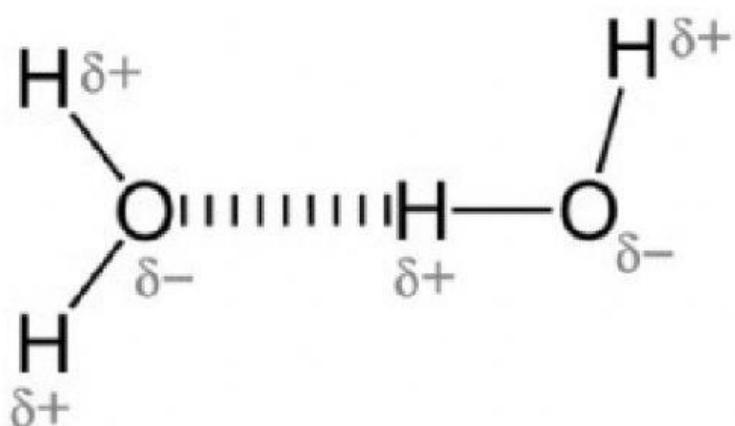
The following activity introduces you to various types of intermolecular forces (IMF) existing between and among different kinds of substances. By analyzing the presented diagrams, you can deduce what IMF is involved in each set.

**Directions:** Using the illustrations below, describe what happens in each of the attractions between substances by completing each sentence with the correct words. Tell what kind of attractive forces keep the substances together.

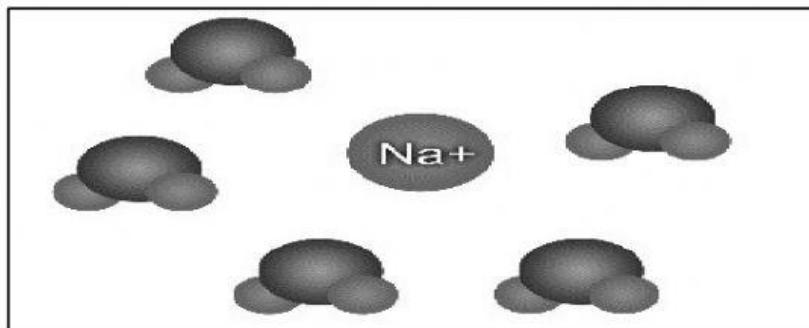
1. This attraction happens between \_\_\_\_\_ molecules. The charges align so that the positive pole of one molecule is \_\_\_\_\_ to the negative end of the other molecule. Kind of interaction: \_\_\_\_\_



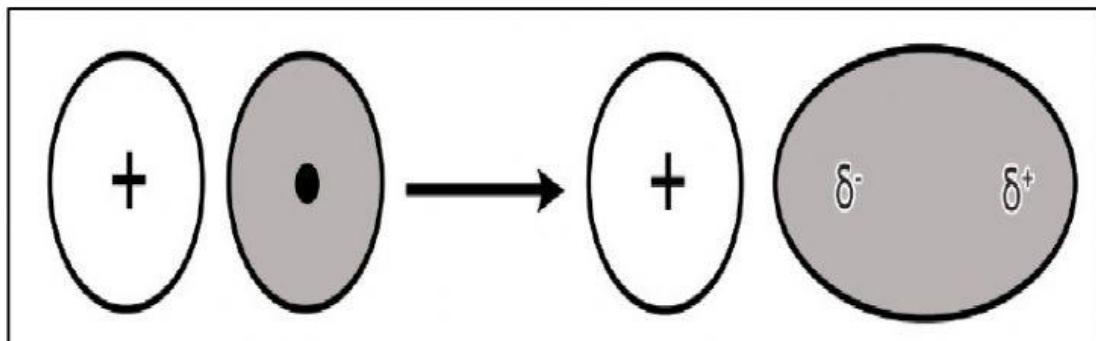
2. The partially- \_\_\_\_\_ oxygen of one water molecule is \_\_\_\_\_ to the partially- \_\_\_\_\_ hydrogen of the other water molecule.  
Kind of attraction: \_\_\_\_\_



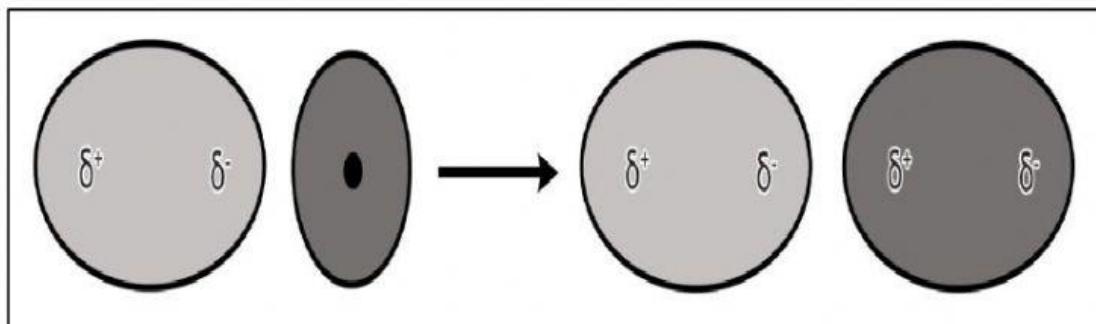
2. The \_\_\_\_\_ sodium ion is attracted to the partially \_\_\_\_\_ end of water molecules. Kind of attraction: \_\_\_\_\_



3. A \_\_\_\_\_ ion or \_\_\_\_\_ approaches a neutral \_\_\_\_\_ substance. This results in a distortion of the substance and leads to the development of positive and negative poles. Kind of attraction: \_\_\_\_\_



4. A permanent \_\_\_\_\_ approaches a neutral \_\_\_\_\_ substance resulting to a \_\_\_\_\_ dipole. Kind of attraction: \_\_\_\_\_

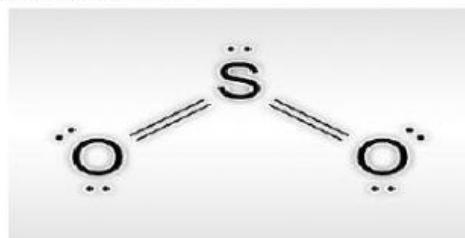


## Activity 2. Intermolecular Forces Among Substances

**Directions:** Identify the intermolecular forces (IMF) present among the following species. You can use the choices more than once if applicable

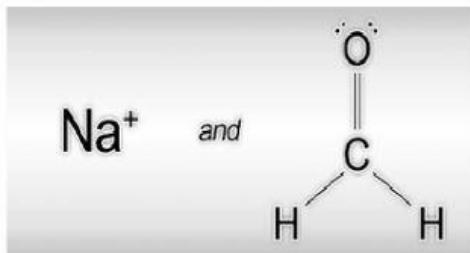
a. Sulfur dioxide (SO<sub>2</sub>) and another SO<sub>2</sub>

**dispersion**  
**dipole-dipole**  
**hydrogen bond**  
**ion-dipole**  
**ion-induced dipole**



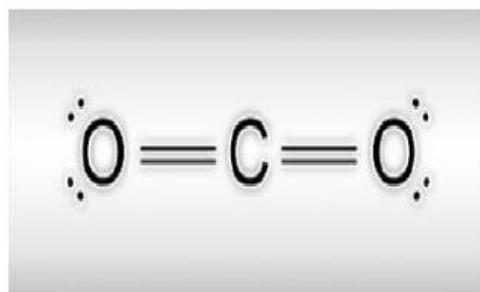
b. Sodium ion (Na<sup>+</sup>) and Formaldehyde (CH<sub>2</sub>O)

**dispersion**  
**dipole-dipole**  
**hydrogen bond**  
**ion-dipole**  
**ion-induced dipole**



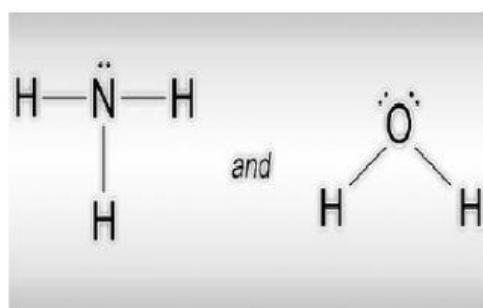
c. Carbon dioxide (CO<sub>2</sub>) with another CO<sub>2</sub>

**dispersion**  
**dipole-dipole**  
**hydrogen bond**  
**ion-dipole**  
**ion-induced dipole**



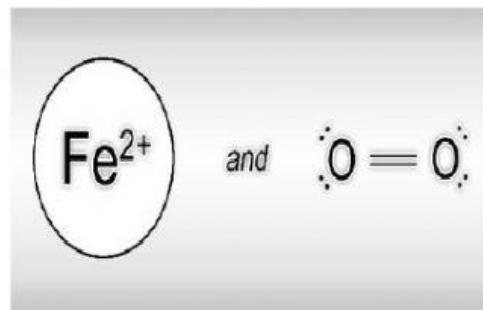
d. Ammonia (NH<sub>3</sub> and H<sub>2</sub>O)

dispersion  
dipole-dipole  
hydrogen bond  
ion-dipole  
ion-induced dipole



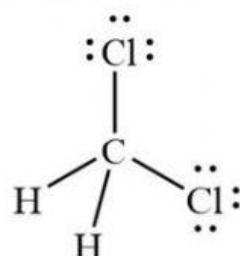
e. Fe<sup>2+</sup> and O<sub>2</sub>

dispersion  
dipole-dipole  
hydrogen bond  
ion-dipole  
ion-induced dipole



f. Dichloromethane (CH<sub>2</sub>Cl<sub>2</sub>) with another CH<sub>2</sub>Cl<sub>2</sub>

dispersion  
dipole-dipole  
hydrogen bond  
ion-dipole  
ion-induced dipole



g. Dimethyl ether (CH<sub>3</sub>-O-CH<sub>3</sub>) with another CH<sub>3</sub>-O-CH<sub>3</sub>

dispersion  
dipole-dipole  
hydrogen bond  
ion-dipole  
ion-induced dipole

