

The cupcake drop

Transition week

Science

Science investigation skills



What are we going to be investigating?



How to plan a practical

1. You have to know what you are changing (independent variable) and what you are measuring (dependent variable)

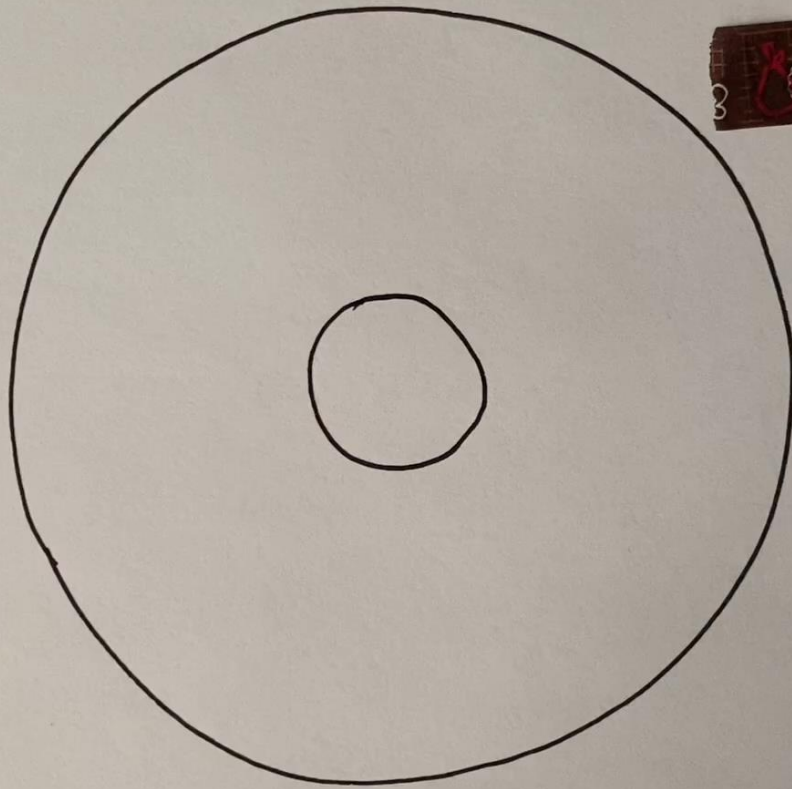
Let's look at the science question...

- How does the number of cupcake cases affect the time taken to fall?
- What is the **independent variable** – the one we are changing?
- What is the **dependent variable** – the one that we are measuring?

The science question

- How does the number of cupcake cases affect the time taken to fall?
- What is the independent variable – the one we are changing?
- What is the dependent variable – the one that we are measuring?

using the variable circle



Ready to collect results? Not quite!

- Making a prediction:



One last thing!



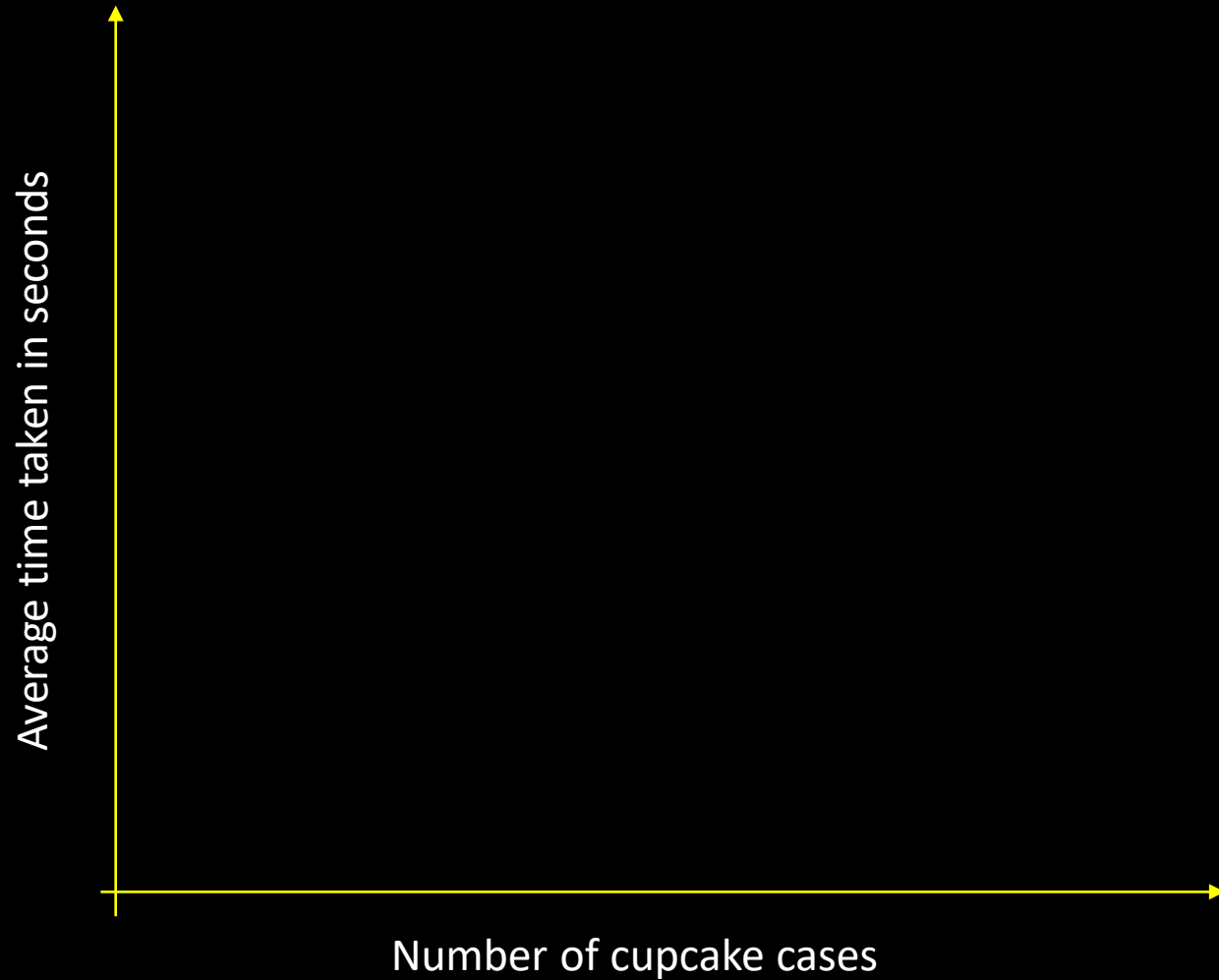
collecting results - let's go!



Mrs Malcolm's results

Number of cupcakes	Time to drop 1.65 m in seconds			
	1	2	3	Average
1	1.2	1.4	1.5	1.4
2	1.0	1.0	1.1	1.0
3	0.9	0.9	0.8	0.9
4	0.9	0.8	0.7	0.8
5	0.7	0.7	0.7	0.7

Drawing a graph of your results



- Please bring your graphs to your first lesson in September if you are planning to attend CVC. We would love to see them!

What does your data show?

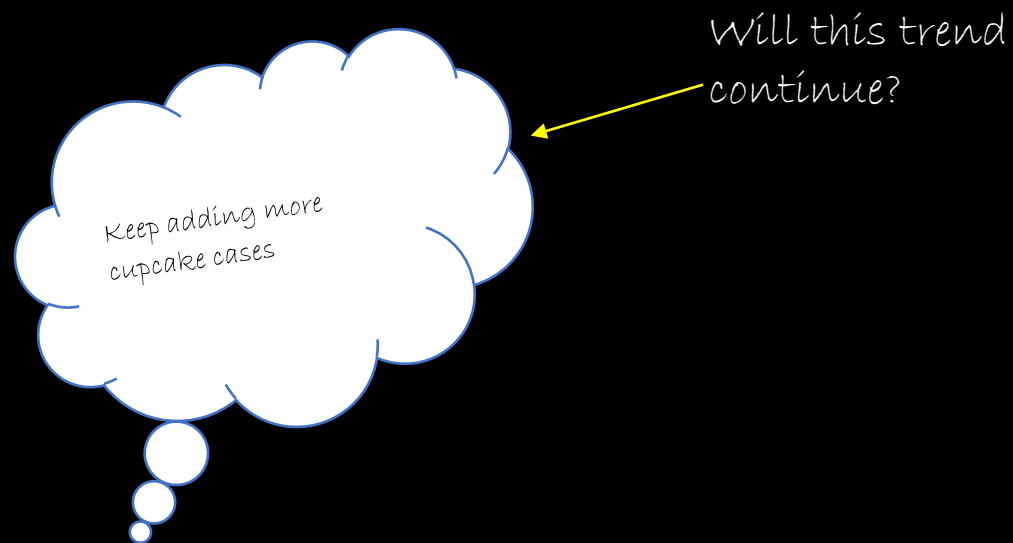
- Spotting patterns in data is an important skill.

How to phrase what you see!

- As I added _____
...the time it took to fall _____

What next?

- Once we have our results, it is good practice to think about what comes next.
- For example:



Think of some things that you would like to investigate about cupcake cases now that you have your data.

Thinking about the science

- Do heavier things fall faster?
- Watch what happens when we make the cupcake cases the same size and then drop them...



They land at (almost) the same time!

Summer challenge...for CVC pupils only

- Have a go at explaining:

- 1) Your results. Why did the cupcake cases fall in less time the more you had?

- 2) The extension. Why did the cupcake cases fall in the same time when scrunched up?

You can make a poster of your thoughts and give them to Mrs Malcolm on the first day of school in September.