

The unbreakable egg

KIT LIST

An egg
Clingfilm

You'll have people scrambling to try this one!

INSTRUCTIONS

Step 1: Wrap the egg in cling film

Step 2: Place it in your palm and close your hand so that your fingers are wrapped around

Step 3: Squeeze the egg!

TIP

Try to make sure you apply even pressure with your hand and fingers cupped around the egg.

HOW DOES IT WORK?

Although egg shells are fragile, the shape of an egg is extremely strong. When squeezing it in your hand you are applying overall pressure; unlike when you crack it on the side of a bowl where you are applying pressure to a single point.

Yakult hack!

How to identify a bad egg...

Fill a jar with water, if the egg sinks and lies on its side, on a point or at an angle it's fresh. The older the egg the more vertical it is, if it floats to the top, it may be a bad egg!

When laid, eggs have an air sack that increases in size as it gets older. Eggshells are porous, as they age the sack cell fills with more air increasing its buoyancy. Hence, the older the egg, the more air it contains enabling it to float in the water.

Read more of Yakult's food science hacks here:

www.yakult.co.uk/yakult-science/science-hacks-bites

Science! not magic

Join us at the **British Science Festival** from 11 – 14 September.

The Festival will feature a diverse programme of over a hundred talks, debates, performances and activities, taking place across the University campus and the city.

Book your free tickets at britishsciencefestival.org

The Festival (for adults aged 16+) will be followed by a jam-packed weekend of fun for all the family on 15 & 16 September

scifest.hull.ac.uk

A key partner of the British Science Festival, Yakult is a science company, with a long heritage and an amazing amount of research behind its iconic little bottle, committed to support projects meant to showcase the role of science in everyday life.

yakult.co.uk

Science! not magic



They might look like magic – an effect with a secret – but our team of science buskers are in fact performing tricks that are stunts using scientific concepts, optical illusions or maths games...
...and we want to share the scientific concept behind them with you.

DO TRY THIS AT HOME!

Always win this card game

It's not magic,
it's maths!

KIT LIST

Deck of cards

THE RULES

Two players

You take turns removing cards from the pile

You can only take one, two or three cards at a time

INSTRUCTIONS

Step 1: deal out 12 cards

Step 2: explain that the object of the game is to be the person to take the last cards

Step 3: Ask the other player to go first, and make sure you notice how many cards they take.

Step 4: When it is your go take enough cards to make the total taken in the round add up to four. e.g. if the other player took one card you should take three, if they took three cards you take one. Carry on taking turns like this until you win!

Step 5: After you have completed the game a couple of times, your opponent may get suspicious and ask you to go first. If this happens secretly deal out 13 cards instead of 12. Then take one card in your first go. After that your opponent now has 12 cards in front of them and so you just follow the same process as above.

HOW DOES IT WORK?

Because you start with 12 cards, and each 'round' (your opponent and you) adds up to four, by the third 'round' you will always be the person to take the final card(s).

Balloon kebabs

How to make a
hole in a balloon
without it popping!

KIT LIST

Balloons
A kebab skewer

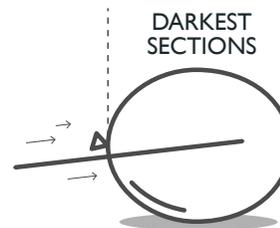
INSTRUCTIONS

Step 1: blow up and tie the balloon – make sure you can still see a darker thicker section at both the top and bottom (by the knot) where the balloon skin is less stretched.

Step 2: gently ease the skewer through the darkest sections of the balloon, from one end to the other.

TIP

Make sure you go from the darkest section by the knot to the darker circle at the top of the balloon, and gently push the skewer through.



HOW DOES IT WORK?

Because you are pushing the skewer through the parts of the balloon skin which are not as stretched out and are still elastic, the balloon can close up back around the skewer, keep the air in.

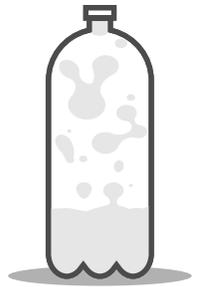
Therefore, it does not go bang!

Home-made lava lamp

Set heads spinning
with this demo!

KIT LIST

A large bottle of cooking oil
A 2l clear plastic bottle
Water-based food colouring
An effervescent pain-relief tablet (e.g. Alka-Seltzer)
500ml water



INSTRUCTIONS

Step 1: put 500ml water in the clear bottle and fill up the rest with cooking oil. Wait for the oil and water to separate.

Step 2: add 10 drops of food colouring. Allow it to sink to the bottom and mix with the water

Step 3: drop in the tablet.

HOW DOES IT WORK?

Water is denser than oil, so it sinks to the bottom while the oil sits on the top. The effervescent tablets will only begin to fizz when they reach the water. When they do, they release carbon dioxide into the water, reducing the density of the water and causing the coloured water to rise up through the oil. When it reaches the top, the carbon dioxide is released from the bottle, and so the water sinks again.