STATISTICS

KNOWLEDGE ORGANISER

Overview

Statistics we learn to:

-Read and interpret line graphs   -Draw line graphs

-Use line graphs to solve problems

-Read/ interpret tables   -Read/interpret pie charts

-Circles   -Pie Charts with Percentages   -The mean

This learning is important because...

...it helps us to read and understand information. We can make use of information to answer important questions. It also helps us to think critically to solve problems.

Line Graphs

Line graphs use a line to connect individual data points.

Line graphs are particularly useful for comparing and showing data change over time. Data shown in line graphs is **continuous.**

-The title of the line graph shows us what information is being presented.

-The y-axis runs up and down. In this line graph, the y-axis shows us the temperature in °C. Every 2°C are labelled.

-The x-axis runs across. In this line graph, the x-axis shows us the time. Every hour is labelled.

Temperature on 1st September
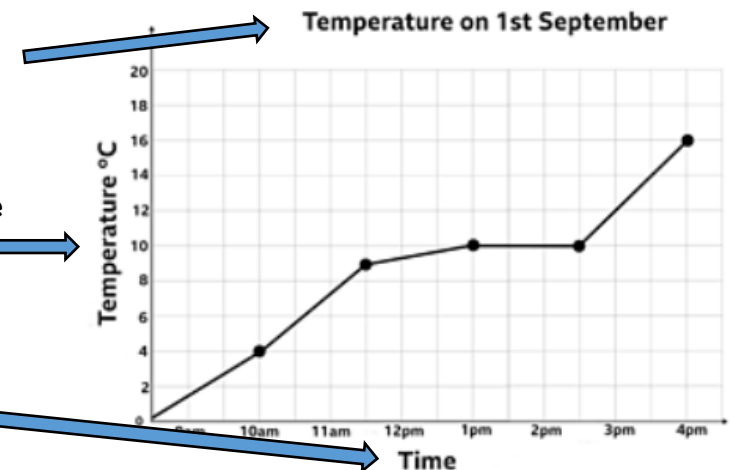
To find the temperature at 11.30am, we follow the x-axis across to 11.30am (the point in between 11am and 12pm). When we reach the line, we scan across to the y-axis to find the temperature. The temperature was 9°C at 11.30am (half-way in between 9°C and 10°C).

Tables and Timetables

Reading and Understanding Tables

-In order to understand the data in tables, we need to read the title and headings of the table carefully.

-When looking at a piece of information, we need to ensure that we carefully read the headings that it falls under. E.g. for someone who is under 18, looking for a standard season ticket in a gold seating zone, they would need to look for the highlighted box.

Football Club Season Ticket Prices

TICKET TYPE		EARLY BIRD	STANDARD
PLATINUM SEATING ZONES	ADULT	$410	$431
	65+	$310	$326
	YOUTH & 75+	$210	$221
	U18	$165	$ 173
	U12	$99	$104
GOLD SEATING ZONES	ADULT	$385	$404
	65+	$285	$299
	YOUTH & 75+	$195	$205
	U18	$140	$147
	U12	$ 75	$ 79

Timetables are tables that show when activities or events will happen. Timetables are often used to show the departure and arrival times of trains, buses and planes.

The different buses

The bus stops		Bus A	Bus B	Bus C	Bus D
	Market	08:00	10:20	12:20	16:55
	Cinema	08:10	10:32	12:26	17:10
	Hospital	08:25	10:48	12:42	17:33
	School	08:47	11:10	13:11	18:01

-We need to look at both headings to make sure we catch the correct bus.

-E.g. if we want to catch Bus C from the hospital, we need to look at the different buses and the bus stops headings. This bus departs at 12.42.

Completing Tables

-We can complete tables using given information.

-e.g. To find how many Year 9s voted for basketball, subtract football from Year 9 total.

-Once Year 9 basketball and Year 10 football have been inputted, we can find the totals by adding information together.
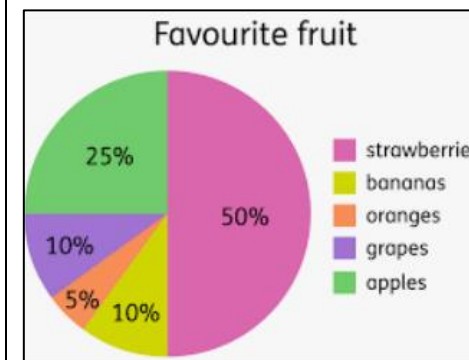
Year 9 and Year 10 Favourite Sports

	Football	Basketball	Total
Year 9	45		102
Year 10		32	101
Total			203

Pie Charts/ The Mean

-**Pie charts** show discrete data (data that can only be certain values.

-Pie charts are circles divided into segments. The size of the segment shows the proportion of the total amount.

Favourite fruit

- 50% strawberries
- 25% apples
- 10% grapes
- 5% oranges
- 10% bananas

- strawberries
- bananas
- oranges
- grapes
- apples

-Percentages can be added to show the proportion.

-Raw figures can be calculated, e.g. if 50 children were asked, 50% = 25 children said strawberries.

-**The mean** is the average of a set of data.

-To find the mean, add up all of the values to find the total. Divide the total by the number of values that you added together.

34 21 2 24 37

Total of values = 118

118 ÷ 5 (number of values) = 23.6

The mean average is 23.6

Key Vocabulary

| Interpret | Timetable | Value | Predict | Table | Continuous | Discrete | X Axis | Y Axis | Scale | Survey | Tally | Represent |