



Children's Museum of Houston

Drops on a Penny

Observe the surface tension of water molecules and make predictions as you place droplets of water onto coins.

What you need

- Penny
- Nickel
- Dime
- Eyedropper
- Pen & paper to keep log
- Hand lens (optional, for closer observation)
- Dish soap and additional eyedropper (optional)

What to do

1. Use the eyedropper to place droplets of water on the penny. Keep count of the droplets and continue until the water spills off. Log the final number of droplets that the penny could hold. (Try to touch the 'skin'. Does the water stick to your finger?)
2. Repeat four more times and keep a log to observe the average number of droplets the penny could hold.
3. Predict how many drops would fit on a nickel and on a dime.
4. Use the eyedropper to place droplets of water on the nickel, and then the dime. Log the number of droplets and compare them to your predictions.

Learn More Together

Water molecules have a strong attraction to one another. When they come together, they tightly attach, creating *surface tension*. To be able to wash an object, surface tension needs to be broken so the object can become more wet. Using soap to do the dishes, helps break the surface tension between the water and our dishes. Place droplets of water onto the coin again. Then observe what happens after you place a small drop of dish soap. Also observe the difference in drops of water on your arm where you have and haven't rubbed a bit of soap.