# Whitman College

# Science at Home

Materials Needed:

- Pepper
- Water
- Cup
- Dish Soap
- Toothpick

## Pepper in a cup of water (surface tension)

Explore the concept of surface tension by playing with pepper in a cup of water.

1. Fill a cup with water (~⅔ full will work)
2. Add a sprinkle of pepper onto the surface of the water
3. Dip a toothpick into dishwashing soap and touch it to the center of the surface of the water.
   a. What happens? Does the pepper move anywhere?
4. Let the cup sit for a few minutes to see if the pepper moves elsewhere.

## Science Behind the Science You See

This experiment shows the concept of surface tension. The pepper moves to the edges of the cup due to the addition of the soap. When the soap is added it bonds to the water molecules which destroys the cohesiveness of water and thus the surface tension. The pepper molecules are following the path of the soap molecules as they are being dispersed in the water. Eventually the soap will disperse across the entire surface of the water and cause most of the pepper particles to sink.

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