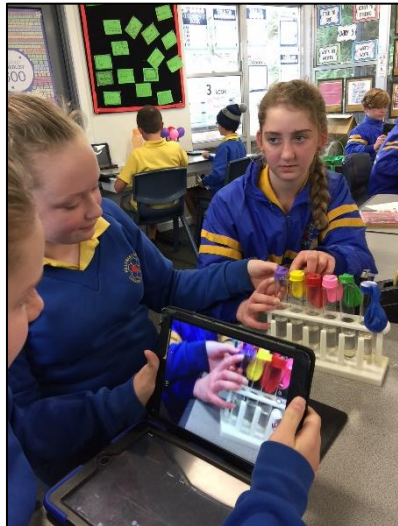


A couple of weeks ago it was Science week. We did a few things in class to celebrate, but our main focus was to learn about how to conduct a fair test experiment.

In this type of experiment we work scientifically like scientists might. We only change one thing in the experiment, measure one thing and keep everything else the same. This makes it fair and repeatable for others to follow.

### We asked the question:

***"Does the amount of bicarb soda we mix with an acid (vinegar) make any difference to the amount of carbon dioxide gas produced during the reaction?"***



### What we did:

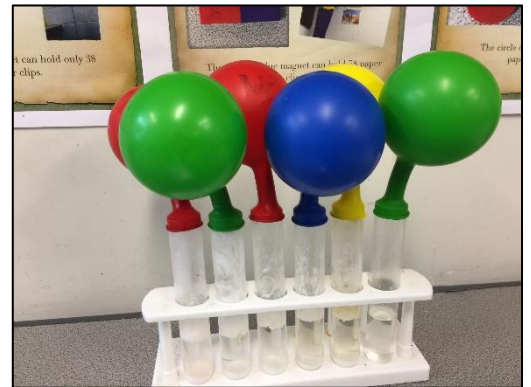
We used 6 test tubes with the same amount of vinegar in each – about 5cm.

We put 6 balloons on top. Each balloon had from 1 teaspoon of Bicarb Soda up to 6 teaspoons.

We tipped up the balloons one by one and the bicarb went into the vinegar and created a reaction, which made the carbon dioxide gas- CO<sub>2</sub>.

### What were the results?

Amazingly all the balloons filled up with about the same amount of gas, even though some had 6 teaspoons of bicarb soda in the reaction.



### What we found out:

After the reaction we looked in the test tubes and saw that there was left-over, unused bicarb soda in there. We found out that it only took about ½ teaspoon of bicarb soda to make the balloon fill up so all the rest was just wasted. We knew this because even in the 1 teaspoon test tube there was about ½ teaspoon of sediment. To make more gas we would need more vinegar to mix with the bicarb.



### Was it a fair test?

We think it was pretty close to one. Someone could easily repeat this and get much the same results.

