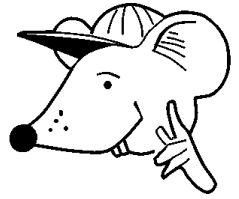


MATHEMATICS



N.S. Yr. 4 P.114

**Collect and organise data.
Use tables, graphs and charts.**

Equipment

Paper, pencil, ruler, squared paper

MathSphere

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Concepts

Children should understand the meaning of and be able to spell and read these words:

Vote, survey, questionnaire, data, count, tally, sort, set, represent, table, list, graph, chart, diagram, axes, label, title, most common or popular

Children should be able to count votes on an issue (such as most popular items) and record these in a simple table.

They should be able to say which items are most or least popular and say who voted for which items.

They should be able to determine which items had more than or less than a certain number of votes.

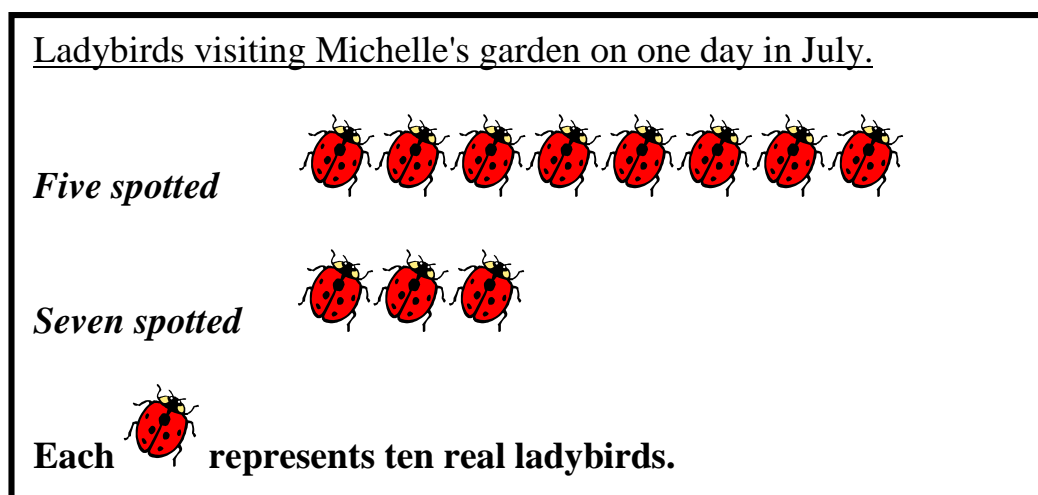
They should be able to make simple and sensible predictions about what might happen if the survey was taken in slightly different circumstances (another year group, in a different geographical area etc.).

They should be able to construct pictograms where the symbol used represents one or more than one item (eg. one stick person represents 10 people).

They should be able to interpret and answer simple questions about pictograms.

They should be able to draw and interpret simple bar charts, including those involving time and be able to predict which items are most likely to occur based on information in a bar chart.

1. Michelle counted the number of ladybirds visiting part of her garden on one day in July. She counted the five spotted and the seven spotted ladybirds separately. This is her pictogram:

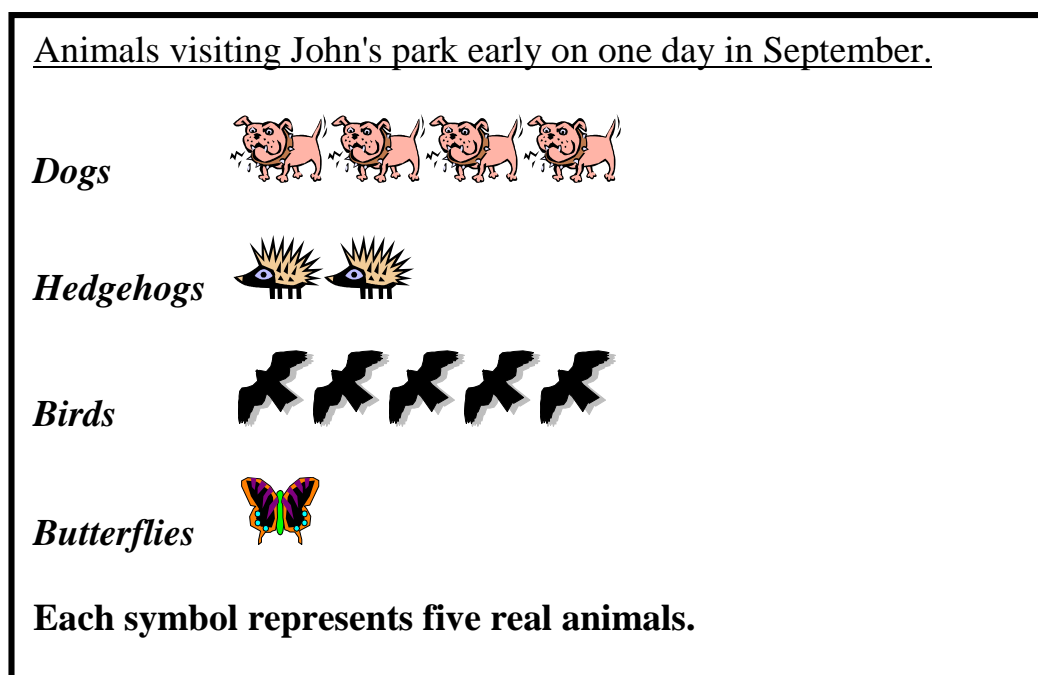


- a) How many five spotted ladybirds visited Michelle's garden?
 - b) How many seven spotted ladybirds visited Michelle's garden?
 - c) Which ladybird is most likely to visit Michelle's garden next?
 - d) Draw a pictogram to show roughly how many ladybirds would visit Michelle's garden in three days.
 - e) What do you think would happen if Michelle did her survey in November?
2. Carry out your own survey. Count the number of **men, women, boys** and **girls** that pass a certain point in a short time such as five minutes.

Record your results in a table. Can you use a tally to count?

Choose a symbol for five men, one for five women, one for five girls and one for five boys and draw a pictogram to show your results.

1. John counted the number of dogs, hedgehogs, birds and butterflies visiting his local park between 6 and 7 o'clock in the morning on one day in September. This is his pictogram:

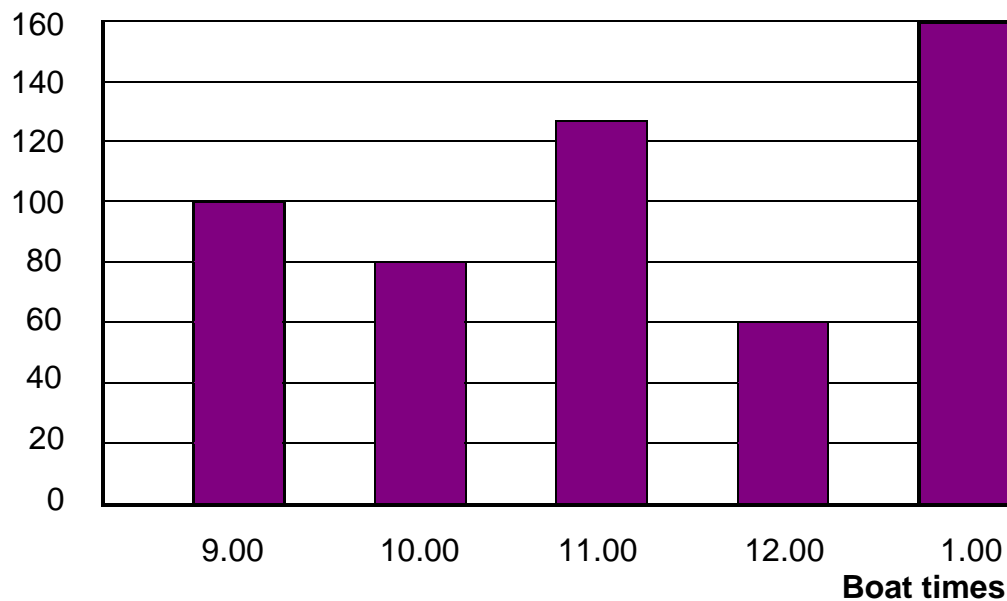


- How many dogs visited John's park?
 - How many birds visited John's park?
 - Draw a table to show the results recorded in the pictogram.
 - How many more birds were there than dogs?
 - How many fewer butterflies than hedgehogs were there?
 - How do think the numbers of animals would change if the survey was carried out at about lunch time?
2. Carry out a similar survey of pets owned by people in your class or by your friends. Record the results in a table and in a pictogram.

Write down some questions about your survey for your friends to answer.

1. A boat takes visitors out into the sea to watch dolphins swimming. The bar chart shows the number of people that went out on each boat.

Number of people

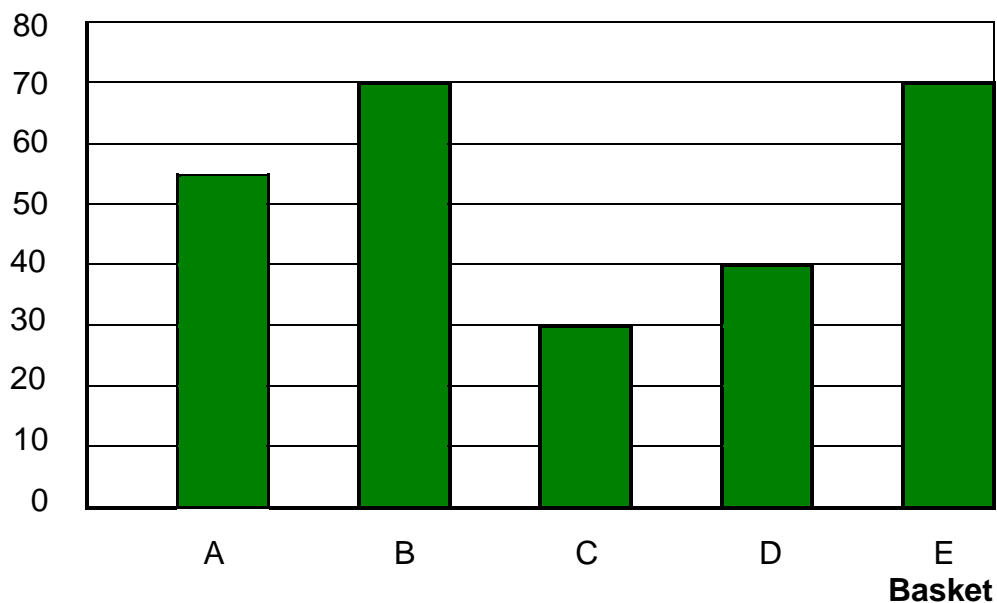


Answer these questions:

- a) How many people went on the 9.00 boat?
- b) How many people went on the 11.00 boat?
- c) A coach bringing people to one of the boats was late and the visitors missed the boat. Which boat do you think it was?
- d) How many more people went on the 9.00 boat than on the 12.00 boat?
- e) Which boat had most people on it? Why do you think this was?
- f) The 1.00 boat was full. How many visitors can one of these boats hold?
- g) How many people travelled on the boats altogether?
- h) Put the information shown on the graph in a table.

1. The bar chart shows how many crabs were caught in different baskets on one day in August.

Number of crabs in each basket



Answer these questions:

- a) How many crabs were caught in basket C?
- b) How many crabs were caught in basket A?
- c) Which two baskets had the same number of crabs?
- d) Which basket caught the least number of crabs? Give two reasons why you think this might be.
- e) How many more crabs were there in basket E than in basket D?
- f) How many crabs were caught altogether?
- g) Put the information on the graph in a table.

- [illegible]

- Which is the most popular television programme? This is called the mode.
- Which is the least popular television programme?
- How many votes were there altogether?
- Can you put the information above in this table in order of the number of votes? Put the programme with the most votes first.

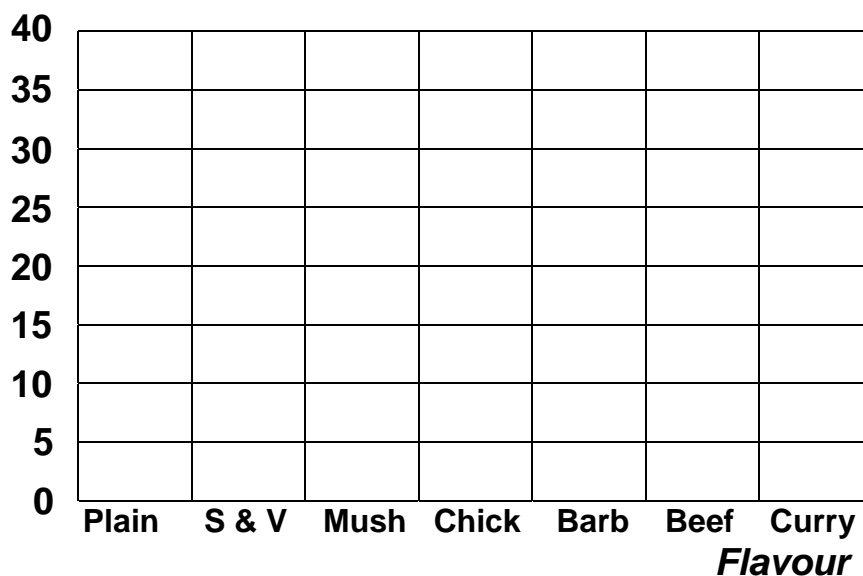
[illegible]

1. Here is the result of a crisps survey. **Record the votes as a tally in the last column.**

Flavour	Votes	Tally
Plain	25	
Salt and Vinegar	32	
Mushroom	12	
Chicken	10	
Barbecue	24	
Beef	35	
Curry	21	

Put these results on a block graph.

Votes



- Which flavour was the mode?
- Which flavour was the least popular?
- How many people took part in the survey altogether?
- How many more people voted for plain than curry flavours?

1. Now carry out your own survey.

Give your survey a title: _____

Write here the question you are going to ask:

--

Ask people your question and fill in the table below.

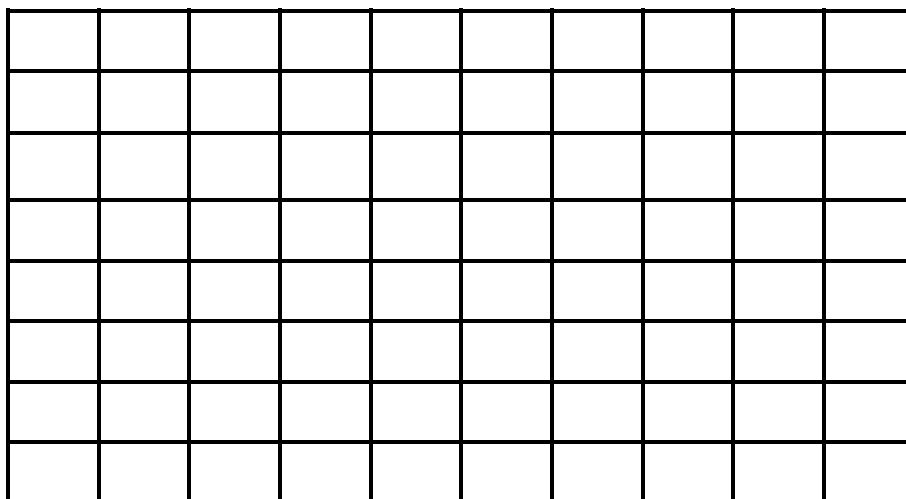
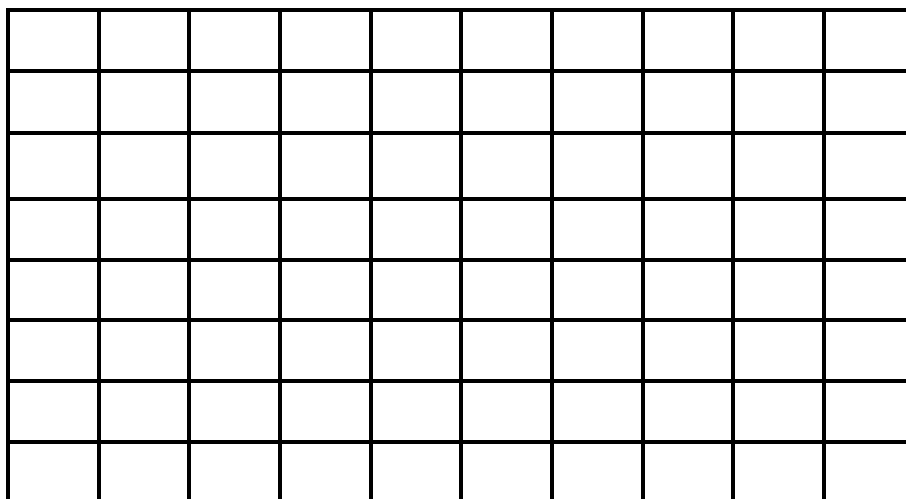
Record the votes as a tally.

[illegible]

Put your results on this graph. Do remember to label the axes.

[illegible]

Here are some blank graphs that you may use for your own data.



Answers**Page 3**

1. a) 80 b) 30 c) Five spotted d) Pictogram drawn
e) Almost no ladybirds of either type
2. Result of child's own survey.

Page 4

1. a) 20 b) 25 c) Table drawn d) 5 e) 5 f) Probably fewer dogs as more owners would be at work. Almost no hedgehogs as they hide during the day. More birds and butterflies as they enjoy the sunshine and feed during the day. (Adjust expected answers according to local conditions)
2. Result of child's own survey.

Page 5

1. a) 100 b) About 126 c) 12.00 d) 40 e) 1.00 The extras were the ones that had missed the 12.00 boat. f) 160 g) About 526 h) Child draws table.

Page 6

1. a) 30 b) 55 (± 1) c) B and E d) C Any sensible reasons such as 'The basket entrance was smaller than the others', 'Basket C was not placed near the crabs' or 'It was not there as long as the others' e) 30 f) 265 (± 1)
- g) Child put information in table.

Page 7

1. Child completes survey and fills in own results.

Page 8

1. a) Beef b) Chicken c) 159 d) 4