

Unit overview: Statistics – Year 1



There are no requirements to teach statistics in the Year 1 curriculum.

Unit overview: Statistics – Year 2

National Curriculum requirements

By the end of the year, the children will be able to:

- interpret and construct simple pictograms, tally charts, block diagrams and simple tables
- ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
- ask and answer questions about totalling and comparing categorical data.

Vocabulary

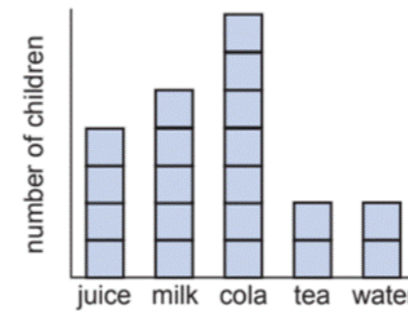
- pictogram
- tally chart
- bar chart
- diagram
- table
- key
- data

Manipulatives

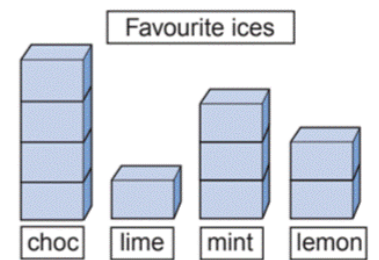
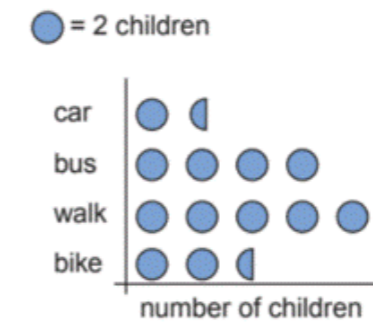
- multi-link blocks
- dienes
- counters
- number lines
- bead strings





Visual representations

What we like to drink



Ways of coming to school



| Sport | Pictogram |
|----------|---|
| FOOTBALL |  |
| HOCKEY |  |
| NETBALL |  |
| RUGBY |  |

| Favourite Football Team | Tally |
|-------------------------|-------|
| Manchester United | |
| Watford | |
| Manchester City | |
| Chelsea | |
| Liverpool | |
| Total | 30 |

Sentence stems

The scale shows _____ The key shows _____

There are _____ pictures on the pictogram, this tells me that _____

On the pictogram, one _____ represents _____

The most popular option is _____

The least popular option is _____

On this tally chart, there are _____ groups of five and _____ individual marks; this represents _____

The total number of _____ is _____

Learning sequence

- understand that a pictogram is used to show data
- identify the key for a pictogram and use it to interpret the data shown
- find the most and least popular result from a pictogram
- understand that a bar chart is used to show data
- identify the scale on a bar chart and use it to interpret the data shown
- find the most and least popular result from a bar chart
- understand that a tally charts and tables are used to show data
- understand the grouping system for tally marks and use it to interpret the data shown
- find the most and least popular result from a pictogram
- order results in a pictogram, bar chart or tally (greatest to fewest; fewest to greatest)
- find total amounts in a pictogram, bar chart and tally chart
- compare amounts represented in a pictogram, bar chart and tally chart
- ask questions about amounts represented in a pictogram, bar chart and tally charts
- use information provided to construct pictograms, bar charts and tally charts

Unit overview: Statistics – Year 3

National Curriculum requirements

By the end of the year, the children will be able to:

- interpret and present data using bar charts, pictograms and tables
- solve one-step and two-step questions, e.g., 'how many more?' and 'how many fewer?', using information presented in scaled bar charts and pictograms and tables.







Vocabulary

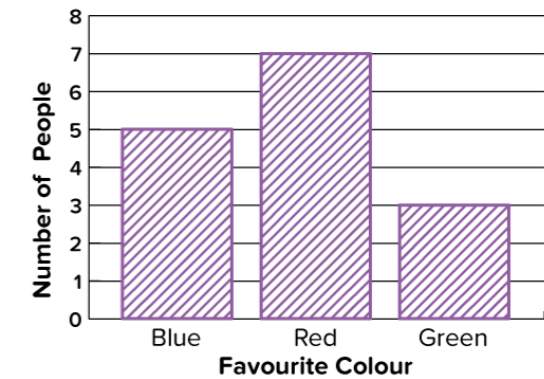
- pictogram
- key
- fraction
- half
- tally
- data
- survey
- scale
- axis





Manipulatives





- multi-link blocks
- dienes
- counters
- number lines
- bead strings


Visual representations

| | | |
|----------|---|--|
| Vodafone |  | Key  = 8 calls |
| T Mobile |  | |
| Orange |  | |
| CC |  | |
| O2 |  | |



| | |
|-------|---|
| Fish |  |
| Cat |  |
| Dog |  |
| Other |  |

| | |
|---------|---|
| Soup |  |
| Salad |  |
| Fish |  |
| Chicken |  |

 = 10 Meals

Sentence stems

The scale shows _____ The key shows _____ This graph shows _____

There are _____ pictures on the pictogram, this tells me that _____

On the pictogram, one _____ represents _____

The most popular option is _____ The least popular option is _____

On this tally chart, there are _____ groups of five and _____ individual marks; this represents _____

The total number of _____ is _____

Learning sequence

- read data accurately from a pictogram, understanding how the icon represents a value
- understand how to use the key on a pictogram and to deduce what value a fraction of an icon has
- draw a pictogram, including a key for the information
- read data accurately from a tally table, understanding the convention of grouping tallies in fives as a way of adding up the data quickly
- conduct surveys and draw tally charts to collect the data using the convention of 5 tallies is 4 vertical lines with another line crossing through
- read data in a bar chart and discuss what information it gives
- use data to construct a bar chart
- answer one or two step questions using information in a tally table, pictogram and bar charts
- suggest a conclusion based on the data available in a tally table, pictogram and bar charts

Unit overview: Statistics – Year 4

National Curriculum requirements

By the end of the year, the children will be able to:

- interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
- solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

Vocabulary

- key
- fraction
- half
- tally
- data
- survey
- scale
- axis
- Carroll Diagram
- Venn Diagram
- mode

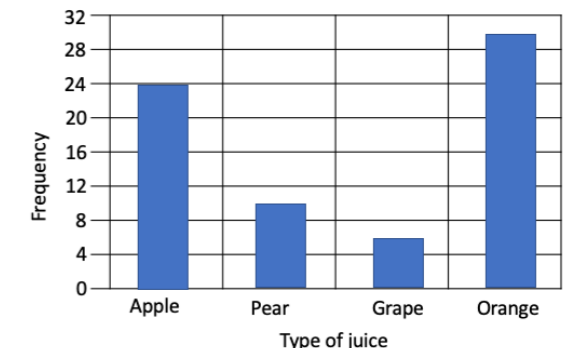
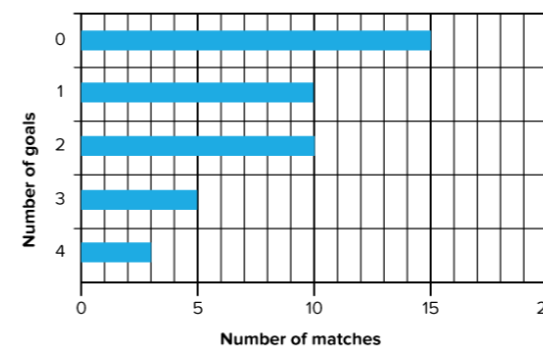
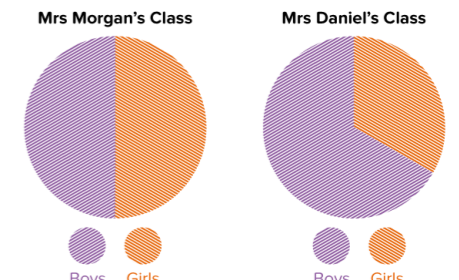
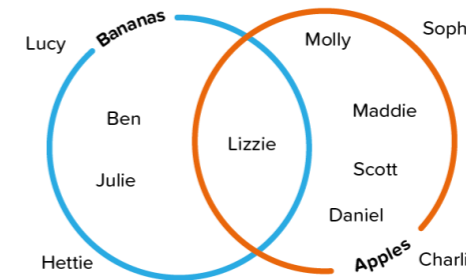
Manipulatives

- multi-link blocks
- dienes
- counters
- number lines
- bead strings

Visual representations

| Day | Letters sent |
|-----------|--------------|
| Monday | ☐ |
| Tuesday | ☐ ☐ |
| Wednesday | ☐ ☐ ☐ |
| Thursday | ☐ ☐ ☐ ☐ |
| Friday | ☐ ☐ |

Key: ☐ = 10 letters



Sentence stems

The scale shows _____ The key shows _____ This graph shows _____

There are _____ pictures on the pictogram, this tells me that _____

On the pictogram, one _____ represents _____

The most popular option is _____ The least popular option is _____

On this tally chart, there are _____ groups of five and _____ individual marks; this represents _____

The Venn Diagram shows that _____ The Carroll Diagram shows that _____

Learning sequence

- create neat and accurate pictograms, by hand or using ICT, from a tally chart or frequency table
- answer questions or solve problems by interpreting pictograms where the symbols represent 2, 5, 10 or 20 units
- draw accurate bar charts, by hand or using ICT, with scales labelled in 2s, 5s, 10s or 20s
- interpret information presented on a bar chart, and use that information to solve problems that require data to be compared, e.g. how many more, how many fewer
- know the difference between primary and secondary data
- design and conduct a simple survey; design and use data collection sheets
- present data, collected personally, in an appropriate format
- group objects and numbers by their properties into a Carroll Diagram
- sort and represent data into a Venn Diagram
- interpret data from simple pie charts involving halves, quarters and thirds
- understand that the mode is a form of average that means it is the data value that appears most often in a data set
- find the mode in a set of data

Unit overview: Statistics – Year 5

National Curriculum requirements

By the end of the year, the children will be able to:

- solve comparison, sum and difference problems using information presented in a line graph
- complete, read and interpret information in tables, including timetables.

Vocabulary

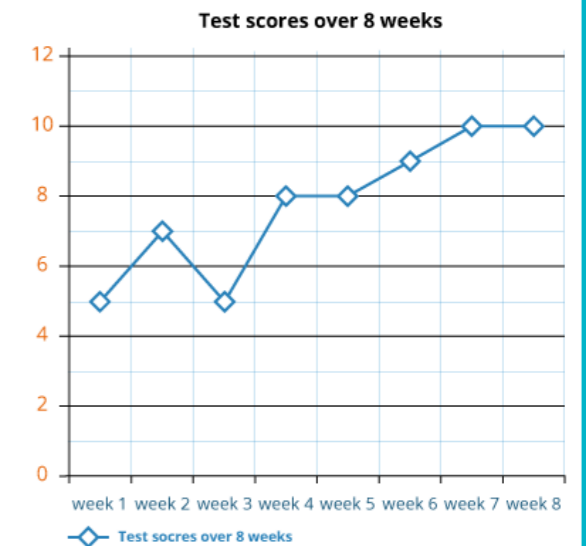
- line graph
- axis (x and y)
- data
- trends
- table
- column
- row
- timetable
- interpret

Manipulatives

- timetables
- ipads/laptops

Visual representations

| WESTBOUND | RB6 | RB6 | RB6 | RB1 | RB1 | RB6 | RB6 | RB1 | RB6 | RB1 |
|----------------------------|------|------|------|------|------|------|------|------|------|------|
| Woolwich (Royal Arsenal) | | | | 0535 | 0605 | | | 0635 | | 0705 |
| Royal Wharf | | | | | | | | | | |
| North Greenwich (The O2) | | | | 0545 | 0615 | | | 0645 | | 0715 |
| Greenwich | | | | 0553 | 0623 | | | 0653 | | 0723 |
| Masthouse Terrace | | | | 0557 | 0627 | | | 0657 | | 0727 |
| Greenland (Surrey Quays) | | | | 0601 | 0631 | | | 0701 | | 0731 |
| Canary Wharf | 0505 | 0535 | 0600 | 0605 | 0635 | | 0655 | 0705 | | 0735 |
| Tower | | | | 0616 | 0646 | | | 0716 | | 0746 |
| London Bridge City | 0517 | 0547 | 0612 | 0620 | 0650 | | 0707 | 0720 | 0737 | 0750 |
| Bankside | | | | 0624 | 0654 | | | 0724 | | 0754 |
| Blackfriars | 0523 | 0553 | 0618 | 0627 | 0657 | 0703 | | 0727 | 0743 | 0757 |
| Embankment | 0530 | 0600 | 0625 | 0634 | 0704 | 0710 | | 0734 | 0751 | 0804 |
| Westminster | | | | 0638 | 0708 | | | 0738 | | 0808 |
| London Eye (Waterloo) | | | | | | | | | | |
| Millbank | | | | | | | | | | |
| St George Wharf (Vauxhall) | | | | | | | | | | 0800 |
| Battersea Power Station | 0543 | 0614 | 0639 | 0647 | 0717 | 0723 | 0728 | 0747 | | 0817 |
| Cadogan | | | | | | | | | | |
| Chelsea Harbour | | | | | | 0732 | | | | 0813 |
| Plantation Wharf | 0556 | 0626 | 0651 | | | 0735 | 0740 | | | 0818 |
| Wandsworth Riverside | | | | | | | | | | |
| Putney | 0605 | 0635 | 0700 | | | | 0750 | | | 0828 |



Sentence stems

This table shows _____

The ____ column shows _____

The ____ row shows _____

The x-axis shows _____

The y-axis shows _____

From this graph, I know that _____

The timetable shows that _____

I can get a _____ at _____ and I will arrive in _____ at _____

Learning sequence

- understand that tables are made of rows and columns and be able to read along a row or down a column
- interpret data displayed in a table and solve problems using this data
- complete tables with missing data sets
- construct a table with appropriate labels to record data that has been collected
- interpret data on a line graph: understand which is the x-axis and which is the y-axis; discuss the data that is available from the graph
- describe trends seen on a line graph
- construct and label a line graph, from data given in a table or data collected personally, accurately plotting data
- use a line graph to calculate the difference between results
- use a line graph to find the sum of results
- read and extract information from a timetable
- answer questions based on the information presented in a timetable

Unit overview: Statistics – Year 6

National Curriculum requirements

By the end of the year, the children will be able to:

- interpret and construct pie charts and line graphs and use these to solve problems
- calculate and interpret the mean as an average.

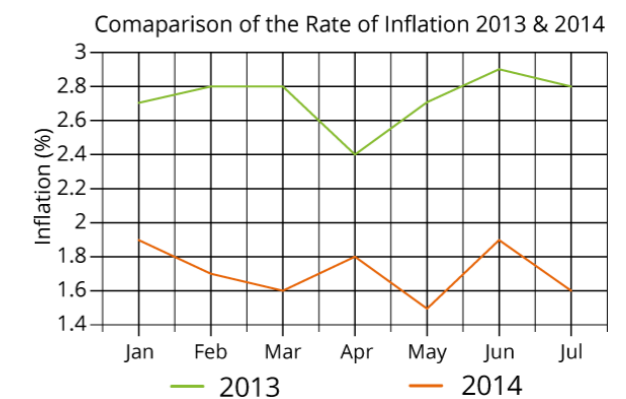
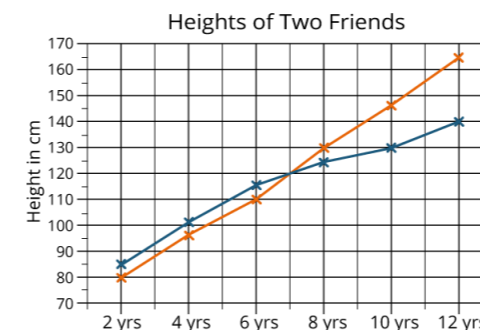
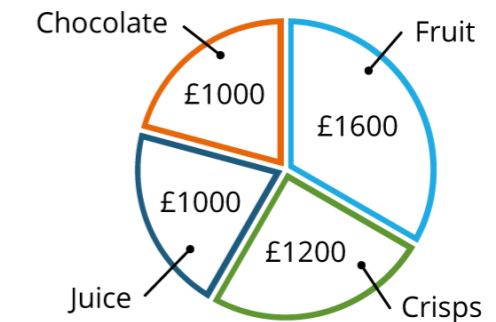
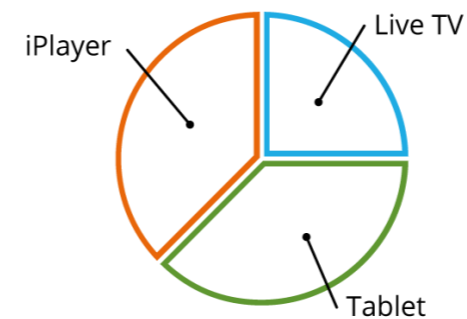
Vocabulary

- pie chart
- segments
- data
- line graph
- axis
- scales
- average
- mean

Manipulatives

- compasses
- protractor

Visual representations



Sentence stems

The data in this pie chart shows _____

This segment of the pie chart is _____

When I compare this segment of the pie chart to _____, I can see that _____

This line graph is showing me _____

The appropriate scale for the ___-axis is _____

An appropriate title for this line graph is _____

The average in a set of data shows _____

The mean average is _____

To calculate the mean average _____

Learning sequence

- understand that a pie chart is a circle divided into segments to represent data
- compare information in a pie chart by looking at the size of the segment for each piece of information
- use the labels in a pie chart to interpret data
- know that there are 360° in a circle, 180° in a semi-circle and 90° in a quarter of a circle
- understand that we can measure the angles in a pie chart to interpret the data
- using compasses and a protractor, draw a pie chart accurately, using angles, to represent a set of data
- solve problems based on data presented in a pie chart
- interpret data, and solve problems, based on a line graph
- identify trends in a line graph
- construct a line graph from raw data:
 - develop suitable scales for the axes
 - include a suitable title for the graph
 - label the lines and data points appropriately
- understand the definitions for the terms 'average' and 'mean'
- know that a mean average can be used to compare data
- understand how to calculate the mean from a set of data