**Introduction**

Graphs, charts and tables are used to represent data (information) and make it easier to understand.

**What is 'interpreting data'?**

* Data means **information**. So interpreting data just means working out what the information is telling you.
* Information is sometimes shown in **tables, charts and graphs** to make the information easier to read. It is important to read all the different parts of the table, chart or graph.

**Tables**

A table is used to write down a number of pieces of data about different things.

**Table example**

| **Name** | **Color** | **Number of gears** | **Price** |
| --- | --- | --- | --- |
| http://www.bbc.co.uk/bitesize/ks2/images/table/bl.gif |  |  | http://www.bbc.co.uk/bitesize/ks2/images/table/br.gif |
| Ranger | Silver | 5 | $140 |
| Outdoor | Blue | 10 | $195 |
| Tourer | Red | 15 | $189 |
| Starburst | Silver | 15 | $215 |
| Mountain | White | 5 | $129 |

The **title** of the table tells us what the table is about.

The **headings** tell us what data is in each column.

To find out the color of the tourer bike, you look across the Tourer row until it meets the color column. So a Tourer bike is red!

**Tally marks and frequency tables**

Tally marks are used for **counting** things. They are small vertical lines (like the number 1) each one representing one unit. The 5th tally mark in a group is always drawn across the first four - as this makes it easier to count the total in groups of five.

In the second column of the table below, the manager has used tally marks to keep track of how many bikes he has sold. This table is known as a **frequency table** and it shows the totals of the tally marks at the bottom.

| **Bike** | **Tally** | **Total** |
| --- | --- | --- |
| http://www.bbc.co.uk/bitesize/ks2/images/table/bl.gif |  | http://www.bbc.co.uk/bitesize/ks2/images/table/br.gif |
| Ranger | Tally, showing 3 | 3 |
| Outdoor | tally, showing 5 | 5 |
| Tourer |  | 0 |
| Starburst | Tally, showing 2 | 2 |
| Mountain | tally, showing 5tally, showing 5 | 10 |
| Total bikes sold | tally, showing 5tally, showing 5tally, showing 5tally, showing 5 | 20 |

**Pictograms**

Pictograms are another way of showing the information from a frequency table.

The **key** shows that 2 bikes are

represented by a picture of a wheel,

so half a wheel must represent 1 bike.

**Bar charts**

Bar charts are one way of showing the information from a frequency table. This bar chart represents the data from the table on the previous page:



The heights of the bars in this bar chart show **how many** of each bike were sold.

**Pie charts**

Pie charts are circles divided into **segments**, where each segment represents a fraction of the total amount.

This pie chart shows the 20 bikes

sold at the bike shop. The segment

for Mountain bikes is one half of

the chart. This is because 10

Mountain bikes were sold,

which is exactly half the

number of bikes sold in total

(20 bikes).

**Line graphs**

A line graph is used to **plot** a set of data over an amount of time. This line graph plots the temperature of a hot drink over an hour. You can see how the drink temperature cools over time:



***\*\*\*Always look carefully at the scale on each axis of the graph - each mark represents a different number.***

To find the temperature of the drink after 20 minutes:

1. Find the 20 minutes mark along the bottom axis of the graph.
2. With a ruler or your finger, follow the line upwards until you reach the curved graph line.
3. Now follow the line to the left until you reach the vertical axis.
4. You can now read the temperature of the graph and find out that the drink was 40°C after 20 minutes.

