A decorative border surrounds the central text, featuring various mathematical symbols and objects such as a pencil, a ruler, a calculator, a lightbulb, a cone, a cylinder, a globe, a book, a pencil, a number '3', a checkmark, a sine wave, a laptop, a lightbulb, and a green arrow.

# *Welcome to our Maths Workshop*

*Y5/Y6*

## Session aims:

- *What does maths look like in Y5 and Y6?*
- *How is maths taught at Birley Primary Academy?*
- *How can children be supported?*

## At Birley Primary Academy, our shared vision for mathematics is:

- To foster a sense of curiosity and excitement about the subject
- For every child to develop their mathematical fluency and to be able to reason and problem solve confidently.
- To provide a context for learning to ensure children develop an understanding of how mathematics is used in the wider world
- To provide a mathematics curriculum where children continually build on the knowledge they have already mastered and are able to make rich connections across mathematical ideas
- To enable children to confidently reason about their mathematics by promoting the use of accurate mathematical language
- To secure children's knowledge and accuracy when recalling number facts
- To develop children's mathematical thinking by using a range of models to support learning e.g. concrete manipulatives and pictorial representations, before moving onto abstract symbols
- To promote enjoyment of learning through practical activity, exploration and discussion
- To build resilience and promote a positive growth mind set in mathematics

What are the National Curriculum Programmes of Study?

The link below will take you to the programmes of study for each year group. This shows you what your child will be learning when at school and what a child of that age is expected to achieve by the end of the year (Age Related Expectations).

[National Curriculum Programmes of Study for Key Stage 1 and Key Stage 2](#)

# Y5 Programme of Study:

One Page Version

## Number and Place Value

- I can read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.
- I can count forwards or backwards in steps of powers of 10 for any given number up to 1000000
- I can interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.
- I can round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100000.
- I can solve number problems and practical problems that involve all of the above.
- I can read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

## Multiplication and Division

- I can identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.
- I can know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.
- I can establish whether a number up to 100 is prime and recall prime numbers up to 19.
- I can multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers.
- I can multiply and divide numbers mentally drawing upon known facts.
- I can divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.
- I can multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.
- I can recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3).
- I can solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.
- I can solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.
- I can solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

## Position and Direction

- I can identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed

## Addition and Subtraction

- I can add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).
- I can add and subtract numbers mentally with increasingly large numbers.
- I can use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.
- I can solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

## Geometry- Properties of Shape

- I can identify 3-D shapes, including cubes and other cuboids, from 2-D representations.
- I can use the properties of rectangles to deduce related facts and find missing lengths and angles.
- I can distinguish between regular and irregular polygons based on reasoning about equal sides and angles.
- I can know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.
- I can draw given angles, and measure them in degrees ( $^{\circ}$ ).
- I can identify angles at a point and one whole turn (total  $360^{\circ}$ ).
- I can identify angles at a point on a straight line and half a turn (total  $180^{\circ}$ ).

## Fractions

- I can compare and order fractions whose denominators are all multiples of the same number.
- I can identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.
- I can recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements  $> 1$  as a mixed number
- I can add and subtract fractions with the same denominator and denominators that are multiples of the same number.
- I can multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
- I can read and write decimal numbers as fractions (for example,  $0.71 = 71/100$ )
- I can recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.
- I can round decimals with two decimal places to the nearest whole number and to one decimal place.
- I can read, write, order and compare numbers with up to three decimal places.
- I can solve problems involving number up to three decimal places.
- I can recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal.
- I can solve problems which require knowing percentage and decimal equivalents of  $1/2$ ,  $1/4$ ,  $1/5$ ,  $2/5$ ,  $4/5$  and fractions with a denominator of a multiple of 10 or 25

## Measurement

- I can convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).
- I can understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.
- I can measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.
- I can calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres ( $\text{cm}^2$ ) and square metres ( $\text{m}^2$ ) and estimate the area of irregular shapes.
- I can estimate volume (for example, using  $1 \text{ cm}^3$  blocks to build cuboids (including cubes)) and capacity (for example, using water).
- I can solve problems involving converting between units of time.
- I can use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling.

## Statistics

- I can solve comparison, sum and difference problems using information presented in a line graph
- I can complete, read and interpret information in tables, including timetables

YEAR 5

Maths Objectives

# Y6 Programme of Study:

## Number and Place Value

- I can read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.
- I can round any whole number to a required degree of accuracy.
- I can use negative numbers in context and calculate intervals across zero.
- I can solve number and practical problems that involve all of the above.

## Addition and Subtraction

- I can solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
- I can perform mental calculations, including with mixed operations and large numbers.
- I can use their knowledge of the order of operations to carry out calculations involving the four operations.
- I can solve problems involving addition, subtraction, multiplication and division use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

## Geometry- Properties of Shape

- I can draw 2-D shapes using given dimensions and angles.
- I can recognise, describe and build simple 3-D shapes, including making nets.
- I can compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.
- I can illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.
- I can recognise angles where they meet at a point, are on a straight line, or are vertically opposite and find missing angles.

## Multiplication and Division

- I can multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.
- I can divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.
- I can divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context.
- I can identify common factors, common multiples and prime numbers.
- I can perform mental calculations, including with mixed operations and large numbers.
- I can use my knowledge of the order of operations to carry out calculations involving the four operations.
- I can solve problems involving addition, subtraction, multiplication and division.
- I can use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

## Fractions

- I can use common factors to simplify fractions; use common multiples to express fractions in the same denomination.
- I can compare and order fractions, including fractions  $> 1$
- I can add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.
- I can multiply simple pairs of proper fractions, writing the answer in its simplest form [for example,  $1/4 \times 1/2 = 1/8$ ].
- I can divide proper fractions by whole numbers [for example,  $1/3 \div 2 = 1/6$ ].
- I can associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example,  $3/8$ ].
- I can identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.
- I can multiply one-digit numbers with up to two decimal places by whole numbers.
- I can use written division methods in cases where the answer has up to two decimal places.
- I can solve problems which require answers to be rounded to specified degrees of accuracy.
- I can recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

## Measurement

- I can solve problems involving the calculation and conversion of units of measure, using decimal notation, up to three decimal places where appropriate.
- I can use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation up to three decimal places.
- I can convert between miles and kilometres.
- I can recognise that shapes with the same areas can have different perimeters and vice versa.
- I can recognise when it is possible to use formulae for area and volume of shapes.
- I can calculate the area of parallelograms and triangles.
- I can calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres ( $\text{cm}^3$ ) and cubic metres ( $\text{m}^3$ ), and extending to other units [for example,  $\text{mm}^3$  and  $\text{km}^3$ ].

## Position and Direction

- I can describe positions on the full coordinate grid (all four quadrants).
- I can draw and translate simple shapes on the coordinate plane and reflect them in the axes.

## Statistics

- I can interpret and construct pie charts and line graphs and use these to solve problems.
- I can calculate and interpret the mean as an average.

## Ratio and Proportion

- I can solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.
- I can solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.
- I can solve problems involving similar shapes where the scale factor is known or can be found.
- I can solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

## Algebra

- I can use simple formulae.
- I can generate and describe linear number sequences.
- I can express missing number problems algebraically.
- I can find pairs of numbers that satisfy an equation with two unknowns.
- I can enumerate possibilities of combinations of two variables.

YEAR 6

Maths Objectives

# Coverage Throughout the Year

Maths lessons are carefully planned throughout the year to ensure full coverage of the National Curriculum Programmes of Study. Please see the overview below for Y5 and Y6.

## Y5

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Autumn 1	Number: Place Value		Number: Addition and Subtraction		Number: Multiplication and Division		
Autumn 2	Number: Multiplication and Division		Number: Fractions				Consolidation
Spring 1	Number: Multiplication and Division			Number: Fractions		Consolidation	
Spring 2	Number: Decimals and Percentages			Measurement: Perimeter and Area		Statistics	
Summer 1	Geometry: Shape			Geometry: Position and Direction		Number: Decimals	
Summer 2	Number: Decimals	Number: Negative Numbers		Measurement: Converting Units		Measurement: Volume	Consolidation

Y6

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Autumn 1	Number: Place Value			Number: Addition, Subtraction, Multiplication and Division			
Autumn 2	Number: Fractions				Measurement: Converting Units	Consolidation	
Spring 1	Number: Decimals		Number: Percentages		Number: Algebra		
Spring 2	Measurement: Area, Perimeter and Volume		Ratio		Geometry: Position and Direction		
Summer 1	Statistics		Geometry: Properties of Shape			Consolidation	
Summer 2	Consolidation						



# What does work look like in Y5?

18.9.24

WALT: to compare and order numbers to 100,000

Success Criteria

- I know which column to look at first when comparing and ordering numbers.
- I know where to look next if the first digits in the same place value column have the same value.
- I can use the greater than less than symbols correctly.
- I know the difference in ascending and descending order.

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A LEAD Academy

Teacher Self Peer

Rosie and Jack have each made a number.



Rosie's number

TTh	Th	H	T	O
●●●●	●●	●●●	●●	●●●●



Jack's number

TTh	Th	H	T	O
●●●●	●●●	●●●	●●	●●●●

a) Who has made the greater number?

Jack

How do you know?

Jack's number is bigger because of the thousands

b) Draw counters on the place value chart to show a number that is greater than both Rosie's and Jack's.

TTh	Th	H	T	O
●●●●●				●●

# What does work look like in Y5?

**WALT:** Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.

- I can use a Gattegno chart to show numbers to 1,000,000
- I can read a number that has been represented on a Gattegno chart.
- I can work out what 10 times a number and one-tenth of a number would be using a Gattegno chart.

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Teacher  Self  Peer

100 000	200 000	300 000	400 000	500 000	600 000	700 000	800 000	900 000
10 000	20 000	30 000	40 000	50 000	60 000	70 000	80 000	90 000
1000	2000	3000	4000	5000	6000	7000	8000	9000
100	200	300	400	500	600	700	800	900
10	20	30	40	50	60	70	80	90
1	2	3	4	5	6	7	8	9

Use the Gattegno chart and counters to solve the problems.

1. What is 10 times the size of 50?
2. What is 100 times the size of 80?
3. What is 1000 times the size of 3?
4. What is one-tenth the size of 900?
5. What is one-tenth the size of 1000?
6. What is 100 times the size of 70?
7. What is 10 times the size of 56?
8. What is 100 times the size of 391?

$1,500 \checkmark$   
 $2,800 \checkmark$   
 $3,300 \checkmark$   
 $4,90 \checkmark$   
 $5,100 \checkmark$   
 $6,7000 \checkmark$   
 $7,560 \checkmark$   
 $8,39100 \checkmark$   
 $4,768 \checkmark$

# What does work look like in Y5?

WALT: Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.

I know how many ones are in 10, how many tens are in 100 and how many hundreds are in a thousand.

I can use these facts to answer questions such as 'how many hundreds are in 5,000?' etc.

IND T TA SCAF



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Teacher Self Peer

1 a) Draw counters to show 342 on the place value chart.

HTh	TTh	Th	H	T	O
			3	4	2

b) Draw counters to show 3,420 on the place value chart.

HTh	TTh	Th	H	T	O
	3	4	2		

c) Draw counters to show 34,200 on the place value chart.

HTh	TTh	Th	H	T	O
	3	4	2		

What is the same? What is different?

They all use the same number

they just times it by 10.

2 a) How many ones are there in 10?

10

b) How many tens are there in 100?

10

c) How many hundreds are there in 1,000?

10

d) How many thousands are there in 10,000?

10

WALT: read and write numbers to 1,000,000

I can read a number to 1,000,000 correctly.

I can write a number to 1,000,000 in words correctly.

IND T TA SCAF



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A L.E.A.D. Academy

Teacher Self Peer

1 What number is represented?

Thousands			Ones		
H	T	O	H	T	O
3	5	2	1	4	6

Write your answer in numerals.

352146

Write your answer in words.

three hundred and sixty-two thousand one hundred and sixty-six

2 What number is represented?

HTh	TTh	Th	H	T	O
2	3	2	5	2	4

Write your answer in numerals.

232524

Write your answer in words.

Two hundred and thirty-two thousand five hundred and twenty-four

# What does work look like in Y5?

WALT: understand numbers to 1,00,000

- I can identify the value of each digit in a number up to 1,000,000.
- I can represent numbers to 1,000,000 in different ways.
- I can add 10,100 and 1000 to a number to 1,000,000

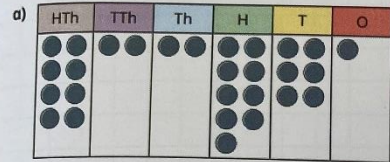
IND T TA SCAF



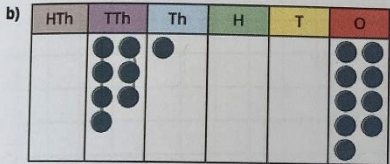
Birley Primary Academy  
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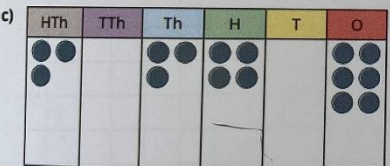
What numbers are represented in the place value charts?



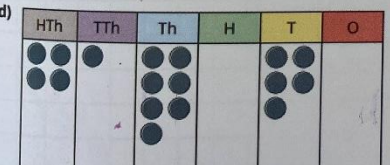
822,961 ✓



71,000 ✓



303,400 ✓



417,000 ✓

30.9.24

Addition and subtraction fluency check

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Teacher Self Peer

1.  $432 + 436 =$

2.  $271 + 143 =$

3.  $590 + 345 =$

4.  $3451 + 5432 =$

5.  $1763 + 4342 =$

6.  $1083 + 2155 =$

7.  $59041 + 23875 =$

8.  $56833 + 44105 =$

$$\begin{array}{r} 1. \quad 436 \\ + 432 \\ \hline 868 \end{array}$$

$$\begin{array}{r} 2. \quad 271 \\ + 143 \\ \hline 414 \end{array}$$

$$\begin{array}{r} 3. \quad 590 \\ + 345 \\ \hline 935 \end{array}$$

$$\begin{array}{r} 4. \quad 3451 \\ + 5432 \\ \hline 8883 \end{array}$$

$$\begin{array}{r} 5. \quad 1763 \\ + 4342 \\ \hline 6105 \end{array}$$

$$\begin{array}{r} 6. \quad 1083 \\ + 2155 \\ \hline 3238 \end{array}$$

$$\begin{array}{r} 8. \quad 56833 \\ + 44105 \\ \hline 100938 \end{array}$$

$$\begin{array}{r} 7. \quad 59041 \\ + 23875 \\ \hline 82916 \end{array}$$

# What does work look like in Y6?

09.09.24  
 WALT: recognise numbers up to 10,000.  
 You've achieved this learning objective.

Success Criteria:

- I can explain the importance of zero when representing large numbers
- I can explain the value of each digit within a number
- I can partition numbers up to ten million

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 Teacher Self Peer

a)

M	HTh	TTh	Th	H	T	O
		●●	●●		●●●	●●

3 2 0 5 3 ✓

b)

M	HTh	TTh	Th	H	T	O
	●●		●●	●●●	●●	●

3 0 2 5 3 0 ✓

c)

M	HTh	TTh	Th	H	T	O
●●	●●	●●	●●			

3 2 5 3 0 0 0 ✓

d)

M	HTh	TTh	Th	H	T	O
●●		●●		●●	●●	●●

3 0 2 0 5 0 3 ✓

a)

Millions			Thousands			Ones			
M	H	T	O	H	T	O	M	T	O
●●			●●			●●	●●	●●	●●

2 3 1 5 2 6 3 ✓

b)

Millions			Thousands			Ones			
M	H	T	O	H	T	O	M	T	O
●●			●			●●	●●	●●	●●

2 0 1 5 2 4 3 ✓

d)

Millions			Thousands			Ones			
M	H	T	O	H	T	O	M	T	O
●●			●						●●

4 0 0 1 0 0 3 ✓

Millions			Thousands			Ones			
M	H	T	O	H	T	O	M	T	O
			0	0	0	0			
			0	0	0	0			
			0	0	0	0			

39,800 ✓

Millions			Thousands			Ones			
M	H	T	O	H	T	O	M	T	O
			0	0	0	0			
			0	0	0	0			
			0	0	0	0			

300,762 ✓

7 million ✓

Millions			Thousands			Ones			
M	H	T	O	H	T	O	M	T	O
			0	0	0	0			
			0	0	0	0			
			0	0	0	0			

4,104,053 ✓

What are the values of the bold digits?

a) 2,950 50 ✓      d) 71,903 3 ✓  
 b) 37,300 7,000 ✓      e) 1,432,310 1,000,000 ✓  
 c) 195,000 90,000 ✓      f) 3,256,705 6,000 ✓

Complete the part-whole models and number sentences.

a)

```

    graph TD
      A((36,000)) --- B((6,000))
      A --- C((30,000))
    
```

b)

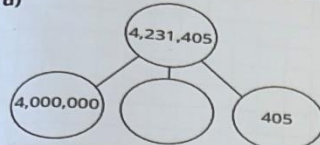
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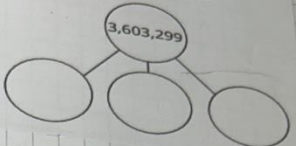
    graph TD
      A((320,900)) --- B((20,900))
      A --- C((300,000))
    
```

c)  $23,700 = 20,000 + 3,000 + \boxed{700}$  ✓  
 d)  $104,039 = 100,000 + \boxed{4,000} + \boxed{30} + \boxed{9}$  ✓  
 e)  $\boxed{249,073} = 200,000 + 40,000 + 9,000 + 70 + 3$  ✓

# What does work look like in Y6?

Complete the part-whole models and write the numbers in words.

a) 

b) 

a) Two hundred and thirty one thousand ✓

b) three million ✓  
six hundred and three thousand ✓  
two hundred and ninety nine ✓

3. Write the following numbers in words:

a. 6,660,078 ✓  
b. 500,098 ✓  
c. 5,207,245 ✓

4. Write the following numbers in numerals:

a. One million, twenty-four thousand, three hundred and sixty-one ✓  
b. Six million, one hundred and eight thousand, six hundred and twelve ✓  
c. Two and a half million ✓

3a) Six million, six hundred and sixty thousand and seventy eight ✓  
3b) five hundred thousand and ninety eight ✓  
3c) five million, two hundred and seven thousand, two hundred and forty five ✓  
4a) 1,024,361 ✓  
4b) 6,180,612 ✓  
4c) 2,500,000 ✓

5. Mrs Matthews writes the number 5,246,153 in words.

five million, two hundred forty six thousand and one hundred fifty three

a. What mistakes has she made?  
b. Write the number 5,246,153 correctly in words

a) She hasn't put the comma in and the and ✓  
b) five million, two hundred forty six thousand and one hundred fifty three ✓

# What does work look like in Y6?

24.09.24  
WALT: know how to find common factors.

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Teacher Self Peer

Multiples of 4 Multiples of 3

Multiples of 9 Multiples of 6

Place the following numbers correctly in the diagram above. Place the following numbers correctly in the diagram above.

8✓	2✓	6✓	12✓	9✓	16✓
30✓	7✓	15✓	36✓	20✓	34✓

24✓	10✓	6✓	18✓	39✓	90✓
30✓	63✓	25✓	60✓	45✓	36✓

Multiples of 4 Multiples of 5

Multiples of 6 Multiples of 10

Place numbers of your choice to satisfy the Venn Diagram. Place numbers of your choice to satisfy the Venn Diagram.

# Calculation Policy

This document guides you through the appropriate calculation methods within each year group and the progression of skills throughout the school.

The content of this document is set out in year group blocks under the following headings: addition, subtraction, multiplication and division.

The calculation policy can be found on the school website.



# Calculation Policy for 'Long Division'

## 'Long Division' by 'Chunking'(Y6)

Use repeated addition. Children use known facts to take away in 'chunks'. E.g. 10 x, doubling, halving

Without remainders.

$$\begin{array}{r} 78 \\ 15 \overline{) 1170} \\ - 600 \quad (40 \times 15) \\ \hline 570 \\ - 300 \quad (20 \times 15) \\ \hline 270 \\ - 150 \quad (10 \times 15) \\ \hline 120 \\ - 75 \quad (5 \times 15) \\ \hline 45 \\ - 45 \quad (3 \times 15) \\ \hline 00 \end{array}$$

$$40 + 20 + 10 + 5 + 3 = \underline{\underline{78}}$$

With remainders.

$$\begin{array}{r} 65 \text{ r } 14 \\ 16 \overline{) 1054} \\ - 800 \quad (50 \times 16) \\ \hline 254 \\ - 160 \quad (10 \times 16) \\ \hline 94 \\ - 32 \quad (2 \times 16) \\ \hline 62 \\ - 32 \quad (2 \times 16) \\ \hline 30 \\ - 16 \quad (1 \times 16) \\ \hline \text{r } 14 \\ 50 + 10 + 2 + 2 + 1 = 65 \end{array}$$

One method to pay particular attention to.

# Concrete, Pictorial, Abstract

The concrete, pictorial, abstract approach (or CPA method) is a process of using "concrete" equipment to represent numbers (including fractions) and operations, such as addition, subtraction, division and multiplication, followed by a pictorial representation to represent the equipment or derived structures (like bar and part-whole models), before moving on to the "abstract" digits and various other symbols used in mathematics.

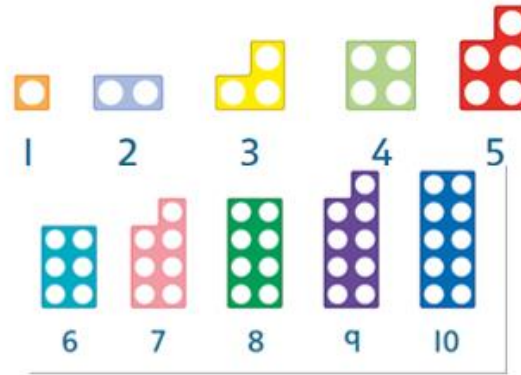
# Which concrete resources to we use in Y5/6?



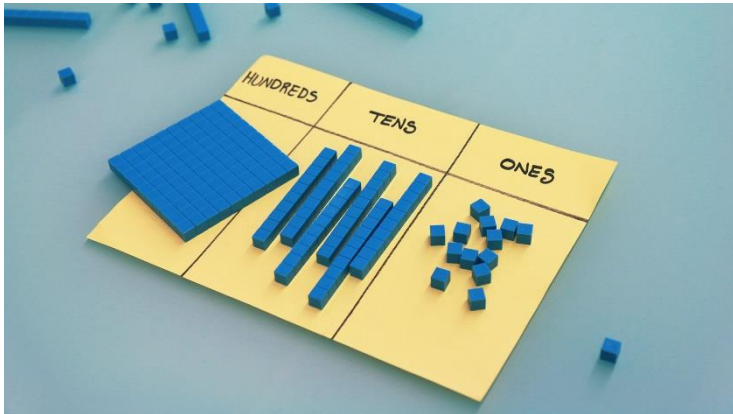
place value counters



dienes



numicon



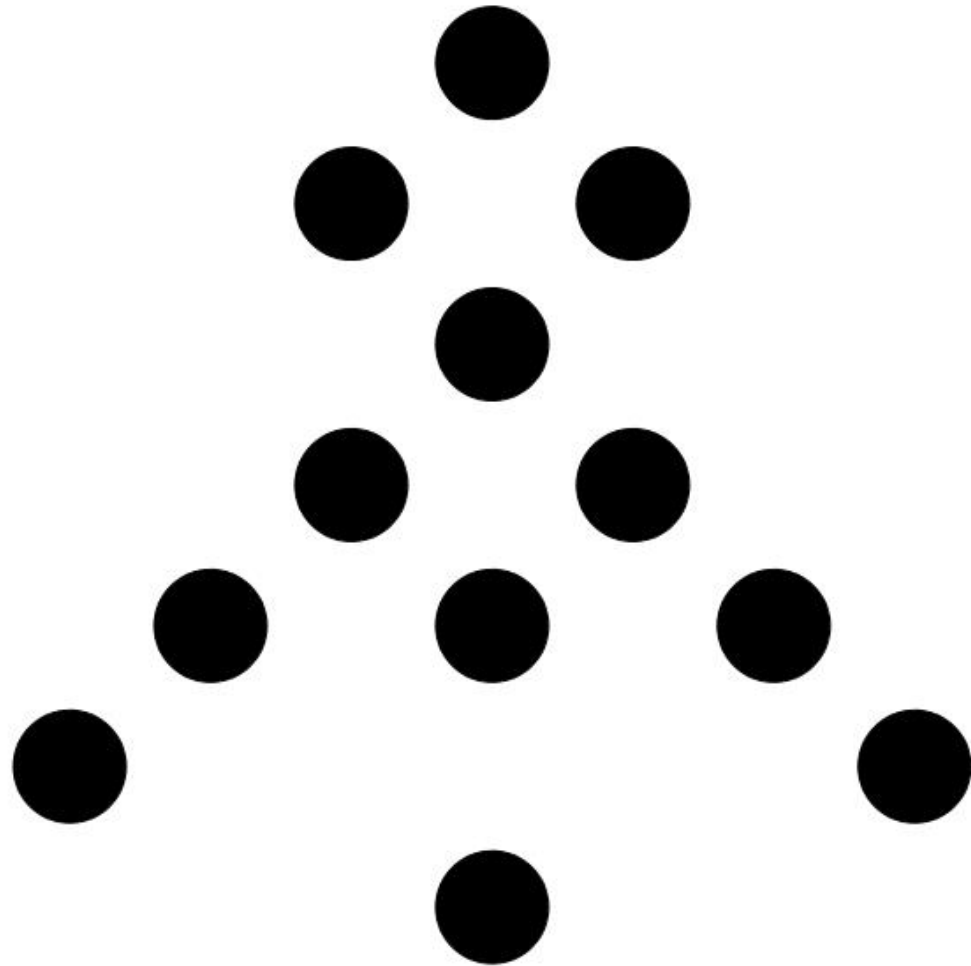
# Speak Like a Mathematician



During maths lessons children are encouraged to "SLAM" which means to **Speak Like A Mathematician**. The main reason for this is to improve children's ability to talk and write about maths, therefore developing their overall maths skills. There is also evidence which suggests that rich mathematical talk enables children to develop and use a wide range of mathematical vocabulary accurately, guides children towards a deeper understanding of mathematical structures, supports with understanding and remembering key facts, increases confidence and is beneficial for children who are new to learning English.

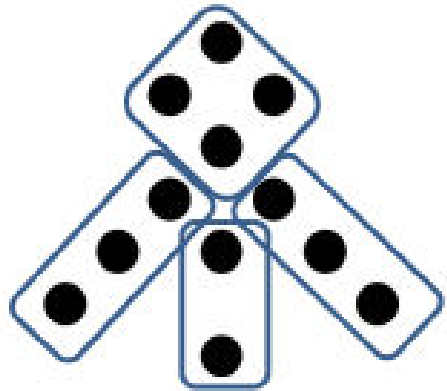
Activities which may support rich mathematical talk...

Working with the person next to you can you write a number sentence to go with the dotted formation?

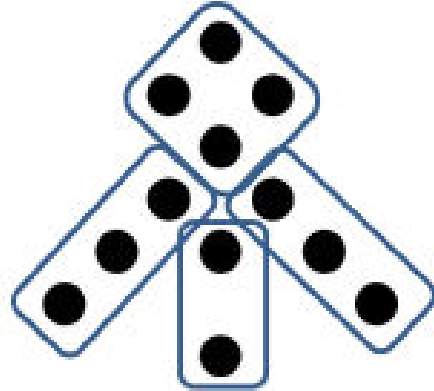


# Number Talks

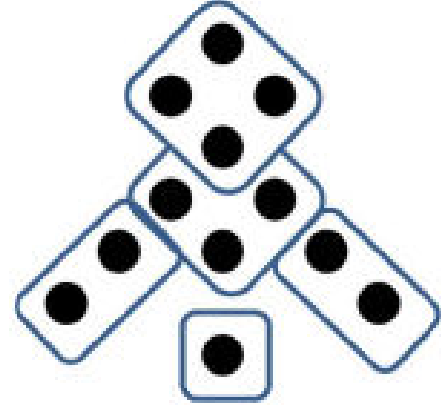
How many ways ...?



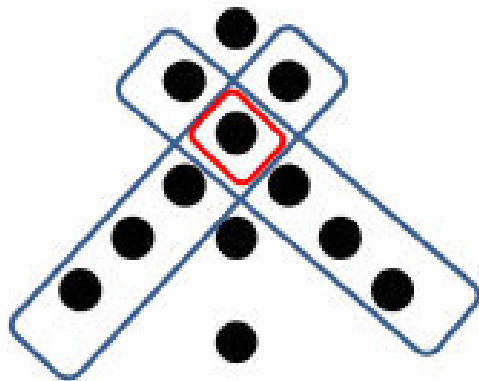
$$4 + 3 + 3 + 2 = 12$$



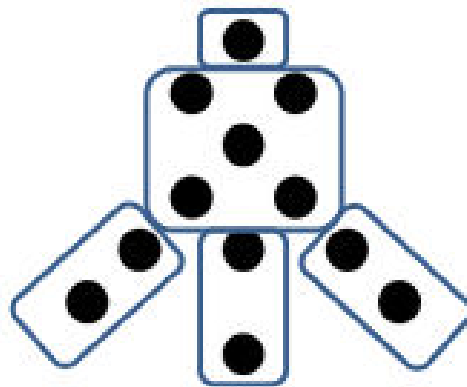
$$4 + 3 + 2 + 3 = 12$$



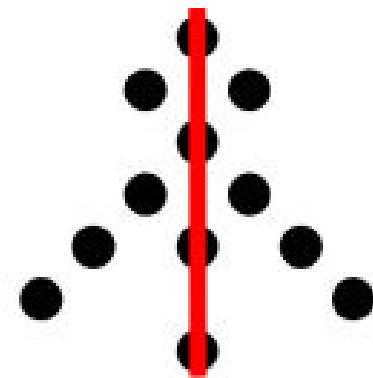
$$4 + 3 + 2 + 2 + 1 = 12$$



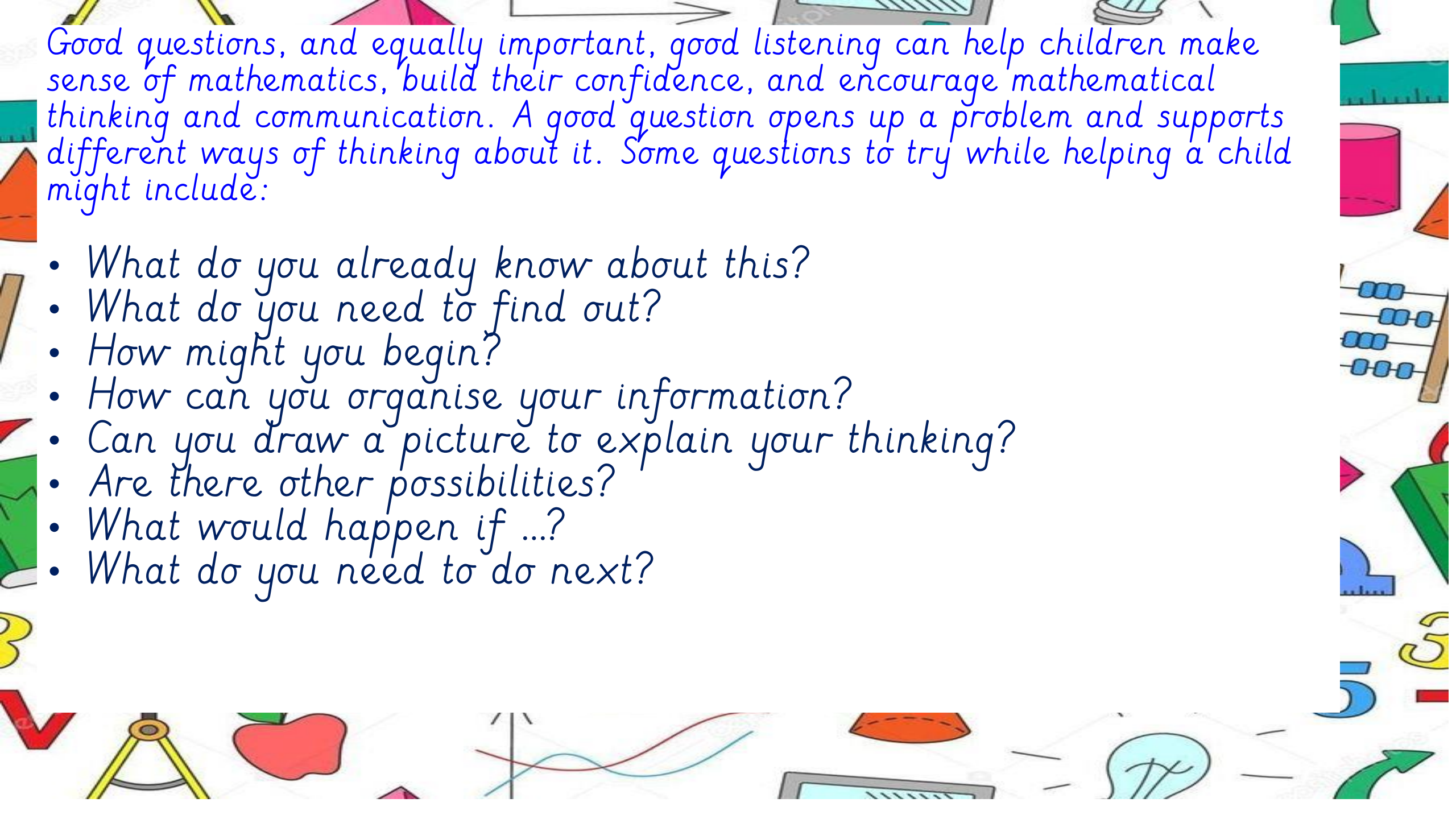
$$5 + 5 + 3 - 1 = 12$$



$$1 + 5 + 2 + 2 + 2 = 12$$



$$6 + 6 = 12$$

A decorative border surrounds the text, featuring various mathematical and educational icons. On the left, there is a yellow pencil, a red triangle, a blue ruler, an orange cone, a green square, a yellow number '3', and a red checkmark. At the bottom, there is a yellow compass, a red apple, a blue sine wave, a grey laptop, a blue lightbulb, and a green arrow. On the right, there is a blue ruler, a pink cylinder, an orange cone, a blue abacus, a green square, a blue ruler, a yellow number '5', and a red checkmark.

Good questions, and equally important, good listening can help children make sense of mathematics, build their confidence, and encourage mathematical thinking and communication. A good question opens up a problem and supports different ways of thinking about it. Some questions to try while helping a child might include:

- What do you already know about this?
- What do you need to find out?
- How might you begin?
- How can you organise your information?
- Can you draw a picture to explain your thinking?
- Are there other possibilities?
- What would happen if ...?
- What do you need to do next?

# How can you support your child at home?

- Take away their fear and reassure and praise whenever possible
- Refer to the calculation policy (this can be found on the website) if you are unsure of the calculation method your child will use in school
- Use maths in everyday routines at home and involve children in this process e.g. portioning meals, cutting vegetables into halves, quarters etc.
- Encourage games that use shapes and numbers
- Recognise the importance of maths in everyday life e.g. telling the time and managing money



# Ideas for everyday maths opportunities...

When watching T.V – look at the guide and work out the length of time until the next programme

Look at food packaging and recognise different 2D/3D shape properties

Practise telling the time in different formats – can they tell the time in digital and analogue?

Playing games together – bingo, monopoly, snakes and ladders, card games, connect four, battle ships

Pattern spotting- look at door numbers whilst walking to school. Are these odd or even? Is there a pattern?

Cooking/baking – weighing out ingredients, portioning, calculating cooking time

Shopping – can children work out total costs? Can they calculate the change needed? Can they add the coins up if using cash?

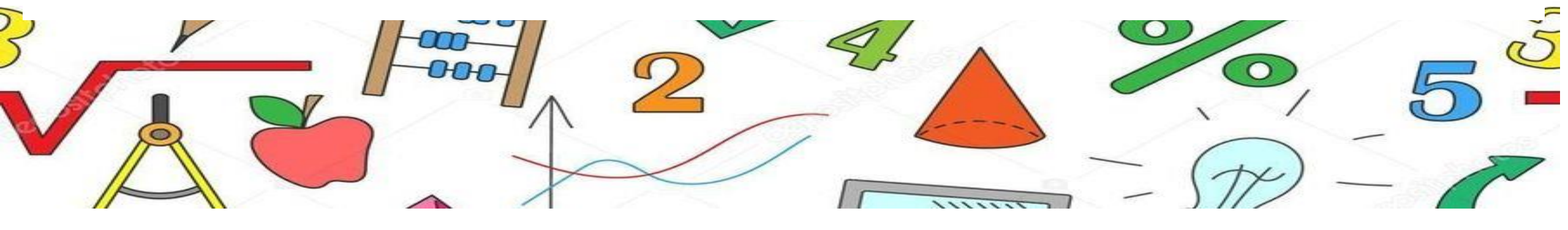
# Websites to Support Children's Maths Learning at Home:

Maths Zone - <https://mathszone.co.uk/>

BBC Bitesize - <https://www.bbc.co.uk/bitesize/subjects/z826n39>

I See Maths - <https://www.iseemaths.com/games-resources/>

Hit the Button - <https://www.topmarks.co.uk/maths-games/hit-the-button>




# Times Table Rockstars (TTRS)



When it comes to times tables, speed AND accuracy are important — the more facts your child remembers, the easier it is for them to do harder calculations. Times Table Rock Stars is a fun and challenging programme designed to help students master the times tables.

# Times Table Rockstars (TTRS)

Every child in KS2 has a TTRS account. There are a number of different games children can play on the website.



*Thank you for taking the time to attend the workshop today. If you have any questions, please feel free to stay and ask a member of staff.*