

# SCIENCE COMPETITION



Think of an investigation you could do at home (or if you are lucky, in the garden) that involves changing something and be able to measure the impact of that change. For example: make a contraption that can carry an egg as far and fast as possible. You are changing the method of travel and measuring its speed.

## PLAN

Think of what equipment you have available to you. Do you have a ruler to measure length or scales to measure the mass of an object? Perhaps you could investigate the density of objects in water, in squash, in custard etc by seeing if it will or will not float.

## EQUIPMENT

This is the variable you will change. For example the liquid that you place objects in to see if they float, or perhaps you would like to measure the variation of petal length in your garden if possible, in that case you are changing the petal.

## INDEPENDENT VARIABLE

This is the variable you will measure. E.g. the length of the petal in mm. Or perhaps you want to measure the volume of rainfall each day. Or maybe even the rate of hair growth for all the members in your household? Be creative!

## DEPENDENT VARIABLE



**Rules:**  
Must not breach government guidance on staying safe!  
Must consider health and safety and consult a guardian first!

## Plan your own investigation and win!

**Winner/s:**  
Send your lab report to Miss Kay and the science department will judge the winner/s! **Deadline:** Monday 20<sup>th</sup> April!



## CONTROL VARIABLES

These are all the variables you will keep the same in order to produce a fair test. E.g. if you are measuring the rate of hair growth for all the members in your household perhaps you will ask them to use the same shampoo?

## LAB REPORT

You need to produce a lab report with an aim, equipment list, health and safety report, method, diagram, results/graph, conclusion and evaluation. Remember this is meant to be fun and safe!

## GRAPH/ DIAGRAMS

Produce a diagram of your experiment, use photo's if you can or even a video if possible! Be sure to include a graph of your results! This may be a bar chart or a scatter graph, you decide.

## CONCLUSION AND EVALUATION

All good lab reports/investigations include a conclusions to discuss what you found and then an evaluation to explain how you could make it better.

Other ideas from your teachers.... Try and make up your own, but here is some 'food for thought' ....



Looking at acids and alkalis in the home (foods/drink!), perhaps measure the rate of reaction?

Make a contraption that can transport an egg without breaking. Measure the speed or distance.

Measuring how fast members of the household fall asleep depending on what they are watching! Good or bad films!?

Making paper helicopters or other modes of transport out of different materials and measure the speed.



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In the event of a tie.....  
It may be that we have lots of lab reports to choose the winners from, in that case the best scientific to the following question will be crowned the almighty winner!  
"What came first, the chicken or the egg!?"

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Measuring the speed of toy cars on different surfaces or down different slopes.

Measuring the rate of hair growth for people in your household.

Measuring the rate of food consumption for you pet (if you have one).

Don't forget to change one thing, measure another and keep everything else the same. P.S. to calculate the rate of something it is always an amount ÷ the time. E.g. mass of food consumed ÷ time taken to consume.

