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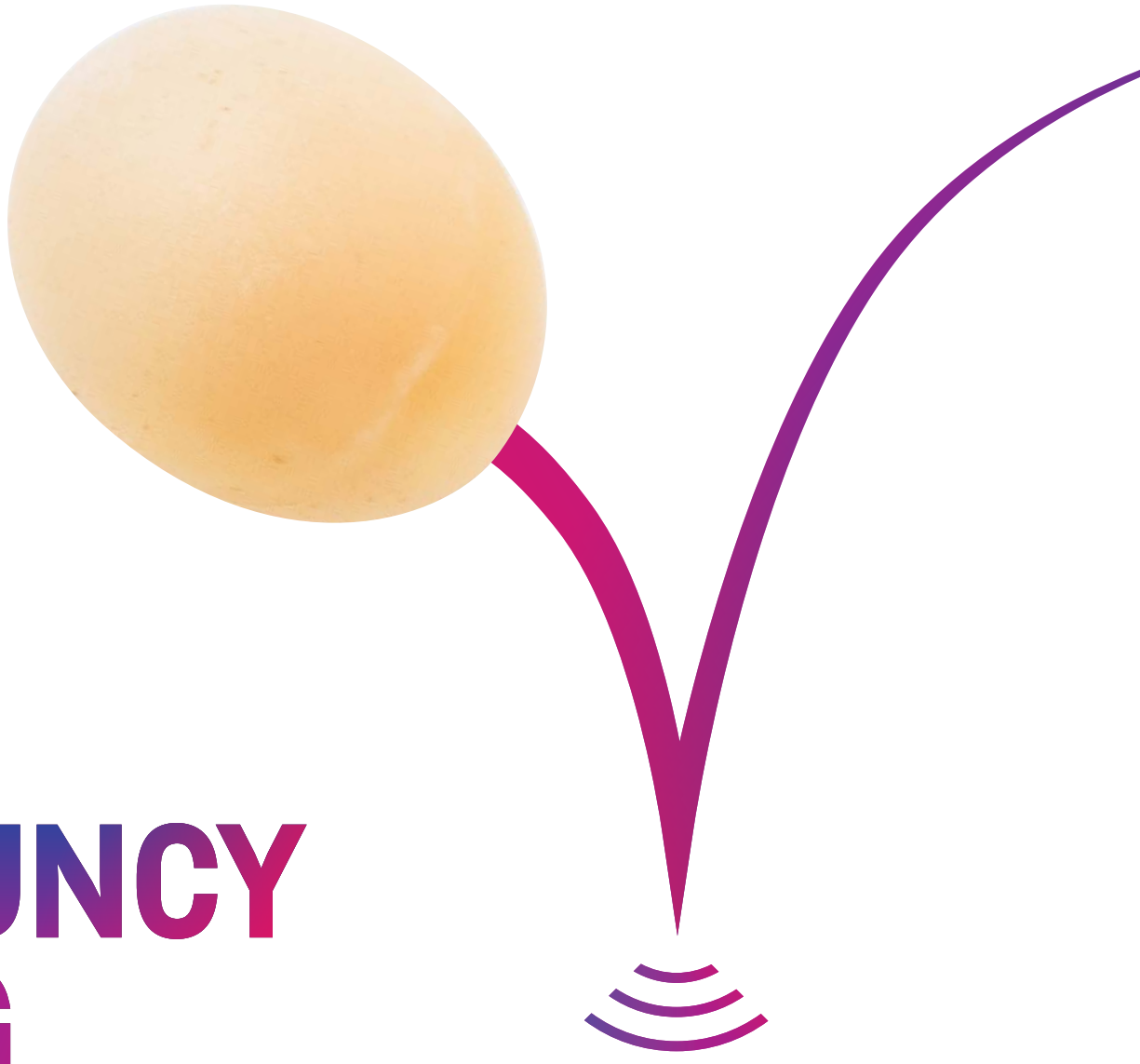


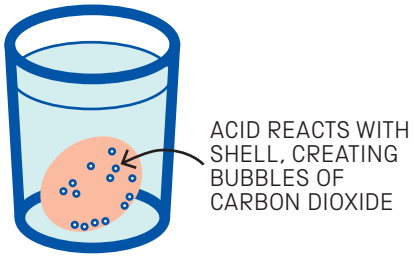
BOUNCY EGG

MAKING	Age 7–11 11–14	Topic MATERIALS, CHEMICAL REACTIONS	20 MIN PLUS 48 HOURS SOAKING
	Skills used MAKING OBSERVATIONS • CURIOSITY		

Overview for adults

Eggs are often thought of as delicate and fragile, but this activity will show that with a simple chemical reaction we can give them a bit of bounce.

What's the science?



The vinegar contains ethanoic acid (also known as acetic acid), which reacts with calcium carbonate in the eggshell. One product of the reaction is carbon dioxide gas, which appears as little bubbles forming on the eggshell. Over time, this chemical reaction dissolves away the hard eggshell. We are left with the thin egg membrane with the raw egg inside.

This membrane is surprisingly strong, and the egg can be dropped from a small height without damaging it: it can bounce. The membrane is 'semipermeable': water can pass through it, but substances dissolved in the water cannot. When the egg is immersed in golden syrup, a strong sugar solution, water leaks out of it.

Science in your world

Many marine organisms make their shells from calcium carbonate. The ocean is becoming more acidic, as carbon dioxide released from burning fossil fuels dissolves into it. The increasing acidity makes it harder for shells to form, and can even dissolve them away – a major threat to marine ecosystems.

Did you know...?

Ostriches lay the world's largest bird eggs. One ostrich egg is equal to about 24 chicken eggs!

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Can you make an egg bounce?

You will need...

Raw egg

Gloves

Glass or other transparent container

Vinegar

The vinegar can act as a mild irritant to skin. This is why we've recommended gloves, but they are optional.

Think and talk about...

- What can you see happening?
- Did you see any bubbles appearing?
- Why do you think changing the vinegar halfway helps to speed up the process?

Investigate...

- What happens if you give the egg a gentle squeeze?
- How high can you drop the egg from before it breaks?
- What happens if you put the naked egg into other liquids? Try putting it in water or golden syrup and see what happens.

Follow these steps...

1 Gently place the egg in the glass and cover it with vinegar.

2 Leave the egg for about 48 hours. You can speed up the process by changing the vinegar halfway through.

3 Remove the egg and gently rub the eggshell away. Remember, it's still a raw egg!

4 Carefully drop your egg from a couple of centimetres and watch it bounce!

Science in your world

The oceans are becoming more acidic, as a result of carbon dioxide released by burning fossil fuels. This means creatures with shells are more at risk of their shells dissolving.