

Maths Revision



Number and Place Value

Use numbers from 0 to 1000

Counting

Count forwards and backwards in 4, 8, 50 and 100

4, 8, 12, 16, 20, 24...

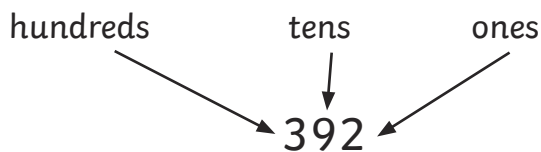
700, 600, 500, 400, 300, 200, 100, 0

Find 10 or 100 more or less than a given number

What is 10 less than 102? What is 100 more than 349?

Read and Write Numbers in Numerals and Words

Recognise the place value of each digit in a three-digit number



Compare and Order Numbers

Compare using <, > or =

278 < 281

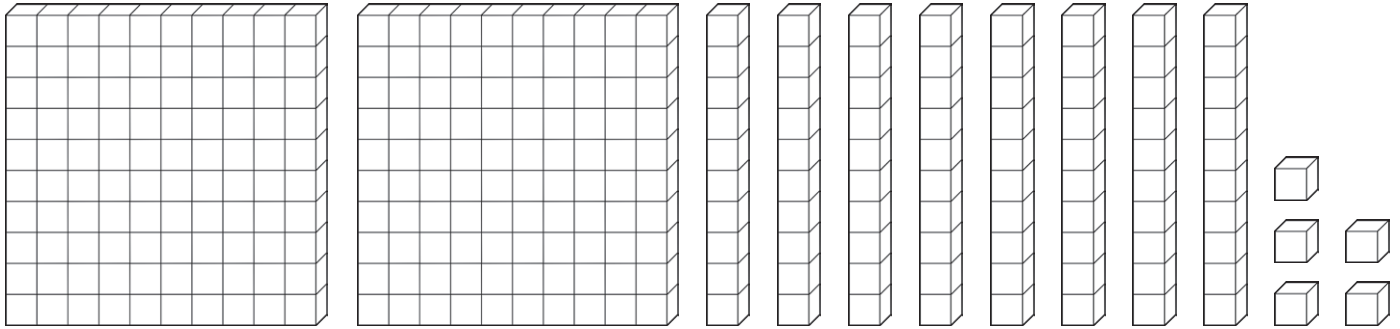
762 > 752

Smallest 111 112 121 122 211 Greatest

Identify, Represent and Estimate

Use models and representations of numbers

285 can be represented by



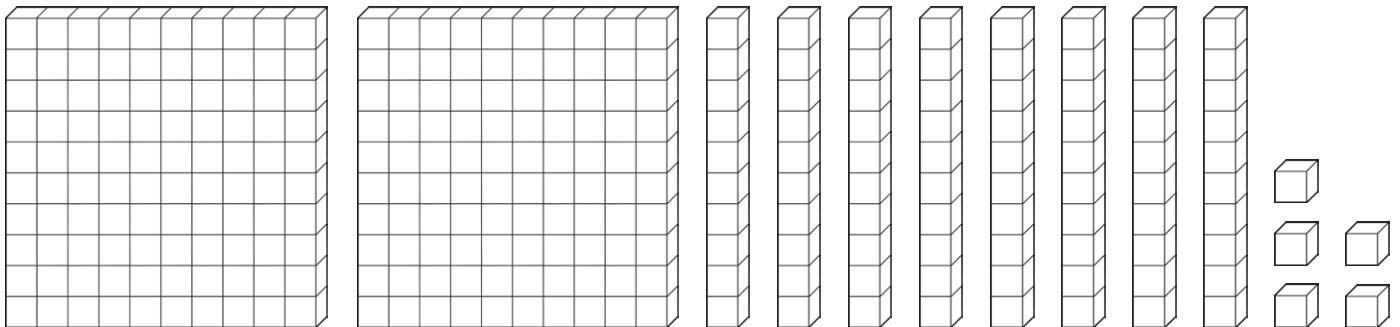
Read and Write Numbers in Numerals and Words

285 is two hundred and eighty-five

Solve Problems

Apply the knowledge and understanding from the above to solve problems

What needs to be removed to show the number 162?



1 hundred, 2 tens and 3 ones

Addition and Subtraction

Add and Subtract Mentally

Add and subtract three-digit numbers and ones, tens and hundreds

$$376 + 3 = 379$$

$$376 + 40 = 416$$

$$376 + 200 = 576$$

Formal Methods

698 + 562 becomes

$$\begin{array}{r} 698 \\ + 562 \\ \hline 1260 \end{array}$$

Answer: 1260

935 - 423 becomes

$$\begin{array}{r} 935 \\ - 423 \\ \hline 512 \end{array}$$

Answer: 512

812 - 364 becomes

$$\begin{array}{r} 812 \\ - 364 \\ \hline 448 \end{array}$$

Answer: 448

Estimate and Inverse

Estimate $318 + 298 \approx 300 + 300 \approx 600$

Inverse: check $932 - 457 = 475$, by $457 + 475 = 932$

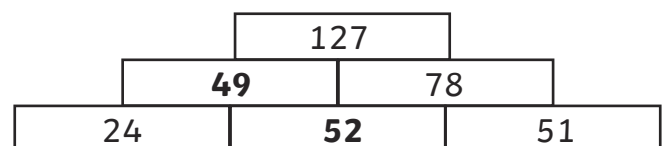
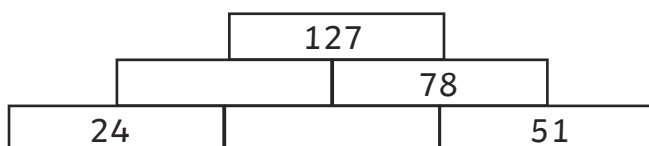
Solve Problems

Missing Numbers

$$\begin{array}{r} 7 \square 9 \\ + \square 4 2 \\ \hline 1431 \end{array}$$

$$\begin{array}{r} 789 \\ + 642 \\ \hline 1431 \end{array}$$

Number Problems



Consecutive numbers add to make the number above. Find the missing numbers.

Word Problems

There are 267 people watching a film. 88 are adults and 34 are students. The rest are children. How many children are watching the film?

$$88 + 34 = 122 \text{ not children}$$

$$267 - 122 = 145 \text{ children}$$

Multiplication and Division

Multiplication Tables

2, 3, 4, 5, 8, 10 times tables

x	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30			48		60
7	7	14	21	28	35			56		70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45			72		90
10	10	20	30	40	50	60	70	80	90	100

x	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30			48		60
7	7	14	21	28	35			56		70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45			72		90
10	10	20	30	40	50	60	70	80	90	100

Multiplying and Dividing

Using multiplication tables: 27×4 by adding 20×4 to $7 \times 4 = 80 + 28 = 108$

Progressing to formal methods

27×4 becomes

$$\begin{array}{r} 27 \\ \times 4 \\ \hline 28 \quad (7 \times 4) \\ 80 \quad (20 \times 4) \\ \hline 108 \end{array}$$

Answer: 108

$76 \div 4$ becomes

$$\begin{array}{r} 19 \\ 4 \overline{) 76} \\ \underline{4} \\ 36 \\ \underline{36} \\ 0 \end{array}$$

Answer: 19

Solve Problems

Missing number problems: $\square \times 5 = 45$ or $56 \div \square = 8$

Scaling Problems

One pack of pencils contains 12 pencils. How many pencils are there in 3 packs?

$$12 \times 3 = 36$$

Correspondence Problems

Jenna has 2 T-shirts and 3 pairs of shorts. How many different combinations of the T-shirts and shorts does Jenna have?

Various answers

12 pencils are shared equally between 3 children. How many pencils will they each receive?

$$12 \div 3 = 4$$

Fractions

Tenths

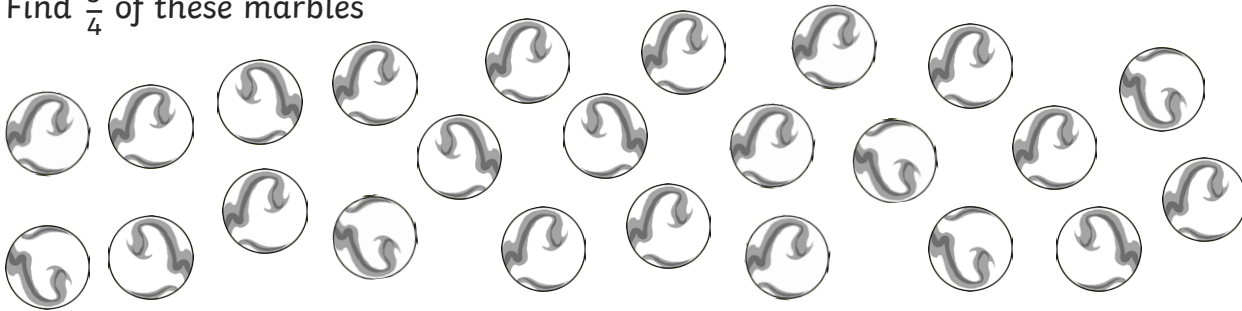
Counting: $\frac{7}{10}$, $\frac{6}{10}$, $\frac{5}{10}$, $\frac{4}{10}$, ...

Dividing into 10 equal parts or by 10



Fraction of a Set of Marbles

Find $\frac{3}{4}$ of these marbles



$$24 \div 4 = 6$$

$$6 \times 3 = 18$$

Equivalent Fractions



$$\frac{3}{4} = \frac{6}{8}$$



1							
$\frac{1}{2}$				$\frac{1}{2}$			
$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$	
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

1					
$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$	
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

1									
$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$	
$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$

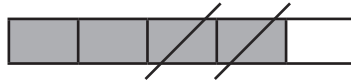
Add and Subtract Fractions with the Same Denominator

Add or subtract the numerator, keeping the denominator the same

$$\frac{1}{5} + \frac{3}{5} = \frac{4}{5}$$



$$\frac{4}{5} - \frac{2}{5} = \frac{2}{5}$$



Compare and Order

Unit fractions

smallest $\frac{1}{8}$ $\frac{1}{6}$ $\frac{1}{4}$ $\frac{1}{3}$ greatest

Fractions with the same denominator $\frac{1}{5} < \frac{3}{5}$

Solve Problems

Adil divides his marbles into tenths. He wants to give two friends a number of the tenths of his marbles and keep the rest himself. Write 3 ways that he could share the marbles.

Eg. $\frac{4}{10} + \frac{1}{10} + \frac{5}{10}$

Measurement

Measure, Compare, Add and Subtract

Lengths (mm/cm/m)

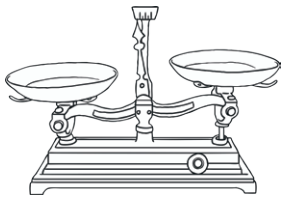
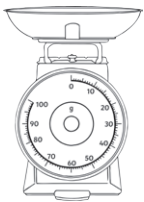
Measure and draw lines using a ruler in centimetres (cm) or millimetres (mm)



This line is 9.5cm or 95mm long.

Mass (g/kg)

Measure the mass of objects using different scales

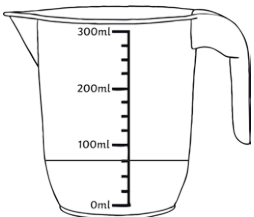


3 apples weigh 435g. One is eaten, and the 2 remaining apples weigh 285g. What is the mass of the eaten apple?

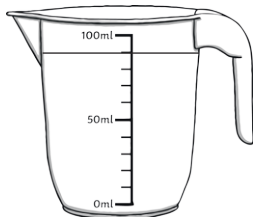
$$435\text{g} - 285\text{g} = 150\text{g}$$

Capacity (ml/l)

Which jug has more water?



75ml



90ml

Perimeter

The perimeter is the measurement around the edge of a shape



The sides of this rectangle are 8cm and 3cm, so the perimeter is 22cm.

Money

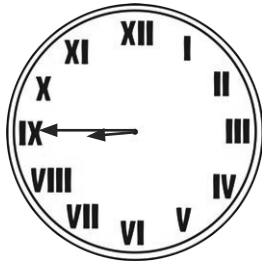
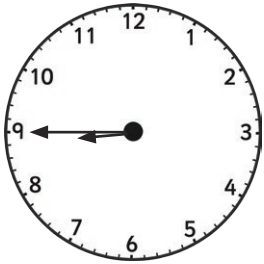
Add and subtract giving change

Jude buys an apple and an orange costing 25p and 15p. How much change will he get from 50p?

Time

Analogue clocks and 12/24 hour time

These clocks show quarter to nine:



Record time in hours, minutes and seconds

The maths lesson lasted 1 hour and 5 minutes. The art lesson was one hour and twenty minutes. The art lesson was longer than the maths lesson.

There are 60 seconds in a minute.

30 days hath September,
April, June and November,
All the rest have 31,
Excepting February alone.
Which only has but 28 days clear
And 29 in each leap year

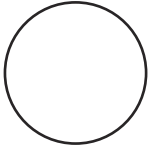
There are 365 days in a year and 366 in a leap year.

Morning is am, afternoon is pm.

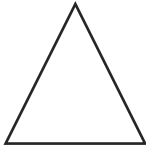
Geometry – Shape

2D Shapes

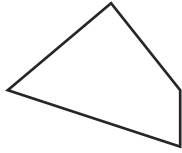
Main shapes: circle, triangle, quadrilateral, square, rectangle, rhombus, parallelogram, pentagon, hexagon, octagon, decagon



circle



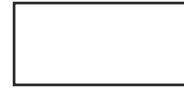
triangle



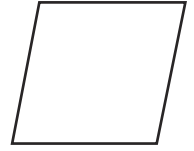
quadrilateral



square



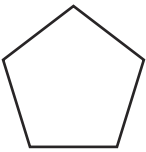
rectangle



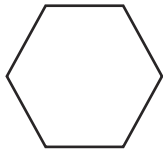
rhombus



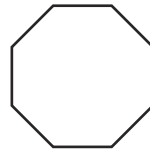
parallelogram



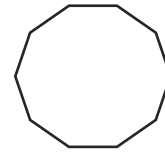
pentagon



hexagon

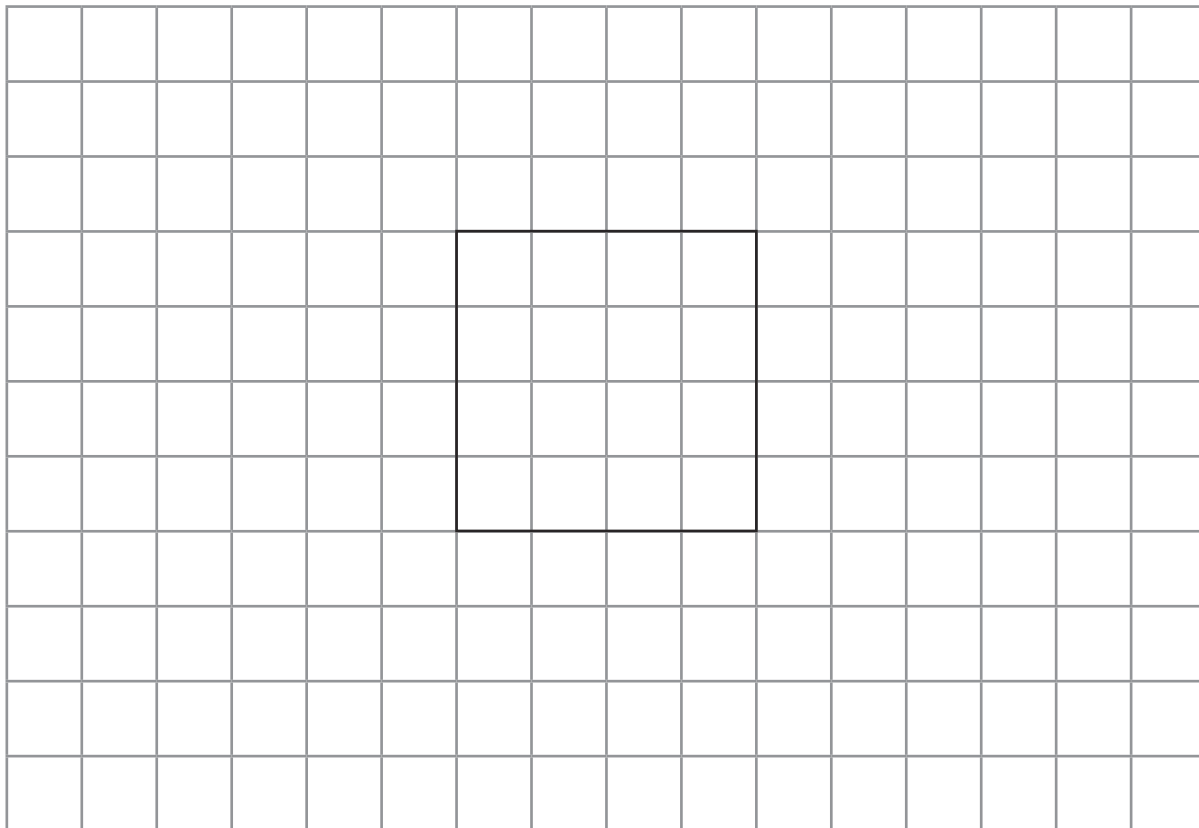


octagon



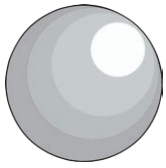
decagon

Draw a square on 1cm squared paper with sides of 4cm.



3D Shapes

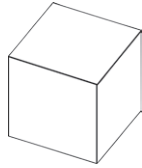
Main shapes: sphere, cylinder, cube, cuboid, tetrahedron, square-based pyramid, triangular prism, pentagonal prism, hexagonal prism



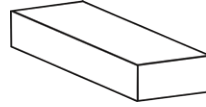
sphere



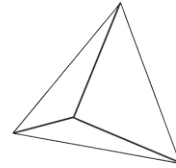
cylinder



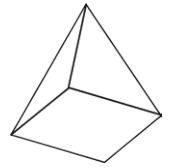
cube



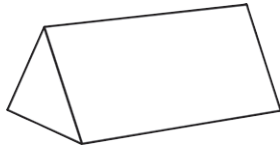
cuboid



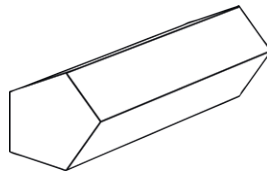
tetrahedron



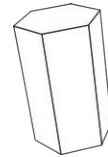
square-based
pyramid



triangular prism



pentagonal prism

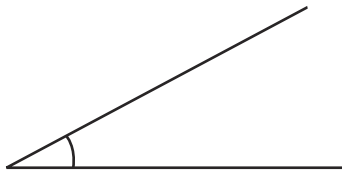


hexagonal prism

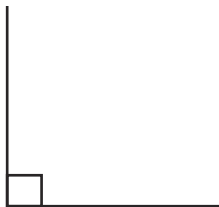
Recognise 2D representations and make models from modelling materials

Angles

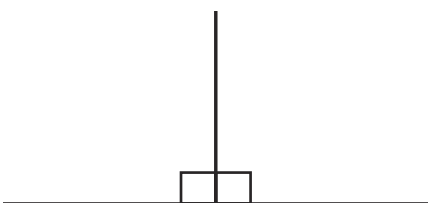
An angle measures turn



A right angle is the corner of a square



2 right angles make a straight line

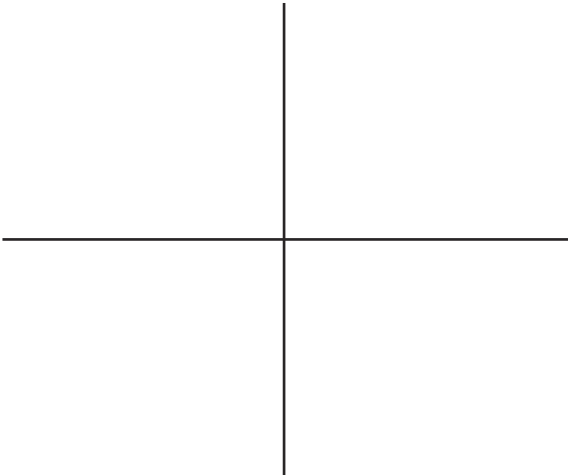


Lines

Horizontal 

Vertical

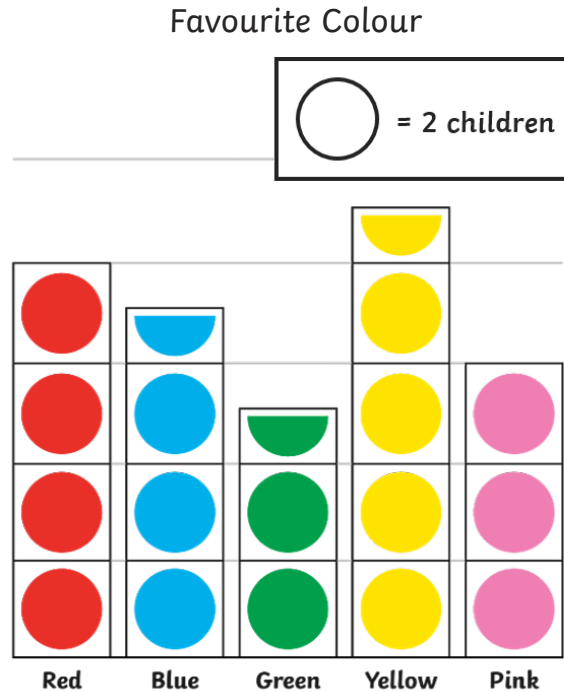
Parallel Lines 

Perpendicular lines (at a right angle) 

Statistics

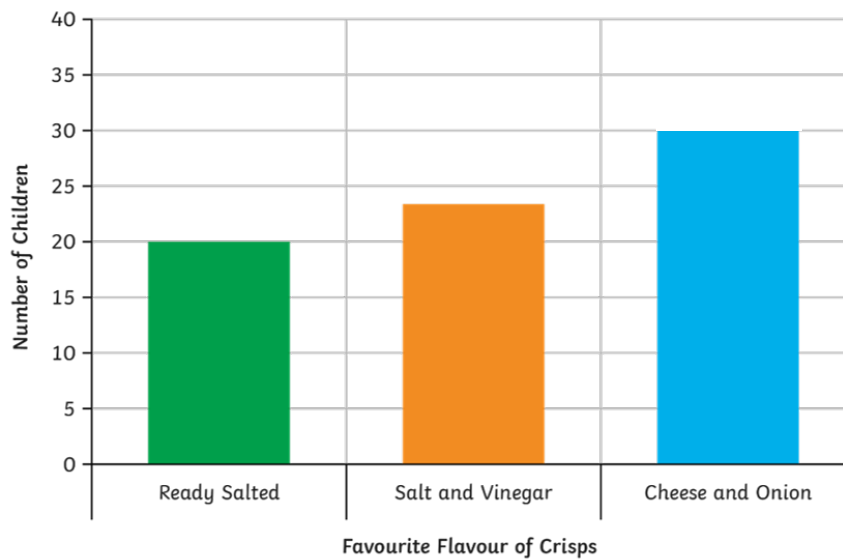
Present data in these graphs and tables and solve problems

Pictograms



How many children chose their favourite colour? **35**

Bar Charts



How many more children chose cheese and onion as their favourite crisps than ready salted?
10

Tables

Here is a table of the chocolate bars sold to customers in a shop over 4 days.

	Monday	Tuesday	Wednesday	Thursday
Saturn	2	1	3	4
Twin	0	2	2	3
Stars	5	3	2	0
Cluster	2	2	2	2
Treasure	1	3	5	0
Tiger	6	3	4	1
Plimmy	1	3	2	2

Which chocolate bar is the most popular? **Tiger**

Important Vocabulary

This list is not exhaustive. Some vocabulary is described below.

Vocabulary	Meaning
2D shapes	Flat shapes with no thickness. In theory a 2D shape cannot be picked up, but in practice shapes made of paper are counted as 2D. (A list of shapes is included in the section on shape.)
3D shapes	A shape with 3 dimensions that can be picked up. (A list of shapes is included in the section on shape.)
Analogue	A clock face with hands.
Calculation	The working out of an answer using addition, subtraction, multiplication or division.
Capacity	How much a container holds.
Denominator	The bottom number of a fraction.
Digit	A single symbol used to make a numeral: 7 (All numbers are made from the ten digits 0, 1, 2, 3, 4, 5, 6, 7, 8, 9).
Digital	A clock using digits to tell the time.
Discrete	A whole number of a set of objects.
Equivalent fraction	A fraction which has the same value but is divided into a different number of parts: E.g. $\frac{1}{2} = \frac{2}{4}$
Fraction	A number express as the number of parts into which the whole has been divided: E.g. $\frac{3}{4}$ represents 3 parts out of 4.
Integer	A whole number with no parts: E.g. 5, 18, 109.
Mass	Often known as weight – how much matter is in an object.
Numeral	A symbol, symbols, word or words that stand for a number: 37 or thirty-seven.
Numerator	The top number of a fraction.
Perimeter	The measurement around an object.
Place value	The value of each digit in any number: In 27 the 2 represents 2 tens.
Scale	The mathematical relationship between different measurements or number of objects.
Volume	The amount of space taken up by an object.
Weight	The weight of an object is the force caused by gravity pulling down on the mass.