Adhesion, Cohesion, and Surface Tension

****Collect IMF Worksheet****

Target: Today I will be able to distinguish between adhesion, cohesion, and surface tension and understand how they relate to intermolecular force. Pg. 175

CER Peer Review.

- Collect IMF Labs
- Re-distribute for peer corrections.
- Project CER rubric on projector
- Each CER question is worth 3 points. (Will scale up later)
- Turn in Lab

Demo: How many drops of water can be placed on a penny. Demo how many drops of vegetable oil can be placed on a penny.
Quickwrite; Vegetable oil is non-polar. Water is polar. How does the surface tension/cohesion of the two substances compare? How does this relate to IMF?

Notes:
Intermolecular forces play a role not only in boiling point and in melting point, but many other physical properties as well. The three we will examine today are adhesion, cohesion, and surface tension.

Cohesive forces are the intermolecular forces that bind similar molecules to one another, such as the hydrogen bonding in water. Cohesive forces increase as IMF strength increases. Cohesion refers to similar substances.
Ex: liquids bead up in space

Adhesive forces are the intermolecular forces that bind a substance to a *different* surface. Adhesive forces increase as IMF strength increases. Adhesion refers to IMFs that exist between different substances.
Ex: the toes of a gecko, From 3:51 -5:30
https://www.youtube.com/watch?v=JnBkbaFsZOY

Surface Tension is a measure of the inward force that must be applied in order to overcome the IMFs that hold molecules close together. The stronger the IMFs, the higher the surface tension.

In the following video, look for the instances of cohesion, adhesion, and surface tension.

https://www.youtube.com/watch?v=9Z2KNDGNnlc
Cohesion: water sticks together
Adhesion: water sticks to the astronaut's hands
Surface Tension: the water takes on a spherical share, thereby minimizing surface area.

HW: Crash Course Chemistry 26 (Liquids) Cornell notes on page 176