



## Horrible Science Downloadable Experiments – 2 ALIEN EGG EXPERIMENT

*This amazingly revolting and revoltingly amazing experiment has to be tried to be believed. (Please note you can read on safely as there are no embarrassing egg jokes on these pages).*

YOU CAN READ THESE AND MORE FOUL FOOD EXPERIMENTS IN **FREAKY FOOD** published by Scholastic in 2007.



### WHAT YOU NEED:

- An egg
- A glass
- 150 ml of white vinegar (cider or white wine vinegar is fine).
- Tablespoon
- Sugar
- Two glass jars
- Green food colouring
- Plastic drinking straw

### WHAT YOU DO:

1. Place the egg carefully in the glass – we don't want any breakages now ...
2. Pour the vinegar over the egg and watch carefully. The egg is soon covered in tiny bubbles.
3. Leave the egg for 48 hours. You may need to turn the egg a few times and place a spoon to keep the egg at the bottom of the glass. (The bubbles make the egg float.)
4. Place the egg in a jar and pour sugar over it until it is just covered.
5. Leave the egg in the sugar for 36 hours.
6. Now use the straw to add ten drops of green food colouring to a clean jar of water.
7. Gently wash the egg in clean water and place it in the jar. And the phoul photo shows what it should look like ...

### YOU SHOULD FIND:

At stage 3 egg feels rubbery because it has no shell. In fact you can even drop it into the sink from 4 or 5 cm and it will bounce. Eggshell contains *calcium carbonate* – that's the stuff you call "chalk". Acid in the vinegar dissolves the chalk and releases carbon-dioxide gas (yes, that explains the bubbles). Without a shell to break, the egg bounces if you don't drop it too far ...

After 36 hours in the sugar, the egg feels limp and when you gently touch it, your finger makes a dent. The sugar has turned into a watery syrup. But after 24 hours in the water the egg is firm again. And what's more it's grown bigger and it's GREEN!



THIS IS BECAUSE:

An egg is a giant cell (just like the cells in the cucumber or the cells that make up your body). A shell prevents an egg from losing too much water, but this egg has no shell. When the egg was in sugar, osmosis drew water from the egg into the sugar and left the egg limp. But once the egg was in water it could suck in water and green colouring by osmosis. And because it had no shell it could swell into an alien egg. Don't hold your breath waiting for it to hatch!

