

Unit 5: Intermolecular Forces

Learning Targets and Success Criteria

1. Draw Lewis structures for simple molecules and polyatomic ions.
 - I can draw Lewis structures showing single, double, and triple bonds.
 - I can predict chemical formulas using Lewis structures.
2. Determine the bond angle and name the geometry for simple covalent molecules and ions.
 - I can explain which arrangements are tetrahedral, trigonal pyramidal, bent, trigonal planar, or linear.
3. Identify if a molecule is polar or nonpolar given a structural formula for the compound.
 - I can define electronegativity.
 - I can define dipole moments and indicate dipole moment on a Lewis Dot Structure.
 - I can use polarity of bonds and molecular shape to determine the polarity of a molecule.
4. Evaluate the strengths of intermolecular forces.
 - I can identify whether the following intermolecular forces are present: dipole-dipole, London dispersion, and hydrogen bonds
 - I can explain how the size of a molecule affects its London dispersion forces.
5. Use intermolecular forces (IMFs) to explain properties of substances.
 - I can define surface tension and relate it to strengths of IMFs.
 - I can predict solubility in water based on IMFs.
 - I can predict whether a substance is a solid, liquid or gas at room temperature based on its IMFs.
6. Relate changes in states to forces of attraction between molecules.
 - I can compare the relative strengths of forces between molecules based on the melting point and boiling point of the substances
 - I can explain why the melting and boiling points of water are significantly higher than other molecules of similar size.