Water Lab Middle School– Surface Tension

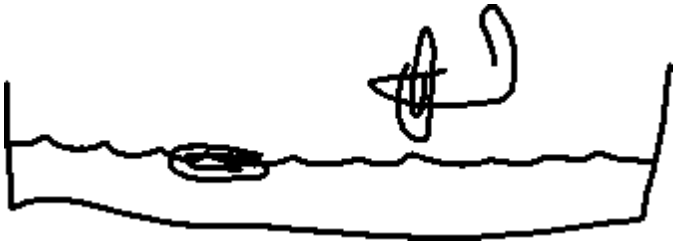
Standards met: NGSS: MS-PS1-1

Materials List:

Penny
Shallow dish or pie pan
Water
12 small paper clips
Small magnifying glass
Paper towels

Procedure:

1. Pull one of the small paper clips apart so that it is in the shape of an L.
2. Use this paper clip to carefully place another paper clip on top of the water in the shallow dish or pie pan. See if you can make it float.
3. If you are successful, use a magnifying glass to look at the edges of the paper clip where it touches the water. Draw or describe your observations.



Observations:

Explanation:
The force of attraction between the water molecules (cohesion) is very strong. This causes the molecules to "stick" together. If you are careful not to break this force between the molecules when you place the paper clip in the water, it will support the weight of the paper clip. This is called surface tension. If you break the surface tension, the paper clip will not float.

This is how small insects can rest and walk on top of calm water.

https://www.youtube.com/watch?v=WFda59gVWH0