

## Bouncy Egg



What exactly is an egg made up of? Can you name the three main parts of the egg?

- 1.
- 2.
- 3.

### Questions:

1. What protects the contents of the egg?
2. What properties does an egg shell have?
3. What is an egg shell made out of?
4. What do you think would happen if we added acid to the egg?

### Experiment

What you need:

- An egg
- A large bowl
- Some vinegar
- Food colouring (optional)
- Torch (optional)

### Method:

1. Place the egg into the bowl.
2. Completely cover the egg in vinegar
3. Leave the egg somewhere safe and wait for 3 days
4. Take a look at the egg every day. Feel it gently. What do you observe? What does it look like and how does it feel?
5. Gently rub off the eggshell surrounding the egg
6. Try dropping the egg from a 10 – 20 cm height. Does it bounce?
7. Try shining a torch through the egg... can you see the yolk?

## Results:

Describe your egg before and after putting it in vinegar. Did anything change?

## Answers:

The three main parts of an egg are the white, the yolk and the shell

The shell protects the contents of the egg

It's very hard and impermeable (so it doesn't let anything in or out like water or other substances). It's also shaped carefully to make the egg very strong in one direction and very weak in the other (do you remember when we tried to crush eggs last year in class

### Why did the egg become bouncy?

Vinegar is made up of acid. The egg shell is made up of calcium carbonate. The acid in the vinegar **dissolves** the egg shell. This is a chemical reaction between the acid and calcium carbonate. The reaction forms  $\text{CO}_2$  which causes bubbles.

Beneath the egg shell, there is a membrane that encases the egg. This membrane is made up of keratin – a protein that is in your hair and nails. Keratin is tough and flexible (think about how strong your nails are) which means that **IF YOU ARE CAREFUL** you can bounce the egg without it breaking.

**If you try this make sure it's inside a sink or out in the garden – the egg isn't indestructible – just different now!**

