Can I use a table, pictogram or block graph to answer questions?

Teaching guidance

Key vocabulary

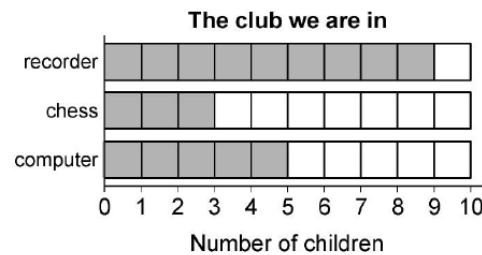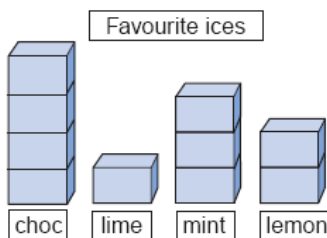information, graph, block graph, pictogram, diagram, symbol, set, list, table, label, title

Models and images, resources and equipment

Use a range of different ways of representing data in tables, pictograms and block graphs
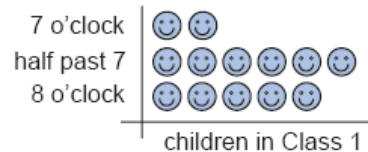
Our names

3 letters	4 letters	5 letters	6 letters
Ann	Kate	Halim	Pritam
Sam	Ajit	David	Sophie
Ali	Tara	Jyoti	
	Mark		

Favourite colours	Votes
blue	6
green	4
pink	8
red	7

Favourite ices

choc lime mint lemon

The club we are in

recorder
chess
computer

0 1 2 3 4 5 6 7 8 9 10

Number of children

Our bed times

7 o'clock
half past 7
8 o'clock

children in Class 1

Ways of coming to school today

	number of children
car	(4 children)
bus	(7 children)
walk	(9 children)
taxi	(1 child)
bicycle	(3 children)

�△ represents 1 child

Teaching tips

- Provide children with plenty of opportunities to see and make simple lists, such as days of the week, numbers that total 10, multiples of 5, children with birthdays in the summer, etc.

- Draw a table on the playground and get children to physically stand in the correct place. You can then demonstrate how such information can be recorded on paper. Make it explicit to EAL pupils when a subject-specific word, such as 'table', carries a different meaning in mathematics to that in everyday language.

- Create block graphs practically by using multilink towers to represent the data. You can then show how this can be represented in a more abstract way on paper.
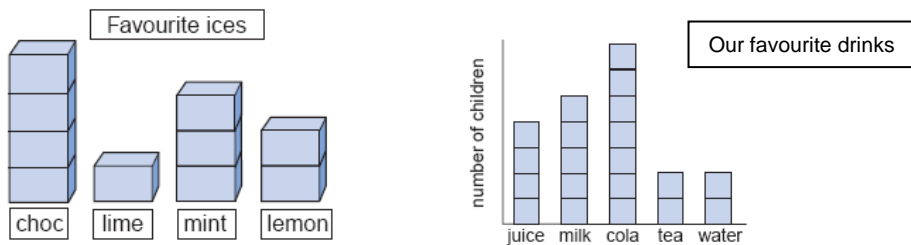
- Create pictograms quickly in groups or as a class. Initially, create pictograms using real data, for example ask children to take off one shoe and organise them into rows of shoes with laces, buckles, hook and loop tape, etc. Children can then draw their shoe on sticky notes and take it in turns to place it in the correct place on a large paper pictogram. This will quickly generate a set of class data and provide opportunities for questions to be asked.

- Ensure that children experience examples of block graphs and pictograms where the information is represented horizontally, as well as examples where they are represented vertically.

- Data can be generated and discussed on a daily basis by creating an interactive whiteboard file containing the children's names or photographs. Children can drag and drop their name/photo into the correct place on a table, pictogram or block graph during registration to create data that shows how many children are having sandwiches, school dinner, etc.

- Use tables and charts in role-play areas, for example to show prices in a café, hairdresser's, toy shop, etc.

- Ensure that children have opportunities to respond to questions that involve the language of comparison, such as: How many more…?, How many fewer…?, What is the difference between…?

- Model how data can be used to answer a given question. You can then provide opportunities for children to begin to consider other questions that particular data could answer. Support them to do this by providing them with question openers, such as those in the bullet point above.

- Model annotating tables, pictograms and block graphs to support reading and interpreting the information they present. Ensure that annotations are a valued part of the classroom environment and displays.

- To support the development of children's reasoning skills ask questions such as: Would this chart be different if we asked the teachers about their favourite drinks? How?

- Try to maintain a balance across the five aspects of the data-handling cycle. To achieve this balance, you may need to support children to collect and represent the data efficiently in

Propose hypothesis

Plan the process

Collect data

Represent data

Interpret and evaluate