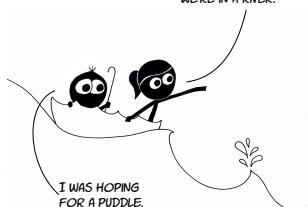


THE WATER'S MOVING FASTER! LOOKS LIKE WE'RE IN A RIVER!

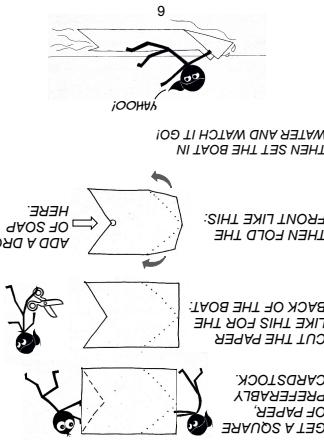


## SCIENCE MOM

JENNYBALLIF.COM

YouTube Channel:  
[www.youtube.com/ScienceMom](http://www.youtube.com/ScienceMom)

Email: jenballif@gmail.com



### 2. Soap Boat

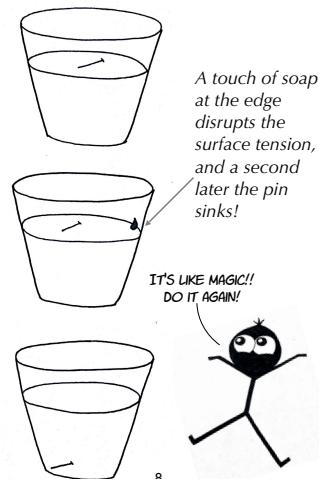
## 3. Floating Pin

### Materials:

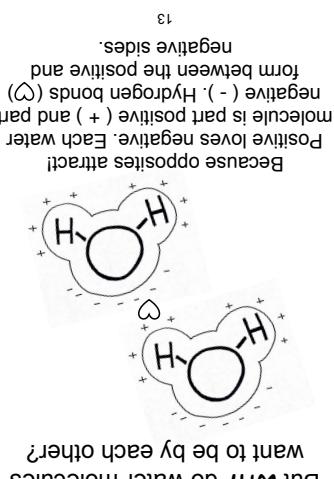
- A small pin or needle
- Bowl or cup
- Concentrated dish soap
- Water

### Method:

- Fill bowl or cup with water and carefully place pin on surface. Hint: tweezers may help. The pin must be flat with the surface of the water. It will sink if it comes in at an angle.
- Add a touch of soap.
- Watch the pin sink!



THAT'S SO COOL THAT PART OF WATER IS POSITIVE AND THE OTHER HALF HAS A NEGATIVE CHARGE. THESE NEUTRINOES HELP TO BE WORK FOR IT. I WONDER WHAT IT IS?

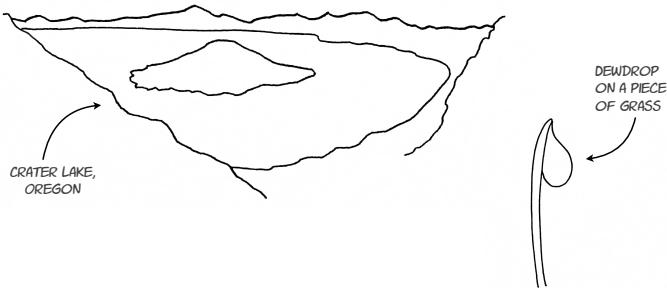


## HOW DOES IT WORK? SURFACE TENSION.

## SCIENCE MOM'S Guide to WATER, Part 2



Think of a big lake versus a dewdrop. Pretty big difference in size, right?



The dewdrop is SUPER small compared to the lake. But a water molecule (the smallest bit of water you can have) is MUCH smaller than a dewdrop.

A single drop of water has more than 1,000,000,000,000,000,000 water molecules! That huge number with 21 zeros is called a sextillion, and it is a TRILLION TIMES BIGGER than one billion.

1

2

3

4

Name	How many zeros	How long to count that high*	LET'S TALK ABOUT BIG NUMBERS
Million	6 (1,000,000)	11 days	GOOGOL
Billion	9 (1,000,000,000)	31 years	THAT'S GOOGLE
Trillion	12	31,704 years	NO, YOU SAID GOOGOL.
Quadrillion	15	31 million years	HUH?
Quintillion	18	31 trillion years	JUST GOOGLE AND YOU'LL FIGURE IT OUT
Sextillion	21	317 trillion years	THAT'S GOOGLE
Seventillion	24	3,170 quadrillion years	THAT'S WHAT I SAID
Octillion	27	317 trillion centuries	NO, YOU SAID GOOGOL.
Nonillion	30	317 trillion millennia	*
Tenillion	33	317 trillion centuries	Assuming a rate of counting one number per second.

## 4. Floating Paperclip

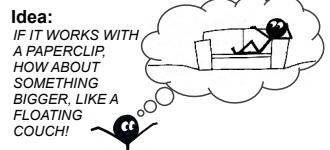
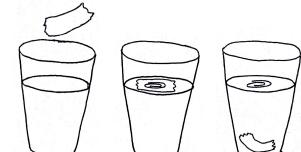
### Materials:

- Paper clip
- Tissue paper or paper towel
- Cup or bowl
- Water

### Method:

- Fill the cup with water and gently place a piece of tissue paper on the surface.
- Carefully place a dry paperclip on the tissue.
- The tissue should sink. If it doesn't, give it a gentle push downward.

Tip: be sure that the cup and water are not soapy.



Idea:  
IF IT WORKS WITH A PAPERCLIP, HOW ABOUT SOMETHING BIGGER, LIKE A FLOATING COUCH!

Reality:  
THE SURFACE TENSION OF WATER IS ONLY 72 DYNES PER CENTIMETER!



6

7

8

9

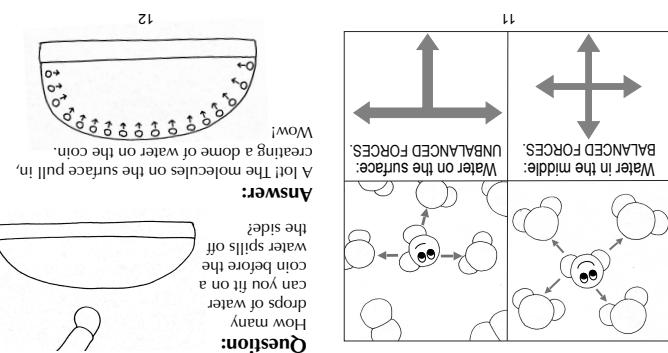
10

11

12

13

14



Answer:  
Water in the middle: BALANCED FORCES. Water pulls on the surface.  
Question:  
How many droplets of water can you fit on a coin before it splits off the side?  
Answer:  
Water helps molecules stay together and allows us to fill cups above the brim, which creates surface tension. This creates surface tension, the surface tension like each other more than they like air, so the molecules on the surface pull in.

## HOW DOES IT WORK? SURFACE TENSION.

B

A

A

X

B

C

C

D

F

E

E

D

E

G

G

X