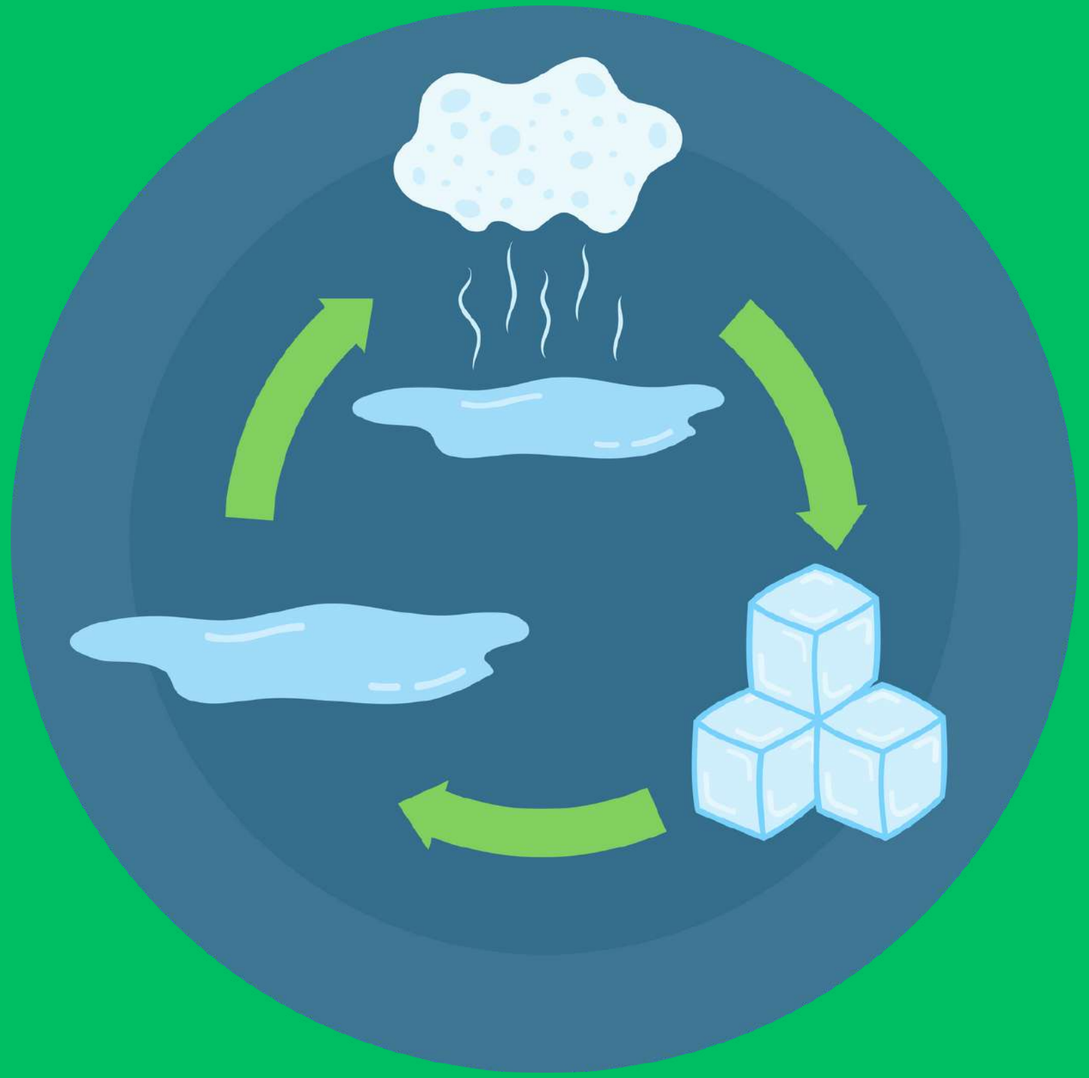
SCIENCE UTSAV®

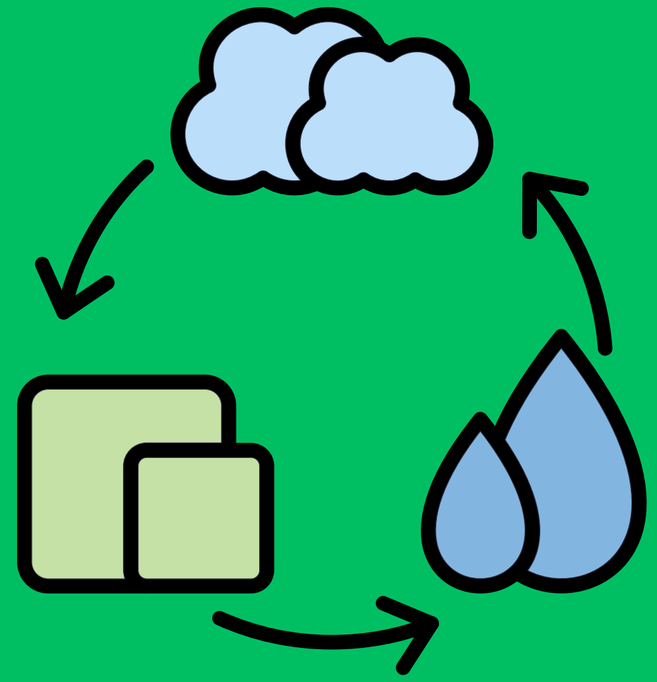
Science is awesome

SOLID,LIQUID,GAS



Overview

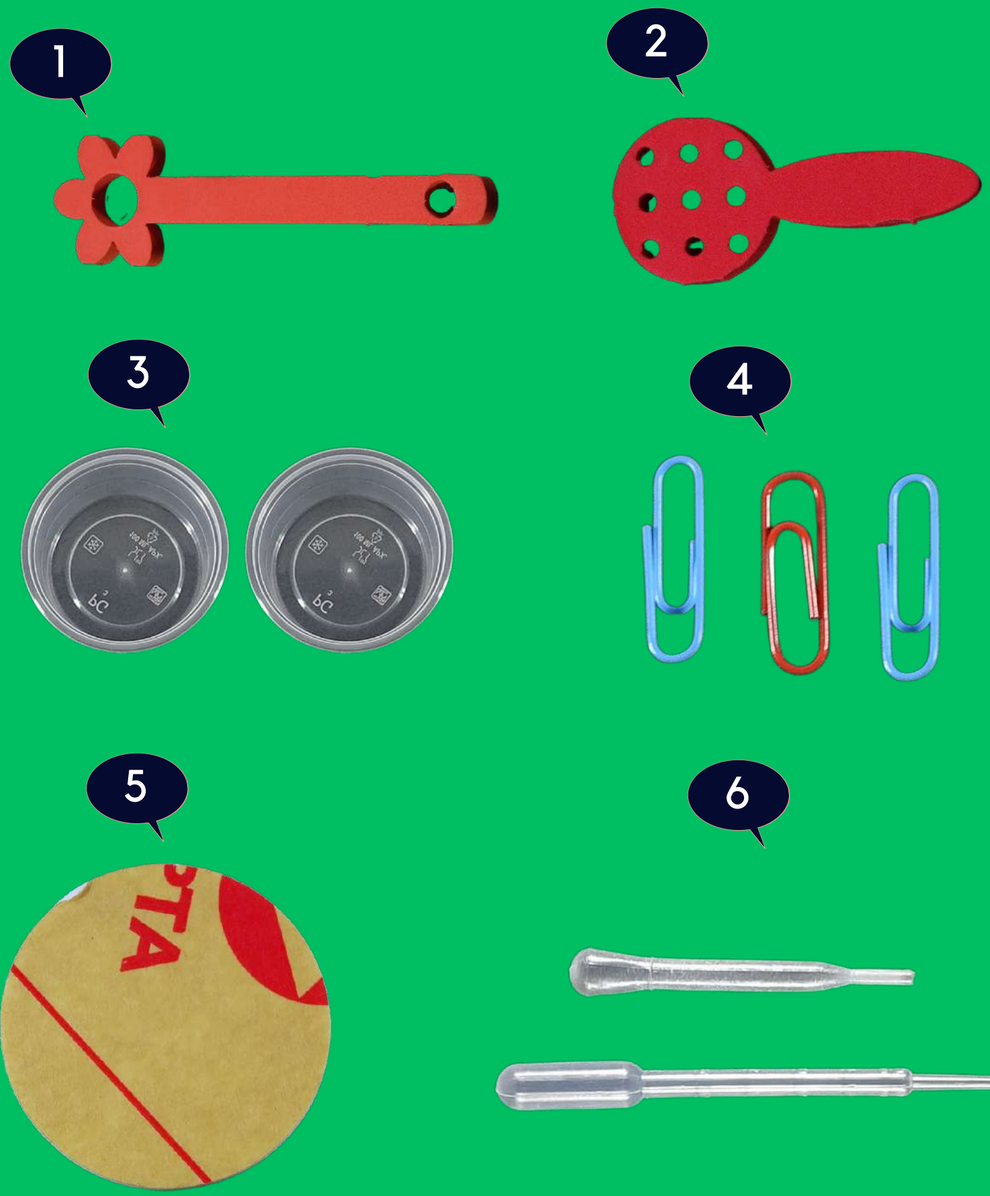
The matter is made up of very tiny particles. It has been observed that matter exists in nature in different forms. Some substances that are rigid and have a fixed shape like wood and stone are called Solid; some substances that can flow and take the shape of their container like water & Juice are called Liquid, while there are forms of matter that do not have definite shape or size such as air are called Gas.



Engineering challenge

In this fun project, you will make chemical solution using provided materials and you will play with the bubble solution and learn what bubble is made up of.

Materials Required



Sr.No	Name	Qty
1	Snake bullble setup	1
2	Bubble wand	1
3	Plastic container	2
4	Paper clip	3
5	Acrylic ring	1
6	Pippet	2

Materials Required

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Sr.No	Name	Qty
7	Cotton cloth	1
8	Cello tape	1
9	Rubber band	2
10	Bubble solution	1
11	Food colour	2
12	Tissue Paper	1
13	Hard straw	9

14

15

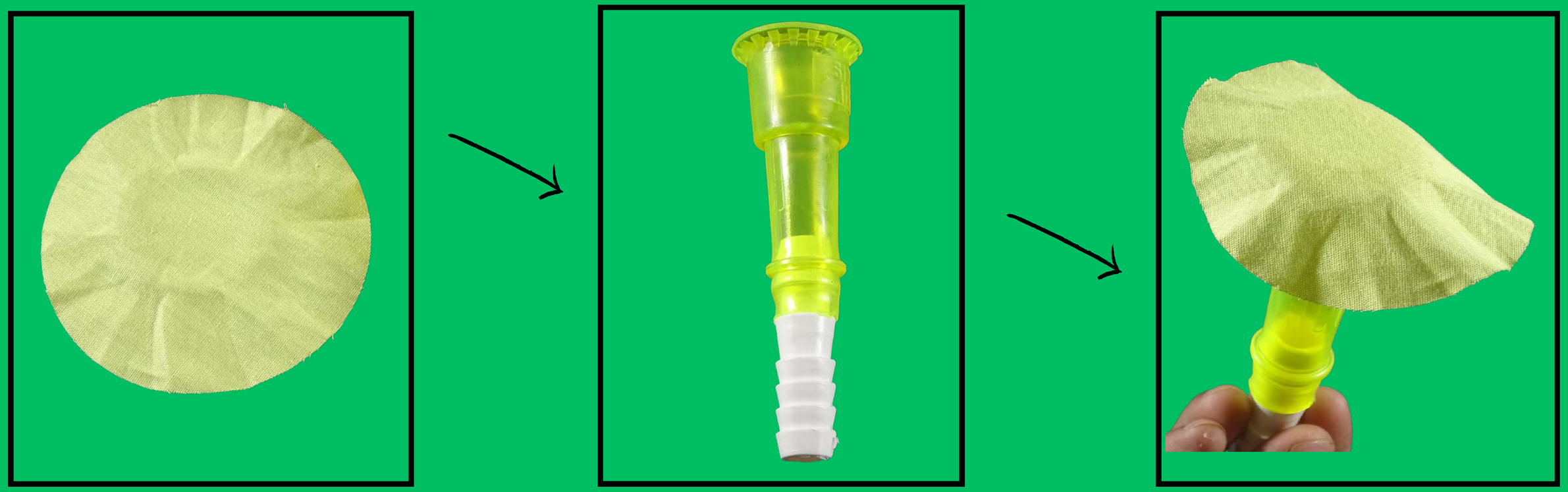
16

Materials Required

Sr.No	Name	Qty
14	Pippet(one end cut)	1
15	Tap Nipple	1
16	Chart paper A5	2

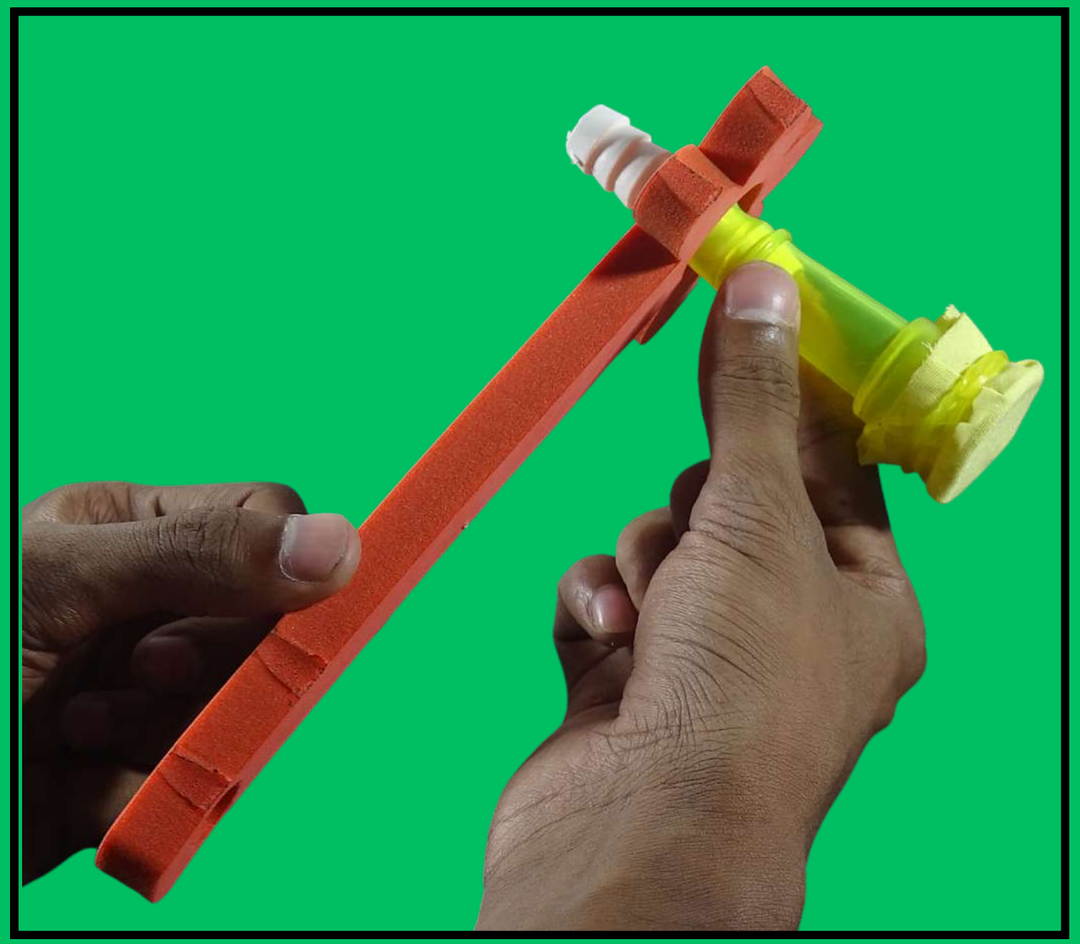
Activity 1: Snake Bubble and Bubbe Art

Add the cotton cloth to tap nipple

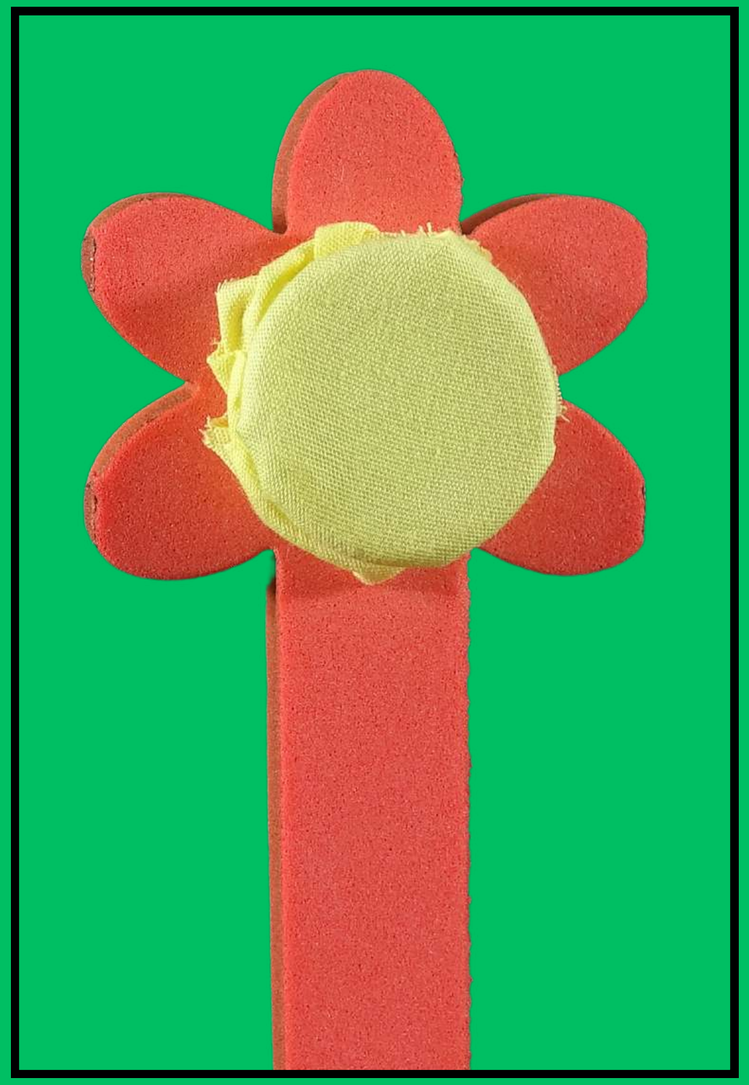


Insert rubber band to tap nipple along with cloth

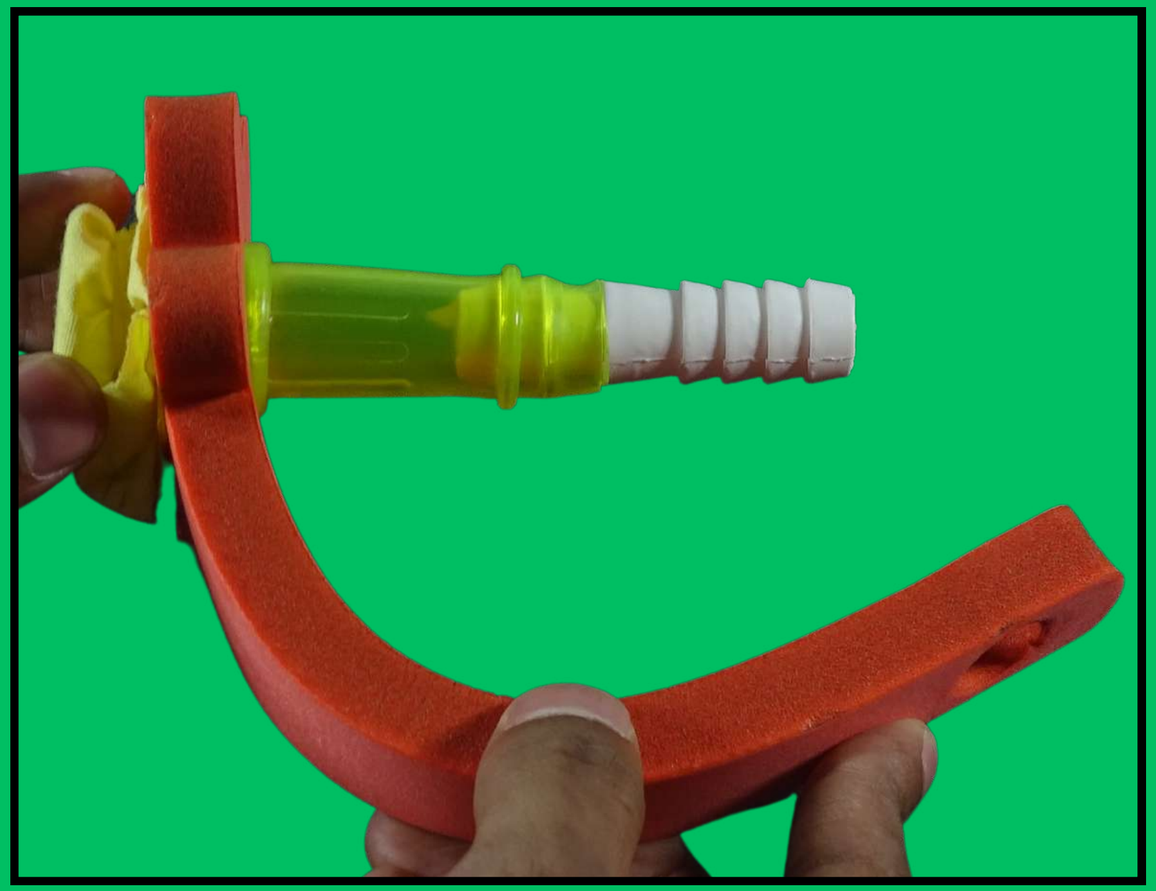
Place the tap nipple inside the snake bubble

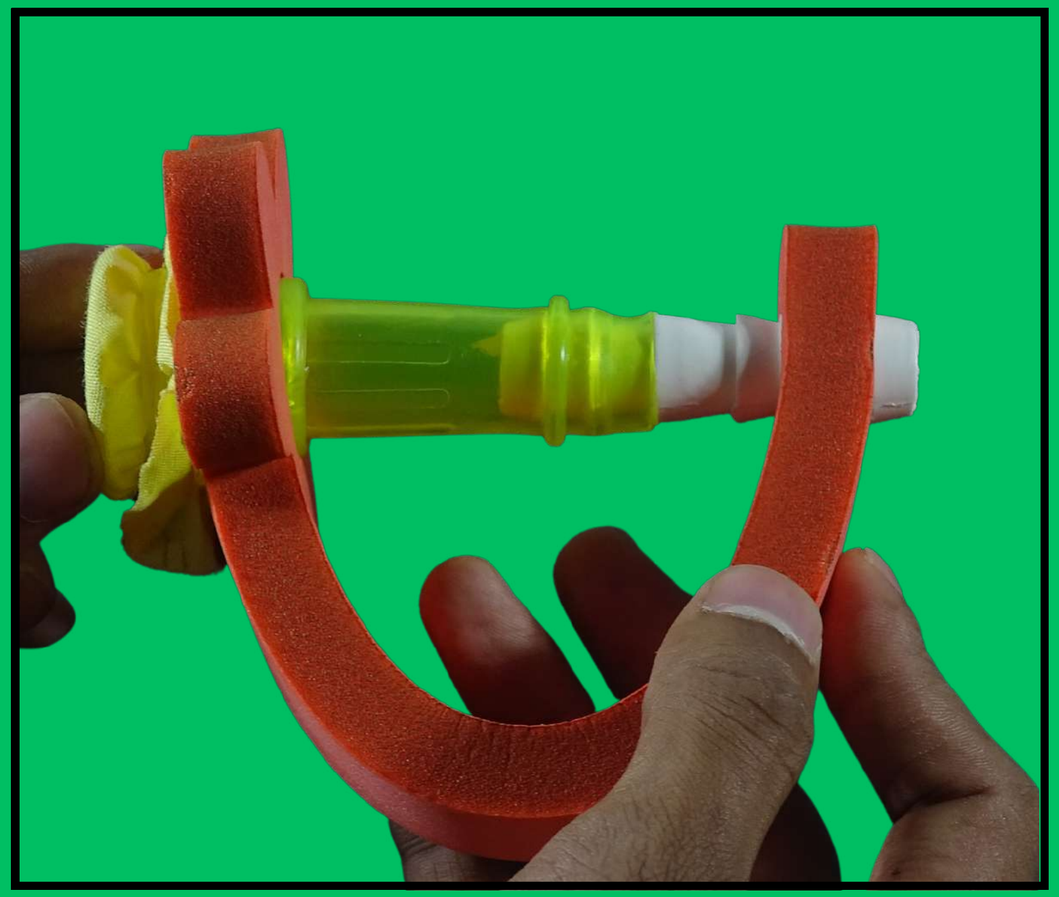


Fix the tap nipple to bubble snake as shown



Bend the bubble snake holder & Inset like this to water tap nipple





Add the bubble solution to plastic container

Add food colour to Bubble solution

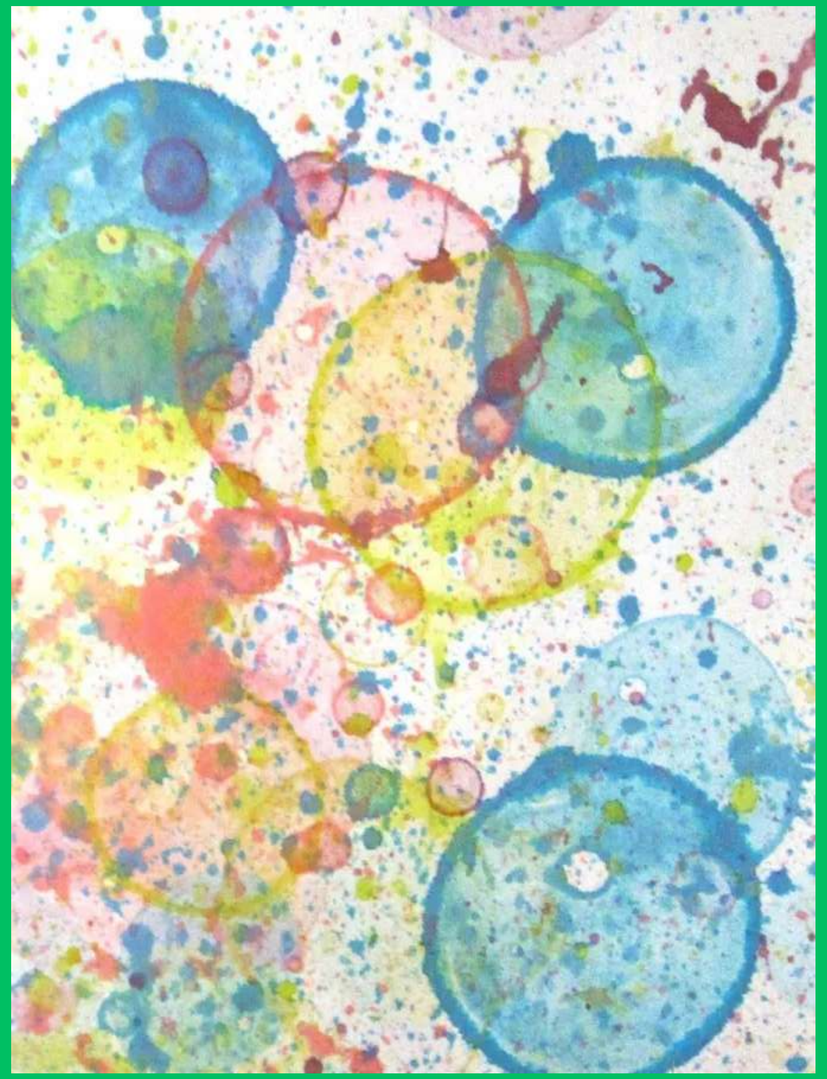
Insert the bubble snake to colour solution

Blow the bubble snake

Space the snake bubble on the template paper to create bubble art

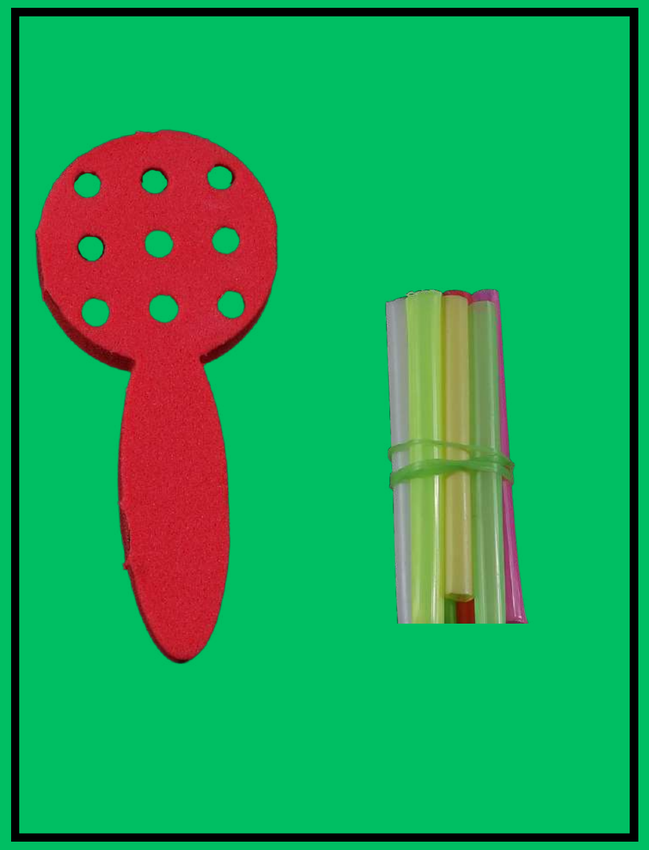
Dip the open side of pipette to bubble solution

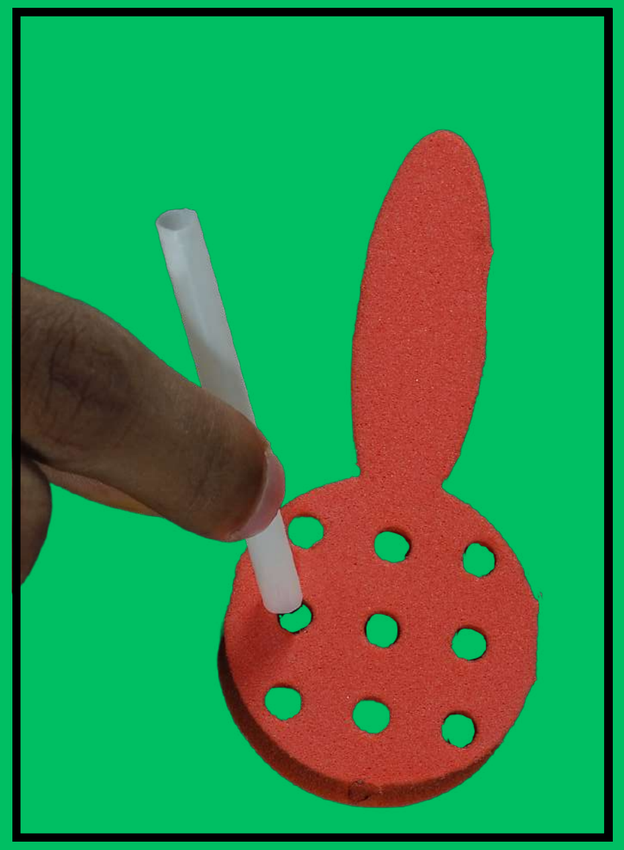
Blow the pipette other end to create bigger circle on the bubble art template

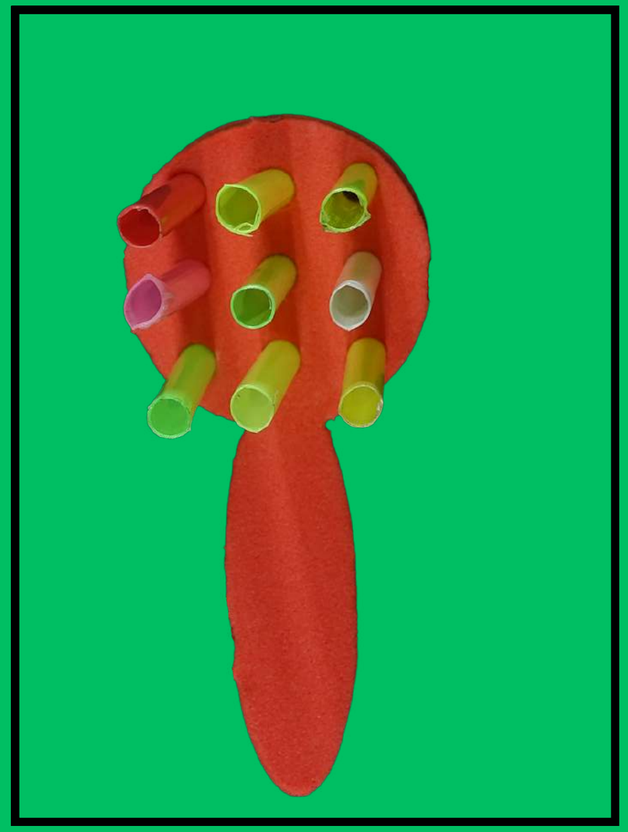


Activity 2: Fun with Bubbles

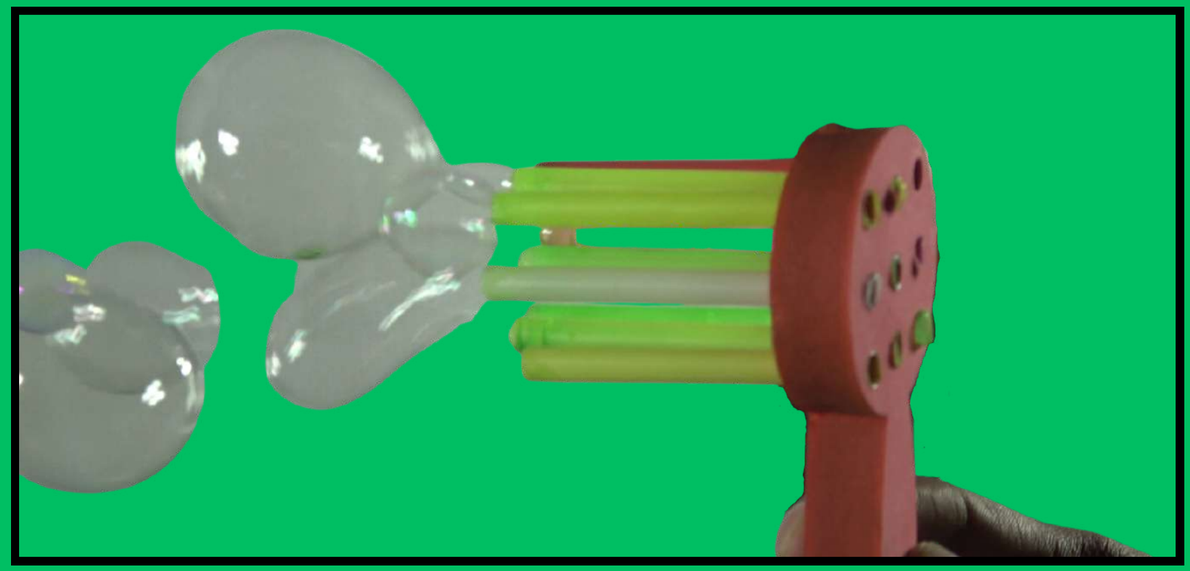
Insert the small straw's to bubble wand and create more bubbles





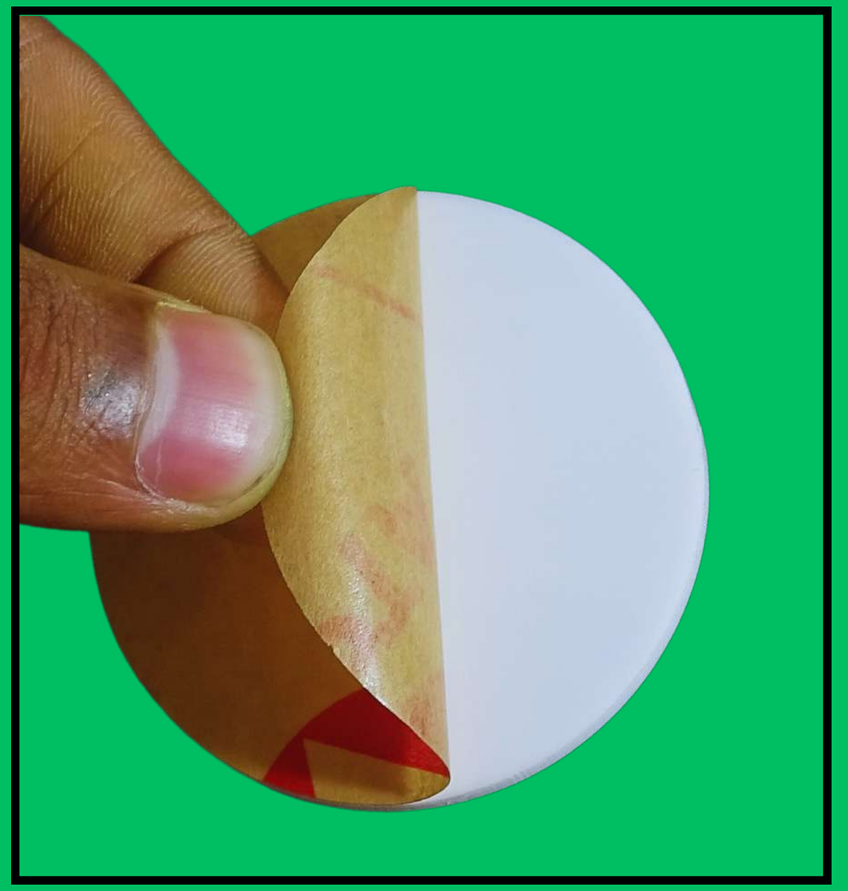


Insert the bubble wand to colour solution and to create tiny bubbles

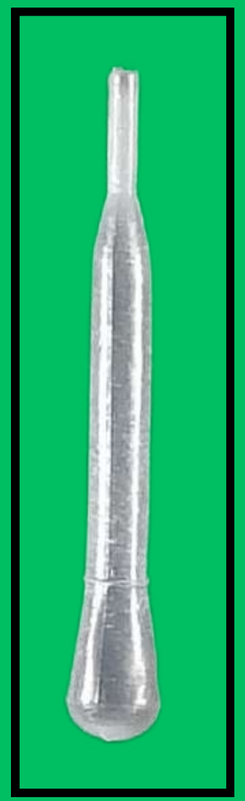


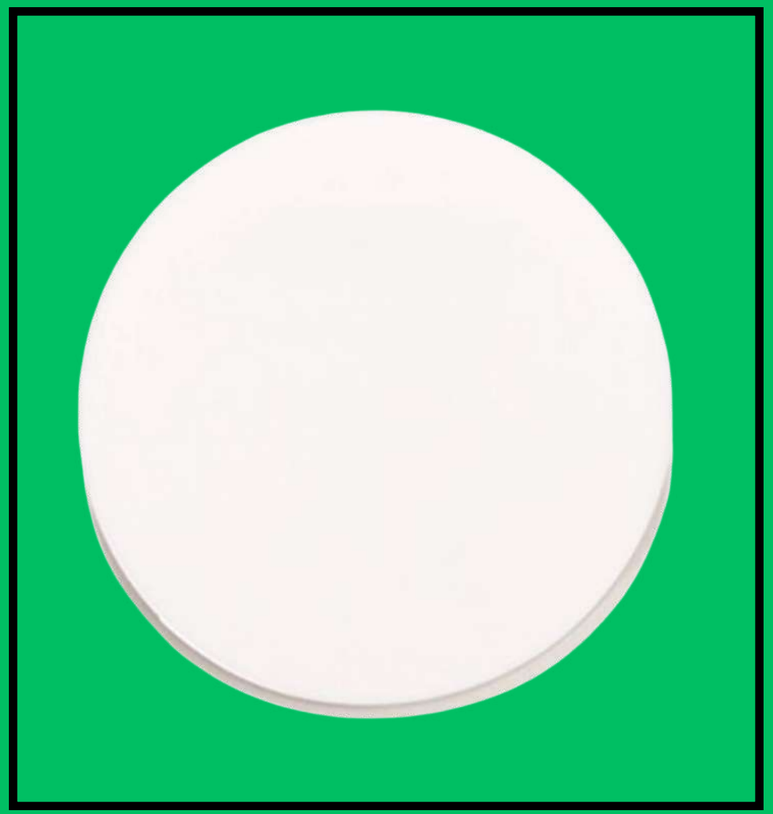
Activity 3: Fun with Surface Tension

Remove the sticker from acrylic ring

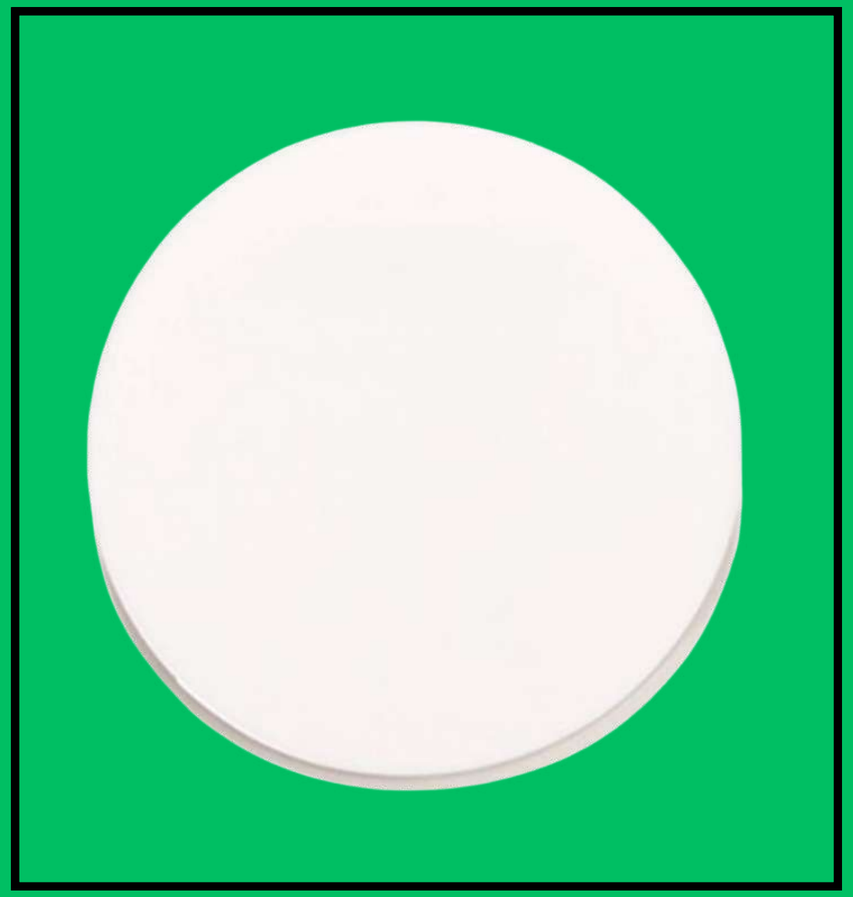


Take the Pippette, Acrylic plate and Water in a cup





Set the coin on a flat surface .Fill a plastic pipette with water.



Carefully squeeze out water drop by drop from the pipette onto the coin. Count how many drops fit on the plate before the dome breaks and the water spills over

Complete with your friends

How many drops of water can you fit on this acrylic ring ? Make a Guess first and check if you are right ?

If you look from the side, you should start to see the water begin to bulge over the side of the ring.

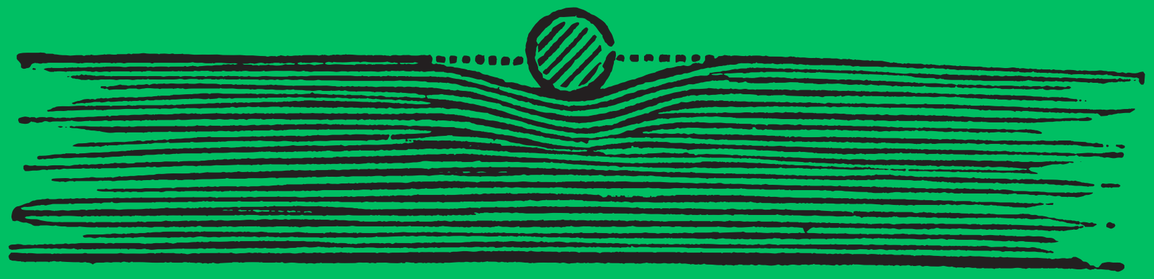
Try variation by using a coin

Complete with your friends

HOW DOES IT WORK

Water is a polar molecule, meaning that it has a positive end and a negative end. The negative end of one molecule is attracted to the positive end of another molecule (similar to a magnet), which makes the molecules stick together tightly. The molecules on the surface are pulled inward and they stick together so strongly that they form a dome.

This is called surface tension. Eventually, though, gravity overcomes this force and the dome breaks, spilling water over the sides of the coin.



Film of the Water