Inspiring Greatness

ISD

INDEPENDENCE SCHOOL DISTRICT

High School Science Virtual Learning

College Chemistry
Intermolecular Forces

April 21, 2020

High School College Chemistry
Lesson: April 21, 2020

Objective/Learning Target:

Students will be able to apply their knowledge of intermolecular forces to the properties of various substances.

Let's Get Started:

For each molecule, identify the type of intermolecular forces it will exert and which force is strongest.

1. H_2O

2. CCl_4

Let's Get Started: Answer Key

1. H_2O- Hydrogen bonding (strongest), dipole-dipole interactions, dispersion forces

2. CCl_4 - Dispersion forces only. Although the individual covalent bonds are polar, the molecule is symmetrical and therefore nonpolar. For this reason, it does not display dipole dipole interactions.

Lesson Activity:

Directions:

1. Read Section 10.2 in your textbook.
2. Read the information under the headings “Vaporization and Condensation” and “Boiling points” in Section 10.3.
3. Watch this video.

Practice

Complete the following questions using the information you learned during the lesson activity.

Questions:

As the intermolecular forces in a substance get stronger, how are each of the following properties affected?

1. Viscosity
2. Surface Tension
3. Capillary Action
4. Vapor Pressure
5. Boiling Point

Once you have completed the practice questions check with the answer key.

1. Viscosity- Increases
2. Surface Tension- Increases
3. Capillary Action- Increases
4. Vapor Pressure-Decreases
5. Boiling Point-Increases

More Practice:

Follow the links below to do more practice.

1. This quiz will check your answers as you go.
2. This simulation will help refresh you on polarity.

Additional Practice:
Click on this link for another simulation.
This worksheet and its key cover identifying IMF's and their effect on physical properties.