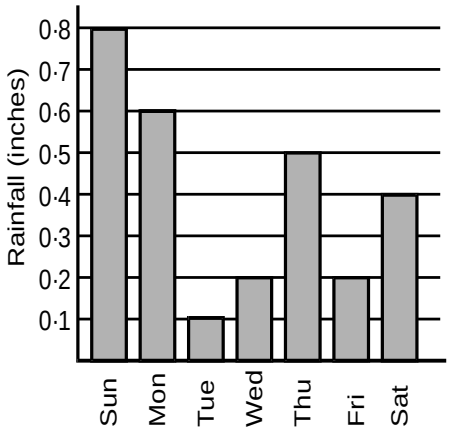
Statistics

Graphs

Exercise 1- Bar Graphs and Histograms

1) This bar graph gives the amount of rain which fell on each day of a week.



a) Which day had the highest rainfall?

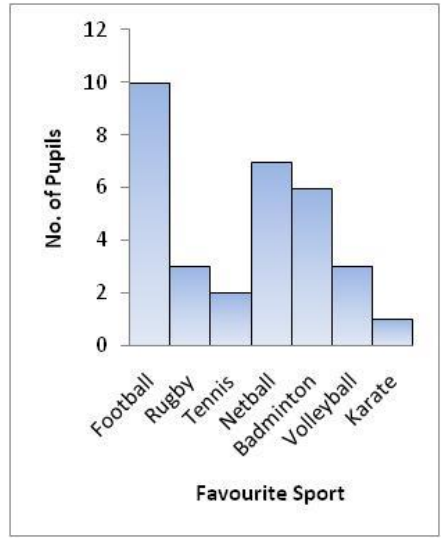
b) Which day had the lowest?

c) On what days did the same amount fall?

d) Give the rainfall for each day?

e) What was the total rainfall for the week?

2) A histogram shows the favourite sports played by 4C1.



a) How many pupils chose football as their favourite sport?

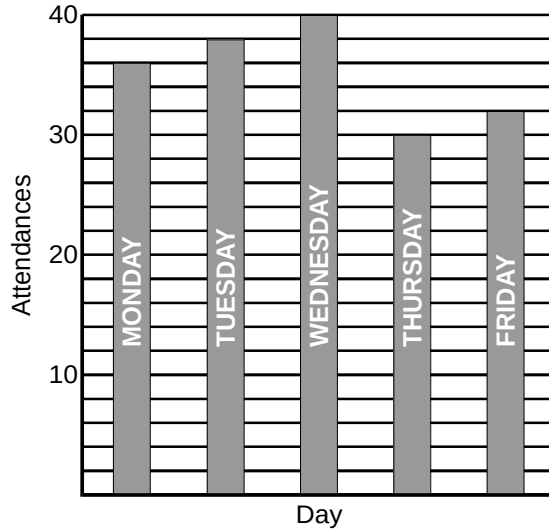
b) How many preferred badminton?

c) What was the total amount of pupils in the class?

d) How many pupils chose a **racket** sport?

e) How many pupils' favourite sports are played using a ball?

3) Here is a bar chart showing class attendance for one week.



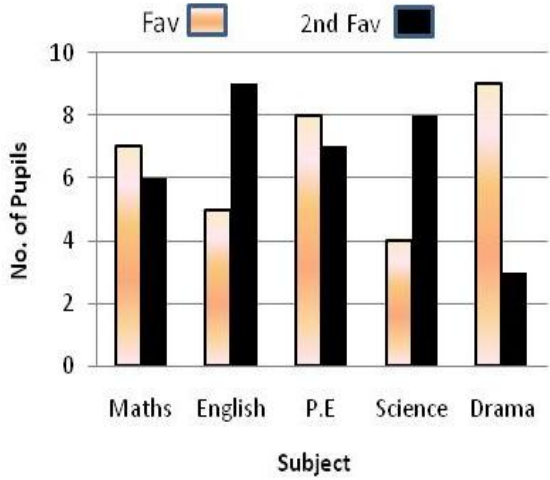
a) Which day had the best attendance?

b) Which day had the lowest attendance?

c) What was the total attendance for the week?

d) What was the **average** attendance?

4) This Bar Chart was made following a survey of an S4 class asking the pupils their favourite subject and their 2nd favourite subject.



a) How many pupils are in the class (careful)?

b) How many pupils chose Maths as their favourite subject?

c) How many pupils chose Maths as their 2nd favourite subject?

d) How many pupils chose PE as their favourite or their 2nd favourite subject?

e) How many people did not choose Drama as either their favourite or 2nd favourite subject?

f) Calculate the percentage of pupils for all the favourite subjects.

g) Calculate the percentage of pupils for all the 2nd favourite subjects.

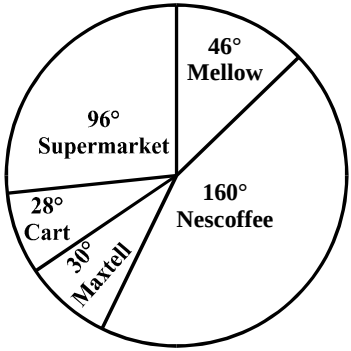
h) Does the total of **(f)** and **(g)** equal 200?

Discuss this result with your partner.

5) Working with a partner survey your class to find each pupil's favourite fruit. Now make a Bar Chart showing the information.

Exercise 2- Pie Charts

1) This pie chart shows the results of a survey into brands of coffee bought by 900 people.
Use the pie chart for information and calculate the number of people who buy each brand of coffee.



2)

HOBBY	Number of Pupils	Calculation	Angle
Sport	102	$\frac{102}{240} \times 360° =$	153°
Music	54		
Reading	60		
Collecting	18		
Other	4		
No hobby	2	$\frac{2}{240} \times 360° =$	3°
	240		360°

The table above shows information on 240 people who were asked what their favourite hobby was.

Copy and complete this table and then display the information on a Pie Chart.

Stem & Leaf Diagrams

Exercise 1

1) This stem and leaf diagram shows the distance travelled by a taxi on different hires.

km travelled

1	4 6 7
2	3 4 4 8 9
3	0 2 7
4	2

n = 12

2|3 represents 23 km

a) Write out level 3 in full.

b) How many journeys are shown?

c) What is the **second longest** journey?

d) If journeys of length 25 km or less are classed as Type A journeys,
How many journeys were there?

2) This stem and leaf diagram shows the distance travelled by a taxi on different hires.

km travelled

0	5 6
1	3 7 8
2	2 2 8 9
3	4
4	2 3

n = 12

2|1 represents 21 km

a) Write out level 3 in full.

b) How many journeys are shown?

c) What is the **second longest** journey?

d) If journeys of length 25 km or less are classed as Type A journeys, how many Type A journeys were there?

3) This stem and leaf diagram shows the distance travelled by a taxi on different hires.

km travelled

1	2 5 7
2	4 4 6 7 8
3	1 2 3 6
4	4 4
5	
6	4

n = 15

2|1 represents 21 km

a) Write out level 3 in full.

b) How many journeys are shown?

c) What is the **second longest** journey?

d) If journeys of length 25 km or less are classed as Type A journeys, how many Type A journeys were there?

4) This stem and leaf diagram shows the concentration level of a chemical in a number of samples

units of chemical

6	8
7	2 3 7
8	4 8 8
9	1 8
10	3 4 6 8
11	2 5

n = 15

8|1 represents 81 units

a) Write out level 7 in full.

b) A level of 85 or below is safe. How many safe samples are there?

c) How many samples were unsafe?

d) What is the average concentration of the safe samples?

5) This stem and leaf diagram shows the concentration level of a chemical in a number of samples

a) Write out level 7 in full.

b) A level of 85 or below is safe. How many safe samples are there?

c) How many samples were unsafe?

d) What is the average concentration of the safe samples?

units of chemical	
5	4
6	
7	2 8 8 9
8	3 6 7 7 7
9	0 2 5
10	8

n = 14

8 4 represents 84 units

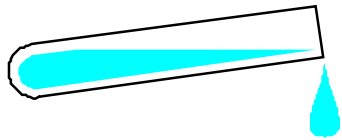
6) This stem and leaf diagram shows the concentration level of a chemical in a number of samples

a) Write out level 7 in full.

b) A level of 85 or below is safe. How many safe samples are there?

c) How many samples were unsafe?

d) What is the average concentration of the safe samples?



units of chemical	
3	6
4	5 8 9
5	2 3 4 4 7 9
6	0 1 3 8
7	2 5 9
8	3 8
9	4

n = 20

8 4 represents 84 units

7) The times, in seconds to run a race for competitors is given in the stem and leaf diagram.

a) What was the winning time?

b) How many sub 10 second times were there??

c) What percentage of the competitors had a time of less than 12 secs?

d) Write out level 10 in full.

time (seconds)

9	8 9
10	2 7 8
11	5 6 8 9
12	0 2 3 8
13	7

n = 14

11|9 represents
11·9 seconds

8) The times, in seconds to run a race for competitors is given in the stem and leaf diagram.

a) What was the winning time?

b) How many sub 10 second times were there??

c) What percentage of the competitors had a time of less than 12 secs?

d) Write out level 10 in full.

time (seconds)

8	9
9	2 8
10	4 6 6 7
11	0 5 6
12	3 4 5 8 8
13	2 7 8

n = 18

11|6 represents
11·6 seconds