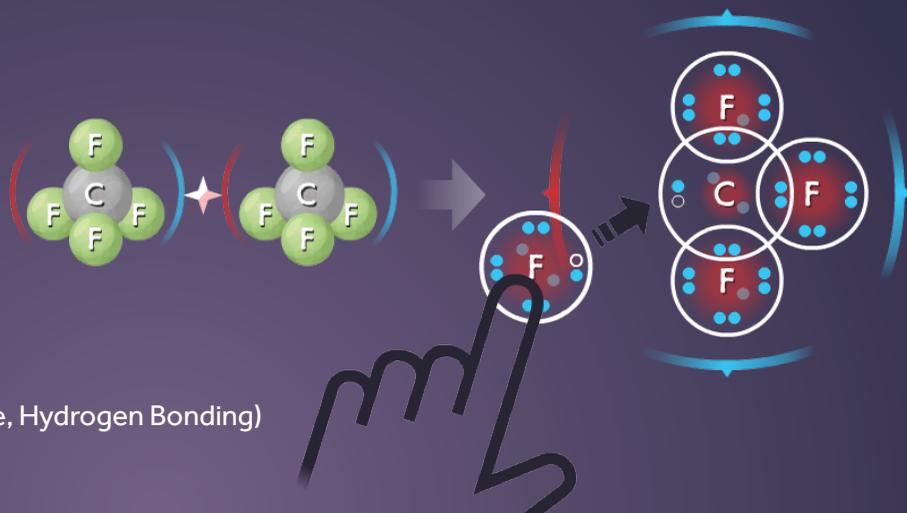


IMFs GAME

Integrated chemistry concepts:

- Molecular polarity
- Types of IMFs
(London Dispersion Forces, Dipole-Dipole, Hydrogen Bonding)
- Strength of IMFs



Use Collisions™ **PRE-INSTRUCTIONALLY** to engage your students and explore a topic.

Assign your students the first 6 levels of Intermolecular Forces. During gameplay, ask your students to answer the following guided questions:

1. In Level 2, what is different about the targets?
Which target do you think represents a stronger IMF?
2. In a molecule, what partial charge is often connected with hydrogen (positive or negative)?
3. In Level 5, what happens when you place He on the 3rd target and attempt to form the IMF? Why?
4. Can you make a prediction as to what causes a difference in the strength of intermolecular attraction between the particles in Level 5?
5. In Level 6, what is different about the 3rd target?
What molecule satisfies this target?

Use Collisions **POST-INSTRUCTIONALLY** to practice, review, and extend the learning.

After instruction, encourage your students to work through the remaining core game levels. To check for student understanding, here are some additional guided questions to incorporate into your lesson:

1. Explain the rules of the IMF game, using some or all of the following keywords: molecular polarity, LDF, dipole-dipole, hydrogen bond, polar molecule, nonpolar molecule, attraction.
2. How does molecular polarity affect the type of IMF?
3. In Level 8, what is similar about all of the molecules created? Based on this level, make a prediction as to what types of molecules are able to form the strongest IMF type (hydrogen bonds) and why?
4. Explain how a tetrahedral molecule can be nonpolar. Explain how a tetrahedral molecule can be polar. You can reference Level 9 to answer this question.

You can also use the Intermolecular Forces Sandbox to highlight a specific concept integrated into gameplay and encourage your students to earn the built-in Achievements.

Additional resources available at www.playmadagames.com

- **Intermolecular Forces Game Guide** - Teacher resource that provides an overview of the game.
- **Intermolecular Forces Student Quest** - Student activity designed to be completed during and after gameplay.
- **Intermolecular Forces Activity** (Student Version)