

# CRUNCH TIME

## Salt And Pepper



**Serve Information: Makes 1 'Salt Experiment'  
& 1 'Pepper Experiment' & 1 'Salt And Pepper Experiment'**

### INGREDIENTS:

Jug of cold tap water  
2 Very fresh eggs  
6 Tablespoons of salt  
Pepper grinder (full of peppercorns)  
Salt shaker (full of salt)  
Pepper shaker (full of ground pepper)  
Packet of washing up detergent  
(only a drop will be used)

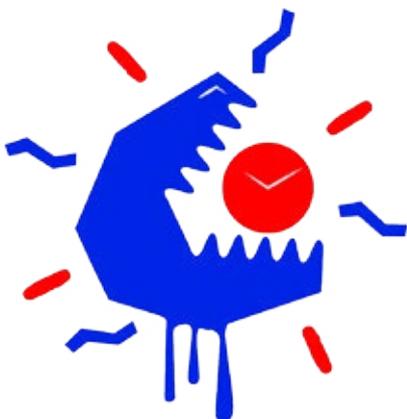
### EQUIPMENT:

2 tall glasses  
Tablespoon  
Long teaspoon  
White baking dish  
Dinner plate  
Balloon



## METHOD:

1. For our Salt Experiment, gently lower a fresh egg into a glass of water and watch it sink to the bottom
2. Very fresh eggs will generally sink. As an egg ages, the water inside the shell starts to evaporate, and is replaced by air and therefore will be inclined to float.
3. Now let's see if we can make a fresh egg float! We'll put 6 tablespoons of salt in our second glass and stir to dissolve.
4. Take the fresh egg out of the first glass and gently lower it into the glass with salt
5. If an object is less dense than the water around it, it'll float. Adding salt to the tap water increased the water's density. The saltwater has a higher density than the egg, so that's why the egg ended up floating!
6. For our Pepper Experiment, take a white baking dish with some water in it and grind a layer of pepper so that the water has a spotty black layer over it
7. The pepper sits on the top of the water, because of the high surface tension of the water
8. Now dip one finger into the middle of the baking dish. You'll see that doing this has no effect on the contents of the dish.
9. Put a drop of concentrated dishwashing liquid on your fingertip. Then dip that fingertip into the middle of the baking dish. The pepper will move away from the middle of the dish, and towards its edges.
10. The soap on your fingertip breaks down the surface tension of the water.  
The top layer of water molecules spread out, taking the pepper along for the ride!
11. Now for a Salt and Pepper experiment. Using a salt grinder, put some salt on a dinner plate.
12. Using a pepper grinder, add about the same amount of pepper onto the plate.
13. Take a blown up bright coloured balloon and rub it against dry hair
14. Slowly bring the balloon down onto the plate of salt and pepper. The pepper will leap up and stick to the balloon
15. When you rub the balloon, it picks up electrons from your hair, and it becomes negatively charged.  
The balloon's electric charge attracts the lighter pepper particles, but not the heavier salt particles.



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