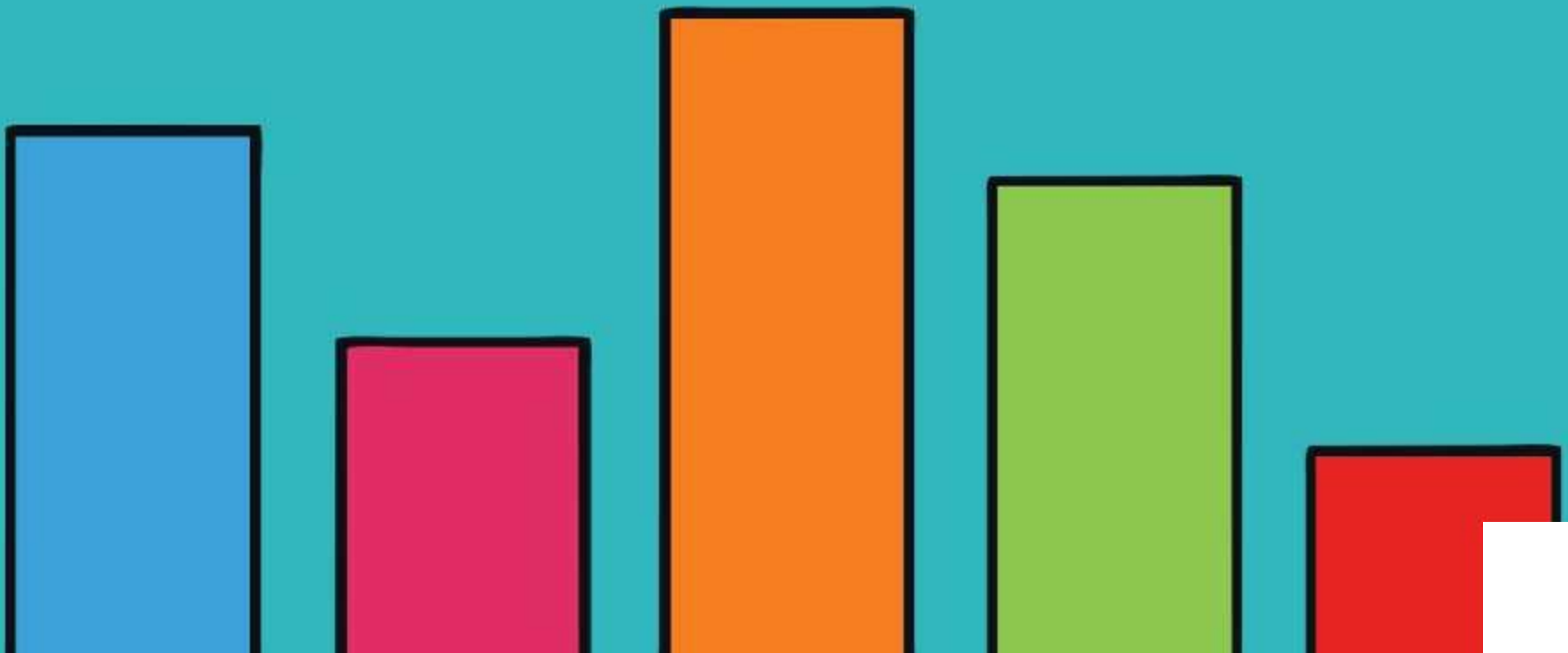
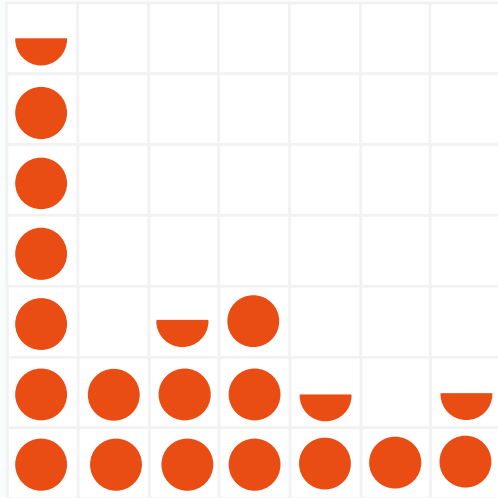


# Types of Graphs or Charts



# Pictograms

A Pictogram to Show How the Children in KS2 Travel to School



Walk Bicycle Car Bus Tram Train Other  
Types of Transport

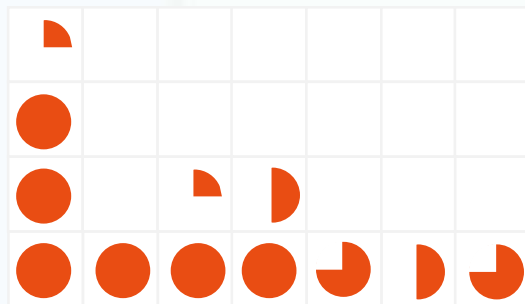
Key:

  
= 2  
children

A pictogram uses pictures or symbols to represent **discrete data**. A key shows the value represented by one picture or symbol.

It is important to identify the value of the whole picture or symbol in a pictogram, as part symbols are often used to show different values.

A Pictogram to Show How the Children in KS2 Travel to School



Walk Bicycle Car Bus Tram Train Other  
Types of Transport

Key:

  
= 4  
children

In both of these pictograms, the data is the same but the value of the symbol is different.

# Bar Charts

Data that is counted and has no in-between value is called **discrete data**. Discrete data is usually collected in a frequency table and then presented as a bar chart.

A bar chart has a **horizontal** axis and a **vertical** axis.

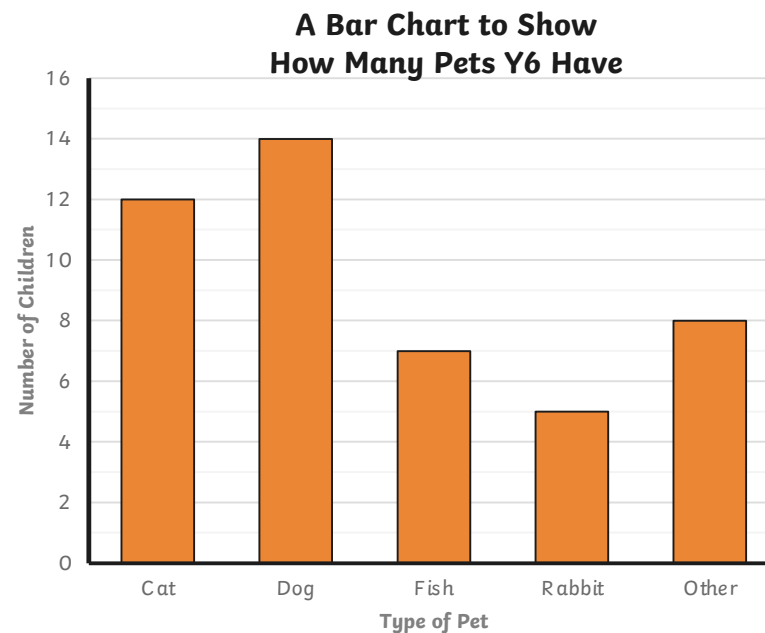
- A bar chart must always have a **title** explaining what it shows.
- Bars must be carefully drawn to show the data.
- There must be a **gap** between each bar.
- Each bar must be the **same width**.

A **number line** is marked on the **vertical** axis. The scale of this number line is chosen based on the data range.

The **data categories** are organised on the **horizontal** axis.

Each axis must have a **label** explaining what it shows.

Pet	Number of Children
Cat	12
Dog	14
Fish	7
Rabbit	5
Other	8

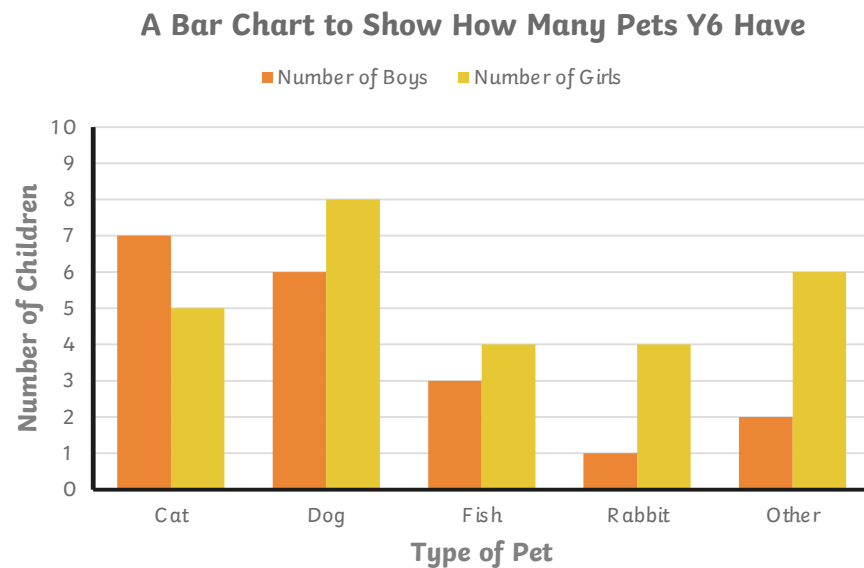


# Bar Charts

Discrete data in each category can also be represented in subcategories:

Pet	Number of Boys	Number of Girls
Cat	7	5
Dog	6	8
Fish	3	4
Rabbit	1	4
Other	2	6

We can draw a grouped bar chart to show this data. In this bar chart, each category has more than one bar. A key is used to identify the subcategories of the data.



# Line Graphs

Line graphs are used to show changes to a measurement over time. They show **continuous data**.

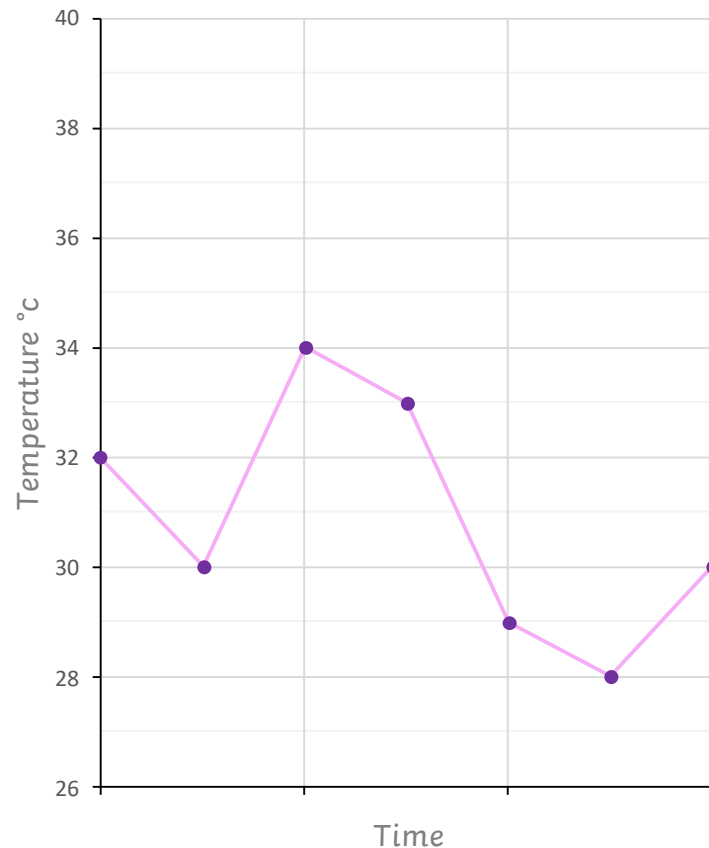
The data being measured is shown on the **vertical** axis.

The time the data is being measured over is shown on the **horizontal** axis.

Data is plotted on to a line graph in the same way as a coordinate grid. These data plots are then joined with straight lines.

We can use the line of the graph to describe general trends in the change of the measurement over time, or to find precise measurements at a given time.

A Line Graph to Show the Temperature of the Classroom



# Pie Charts

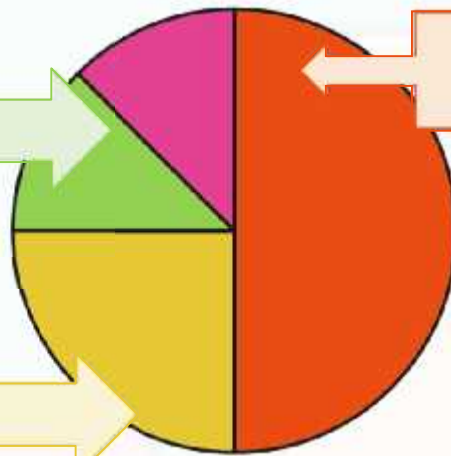
**Pie charts show discrete data as proportional sectors of a circle.**

Every sector of a pie chart is a proportion of the whole. You can explain what each sector represents using an angle, fraction or percentage.

Being able to convert between fractions, percentages and angles is a key skill for answering questions about data presented in a pie chart.

The data in both of these sectors is  $\frac{1}{8}$  of the whole amount. It is also 12.5% and  $45^\circ$ .

The data in this sectors is  $\frac{1}{4}$  of the whole amount. It is also 25% and  $90^\circ$ .



The data in this sector is  $\frac{1}{2}$  of the whole amount. It is also 50% and  $180^\circ$ .

We can use fraction, percentage and angle equivalents to interpret the data in a pie chart.

**If the whole pie chart represents 120, the value of the orange sector is 60.**

