



## RUBBER EGG

These notes accompany the hands-on video guide and detailed explanation and safety tips at [bbc.co.uk/bang/handson](http://bbc.co.uk/bang/handson)

- WHAT:**
- A raw egg
  - Bowl
  - Vinegar (clear)
  - Golden syrup
  - Food dye
  - Time (the first part takes roughly three days)

**HOW:** Place a raw egg into an empty bowl. Pour a bottle of vinegar into the bowl until the egg is submerged. Leave it for three days. After 72 hours you should notice the shell has mostly dissolved. If there is any shell left, very gently rub it until the egg has only a membrane around it. Drop the egg from 20cm off the ground – it should bounce.

Now, take the egg and place it into a bowl filled with golden syrup. Leave for roughly 10 hours. The egg should completely shrivel up. It is definitely no longer bouncy!

Take the deflated egg and place it into a bowl filled with tap water. Squeeze in a tablespoon of food dye. Leave it for around six hours.

You should once again have a rubbery, bouncy egg – this time with a splash of colour.

**WHY:** The vinegar is a weak acid that dissolves the shell. The egg is unaffected because it has a strong membrane around it. The membrane is semi-permeable which means osmosis can take place. This means more water is travelling from the least concentrated solution to the most concentrated solution. First it travels into the egg, then out of the egg and then back into the egg. All the while it remains raw and shell-less.

**TIP:** Don't be impatient, the longer you leave your egg the easier it will be to remove the shell.

