



Dear Beakman,  
What is that thick  
line floating on top  
of water?  
Wes Bouges  
Auburn, Massachusetts

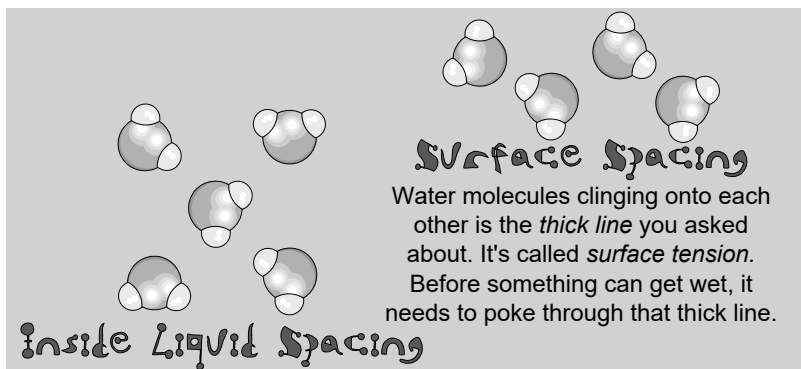
Beakman or Jax  
P.O. Box 30177  
Kansas City, MO 64112  
Questions, name & address

Dear Wes,  
The smallest chunks of water we can have are  
water molecules, and they are attracted to  
each other in all directions.

Inside liquid water the molecules can cling onto each other  
top-ways, bottom-ways, side-to-side – any way they can.

But on the surface of water, there are fewer directions for  
them to cling, so they grab onto each other more tightly the  
only way they can – sideways.

*Beakman*  
Beakman Place



## Experiment #1

WHAT YOU NEED: All the pennies you can  
find - glass of water

### WHAT TO DO:

Fill up the glass with water and place it on  
a level table. With your fingers close to the  
water, *gently* drop in pennies, penny by  
penny. Don't make waves when you do  
this. How many will it take to overflow  
the glass? Look closely at the water.

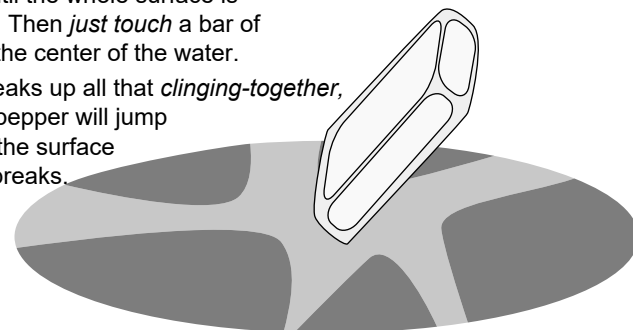
### SO WHAT:

It took lots more pennies than you  
thought, and the water lifted *up and*  
*out* of the glass, held together by  
those molecules clinging onto each  
other – surface tension.

## Experiment #2

Sprinkle pepper onto a bowl of  
water until the whole surface is  
covered. Then *just touch* a bar of  
soap to the center of the water.

Soap breaks up all that *clinging-together*,  
and the pepper will jump  
back as the surface  
tension breaks.



P.S. from Jax: If you ice-skate, you'll notice that the surface of ice is different than the inside of ice – it's slippery. New discoveries about water tell us that it's from frozen water molecules vibrating.

