



Challenger's Morning Science Segment:

June 6, 2016

Topic: Capillary Action

Build: A star with toothpicks

Credit:

<http://www.state.nj.us/education/21ccl/casp/lsc/unit1/Lesson9.pdf>

Materials Needed:

Toothpicks / water / straw

Make a star with toothpicks: Take five toothpicks and snap them in half to form a V. The broken toothpicks will need a small hinge still connecting the two halves. Arrange all five broken toothpicks with the hinges next to each other in a circle. The V shape of the toothpicks will point inwards to create a small inner circle. The tops of the V shapes will all create a larger circle. The arrangement looks similar to a flower. The toothpicks should not be touching and should be arranged on a smooth surface that doesn't absorb water. Using a straw, place one drop [maybe two] of water in the middle of all the toothpick hinges. The water drop should touch all five toothpick hinges. Stand back and watch as the toothpicks magically arrange themselves into a star!

The science:

This experiment demonstrates capillary action. Wood has capillaries called "xylem" and water sticks to the walls of these tube capillaries. The water rises up these tubes using surface tension, and it causes the toothpicks to swell. This swelling can be visually seen in the toothpicks straightening into a star.

This activity ties into the Challenger Learning Center of Maine: Challenger holds STEM camps all summer long for entering grades K-8. We discuss forces of flight and many more activities during camp days filled with science and innovation. FMI- www.astronaut.org