Science Experiment- blow up a balloon

Science in the home!

'Kitchen Science' is a collection of activities that people can do at home, with everyday ingredients available from the supermarket or chemist. We want to show that science does not have to be done in a laboratory, by people in white coats. Instead, science is involved in all aspects of people's lives.

What you will need:

- A small plastic bottle
- Vinegar
- Water
- Baking soda/ bicarbonate of soda
- Balloon
- Teaspoon
- Funnel

This is a reaction between a base (baking soda) and an acid (vinegar). It produces a gas called CO2, one of the gases we breathe out. The gas produced by the reaction cannot escape and therefore fills the balloon.

What you need to do:

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Aims:

- Predictions – learn how to make predictions about mixing materials to create a particular result.
- Investigation – learn about carbon dioxide (CO_2), the expansion of gases and how gases differ from solids.
- Materials – learn the difference between an acid and a base, and explore the reaction that happens when an acid is mixed with a base.
- Fair testing – have the opportunity to repeat the experiment, to develop an understanding of fair testing.

Practicalities and preparation

- Attaching the balloon to the bottleneck can prove tricky. Here are some tips on how to accomplish this effectively... Place four fingers inside the neck of the balloon and open it gently without splitting it. Invert the neck of the balloon over the top of the bottle whilst keeping the body of the balloon vertical. Ensure the baking soda remains in the body of the balloon until it is completely attached.
- Ensure that all the materials you require are available and within their expiry date.
- This is not a messy experiment, but spillages can occur if bottles are knocked over. You may choose to use aprons.
- Ensure all bottles are clean to prevent contamination, which could alter the result of the experiment.

Safety information

- Check latex allergies. If there are any ensure these children do not touch the balloon.

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