Unit overview: Statistics – Year 1

Beddington Park
ACADEMY

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

Unit overview: Statistics – Year 2

Beddington Park ACADEMY

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.
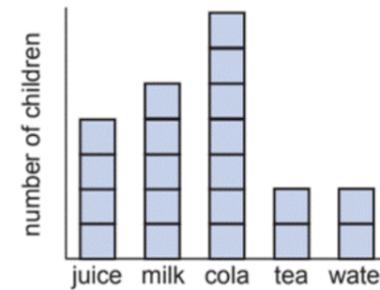
Vocabulary

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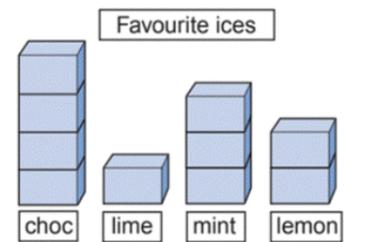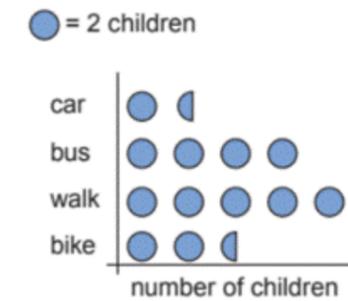- bar chart
- diagram
- table
- key
- data

Manipulatives

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

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 _____

Visual representations

What we like to drink

Ways of coming to school

Favourite ices

Sport	Pictogram
FOOTBALL	⚽⚽⚽⚽
HOCKEY	⚽⚽⚽
NETBALL	⚽
RUGBY	⚽⚽

Favourite Football Team	Tally
Manchester United	
Watford	LHI
Manchester City	LHI IIII
Chelsea	III
Liverpool	IIII
Total	30

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

Beddington Park
ACADEMY

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.
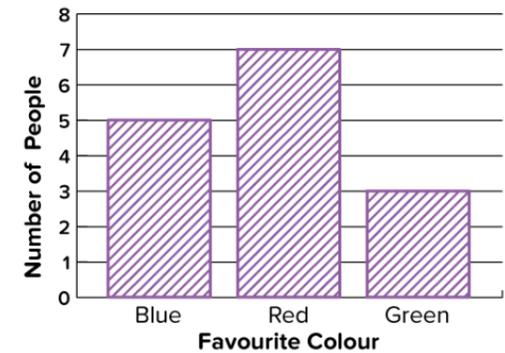
Vocabulary

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

Manipulatives

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

Visual representations

		Key
Vodafone		= 8 calls
T Mobile		
Orange		
CC		
O2		

Fish	ЖЖ II
Cat	ЖЖ ЖЖ
Dog	ЖЖ II
Other	ЖЖ ЖЖ I

	Number of People (bar chart)
Blue	5
Red	7
Green	3

Favourite Colour

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

Beddington Park ACADEMY

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
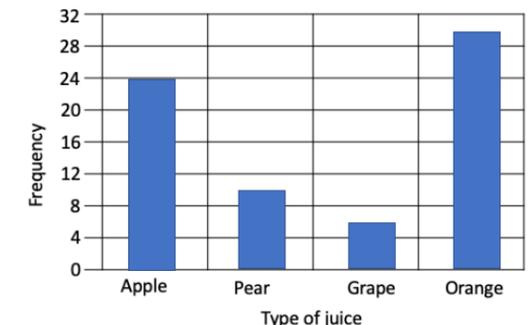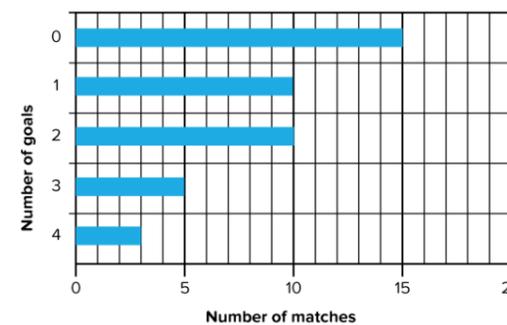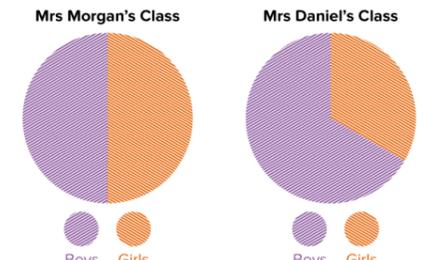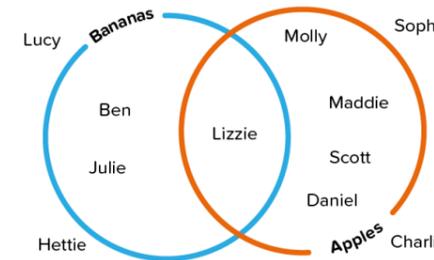- Carroll Diagram
- Venn Diagram
- mode

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

Beddington Park ACADEMY

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	

Test scores over 8 weeks

— Test socres over 8 weeks

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

Beddington Park
ACADEMY

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

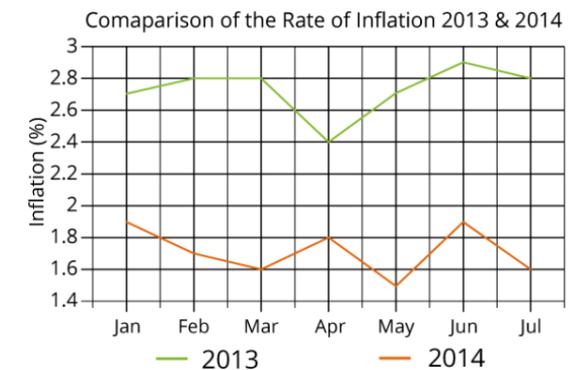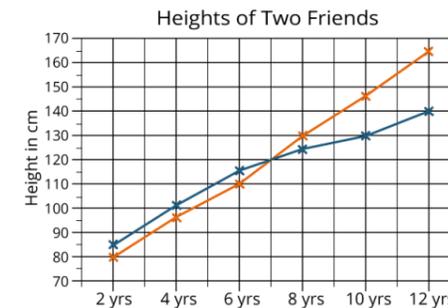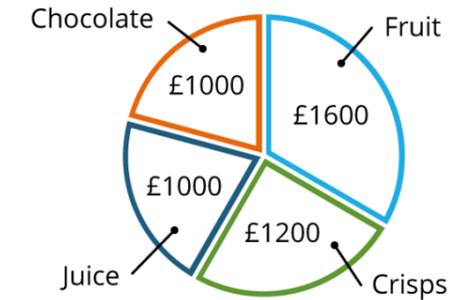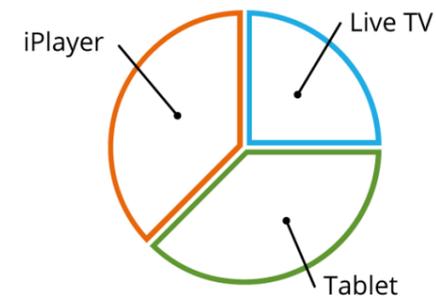- calculate and interpret the mean as an average.

Vocabulary

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

Manipulatives

- compasses
- protractor

Visual representations

iPlayer, Live TV, Tablet

Chocolate £1000, Fruit, £1600, Juice £1000, £1200 Crisps

Heights of Two Friends
(Height in cm: 70–170; 2 yrs, 4 yrs, 6 yrs, 8 yrs, 10 yrs, 12 yrs)

Comaparison of the Rate of Inflation 2013 & 2014
(Inflation (%): 1.4–3; Jan, Feb, Mar, Apr, May, Jun, Jul; 2013, 2014)

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 360º in a circle, 180º in a semi-circle and 90º 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