



# High Touch High Tech®

Science Experiences That Come To You

## Super Science Bubbles!

### Ingredients & Supplies:

- 3 cups water
- 1 cup dish soap (Dawn or Joy)
- 1 ½ cups light corn syrup
- bowl or tray (container with a lid allows storage)
- measuring cup
- mixing spoon
- pipe cleaners
- craft stick

### Instructions:

Measure 3 cups of water and pour into the bowl. Then pour 1 cup of dish soap into the water. Slowly stir until mixed. Try not to create any foam or bubbles while mixing. Now measure 1 ½ cups of light corn syrup. Pour into the bowl. Stir it all together. Again, stir carefully to not create foam. Now you have your Super Science Bubble Solution! (For extra super solution, place a lid on the container. Let sit overnight.)

To make a bubble wand, bend the top of the pipe cleaner into a loop. Twist the end of the circle onto the middle of the pipe cleaner. This will create a “lollipop” shape.

Now it's time to make your Super Science Bubbles! Dip your bubble wand into the Super Science Bubble Solution. Make sure you mix your bubble wand really well in the solution. Now, carefully hold up your bubble wand. You should see a thin film of solution inside the bubble wand's loop. Now, you can blow bubbles!

Try to catch your bubbles with the wand. Once your bubble lands safely on the wand, it should still be intact! Take your craft stick and place it underneath your bubble wand. Try to push the craft stick through your bubble. How long did your bubble last before it burst? Can you make your bubbles last even longer? Those are some Super Science Bubbles!



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## The Science Behind It:

Water is made up of lots of tiny *molecules*. These molecules are so tiny we cannot see them. Molecules are made from *atoms*, which are even tinier! In science, we call water "H<sub>2</sub>O." This means that there are 2 Hydrogen atoms (H<sub>2</sub>) and 1 Oxygen atom (O). To form the water molecule (H<sub>2</sub>O), the hydrogen and oxygen atoms hug really tight thanks to *cohesion*.

Corn Syrup is a type of sugar. The scientific term for sugar is *sucrose*. The sucrose molecule (C<sub>12</sub>H<sub>22</sub>O<sub>11</sub>) is composed of 45 atoms! There are 12 atoms of Carbon (C<sub>12</sub>), 22 atoms of Hydrogen (H<sub>22</sub>), and 11 atoms of Oxygen (O<sub>11</sub>).

When you make bubbles with just water, the *surface tension* of the bubble is not strong. Think about when you blow bubbles in the pool, the water bubbles pop instantly. However, when you add dish soap, the water becomes more flexible. Therefore, the bubbles from water and soap last a bit longer. But, these bubbles still pop fairly soon. However, when you add corn syrup (sucrose), the bubbles are much stronger! The sucrose mixes with the water and soap to make the walls of the bubble thicker. This creates Super Science Bubbles!

Now try experimenting with the water, soap and corn syrup. Can you make a new solution? How much soap and corn syrup can you add to the water? Use a measuring cup and record your findings.

Have fun making Super Science Bubbles!

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