

JR-SCIENTISTS

POCKELS' MAGIC PEPPER

Did you know you can make pepper dance across water?

INSTRUCTIONS

STEP 1: Sprinkle pepper into your bowl of water.

STEP 2: Dip your toothpick into dish soap.

STEP 3: Gently touch the pepper in the middle of the bowl and watch the magic happen!

SUPPLIES

Bowl of water
Ground pepper
Dish soap
Toothpick

SURFACE TENSION

Surface tension exists in water because water molecules stick to each other. This tension is so strong that when you first sprinkle pepper onto the water, it sits on top of the water instead of sinking into it. When soap is added to the water, it breaks the surface tension in that area, which makes the water molecules close to your finger pull away, carrying the pepper along with them.

SCIENTIST AGNES POCKELS

Agnes Pockels discovered the science of surface tension of fluids doing the dishes in her own kitchen. Despite her lack of formal training, Pockels was able to measure the surface tension of water by devising an apparatus known as the Pockels trough, a key instrument in the new discipline of surface science. In 1891 Pockels published her first paper, "Surface Tension," on her measurements in the journal *Nature*.