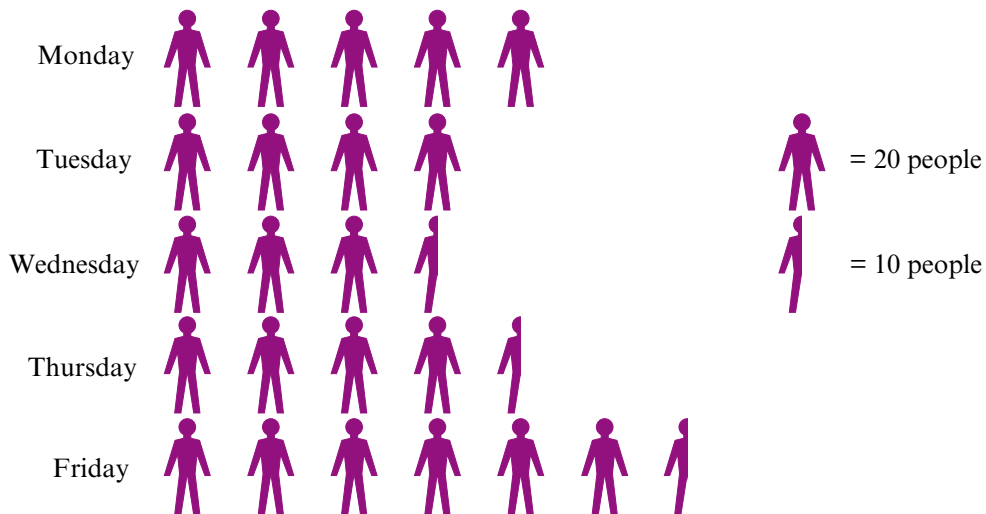# Representing data

- Interpreting and drawing pictograms and bar charts
- Interpreting a compound bar chart
- Interpreting pie charts

Keywords

You should know

explanation 1

1 This pictogram shows how many people went to a school play during the week.

= 20 people

= 10 people

a Find the number of people who went to the play on

   i Monday

   ii Thursday

b Which day was the most popular?

c How many more people went on Friday than on Wednesday?

d How many people went to the play altogether during the week?
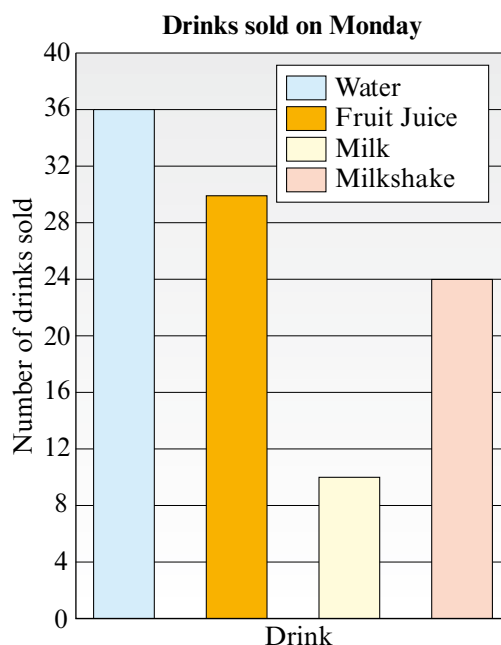
e On Saturday, 65 people attended.

   Explain why it would be difficult to show this on the pictogram.

2 a The school canteen sells different drinks.

This bar chart shows the drinks sold on Monday lunchtime.

   i What was the most popular drink?

   ii How many fruit juices were bought?

   iii How many more milkshakes were bought than milk?

   iv How many drinks were bought altogether?

b Draw a pictogram to show this data.

Use this key. 🍾 = 4 drinks

Drinks sold on Monday

3 A year group of 185 pupils was asked 'Which TV channel is your favourite programme on?'.

The results are shown in this table.

TV Channel	Frequency
BBC1	30
ITV1	25
Channel 4	60
Five	15
Sky 1	55

a Draw a bar chart to show this information.

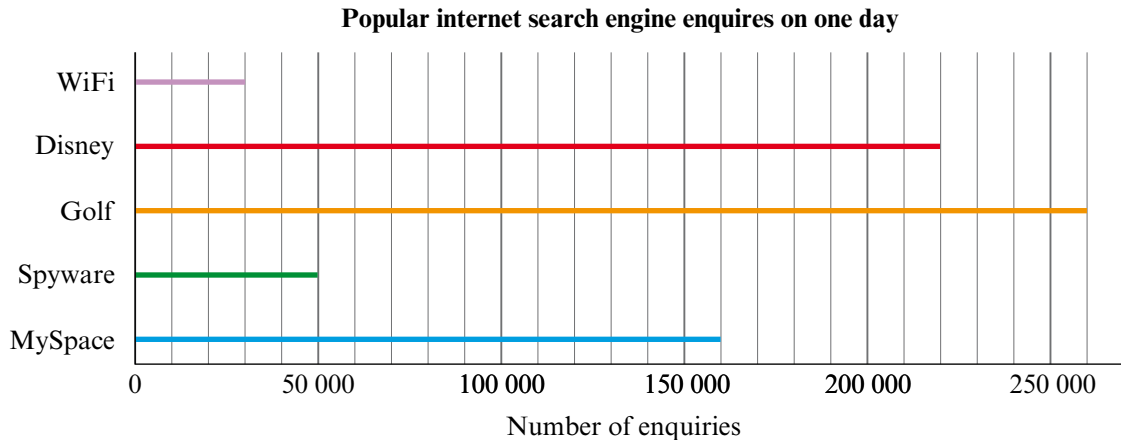**b** Draw a pictogram to show this information.

Use this key. 🧍 = 10 people

c What is one advantage of the bar chart over the pictogram?

explanation 2

4 Internet search engines handle a huge number of enquiries every day.

This bar-line graph shows some of the most popular enquiries on one particular day.

Popular internet search engine enquires on one day

WiFi
Disney
Golf
Spyware
MySpace

| 0 | 50 000 | 100 000 | 150 000 | 200 000 | 250 000 |

Number of enquiries

a How many enquiries were there for WiFi?

b How many enquiries were there for Disney?

c Which enquiry was the mode?

d What is the total number of enquiries for the items shown?

5 This table shows the highest speeds reached by some of the rides at Alton Towers.
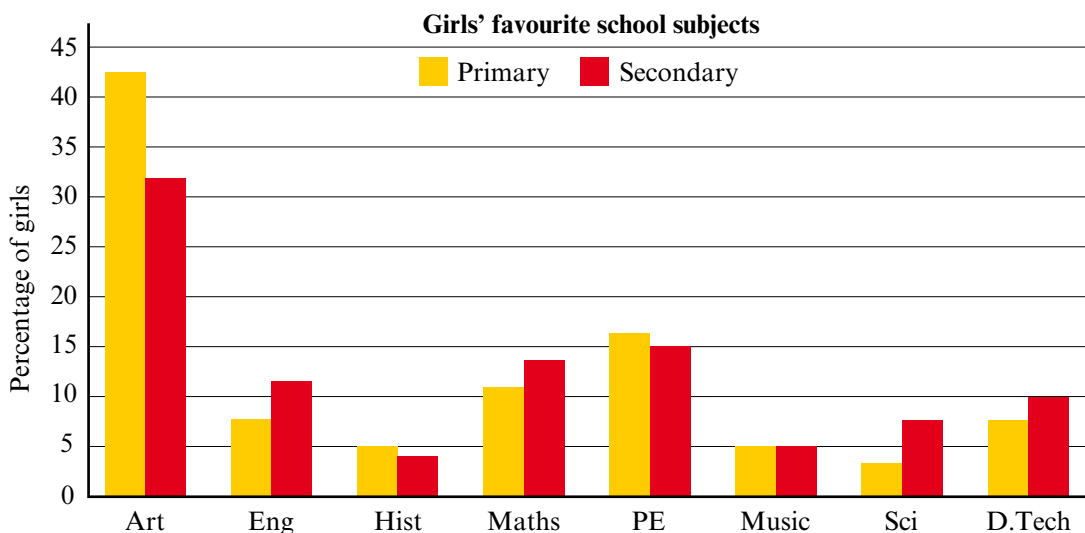
Draw a bar-line graph to show this information.

Ride	Speed (mph)
Air	46
Beastie	9
Corkscrew	40
Nemesis	50
Oblivion	68
Rita – Queen of speed	61
Runaway train	22

explanation 3a   explanation 3b

6 Girls in primary schools and secondary schools were asked to name their favourite subjects. This bar chart shows the results.
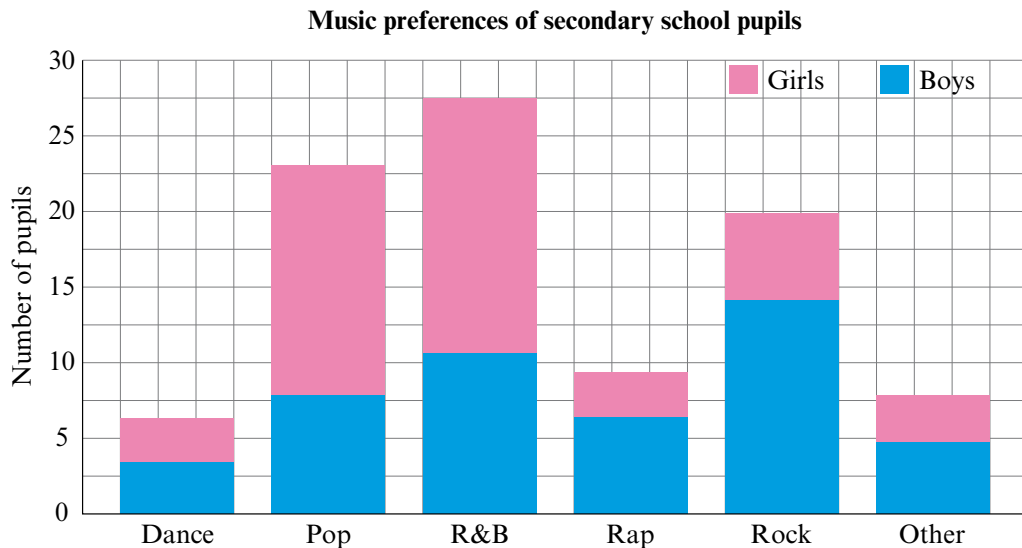

Girls' favourite school subjects

a Which subjects were more popular with primary pupils than secondary pupils?

b Which subject had the same level of popularity?

c List the subjects in order of popularity at primary level.

d List the subjects in order of popularity at secondary level.

e Which subjects became more popular from primary to secondary?

7 The table shows the favourite subjects of boys at primary and secondary level.

a Copy the axes from the diagram in question **6** onto graph paper.

b Draw a bar chart to represent the boys' data.

c Compare your chart to the one in question **6**. Which two subjects show the biggest difference between boys and girls?
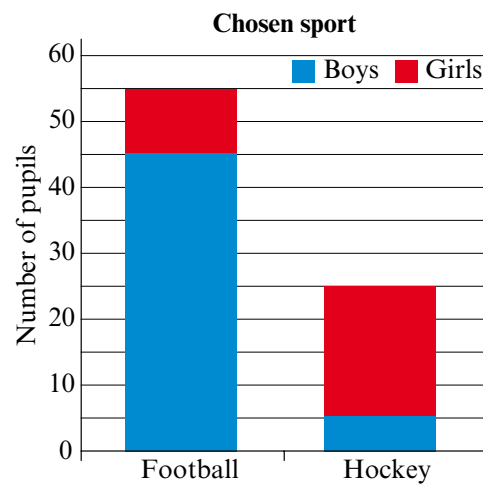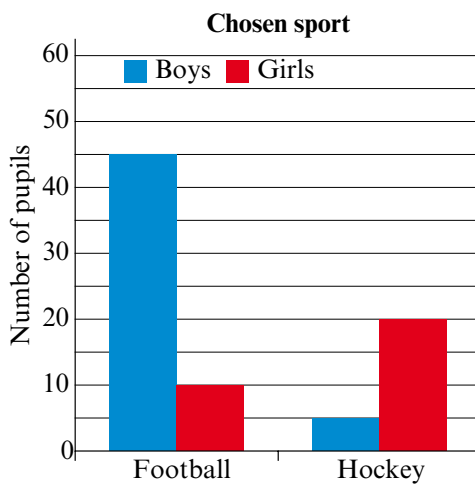
Subject	Primary	Secondary
Art	35	20
English	5	7
History	6	4
Maths	11	15
PE	28	32
Music	3	3
Science	5	8
Design	7	11

8 This compound bar chart shows the music preferences of secondary school pupils.

Music preferences of secondary school pupils

a Overall, which type of music is the most popular?

b Which type of music is most popular for boys?

c Which two types of music do girls prefer?

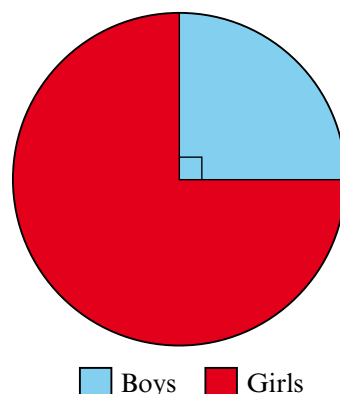**9** These bar charts show pupil choices in PE last week.

Compare the two types of bar chart. What are the advantages and disadvantages of each type of chart?

explanation 4

10 A dance class was held after school. This pie chart shows the mix of boys and girls who attended.

a What fraction of the class were boys?

b What fraction of the class were girls?

c If there were 28 pupils in the class how many pupils were **i** boys? **ii** girls?
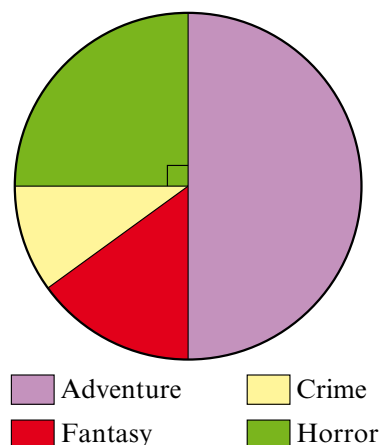
Dance class members

☐ Boys ■ Girls

11 This pie chart shows the reading choices of a group of pupils.

a What was the modal choice?

b What percentage of pupils chose Adventure?

c What percentage of pupils chose Horror?

d If 15% of pupils chose Fantasy, what percentage of pupils chose Crime?

*e 200 pupils were asked about their reading choice altogether.
How many pupils chose Adventure?

Favourite type of book

☐ Adventure ☐ Crime
■ Fantasy ■ Horror

12 A survey was done to find out how many pets pupils in an after-school club had.

a What was the modal number of pets?

b What can you say about the number of pupils who had three pets and the number of pupils who had more than three pets?

c What percentage of pupils had two pets?

*d 40 people took part in the survey altogether.
How many people have two pets?

Number of pets

☐ 0 ☐ 2
■ 1 ■ 3 ☐ more than 3