



Hi Fellas,

We are really looking forward to seeing you at West Hill, in September. In year 7 you will have the chance to carry out lots of experiments in your Science lessons. Here is one that you can try at home and it links to our Acids and Alkalis unit. **Make sure that you have permission from an adult before completing experiments at home.**

The shell of an egg contains a chemical compound called calcium carbonate. Vinegar contains ethanoic acid. **If you soak an egg in vinegar the eggshell will absorb the acid and break down, or dissolve.** The calcium carbonate will produce carbon dioxide gas, which will go into the air. What is left is the soft tissue that lined the inside of the eggshell.

When calcium carbonate reacts with acid, it reacts to form; a salt, water and carbon dioxide gas.

This is the chemical reaction:

ethanoic acid + calcium carbonate → calcium ethanoate + water + carbon dioxide

You can watch a video of this type of reaction on youtube: <https://youtu.be/9I5bhUwm1t0>

CREATE A NAKED EGG



You Will Need:

- One Egg
- A 500mL bottle of clear white vinegar
- One Drinking Glass



1



Put the egg into the glass.

2




Pour vinegar into the glass until it completely covers the egg.

3




Have a look closely at the surface of the eggshell. You should see it start to be covered in tiny bubbles.



4

Leave the glass, vinegar and egg overnight where it won't be touched.



5

After about 24 hours has passed, check the egg again. The shell will have started to dissolve.



6

After a few days (up to a week if you have weaker vinegar), carefully take the egg out of the glass and feel it. What does it feel like?

VERY carefully drop the egg into a table from about 5cm up. What does the egg do?

NB: If it doesn't work the first time, change your vinegar and repeat with the same egg... you'll get there!

If you want, you can take photographs of your experiment and bring them to your science lessons, when you start in September. Even better, produce a diary of the observations that you can see, day by day as the reaction progresses.

Here is another egg related video. <https://youtu.be/rJmoROaMduQ> When you crack an egg underwater the water pressure assumes the role of the eggshell, exerting an inward force that keeps the egg yolk and whites intact.

Can you research the differences and similarities between a bird's egg and a reptile's egg?

I hope that you have fun completing this experiment. There are lots of other kitchen chemistry experiments on this web site: <https://www.fizzicseducation.com.au/category/150-science-experiments/kitchen-chemistry-experiments>

IMPORTANT: Remember to ask permission to try any of these.

Enjoy your summer and see you in September!

Mr Carty

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