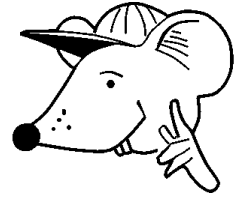


MATHEMATICS



N.S. Yr. 3 P.93

Collecting, sorting and organising information.

Equipment

Paper, pencil.
Crayons.

MathSphere

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Concepts

In Year 2 children will have come across various types of graph and chart. Most of the graphs they will have been using will have been in the form of block graphs or pictograms.

In Year 3 more work is done using bar charts where the vertical (y) axis may not go up in single figures.

Children should decide what data to collect and how they are to present their results. This is ideal work for using the computer.

Again the graphs should be used as a subject for discussion, beginning to use the associated mathematical terms. Words that should be used include:

Graph, chart, diagram, table, list, sort, tally, label, axis, axes.

As extension work, tally charts should be interpreted and made, stressing the importance of tallying 5s as below:



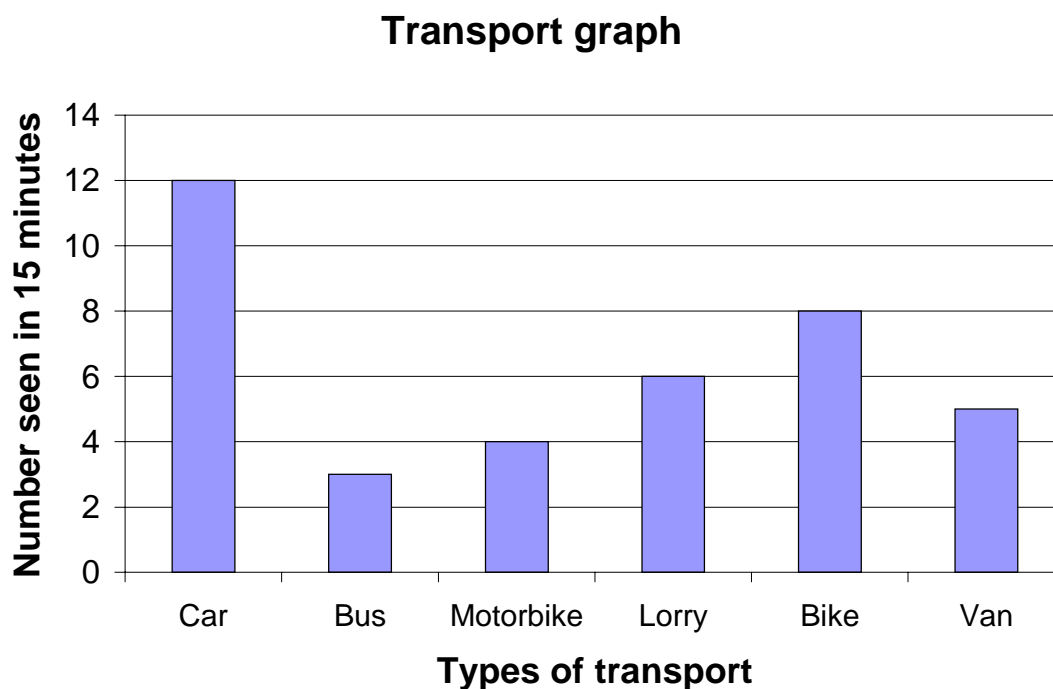
This is a good time to reinforce counting in fives.

More complex pictograms are also introduced - where a symbol represents more than one item.

Many children find it quite difficult to interpret these kinds of graph. They also find it very difficult to draw, label and number axes. It is important to emphasise the need to start at 0 and go up in even spaces. A lot of practice is needed with these ideas.

Bar chart of vehicles passing the school

Below is a bar chart showing the vehicles that passed the school during a 15 minute period.

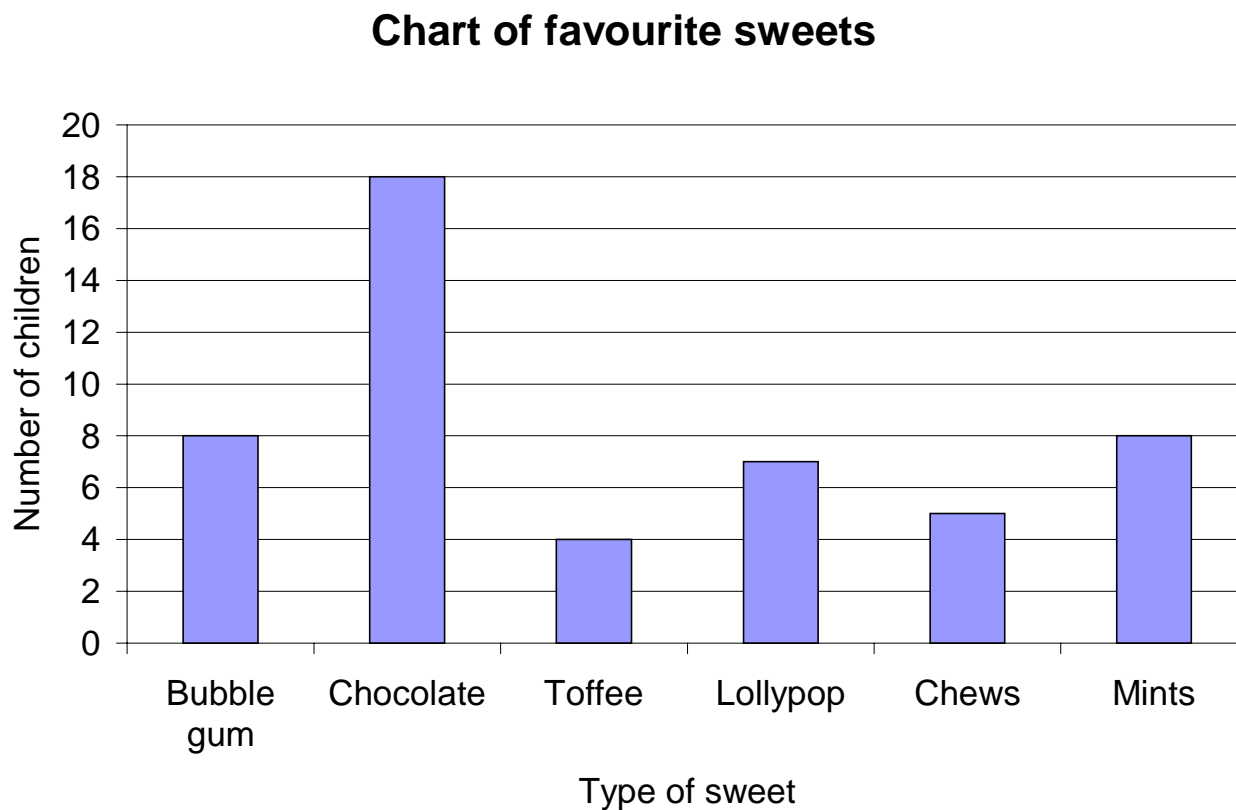


1. How many cars are shown on the graph?
2. How many buses passed the school?
3. How many more lorries than vans passed the school?
4. How many bikes and motorbikes were there, added together?
5. What was the total number of cars and lorries that passed the school?
6. What was the least common form of transport seen?

Watch how the numbers go up in twos! Work out where the odd numbers would be.



Below is a bar chart showing children's favourite types of sweets.



1. Which type of sweet was the most popular?
2. How many children voted for mints?
3. How many more children chose chocolate than toffee?
4. How many more children chose lollypops than chews?
5. Which was the least popular type of sweet chosen?
6. How many fewer children chose toffee than bubblegum?
7. How many children voted altogether for chews and mints?
8. How many children voted altogether?

Collect your own data on favourite sweets and make a graph.

Title:

Types of sweet

Remember to label both axes.

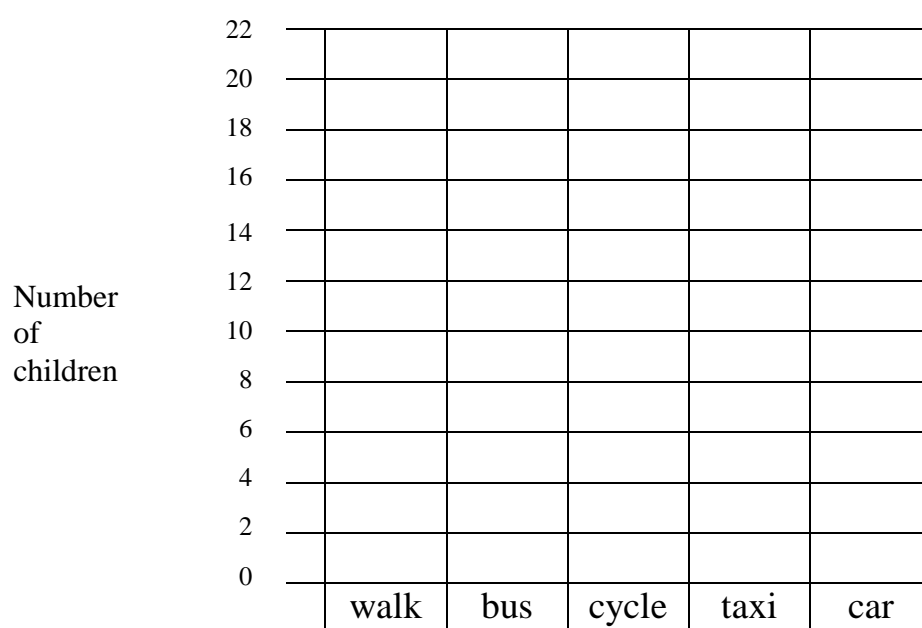
What does the graph tell you?

Tally charts

Here is a tally chart of how children go to school:

Type of transport	Tally	Total
Walk		
Bus		
Cycle		
Taxi		
Car		

Draw a graph showing these totals:

Graph showing how children go to school

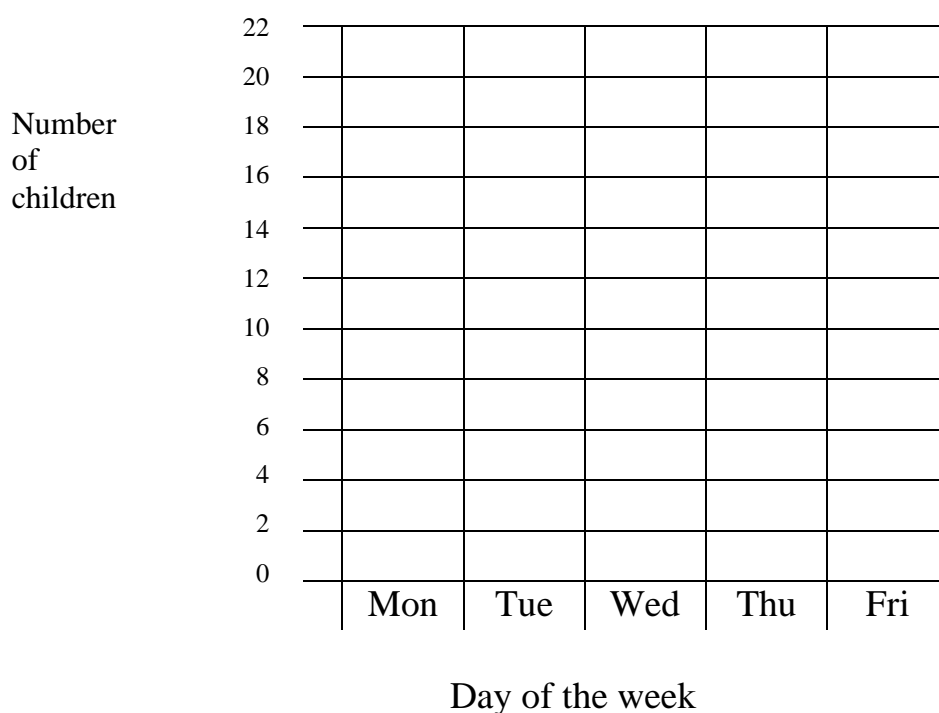
Ways of getting to school

Tally charts - using the Internet

Here is a tally chart of how children used the Internet at school during the week:

Day of week	Tally	Total
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		

Draw a graph showing these totals:

Graph showing number of children using the Internet

Children at Red School, Bluetown were asked to vote on their favourite colour. Here are the results:

blue red green red blue yellow green red blue
red green yellow blue red red red blue green
yellow pink yellow blue pink red red blue
red green green blue red yellow green red

Draw a tally chart showing these results:

Colour	Tally	Total
Blue		
Red		
Green		
Yellow		
Pink		

Draw a graph showing your results.

Remember to label your graph.

What does your graph tell you?






















Pictograms



The pictogram below shows children's favourite foods.

Each picture represents 2 children's choices or votes.

1/2 a picture = 1 vote

Remember:			
 = 2 votes			
 = 2 votes			
 = 2 votes			
 = 1 vote			
 = 1 vote			
 = 1 vote			

Pizza


Hot Dog

Burger























1. How many children voted for pizzas?
2. How many children voted for burgers?
3. How many more children voted for burgers than hot dogs?
4. How many children voted altogether?
5. Which food was least popular?

Pictograms

The pictogram below shows the number of people who visited stalls at a school fair.

The figure  represents 10 visitors.  Represents 5 visitors.

Numbers of visitors to each stall of a school fair

Tombola	   
Toys	     
Books	    
Lucky dip	   
Cakes	  

1. How many people visited the tombola stall?
2. How many people visited the cake stall?
3. How many more people visited the book stall than the lucky dip?
4. How many more people visited the toy stall than the tombola?
5. What was the total number of visitors to the book and toy stalls?
6. Which stall do you think raised the most money?
7. Why do you think that?


Class 3R had a cake sale. These numbers of cakes were sold:

Buns 45 Flapjacks 50 Muffins 45 Fairy cakes 30

Rice crispy cakes 65 Chocolate chip cakes 50

Draw a pictogram showing how many cakes were sold.

Use a cake like this  to stand for 10 cakes in your pictogram

and a cake like this  to stand for 5 cakes.

Pictogram to show number of cakes sold during class 3R's sale.

Number sold

Buns	Flapjacks	Muffins	Fairy cakes	Rice Crispy cakes	Chocolate Chip cakes	

Types of cake

Data for bar graphs and pictograms**1. Eye colour**

Green 10 Hazel 12 Blue 8 Grey 6 Brown 16

2. Favourite fruits

Apples 30 Bananas 25 Grapes 10 Oranges 30 Peaches 15

3. Favourite sport

Football 55 Cricket 15 Rugby 10 Basketball 40 Athletics 25

4. Data collected for a tally chart: on colour of cars passing the school.

Red blue green red white black red white black
white green blue blue blue white blue red black
green yellow green blue red white white green blue
yellow red green white white red blue green green

5. Data collected for a tally chart: on colour of socks of 3D

Black grey grey white white white red white grey
grey black red blue white white white white red
blue grey white black black white black grey grey
black white white white red white white blue blue
blue black black white blue red red white grey

[illegible]

[illegible]

Answers**Page 3**

1. 12 2. 3 3. 1 4. 12 5. 18 6. Bus

Page 4

1. chocolate 2. 8 3. 14 4. 2 5. Toffee 6. 4 7. 13 8. 50

Page 8

1. blue 8 red 12 green 7 yellow 5 pink 2

Page 9

1. pizza 11 2. burgers 15 3. 7 4. 34 5. Hot dogs

Page 10

1. 35 2. 30 3. 15 4. 25 5. 110 6. Choice with reason