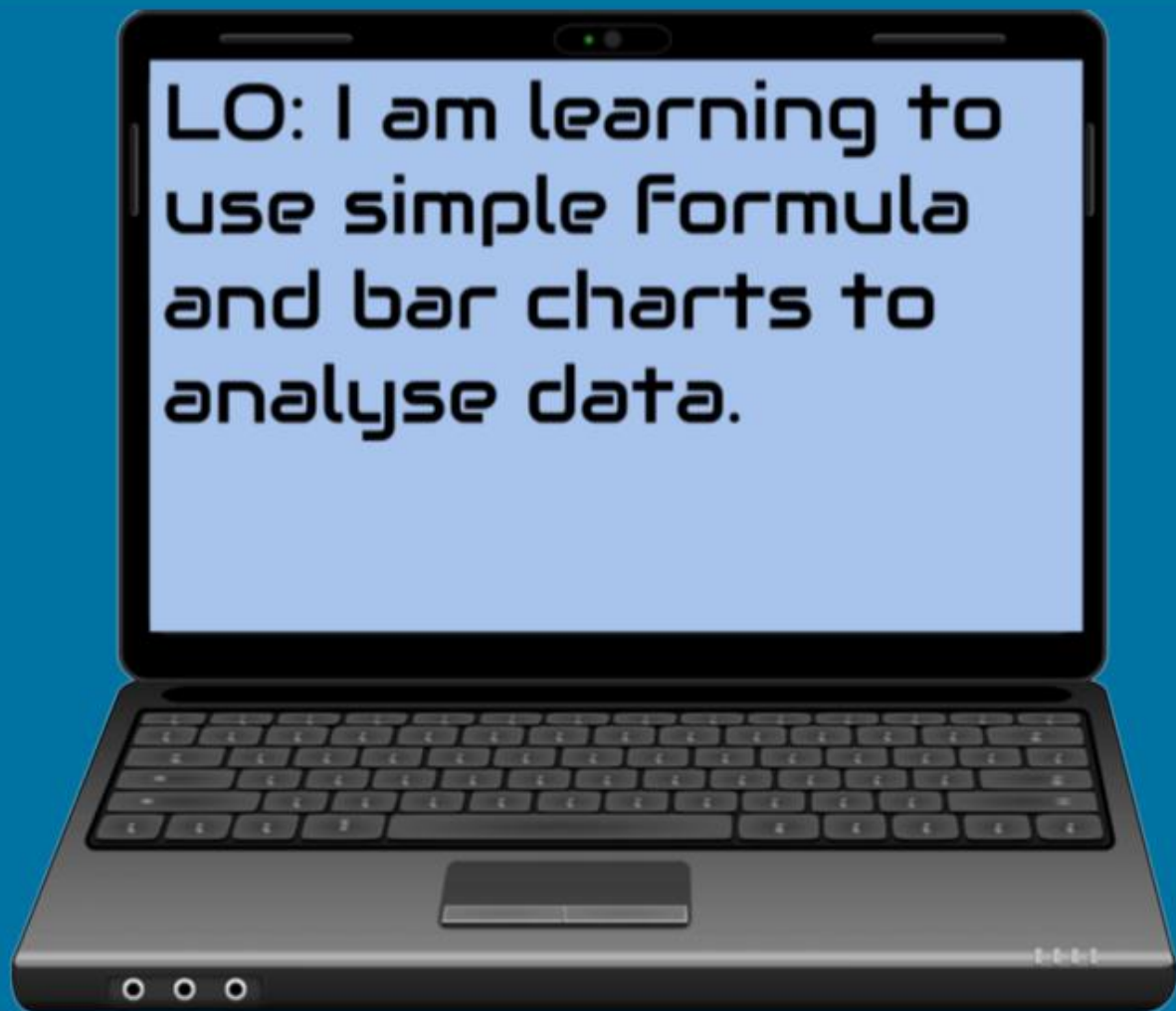




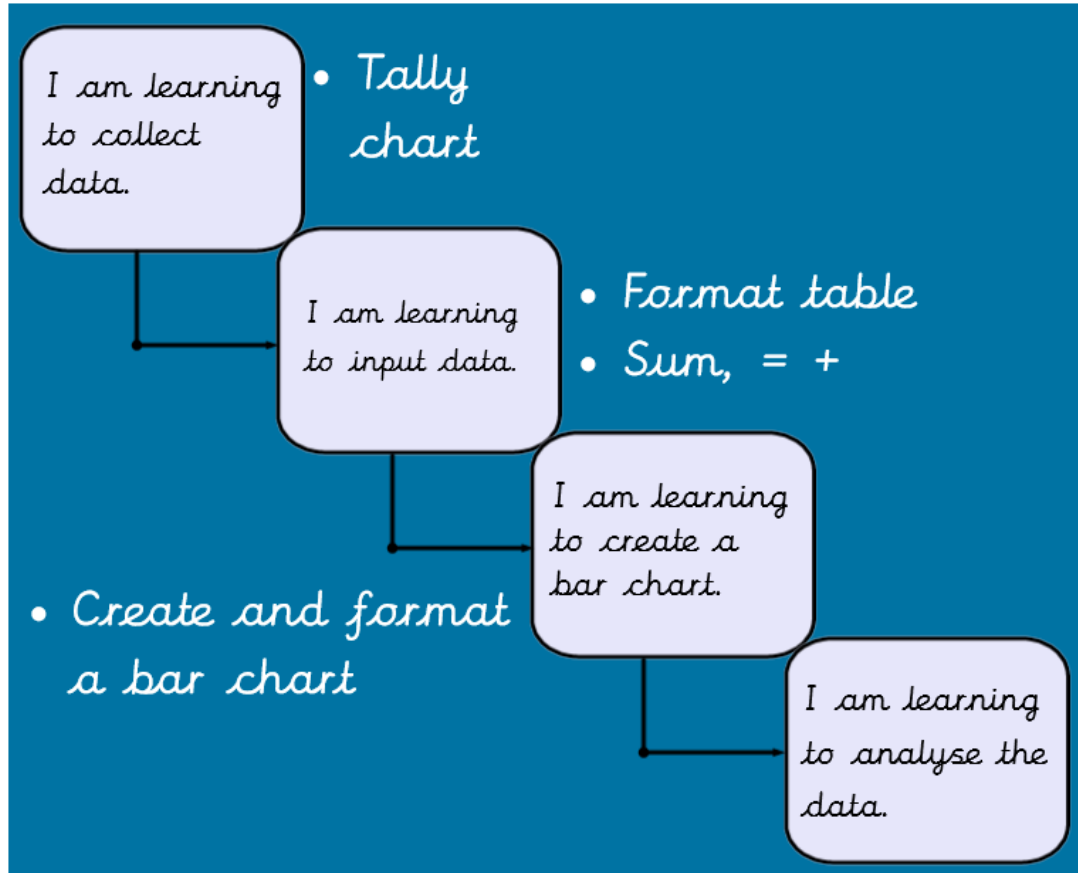
*Data  
Handling*

# Information Technology

LO: I am learning to  
use simple formula  
and bar charts to  
analyse data.



These are the skills you will be learning today. Are there any words you're unsure about?



What is data?

Chat with someone in school or home about your  
ideas

# data

[ˈdeɪtə] 

NOUN

facts and statistics collected together for reference or analysis.

"there is very little data available"

*synonyms:* facts · figures · statistics · details · particulars · specifics · features · [More]

- the quantities, characters, or symbols on which operations are performed by a computer, which may be stored and transmitted in the form of electrical signals and recorded on magnetic, optical, or mechanical recording media.
- *philosophy*  
things known or assumed as facts, making the basis of reasoning or calculation.

In order to understand what the data tells us it needs to be organised so it can be used.

Here is some data about the hair colour of the children in a class. **How easy is it to work out the most common hair colour? How would you organise this data?**

Child 8 has black hair

Child 1 has blond hair

Child 9 has Ginger hair

Child 4 has black hair

Child 6 has blond hair

Child 7 has brown hair

Child 3 has Ginger hair

Child 5 has brown hair

Child 11 has brown hair

Child 10 has blond hair

Child 12 has black hair

Child 13 has Ginger hair

If the data is organised using a tally chart it's much easier to answer the question.

*What is the most common hair colour in the class?*

*Use a tally chart to count the different types of hair colour in the class.*

<i>Hair colour</i>	<i>Tally</i>	<i>Frequency</i>
Brown		5
Blond		3
Black	I	6
Ginger		8
		22

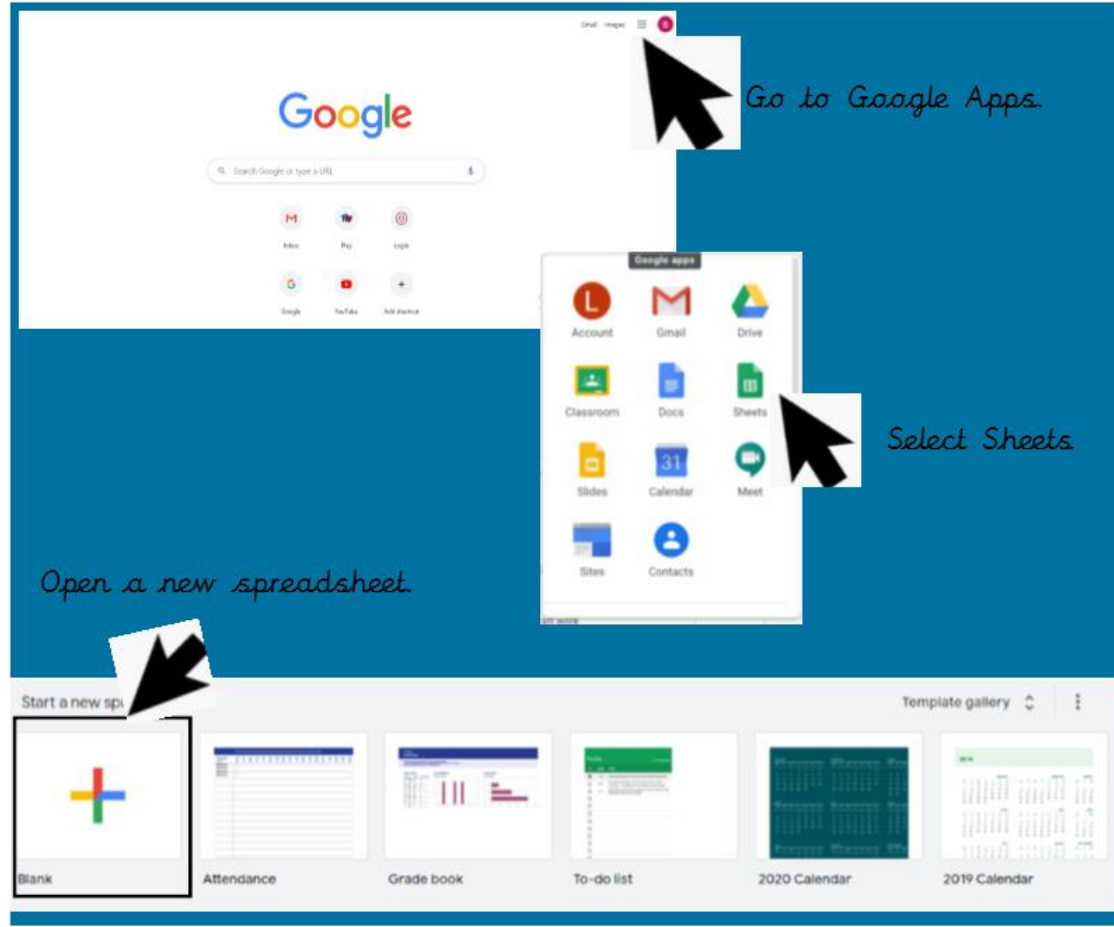
# What is a spreadsheet?

Document in which data is arranged in the rows and columns of a grid and can be analysed more easily.

	A	B	C	D	E	F
1	<b>OFFICE SUPPLIES ORDER</b>					
2						
3	<i>Item</i>	<i>Price</i>	<i>Quantity</i>	<i>Total</i>		
4	Copy paper	£2.49	20	£49.80		
5	Post-It Notes	£5.99	10	£59.90		
6	Stapler	£7.99	5	£39.95		
7	Paper punch	£11.90	15	£178.50		
8	Highlighter pen	£1.99	50	£99.50		
9						
10	TOTAL COST OF ORDER			£427.65		
11						
12	AVERAGE PRICE			£6.07		
13						



# Log in to Google Sheets



Give your spreadsheet a name

The image shows a Google Sheets interface. At the top, a blue header bar contains the text "Give your spreadsheet a name". Below this, the spreadsheet is open with the title "Untitled spreadsheet" in the top-left corner. A black box highlights this title, and a line connects it to another black box at the bottom of the screen. This bottom box contains the text "Hair colour - LV" followed by icons for star, share, and link. Below this box is a menu bar with "File", "Edit", "View", "Insert", "Format", "Data", "Tools", "Add-ons", and "Help". To the right of the menu bar, it says "Last edit was 7 minutes ago". The spreadsheet grid is visible in the background, with columns labeled A through Z and rows numbered 1 through 10.

Untitled spreadsheet

File Edit View Insert Format Data Tools Add-ons Help

100% 12345678910

1 2 3 4 5 6 7 8 9 10

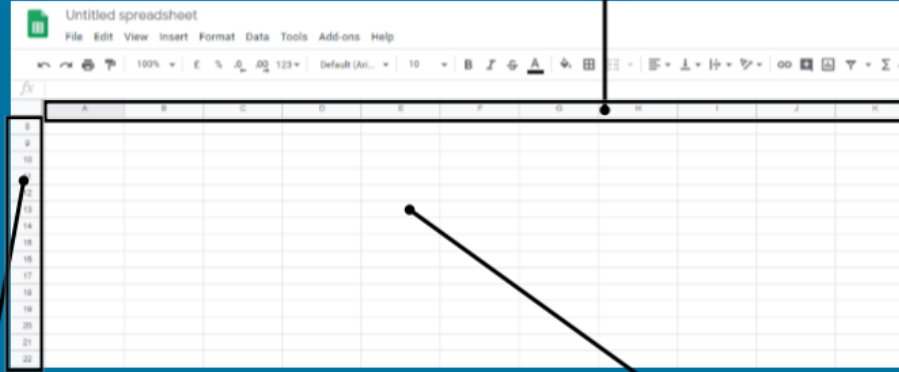
A B C D E F G H I J K L M N O P Q R S

Hair colour - LV ☆ 🔗

File Edit View Insert Format Data Tools Add-ons Help Last edit was 7 minutes ago

# What are columns, rows and cells?

Columns go down and they use letters



Rows go across and they use numbers

The rectangles are called cells and this is where we input the data.

Each cell is individual and can be found using their letter and number reference.

Click in to the cell A1, B2, Z100

There are 3 different types of information that can be inputted to a cell

Text (writing)

Numbers

A	B
	Number of children
Brown	5
Blond	3
Black	6
Ginger	8
	=sum(B2:B5)

Formulae

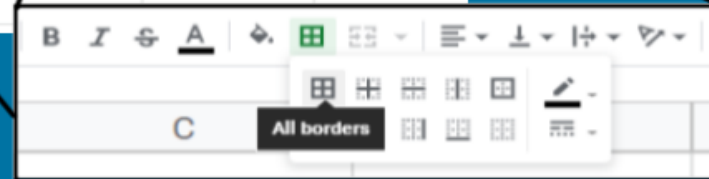
# Create a table that includes the data about the class hair colour.

*Format table*

*1. Use bold formatting*

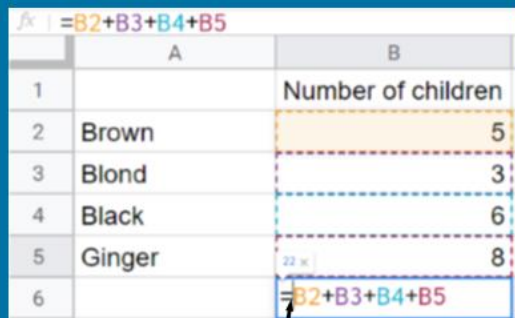
	A	B	C	D	E
1		<b>Number of children</b>			
2	<b>Brown</b>	5			
3	<b>Blond</b>	3			
4	<b>Black</b>	6			
5	<b>Ginger</b>	8			
6		22			
7					

*2. Use the border formatting to create a table.*



## Create a formula using addition (+)

How many children have black and ginger hair?



	A	B
1		Number of children
2	Brown	5
3	Blond	3
4	Black	6
5	Ginger	8
6		=B2+B3+B4+B5

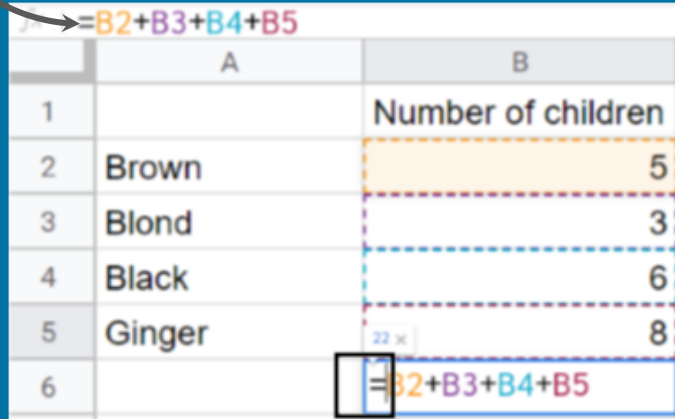
Use the = and the add sign +

(hint you will need to use the shift key)



Using formulae helps manipulate data to make it easier to analyse. The equals tells Sheets that it's a formula

*Use the 'Add' formula to generate a total*



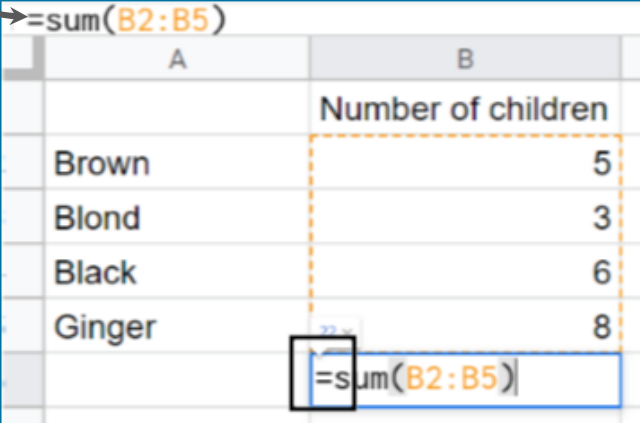
	A	B
1		Number of children
2	Brown	5
3	Blond	3
4	Black	6
5	Ginger	8
6		=B2+B3+B4+B5

*This formula adds up each individual cell.*

*What would be the formula if you wanted to add brown and blond together?*

Using formulae helps manipulate data to make it easier to analyse. The equals tells Sheets that it's a formula

*Use the 'Sum' formula to generate a total*



A	B
	Number of children
Brown	5
Blond	3
Black	6
Ginger	8
	<i>(Formula: =sum(B2:B5))</i>

*This formula adds the cells in a range (from B2 to B5).*

*What would be the formula is you wanted to 'sum' brown and blond?*



When would the sum formula be more appropriate to use and when would the add formula be more appropriate?

Creating graphs allow us to analyse the data more easily.

	A	B
1		Number of children
2	Brown	5
3	Blond	3
4	Black	6
5	Ginger	8
6		22

1. Highlight the data you want to analyse. Click into a cell and drag until all the cells you want are highlighted.



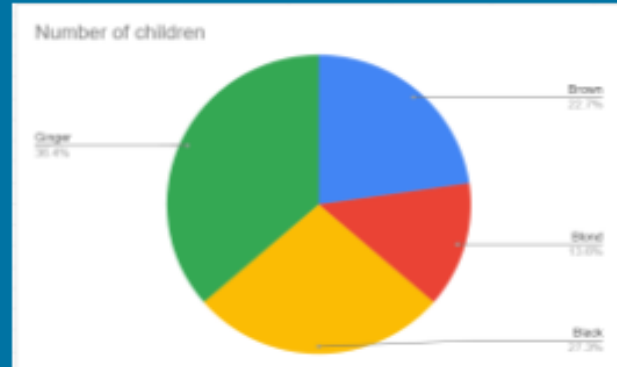
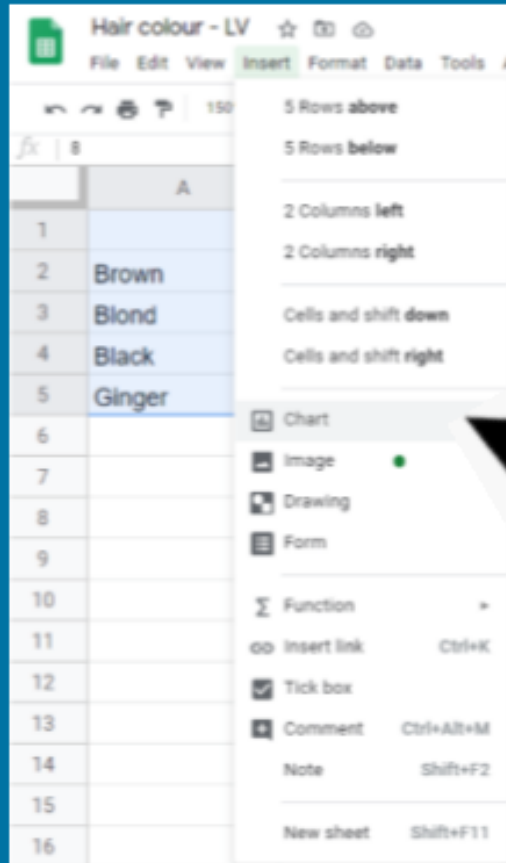
Don't include the total - we just want to look at the different hair colours

# Creating graphs allow us to analyse the data more easily.

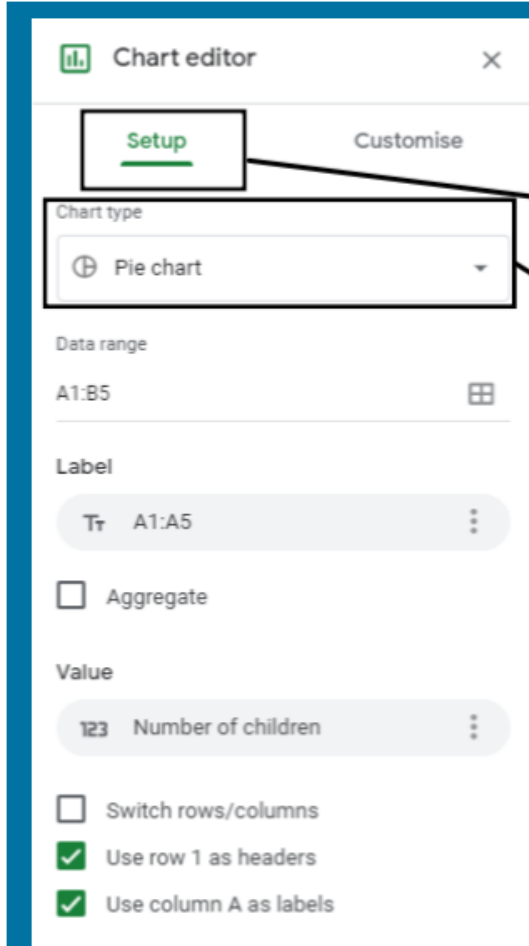
2. Go to "Insert" and select chart.

Google Sheets will select the chart type it thinks is the best.

3. You may get chart that's not the one you want!



# Choosing the bar chart



1. Double click on the chart to bring up the "Chart Editor".

Select "Set up".

2. Select "Chart type" and choose "Column Chart".



# Giving your graph and title and labels

The image shows a screenshot of the Google Charts 'Chart editor' interface. The interface has a sidebar on the left with tabs for 'Setup' and 'Customise'. The 'Customise' tab is selected and highlighted with a green underline. Below the tabs, there is a 'Chart style' section. Under 'Chart & axis titles', there is a 'Chart title' dropdown menu. Below this, there is a 'Title text' input field containing the text 'Number of children vs'. Below the input field, there are settings for 'Title font' (set to 'Theme default...'), 'Title font size' (set to 'Auto'), 'Title format' (with buttons for bold, italic, and text alignment), and 'Title text colour' (set to 'Auto').

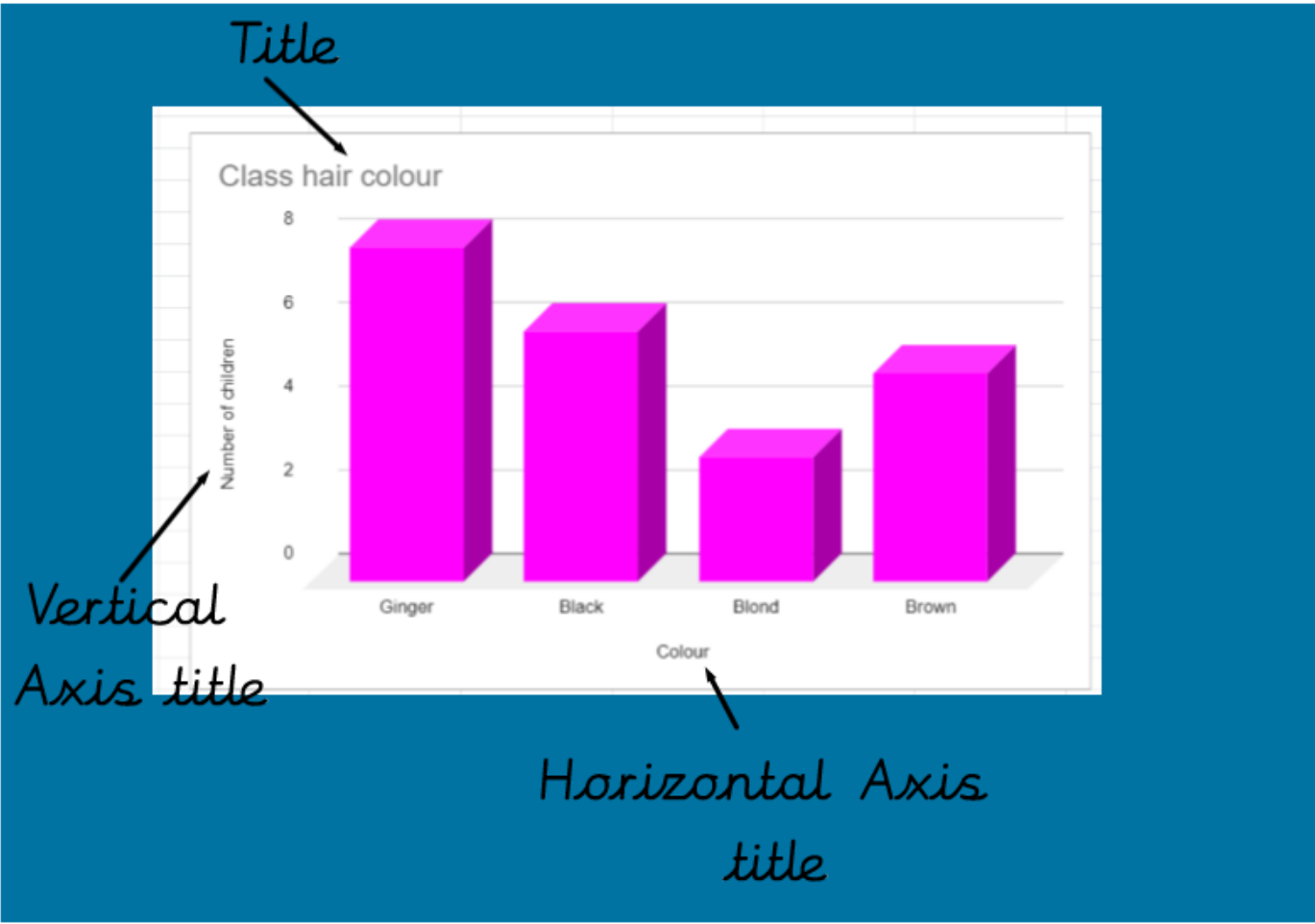
1. *Select customise*

2. *Chart title*  
*Give your chart an appropriate title.*

3. *Vertical Axis*  
*Give the vertical axis an appropriate title*

4. *Horizontal Axis*  
*Give the vertical axis an appropriate title*

# Format bar chart



# Analyse the data



1. What is the most common hair colour?
2. What is the least common hair colour?
3. How many more children have black hair compared to brown hair?

Can you create your own spreadsheet to analyse...

... the colours of there skittles

