

## Science Fun

I hope you are looking after each other and not getting too bored. I've put together a selection of simple experiments you could do together to liven up your home school learning.

### 1. Super Bubbles

#### Materials

Bowl or Jug	4 teaspoons Glycerine	$\frac{1}{2}$ cup Washing up liquid
4 cups Water	Straws	Spray bottle

(You don't need to have the glycerine but it helps keep the bubbles from bursting. £1 a bottle from Morrisons baking dept. Chemists etc will also stock it. Some recipes use 4 tablespoons of granulated sugar instead, not sure how good it is as I've always used glycerine.)

**Method:** Mix all the ingredients together in bowl or jug making sure they are well combined.

#### Fun time!

Spray a flat smooth table or worktop with water.

Dip the end of your straw into the super bubble mixture.

Slowly and gently just above the sprayed table top blow down the other end of your straw. You should be able to make a bubble that if you keep blowing gets bigger and bigger!

Challenge 1: How big did your bubble get? You can tell by measuring the circle it leaves on the table top when the bubble bursts.

Challenge 2: Can you make a big bubble then put bubbles inside it? You make a bubble, then dip your straw in the mixture again and gently push the straw through the big one and repeat the steps. In science club we had 5 bubbles in bubbles. Can you do better.

Challenge 3: with wet hands can you pick up your bubble without it bursting?

## 2: Dancing Raisins

### Materials:

2 clear plastic cups/glasses    Clear fizzy drink e.g. lemonade    Water    Raisins

### Method:

Pour the fizzy drink into one of the cups and water into the 2<sup>nd</sup> cup.

Add a few raisins into each cup.

What happens?

The bubbles of carbon dioxide attach to the rough sides of the raisins. When enough bubbles have attached themselves to the raisins they will float to the top of the glass. When they reach the top the bubbles will burst and the raisins will sink to the bottom again.

## 3. Falling Orange

### Materials

Plastic jug  $\frac{1}{2}$  filled with water                      Postcard                      Orange

Cardboard tube (empty loo roll tube or kitchen towel tube)

### Method:

1. Place postcard over jug of water.
2. Stand the tube on the postcard.
3. Balance the orange on top of the cardboard tube so it is right over the mouth of the jug.
4. When you are ready, quickly pull the postcard away and watch what happens.

Might want to do this one outside it can be splashy!!!

What did you see?

### **3. Tornado in a Bottle**

#### **Materials:**

Two 2 litre plastic bottles      Water      Small plastic beads or bit of glitter  
A washer      tape (duct tape works best)

#### **Method:**

1. Fill one bottle  $\frac{3}{4}$  full of water. Add the beads or glitter to it.
2. Place the metal washer on the lip of the bottle.
3. Place the empty bottle upside down so its mouth is on top of the washer.
4. Use the duct tape to secure the bottles together.
5. Flip the bottles over so the empty one is on the bottom, observe what happens.
6. When the water has drained from the top bottle into the bottom one, flip them over again. This time swirl the bottles in a circular motion and observe what happens.

### **4. Corn flour Quicksand**

A messy one so cover children and tables well before you start!!!

#### **Materials:**

Large mixing bowl      Corn flour      Water      Food colouring (optional)

Slotted spoon, colander, sieve, funnel or any other kitchen tools you have around.

#### **Method:**

1. In the mixing bowl, mix 2 parts corn flour with 1 part water e.g 1 cup flour  $\frac{1}{2}$  cup water.
2. Add a few drops of food colouring (optional) and mix it well
3. Have fun exploring the mixture. Make a ball of it in your hand then let it run through your fingers. Then see how it reacts when you do that then put it through the tools you have.

## **5. CD Hovercraft**

### **Materials:**

CD or DVD                  Pop up lid from a water bottle or washing up liquid bottle

Evo- stick glue/Duct tape ( or super glue if adult doing this bit)    Balloon

### **Method:**

1. Put CD/DVD shiny side down.
2. Glue / stick the bottle top over the hole making sure no air can escape from the bottom of the cap and make sure you can still open and close the bottle top.
3. Push the top down so it is closed.
4. Inflate the balloon and twist the end so no air can escape.
5. Carefully stretch the mouth of the balloon over the bottle top trying to centre it as much as possible.
6. Place the CD on a very smooth surface and pop open the bottle cap and watch what happens.

## **6. Fishing for Ice**

### **Materials:**

Cup of water

Ice cubes

String or wool

Table salt

### **Method:**

1. Place a few cubes of ice into the cup of water.
2. Lay the string over the top of the ice cubes.
3. Sprinkle some salt onto the top of the ice cubes and string.
4. Wait 1 minute. Gently pull the string out of the cup and see what you have caught!

Challenge! How many cubes of ice can you freeze to the string at once?

## **7. Fruit Boats**

### **Materials:**

Assortment of different fruits e.g apples, oranges. Kiwi, bananas, pears, strawberries, grapefruit. See what's in the fruit bowl!

Knife      Toothpicks / Cocktail sticks      Small triangular pieces of paper

Large bowl of water

### **Method:**

1. Slice the fruit in half. Peel the skin off one half and leave it on the other half.
2. Poke a toothpick/stick through each piece of paper to make a small sail. Make enough sails for each piece of fruit.
3. Poke a sail into the cut side of each piece of fruit, make sure you do not pierce the skin of the unpeeled halves.
4. Place the fruit into the bowl of water to see which ones float and which ones sink.

## **8. Bouncing Egg**

### **Materials:**

1 cup or jar      White vinegar      Food colouring      Whole eggs

### **Method:**

1. Fill the jar with vinegar (enough to cover your egg) and add a few drops of food colouring, mix it well.
3. Carefully add the egg.
4. leave it for 24 hours.
5. Wash off the vinegar solution gently.
6. The egg should now feel rubbery. See if you can make it bounce! (Best to this bit outside)  
When you have finished playing with the egg carefully cut it open and you should have a runny yolk!

## 9.Lava Lamp

### Materials:

Clear plastic bottle      Water      Food colouring      Vegetable oil

Alka-Seltzer Tablets (Adult supervision needed as Asprin) effervescent vitamin C tablets work almost as well and are safer around little ones)

1 cup/ mug

### Method:

1. Measure 1 cup/ mug of water into your Clear plastic bottle.
2. Add a few drops of food colouring into the bottle and stir it around.
3. Measure 1 cup/mug of vegetable oil into the bottle and let it settle. Look carefully at it and talk about where the oil settled.
4. Cut the tablet into 4 pieces and drop one into the bottle and watch what happens. Keep adding the tablet pieces every few minutes.

## 10.Right or Left

### Materials:

Piece of paper      Marker pen      Tape      Tall clear jar or cup      Water

### Method:

1. Use the marker to draw a horizontal arrow on the piece of paper.
2. Tape the paper to the wall, or prop it up against some books so that it stands up by itself.
3. Place the jar in front of the paper so you can see the arrow through it.
4. While watching the arrow through the cup, slowly pour the water into it. Be sure to pour the water so it is higher than your arrow.

What did you see?

5. Now move the cup of water around and watch how the shape and position of the arrow changes.

## **11. Scared Pepper!**

A great way to show little ones how washing their hands can scare away germs or bugs!

### **Materials:**

A bowl / baking dish / casserole dish or deep plate that is at least  $\frac{1}{2}$  inch deep

Water      Black pepper      Washing up liquid      Small bowl / saucer

### **Method:**

1. Pour enough water into a dish so that it is about  $\frac{1}{2}$  inch deep
2. Sprinkle pepper onto the water
3. Squeeze a small amount of washing up liquid into the saucer / small bowl/
4. Dip tip of a finger into the washing up liquid.
5. Put the soapy finger tip gently onto the surface of the water and watch those bacteria/ bugs run away!

## **12. Wind Powered Car**

### **Materials:**

Craft supplies e.g lollipop sticks, tissue paper, paper, card, wooden skewers, plastic bags, string

Scissors      Tape      Toy car      Fan or Hair dryer      Tape measure

### **Method:**

1. Build a sail for a toy car using any of the craft materials you have.
2. Attach the sail to the car using tape.
3. Test the sail with your fan / hair dryer. Adjust if you need to.
4. Set up your sail car beside your tape measure (you might need to tape the measure down so it doesn't get blown away).
5. Turn on the fan / dryer to see how far you can make your car travel.
6. What happens to the distance travelled if you add some weight to your car?  
Try taping pennies to it and measure the differences.

### 13. String Telephone

#### Materials:

2 paper cups      thin string      scissors      bradawl/ sharp pencil  
piece of blutac/ rubber /playdoh

#### Method

1. Place your playdoh, rubber or blueac on the table.
2. Place your the base of your cup over the rubber/playdoh and using your bradawl/ sharp pencil pierce a small hole in the base of each paper cup.
3. Cut a long piece of string.
4. Carefully thread one end of your piece of string through the base of the cup. Pull the tread/ string up and out of the cup and make a knot in it. You may need to keep putting a knot over knot until you make a knot big enough to not pop out of the hole. (The knot needs to be on the inside of the cup!) Repeat for the other cup.
5. With a family member each take a cup and carefully stretch out the string so it is nice and tight.
6. Taking turns, one person sends a message down the string whilst the othe person listens. Can you hear them?

Experiment with different lengths of string. How long can you go and still clearly hear the message?

I hope you enjoy having a go at some of these experiments and I would love to see some photographs of you doing them.

I will put more on the website in a few weeks so watch this space.

Keep safe and keep having fun!

Mrs Scarre