The Amazing Cube Bubble Experiment!

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Have you ever seen a square bubble? Can you create a square bubble with your own hands? Through this magical STEM experiment, explore the concepts of surface tension and geometric constraints.

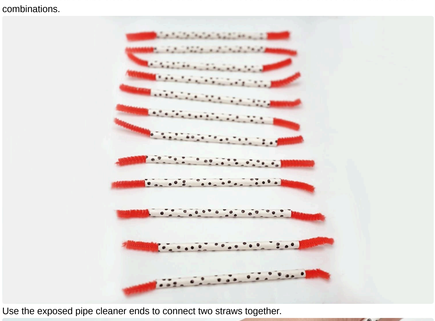
- Age: 5-16
- Time: Less than 30 minutes
- Mess Level: Messy

Materials Needed:

Pipe cleaners (12)
Straws (13)
Container (any water-holding container you can find at home, preferably large)
Concentrated washing-up liquid
Stirring stick

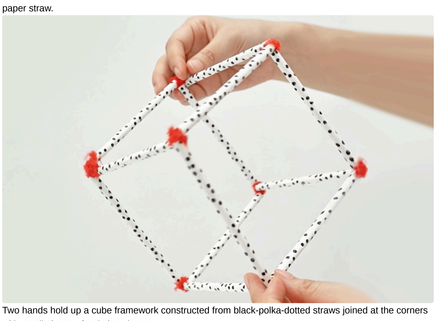
Step-by-Step Instructions:

1. Insert the prepared pipe cleaners into the straws. You'll need to make 12 of these straw-pipe cleaner combinations.



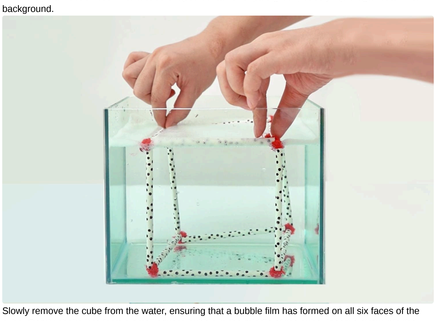
2. Use the exposed pipe cleaner ends to connect two straws together.

3. A person's hands carefully attach a short length of red pipe cleaner to one end of a black-polka-dotted paper straw.



4. Two hands hold up a cube framework constructed from black-polka-dotted straws joined at the corners with small pieces of red pipe cleaner.

5. A hand dips a wooden stick into a cube-shaped container of pale green, bubbly liquid against a white background.



6. Slowly remove the cube from the water, ensuring that a bubble film has formed on all six faces of the cube. Gently shake it to form a small square bubble in the middle of the cube. Insert a straw into the small bubble and blow gently; you'll see the bubble gradually expand.

The Science Behind It:

A cube-shaped frame made from black-polka-dotted straws, secured with red pipe cleaners, contains a clear soap bubble, with a straw extending from one corner.

When a bubble forms inside a cube-shaped mould, it's constrained by the mould's shape. The bubble adapts to the corners and edges of the mould, forming a cube-like shape. Once it loses the constraint of the frame, the bubble will either burst or return to a spherical shape.

Think about it: besides cube bubbles, what other shapes of bubbles can you create?