

YR2 STATISTICS KNOWLEDGE ORGANISER

Key Concepts

- 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.

Key Vocabulary

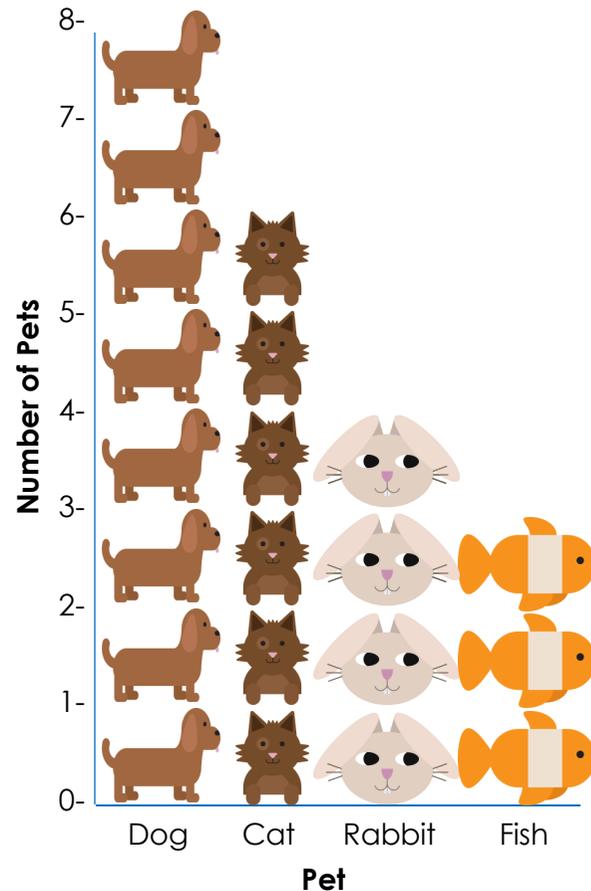
- Pictogram
- Tally chart
- Block diagram
- Table
- Total
- Compare
- Scale
- Record
- Data
- Most/Least
- Popular
- More/Fewer



Pictograms

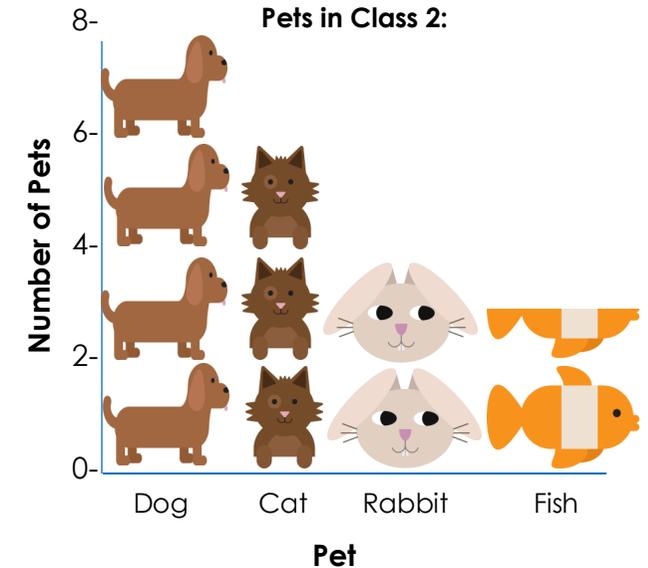
Pictograms give visual images to represent data. They can be horizontal or vertical. Each picture represents a value. Often, the value can be 1 picture represents 1 object.

For example:



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However, it is possible for one picture to represent multiples, e.g. 2, 5 or 10 objects.



This scale goes up in 2s so each picture represents 2 children in the class. Any half pictures have the value of 1.

Tally Charts

A tally chart can show the same information as a pictogram but it looks more abstract. Information is recorded using marks to show the number represented. To make totalling easier, tallies are recorded in blocks of 5.

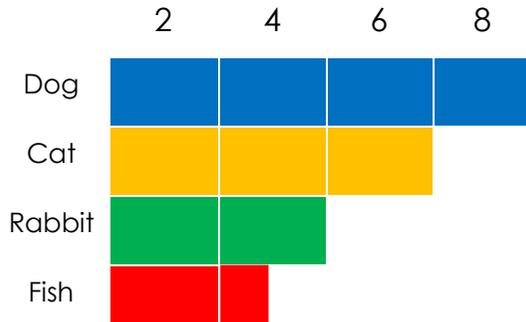
Pet	Tally	Number
Dog		8
Cat		6
Rabbit		4
Fish		3

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Block Diagrams

A block diagram is similar to the pictogram but has blocks to represent the objects instead. As with pictograms, they can have different scales and lie horizontally or vertically.

Each block  is worth 2 children.



Simple Tables

A table is a quick way to record data such as measurements and can then be used to hold data that may then be put into other forms.

Pet	Number of children
Dog	8
Cat	6
Rabbit	4
Fish	3

Ask and Answer Questions

When the children have a good grasp of how to read the data, they can begin to ask and answer questions about the amounts. A simple example would be:



How many people have a dog?

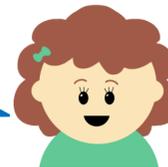
8 people have a dog.



How to ask questions often needs modelling carefully to children so they know how to retrieve information that is in the data.

Other questions that develop language and understanding would include

Which is the least popular pet?



The fish is the least popular with 3 in the class.

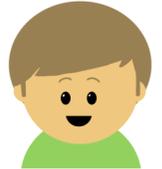


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Totalling and Comparing

Questions become more complex when totalling and comparing, with the language used often making it complex for the children.

How many children have a cat or a fish?



This requires the children to understand that if 6 children have a cat and 3 children have a fish, a simple addition shows that 9 children have a cat or a fish. A common misconception here is just to look at one category, for example, cat - 6.

Another challenging question is

How many more children have dogs than cats?



with children often jumping to the answer of 8. It is necessary to address this misconception quickly and this can be done by comparing a visual of the data.

To begin with, this is best to do with blocks representing 1 amount. For example:



There are 2 more dogs than cats.

