Fish Trampoline

Stem Activities

Ages: 5-8 | Less than 30 minutes | Grownup needed

Have you ever seen fish bouncing on bubbles? Through this activity, children can observe water's 'invisible force' while learning about the scientific principle of surface tension.

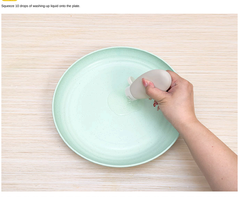
Materials Needed

Plate
White paper
Straws
Washing-up liquid
Marker pen
Scissors
300ml water
Ruler

Step-by-step tutorial

Step 1

Squeeze 10 drops of washing-up liquid onto the plate.



Step 2

Pour 300ml of water into the plate and mix the washing-up liquid and water thoroughly.

Step 3

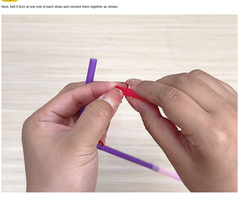
Take the straws and cut 6cm off the longer end of each using scissors.

Step 4

Bend the cut straws as shown in the illustration.

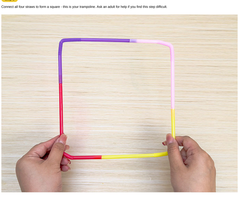
Step 5

Next, fold 5-5cm at one end of each straw and connect them together as shown.



Step 6

Connect all four straws to form a square - this is your trampoline. Ask an adult for help if you find this step difficult.

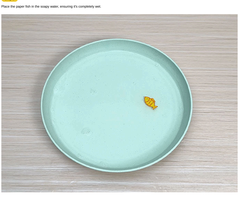


Step 7

Draw your favourite fish on white paper using the marker pen, then cut it out with scissors.

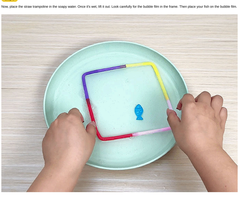
Step 8

Place the paper fish in the soapy water, ensuring it's completely wet.



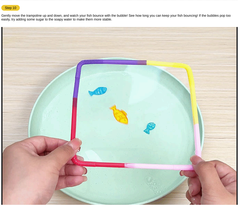
Step 9

Now, place the straw trampoline in the soapy water. Once it's wet, lift it out. Look carefully for the bubble film in the frame. Then place your fish on the bubble film.



Step 10

Gently move the trampoline up and down, and watch your fish bounce with the bubble! See how long you can keep your fish bouncing! If the bubbles pop too easily, try adding some sugar to the soapy water to make them more stable.



The Science Behind It:

Water has surface tension, and washing-up liquid contains surfactants that break down the attraction between water molecules, reducing local surface tension. This tension difference causes water movement, which propels the paper fish. Additionally, the fish becomes coated with the soap solution, creating similar surface tension that helps maintain bubble stability and prevents popping.