

N4 N5

Graphic communication

# Graphs & Charts

Name: ..... Class:..... Teacher:.....

# Introduction to Graphs and Charts

Statistics are part of our everyday lives; from stocks and shares to government spending and sports league tables. Such information, when written, would be complex and difficult to understand.

By representing statistics in a graph or chart makes the information much quicker and easier to understand and interpret.

This makes it the most efficient way to display statistical analysis.

There are many ways in which we can record statistical information, for example:

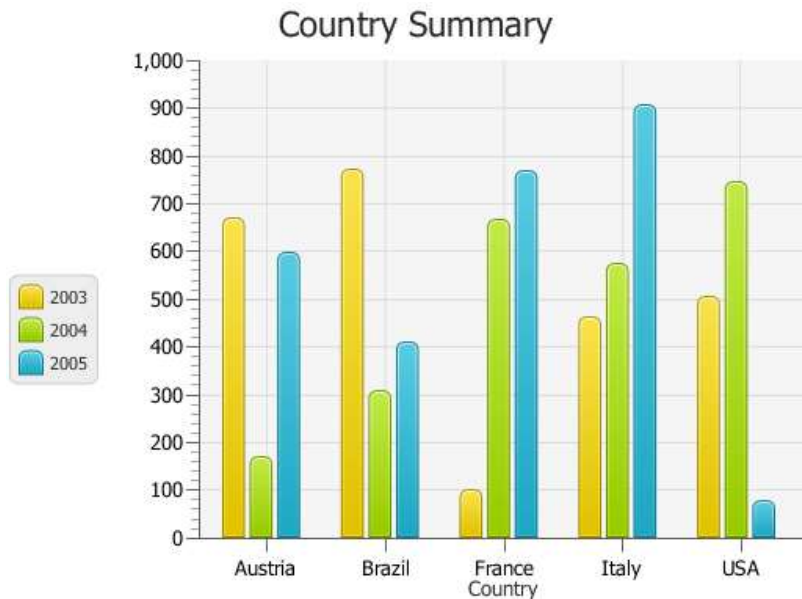
- Bar Charts
- Pie Charts
- Line Graphs
- Pictograms
- Tables



# Types of Graphs and Charts

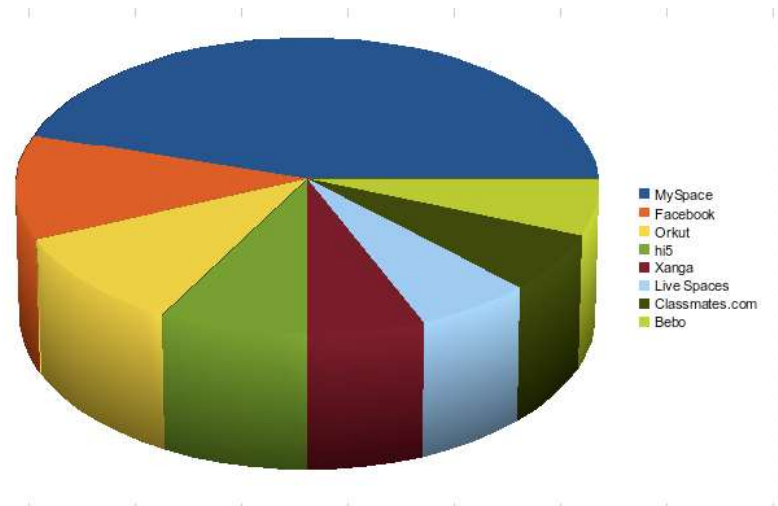
## Bar Charts (or Histograms)

A Bar Chart uses either horizontal or vertical bars to show comparisons among categories. One axis of the chart shows the specific categories being compared, and the other axis represents the units. The "bars" should be of the same width and for clarity and where possible, should be kept separate.



## Pie Charts

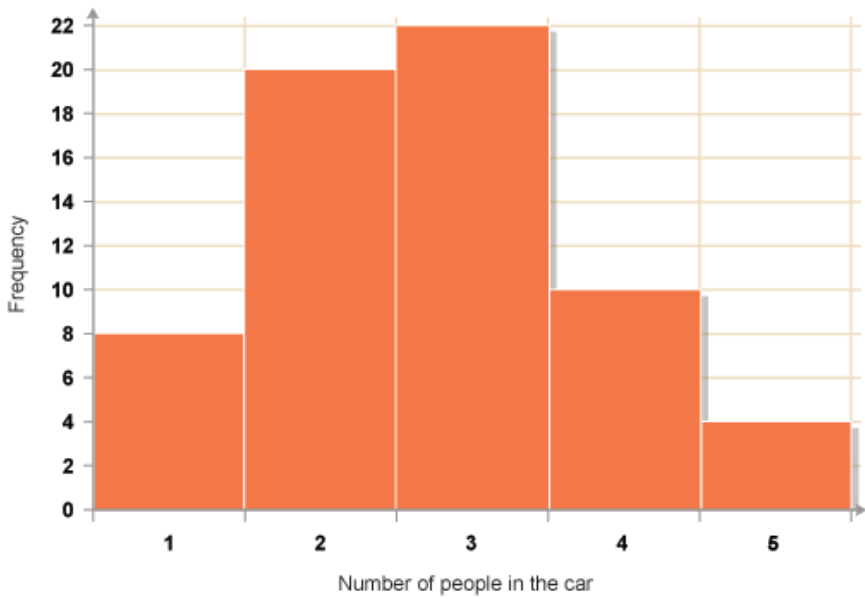
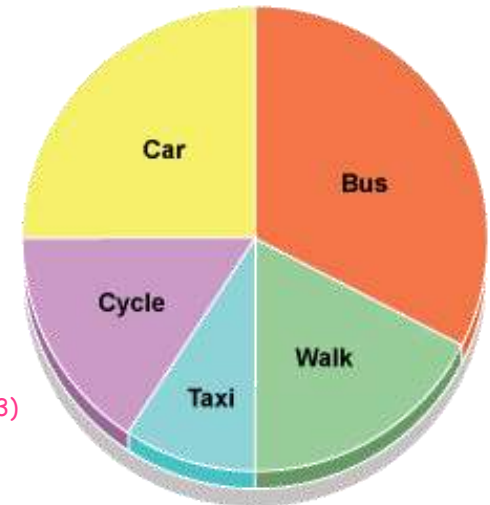
These charts are used to compare relative values of the statistic as a percentage. Pie charts show a circle cut into wedges, each wedge being proportionate to the relevant percentage value.



# Task 1 - Reading Graphs and Charts

1. This **pie chart** shows the results of a survey that was carried out to find out how students travel to school.

- a) What is the most common method of travel? .....
- b) What fraction of the students travel to school by car? .....
- c) If 6 students travel by car, how many people took part in the survey? ..... (3)



2. Leon conducts a survey to find the number of people in each of the cars arriving at his school gate between 8.30am and 9.00am. His results are shown in the bar chart on the left:

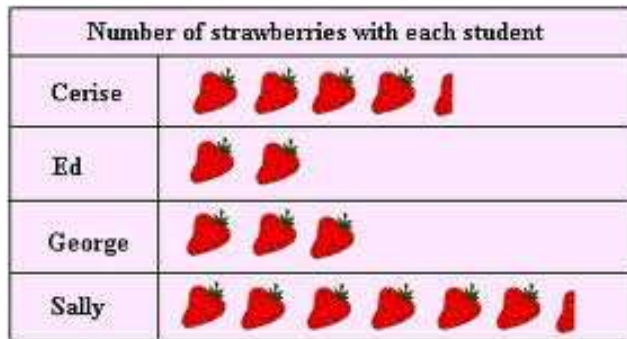
- a) How many cars contained 1 person? .....
- b) How many cars contained more than 3 people? .....
- c) Why are there only a small number of cars containing 1 person? .....


(3)

# Types of Graphs and Charts

## Pictograms

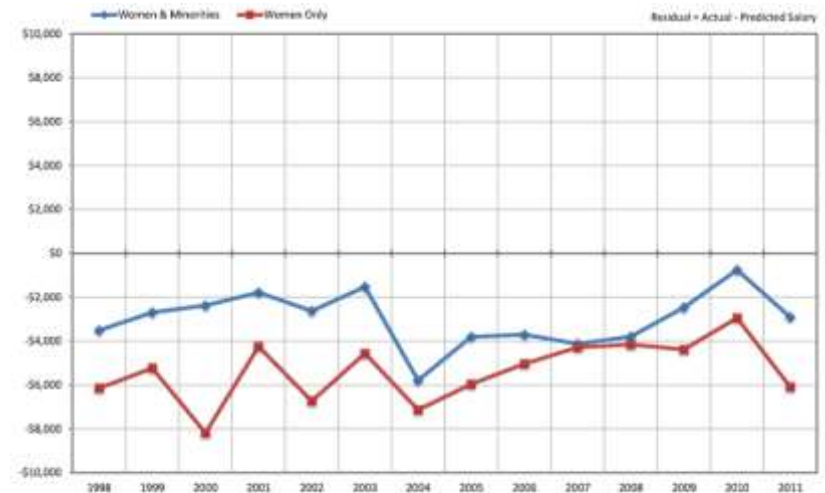
These are special kinds of bar charts (or graphs). Values or sizes are represented by symbols, figures or pictures related to the information being conveyed. These symbols, figures or pictures should be uniform in size and evenly spaced on the graph.



Each  = 2 strawberries

## Line Graphs

A line graph is a useful way to displaying data or information that changes continuously over a period of time. Different scales are added to the X axis and the Y axis and a series of points are plotted (and joined with a line) to show a change in trends.



UC Irvine Office of Academic Personnel  
Source: Payroll/Personnel Extracts as of October 1998 through 2011, Academic Personnel, Pay Equity Study.

# Task 2 - Reading Graphs and Charts

3. This line graph shows the midday temperature over a period of 7 days.

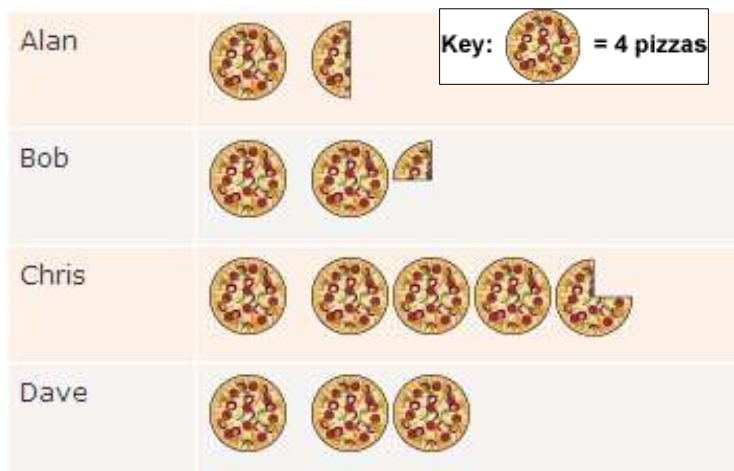
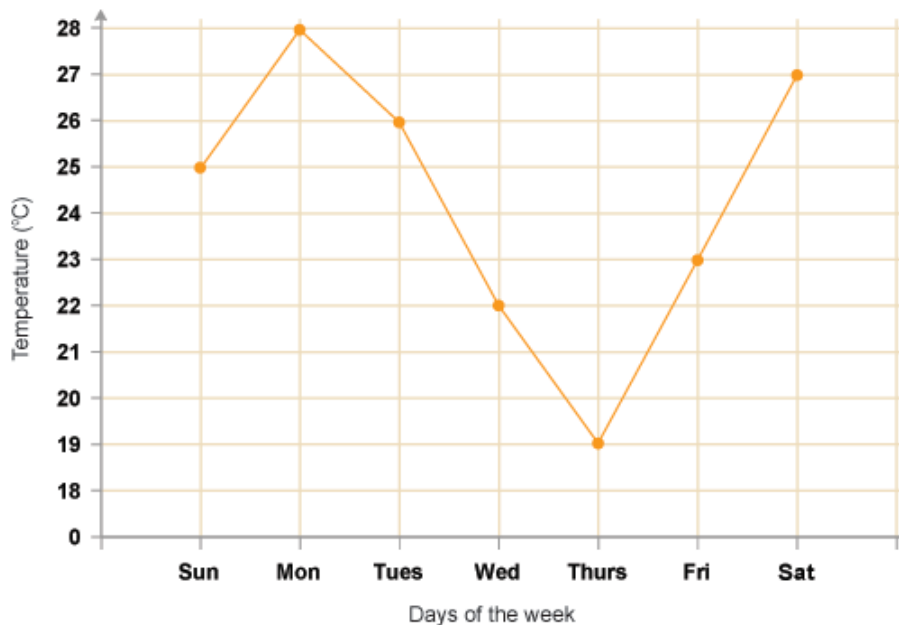
a) What was the lowest temperature and on what day did it occur?

.....

b) On what day was the midday temperature 26°C?

.....

(2)



4. This pictogram shows the number of pizzas eaten by four friends in the past month:

a) Who ate the most pizzas? .....

b) How many pizzas did Bob eat? .....

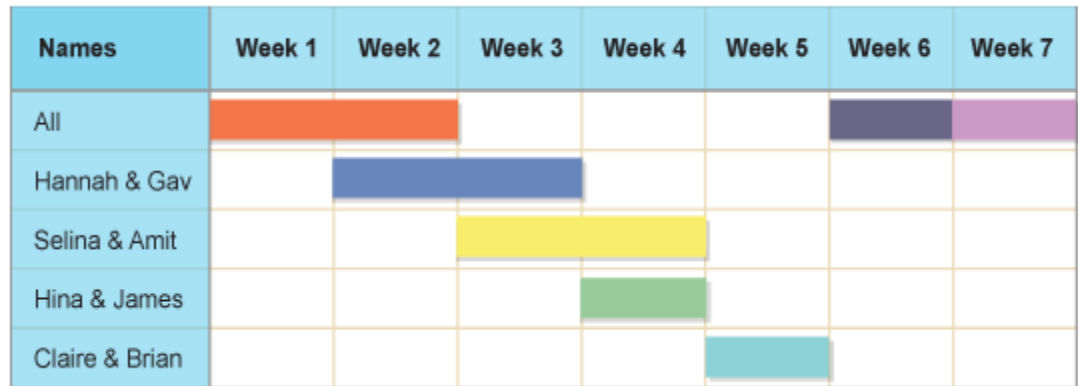
c) What was the total number of pizzas eaten by the four friends? .....

(3)

# Types of Graphs and Charts

## Gantt Charts

Gantt charts show the different tasks involved in making a product. They are **used for complex planning** where different tasks can be done at the same time, or where two or more people are working on the same project.



**Key**

<span style="color: orange;">■</span> Sketch ideas	<span style="color: cyan;">■</span> Print final version
<span style="color: blue;">■</span> Design characters	<span style="color: darkblue;">■</span> Bind final version
<span style="color: yellow;">■</span> Design backgrounds	<span style="color: purple;">■</span> Display final version
<span style="color: green;">■</span> Make prototype	

## Task 3 - Creating a Gantt Chart

1. Using the Gantt chart above, answer the following questions:

- a) What process takes place during week 2 and week 3? ..... (1)
  - b) What process are Hina and James doing during week 4? ..... (1)
  - c) Who is responsible for printing the final version? ..... (1)
  - d) What 3 tasks are they all involved in? ..... (3)
- .....
- .....

# Homework Ex1 - Interpreting data

1. A super market chain sold 3600 packets of sausages last month.

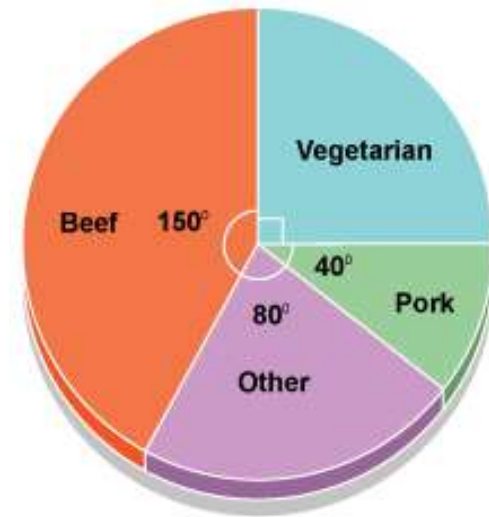
The pie chart shows the different flavors.

a) How many packets of vegetarian sausages were sold?

*Answer:* ..... (1)

b) How many packets of beef sausages were sold?

*Answer:* ..... (1)



2. This bar chart shows the heights of 200 people.

a) How many people were between 140-150cm?

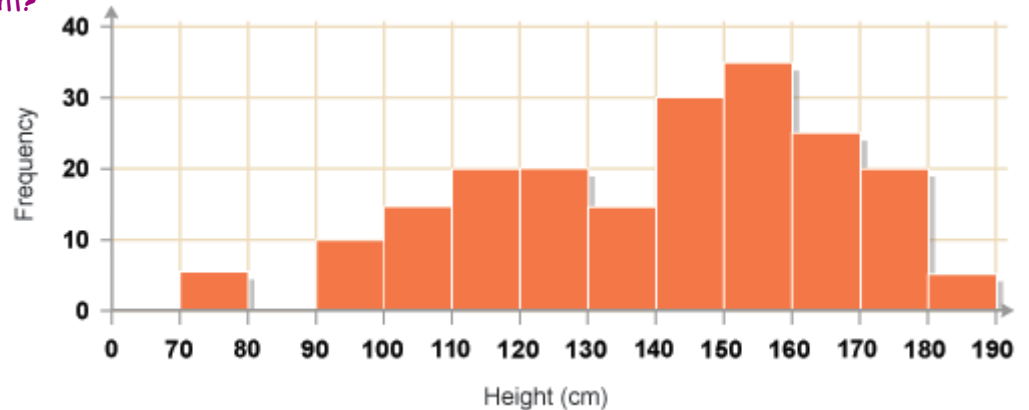
*Answer:* ..... (1)

b) How many people were over 150cm tall?

*Answer:* ..... (1)

c) How many people were below 130cm tall?





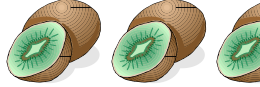
*Answer:* ..... (1)






# Homework Ex2 - Interpreting data

1. The 54 pupils at a school were asked to state what their favorite fruit smoothie was, the results are shown in the pictogram below.
  - a) What was the most popular type of smoothie? *Answer:* ..... (1)
  - b) How many pupils preferred the pineapple smoothies? *Answer:* ..... (1)
  - c) Were bananas or apples more popular? *Answer:* ..... (1)
  - d) What fruit was voted for by 10 pupils? *Answer:* ..... (1)
  - e) How many pupils took part in the survey? *Answer:* ..... (1)

Apple	
Strawberry	
Pineapple	
Banana	
Kiwi	



Each full piece of fruit represents **4 pupils** choosing their favourite smoothie.