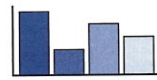


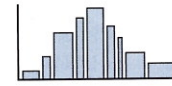
## A Types of diagrams



pie chart



bar chart



histogram

Number	Amount
1	10
2	5
3	20

table



cross-section



flowchart

Diagrams are visual ways of **presenting data** concisely. They are often also called **figures**. In an academic article they are usually **labelled** Fig. (Figure) 1, Fig. 2, etc.

A **pie chart** is a circle divided into **segments** from the middle (like slices of a cake) to show how the total is divided up. A **key** or **legend** shows what each segment **represents**.

A **bar chart** is a diagram in which different amounts are represented by thin vertical or horizontal bars which have the same width but **vary** in height or length. A **histogram** is a kind of bar chart but the bar width also varies to indicate different values.

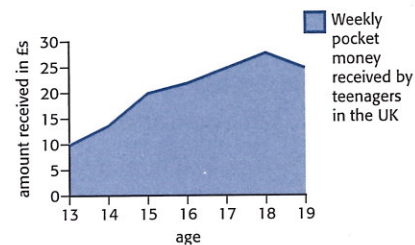
A **table** is a grid with **columns** and **rows** of numbers.

A **cross-section** is something, or a model of something, cut across the middle so that you can see the inside. A cross-section of the earth's crust, for example, shows the different **layers** that make it up. A **label** gives the name of each part of the cross-section. Cross-section can also be used to mean a small group that is representative of all the different types within the total group (e.g. *the survey looked at a cross-section of society*).

A **flowchart** is a diagram which indicates the **stages** of a process.

## B A graph

The **graph** presents data relating to teenagers and pocket money. A **random sample** of 1,000 teenagers were **surveyed** and the average pocket money received at each age has been **plotted** on the graph. The **x axis** or **horizontal axis** indicates age and the **y axis** or **vertical axis** shows the amount of money received per week. The **graph** shows that 15-year-olds receive twice as much pocket money as 13-year-olds. From the graph we can see that the amount received **reaches a peak** at the age of 18 and then starts to decline. This decline can perhaps be **explained** by the fact that many teenagers start earning and stop receiving pocket money at the age of 18.



Graphs are drawn by **plotting** points on them and then drawing a line to join **adjacent** points. If there are two lines on a graph – separate lines, for example, to indicate boys' and girls' pocket money – then the lines would probably **cross** or **intersect** at various points. Lines that **run parallel** to one another never intersect.

Graphs show how numbers increase or decrease. The nouns **increase** and **decrease** have the stress on the first syllable, but the verbs have the stress on the second syllable. Numbers can also be said to **rise** or **grow** and **fall**, **drop** or **decline**. The nouns **rise**, **growth**, **fall**, **drop** and **decline**, like **increase** and **decrease** are followed by **in** (to explain what is rising) or **of** (to explain the size of the change), e.g. *a rise of 10% in the number of cars*. Other verbs used about growth include **double**<sup>1</sup>, **soar**<sup>2</sup>, **multiply**<sup>3</sup>, **appreciate**<sup>4</sup> and **exceed**<sup>5</sup>.

<sup>1</sup> grow to twice the size; opposite = **halve** <sup>2</sup> (dramatic word) rapid movement upwards; opposite = **plummet** <sup>3</sup> grow rapidly to a very large number <sup>4</sup> used about the value of something, e.g. a painting or car; opposite = **depreciate** <sup>5</sup> go over, expresses a number in relation to another number; opposite = **fall below**



Note that **graph** is a noun and **graphic** [relating to drawing: vivid, especially when describing something unpleasant] is usually an adjective. *The economics textbook contains a lot of fascinating **graphs**. My nephew studied **graphic** design. The book contains some very **graphic** descriptions of the massacre. **Graphics** can be used as a plural noun to refer to pictorial material, e.g. *The **graphics** in that computer game are brilliant.**