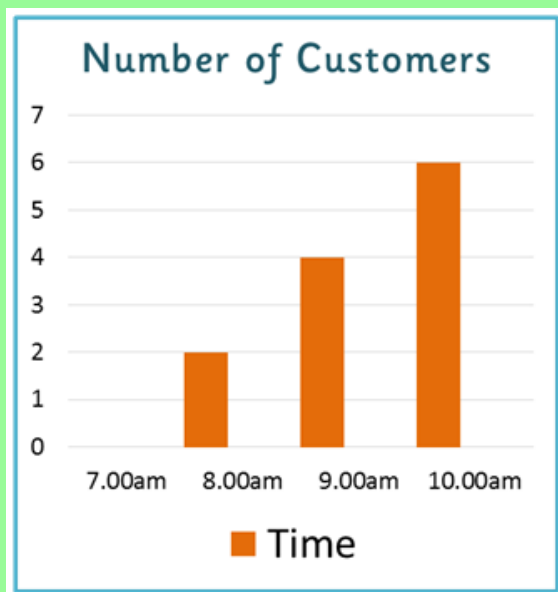


22.10.2021

LO: To draw line graphs

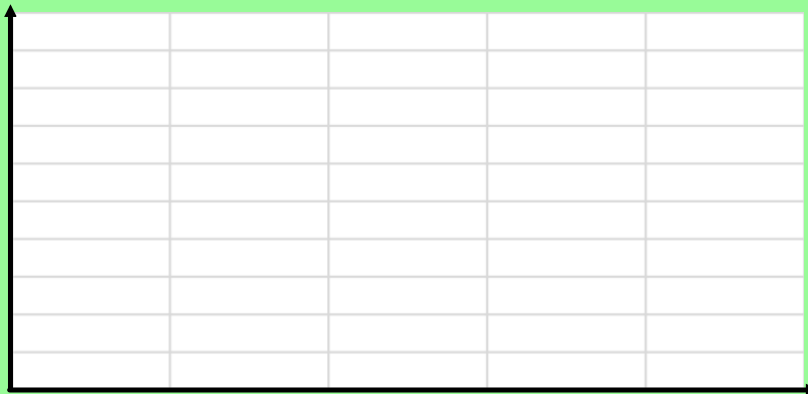


Data is very useful because it can be used to show *patterns*.

Shops look at data to know how much of their stock sells at each time of the year. They use this information to *predict* how much they will need at certain points of the next year, or when busier periods might be.

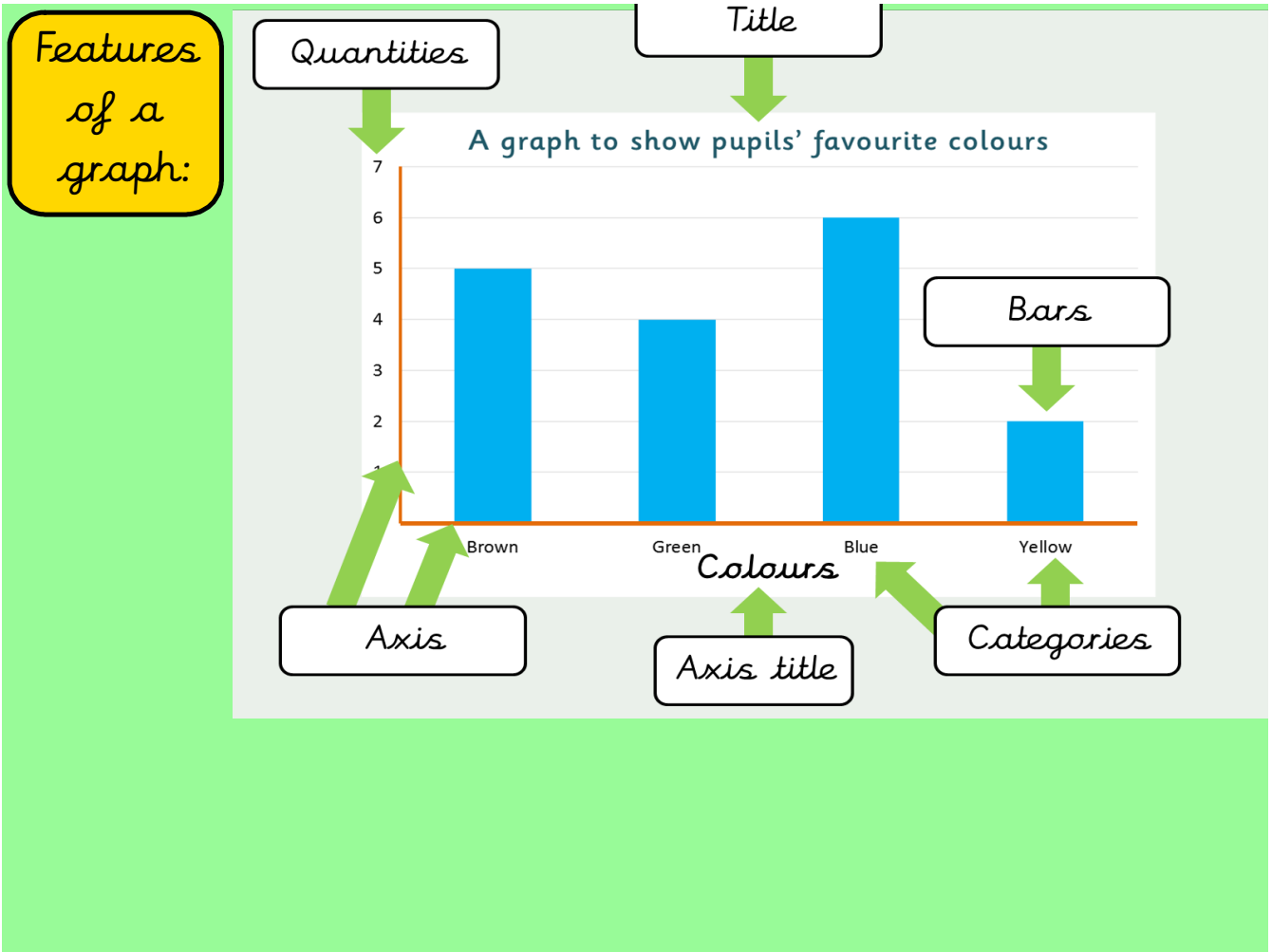
Line graphs are used to represent continuous data (data that is measured over time, such as your height, temperature). They are not used to represent discrete data (data that is counted, such as your favourite colour, chocolate, game).

This is the vertical axis or the 'y axis'.



This is the horizontal axis or the 'x axis'.

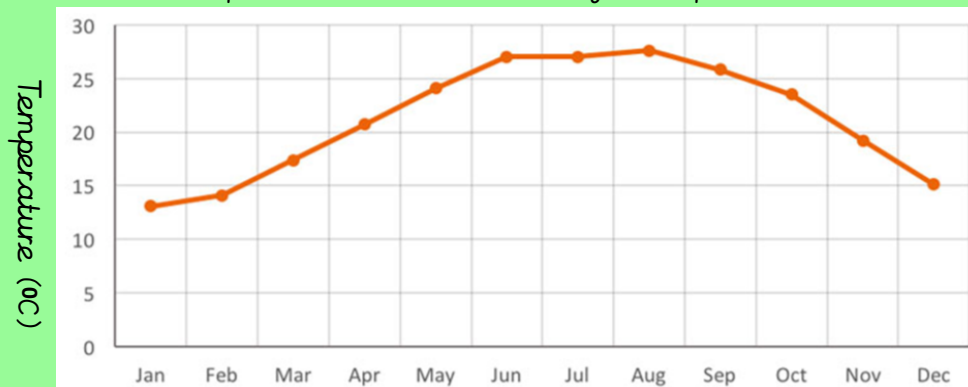
Axes are the horizontal and vertical lines used to frame a graph or chart:



We are going to plot America's temperature for each month using a line graph.

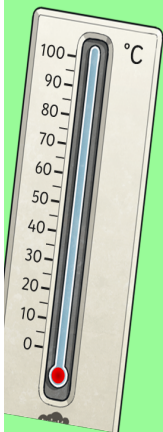
A line graph can be used to record data over time, so we can use this to record our continuous data.

A Line Graph to show the Average Temperature in America



The overall climate in the United States of America (USA) is temperate, with notable exceptions. Alaska has an Arctic tundra climate, while Hawaii and South Florida have a tropical climate. The Great Plains are dry, flat and grassy, turning into arid desert in the far West.

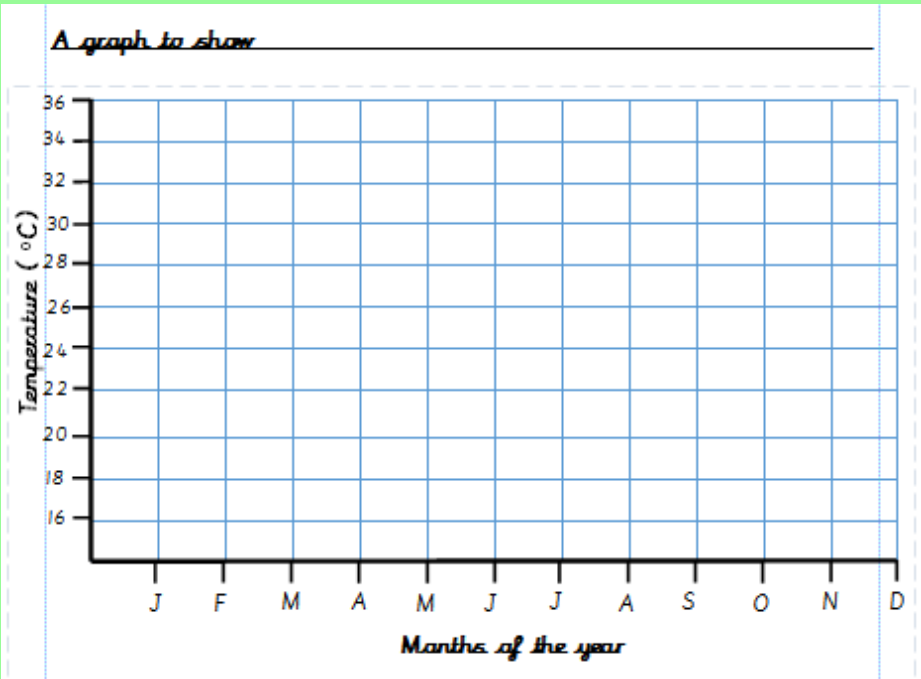
In terms of temperatures and precipitation there are very large differences throughout the country. The northwest is wet, the southeast fairly wet and the central part of America is dry.



What can we see from the given data below?

<i>Average high temperature in America (°C)</i>					
<i>January</i>	<i>February</i>	<i>March</i>	<i>April</i>	<i>May</i>	<i>June</i>
18°C	20°C	23°C	32°C	32°C	33°C
<i>July</i>	<i>August</i>	<i>September</i>	<i>October</i>	<i>November</i>	<i>December</i>
34°C	34°C	32°C	29°C	24°C	20°C

Plot the temperature data on the chart:



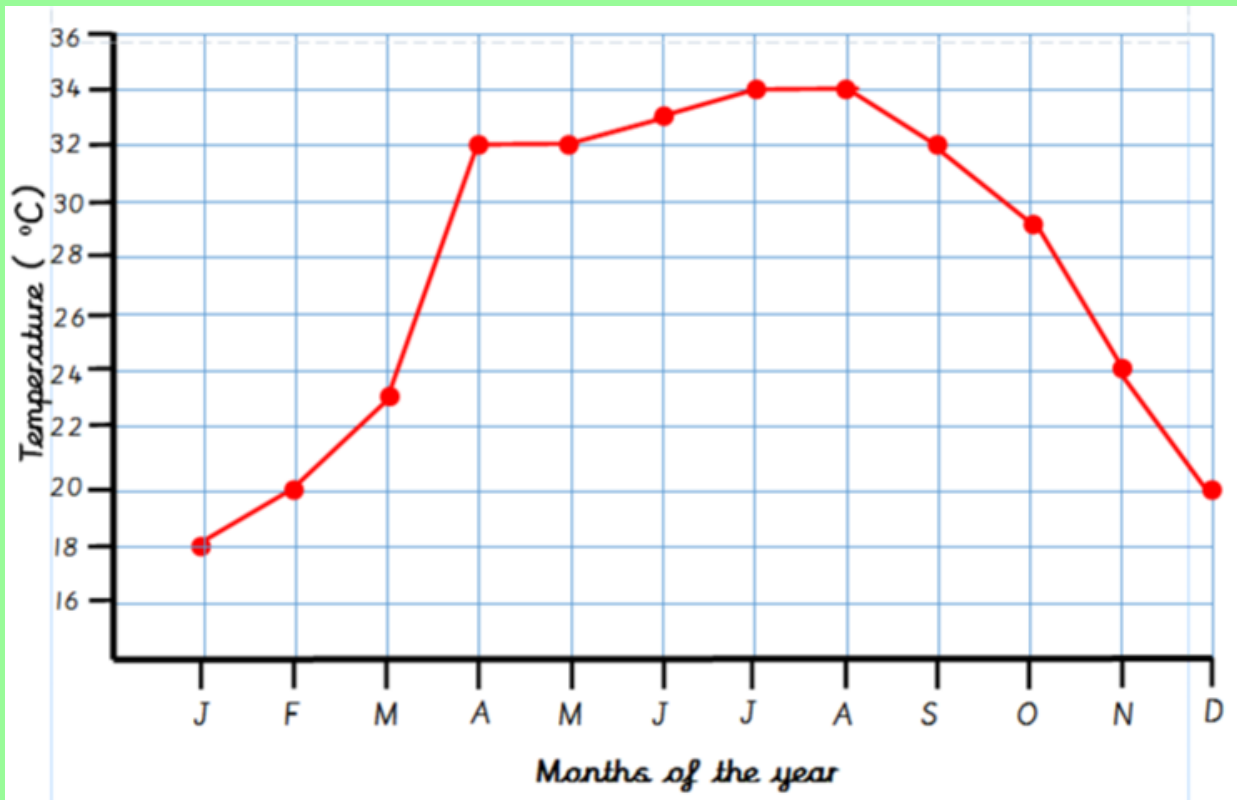
1. What does the X axis show? _____
2. What does the Y axis show? _____
3. What month shows 23°C? _____
4. How many months have a temperature of 32°C? _____
5. In what month was the temperature 18°C? _____
6. What month has the **highest** temperature?

7. What month has the **lowest** temperature? _____
8. The temperature in March **increases** by 3°C, what is the new temperature? **Plot this on your graph using an X.** _____
9. The temperature in November **decreases** by 5°C, what is the new temperature? **Plot this on your graph using an X.** _____
10. What does the straight line between April and May represent?

11. Find the difference between the temperature in August and January. **Record the number sentence you would use.** _____
12. Find the difference between the temperature in September and February. **Record the number sentence you would use:** _____
13. Find the sum of the temperature in October and November. **Write the number sentence you would use:** _____
14. Find the sum of the temperature in April and June. **Write the number sentence you would use:** _____
15. If the temperature in May multiplied by 3, what would the new temperature be? _____

Answer the questions using
the data on your line
graph:

Answers:



1. What does the X axis show? Months of the year
2. What does the Y axis show? Temperature (°C)
3. What month shows 23°C? March _____ 3 (April, May,
4. How many months have a temperature of 32°C? September _____
5. In what month was the temperature 18°C? January _____

6. What month has the **highest** temperature?

July and August

7. What month has the **lowest** temperature? January

8. The temperature in March **increases** by 3°C , what is the new temperature? **Plot this on your graph using an X.** 26°C

9. The temperature in November **decreases** by 5°C , what is the new temperature? **Plot this on your graph using an X.** 19°C

10. What does the straight line between April and May represent?

The temperature stayed the same in these months.

11. Find the difference between the temperature in August and January. Record the number sentence you would use: $34 - 18 = 16^{\circ}\text{C}$
12. Find the difference between the temperature in September and February. Record the number sentence you would use: $32 - 20 = 12^{\circ}\text{C}$
13. Find the sum of the temperature in October and November. Write the number sentence you would use: $29 + 24 = 53^{\circ}\text{C}$
14. Find the sum of the temperature in April and June. Write the number sentence you would use: $32 + 33 = 65^{\circ}\text{C}$
15. If the temperature in May multiplied by 3, what would the new temperature be? $32 \times 3 = 96^{\circ}\text{C}$

L.O. to draw and interpret line graphs 12.7.2021

Success Criteria:	Self:	Peer:	Teacher:
I can identify the features of a line graph.			
I can interpret data in line graphs.			
I can answer comparison, sum and difference questions about data presented in a line graph.			
I can plot data accurately in a line graph.			

Next steps:

