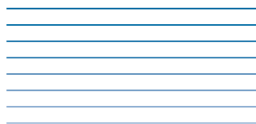# Numbers

Many students are required to write about statistical data clearly and accurately. This unit explains and practises the basic language of numbers and percentages, while presenting data in charts and tables is dealt with in Unit 2.14 Visual Information.

1 The language of numbers

In introductions, numbers are often used to give an accurate account of a situation:

> *Approximately 1,800 children between the ages of 5 and 12 years were randomly selected.*

> *The earth's atmosphere appears to be gaining 3.3 billion metric tons of carbon annually.*

> *. . . but five winters in the twentieth century were more than 2.4º C colder than average.*

Figures and **numbers** are both used to talk about statistical data in a general sense:

> *The **figures/numbers** in the report need to be read critically.*

But **number** is used more widely:

> *13 is an unlucky **number** in some cultures.*

> *She forgot her mobile phone **number**.*

Digits are individual numbers:

> *4,539 – a four-**digit** number*

Both **fractions** (½) and **decimals** (0.975) may be used.

There is no final 's' on hundred/thousand/million used with whole numbers:

> *Six **million** people live there.*

but:

> ***Thousands** of people were forced to move from the area of the dam.*

When writing about **currencies**, write *$440 m.* (440 million dollars).

Rates are normally expressed as percentages (e.g. *the literacy rate rose to 75 per cent*), but may also be per thousand (e.g. *the Austrian birth rate is 8.7*).

It is normal to write whole numbers as words from one to ten and as digits above ten:

> *There were 16 students in the class, but only eight came to the lecture.*

2 Percentages

These are commonly used for expressing rates of change:

> *Since 2008, the number of prisoners has risen by 22 per cent.*

■ **Complete the following sentences using the data in the table below.**

    (a) Between 2010 and 2011, the number of overseas students increased by _____ per cent.

    (b) The number increased by _____ per cent the following year.

    (c) Between 2010 and 2013, there was a _____ per cent increase.

Overseas students in the university, 2010–2013

2010	2011	2012	2013
200	300	600	1,000

3 Simplification

Although the accurate use of numbers is vital, too many statistics can make texts difficult to read. If the actual number is not important, words such as **various**, **dozens** or **scores** may be used instead:

> *The snowstorm closed 47 schools.*

> *The snowstorm closed dozens of schools.*

few	less than expected
a few	approximately 3–6 depending on context
several	approximately 3–4
various	approximately 4–6
dozens of	approximately 30–60
scores of	approximately 60–100

■ **Rewrite the following sentences using one of the words or phrases in the table above.**

Example: (a) Only three people attended the meeting.
Few people attended the meeting.

(b) 77 students applied for the scholarship.

(c) He rewrote the essay three times.

(d) Last year, 38 books were published on biogenetics.

(e) Five names were suggested, but rejected, for the new chocolate bar.

(f) The students thought of four good topics for their project.

4 Further numerical phrases

The expressions listed below can also be used to present and simplify statistical information. For example:

The course fees rose from $1,200 to $2,500 in two years.

could be written:

The course fees doubled in two years.

If appropriate, **roughly/approximately** can be added:

The course fees roughly doubled in two years.

one in three	*One in three engineering students is from China.*
twice/three times as many	*Twice as many women as men study business law.*
a five/tenfold increase	*There was a **fivefold increase** in the price of oil.*
to double/halve	*The rate of infection **halved** after 2001.*
the highest/lowest	*The lowest rate of home ownership was in Germany.*
a quarter/fifth	*A fifth of all employees leave every year.*

the majority/minority　　　　　*The majority* of births are in hospital.

on average/the average　　　　*On average*, each judge hears two cases per day.

a small/large proportion　　　The website generates *a large proportion* of their sales.

NB:　　5–20 per cent　　　=　　a tiny/small minority
　　　　21–39 per cent　　=　　a minority
　　　　40–49 per cent　　=　　a substantial/significant minority
　　　　51–55 per cent　　=　　a small majority
　　　　56–79 per cent　　=　　a majority
　　　　80 per cent+　　　=　　a large majority

■　Rewrite each sentence in a simpler way, using a suitable expression from the list above.

(a)　In 1975, a litre of petrol cost 12p, while the price is now £1.20.

_____

(b)　Out of 18 students in the group, 12 were women.

_____

(c)　The new high-speed train reduced the journey time to Madrid from seven hours to three hours 20 minutes.

_____

(d)　The number of students applying for the Psychology course has risen from 350 last year to 525 this year.

_____

(e)　Visitor numbers to the theme park show a steady increase. In 2007, there were 40,000 admissions, in 2008 82,000 and 171,000 in 2009.

_____

(f)　More than 80 per cent of British students complete their first degree course; in Italy, the figure is just 35 per cent.

_____

(g)　Tap water costs 0.07p per litre while bottled water costs, on average, 50p per litre.

_____

(h)　The rate of unemployment ranges from 24 per cent in Spain to 3 per cent in Norway.

_____

(i)　Seven out of every 100 computers produced had some kind of fault.

_____

(j)　57 per cent of the members supported the suggestion, but 83 per cent of these had some doubts.

_____

5 Practice

◼ Study the data in the table below and write six sentences using suitable numerical phrases.

Selected Olympic Games, 1896–2008

Year	Host	Sports	Events	Athletes	% Women
1896	Athens	9	43	241	0.0
1924	Paris	17	126	3,089	4.4
1964	Tokyo	19	163	5,151	13.2
1992	Barcelona	32	257	9,356	28.9
2008	Beijing	28	302	10,942	42.4

(a) *At the Paris Olympics in 1924, a small minority of athletes were female.*

(b) _____

(c) _____

(d) _____

(e) _____

(f) _____

(g) _____