



YOUNG MEN AND WOMEN IN CHARGE
FOUNDATION, INC.

Workshops

Workshop #6

The 3rd and 4th grade Scholars learned about surface tension and soap with YMWIC STEM Educator, Dr. Naomi Hampson, performing three separate experiments during the workshop. The first was to investigate what water looks like when dropped onto wax paper. They observed that it balls up and becomes as close to a sphere as possible, and when they touched each drop with a bit of soap they observed that the ball collapsed and the water just became a wet spot that did not hold a shape.



In the Upper Darby Chapter, the Scholars designed an additional experiment that they tried. They overfilled a cup with water, with the water all staying in the cup and domed over the top of the rim. They then added a tiny amount of soap and watched as the excess water that was over the rim flowed out of the glass once the surface tension was reduced by the soap.

For the second experiment, Scholars observed what happens to the molecules on the surface of a bowl of water when soap is introduced. They floated ground pepper evenly onto the surface of the water and watched as the pepper sprang to the edges of the bowl once liquid soap was introduced to the center. They learned that this happened because the surface tension is holding those water molecules together like rubber bands, and when the surface tension was broken by the soap, the force from the edges quickly pulled the surface molecules to the sides.

Our last experiment was investigating how oil, water, and soap interact. They observed that water and oil do not mix, but when soap was mixed in, the soap surrounded the tiny bits of oil and then separated into the water. They discussed how this principle works when we wash our hands, and helps to destroy SARS-Cov-2, the virus that causes COVID19, which has a lipid membrane that is torn apart by soap and scrubbing.

Some of our Neptune Scholars worked with STEM Educator, Wanda Allaire, and built a moving Ferris wheel model. For most of the chapters, Neptune and the high school Scholars worked with Partners DaVinci or Lockheed Martin for Python coding.

Workshop #7

Scholars in each age group worked on mastering their understanding and recital of the YMWIC Credo and Shield. Each Scholar age group has a level of mastery that they must achieve. In addition, they worked on their Science Project Presentation Boards.