



BOUNCING EGG

Students

Class Date Group number

MATERIALS

An egg, a jar, vinegar, a piece of string, a ruler.

PROCEDURE

Measure the circumference of the egg using the string and the ruler.

Place the egg in a jar and cover it with vinegar.

Leave the egg in the vinegar for a couple of days.

Pour off the vinegar and carefully rinse the egg with water.

Measure the circumference of the egg using the string and the ruler.

OBSERVATIONS

In the first measurement the circumference is and in the second is

Draw a picture about this first step.

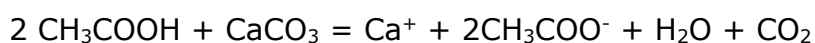
OBSERVATIONS (after two days)

We can see some bubbles on the shell.

The egg looks translucent because the outside shell has gone! The only thing that remains is the delicate membrane of the egg.

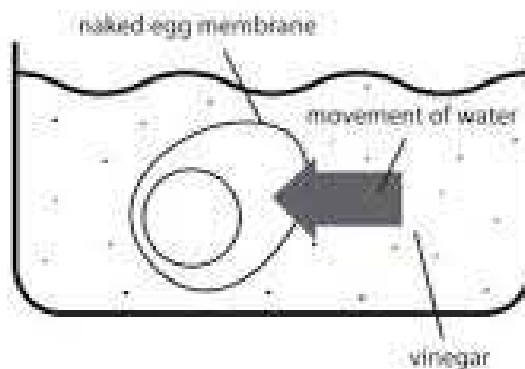
CONCLUSIONS

Eggshells are made up of calcium carbonate (CaCO_3). The acetic acid in the vinegar reacts with the calcium carbonate in the eggshell to make calcium acetate plus water and carbon dioxide (bubbles that you see on the surface of the shell).



Acetic acid + Calcium carbonate = Calcium Ion + Acetate ion + Water + Carbon dioxide

You might have noticed that the egg got a little bigger after immersion in the vinegar. Here's what happened: some of the water in the vinegar solution pass through the egg's membrane in an effort to equalize the concentration of materials on both sides of the membrane.



This flow of water through a membrane, called **osmosis**, has caused an increase in size of the egg.

Draw a picture about this final step.