Maths at Mickley Village Primary and Nursery School 2025

The importance of maths:

Maths is compulsory on the curriculum for all pupils in England. We expect children to leave primary school having mastered the basics before going on to apply those fundamental principles to more complex problems in secondary school.

Furthermore, Mathematics is a universal language that helps us to understand the world, and it is a core part of the curriculum. As well as teaching about numbers, shapes, statistics and patterns, it provides important tools for work in areas such as physics, architecture, medicine and business.

Attitudes towards Maths:

The best thing that parents and carers can do for children is to have a positive attitude towards maths. Please don't say things like "I can't do maths": your child might start to think like that themselves.

Point out maths in everyday life. Include your child in activities involving maths such as using money, cooking and travelling.

Praise your child for effort rather than talent-this shows them that by working hard they can always improve.

National Curriculum Aims:

Aims for all pupils to:

• become ***fluent*** in the fundamentals of mathematics. Through varied and frequent practice, pupils develop their conceptual understand and can recall and apply knowledge rapidly and accurately.

• ***reason*** mathematically by following a line of enquiry, and develop and justify an argument using mathematical language.

• can ***solve problems*** by applying their mathematics to a variety of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Maths in EYFS:

By the end of the Early Years Foundation Stage (EYFS) children at the expected level of development in maths will be able to:

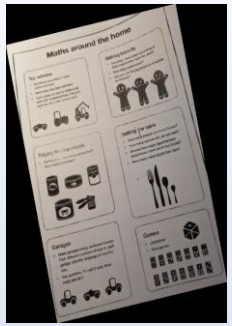
Mathematics ELG:

- Have a deep understanding of numbers to 10, including the composition of each number.
- Subitise (recognise quantities without counting) up to 5.
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

ELG: Numerical Patterns

- Verbally count beyond 20, recognising the pattern of the counting system.
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

How to help at home:



1. Listen to and sing songs and rhymes
Sing – even if it isn't your strong point! Sing counting songs, such as '10 Green Bottles', '1, 2, Buckle My Shoe' and '1, 2, 3, 4, 5, Once I Caught a Fish Alive'. Singing songs is a good way for children to become familiar with counting. Don't worry if they choose the same songs again and again!

2. Talk about numbers around you
Numbers are all around us, from calendars to the remote control, the telephone to car registration plates. Try pointing out numbers when you're out and about – on front doors, signs, the front of buses and train platforms.

Talking about numbers around you early and often will show your child that numbers are part of everyday life. Choose a 'Number of the Week' and see how many times you can spot this number, around the house, out in the street or in the supermarket.

3. Read together
Share a book with your child. There are many fantastic books based around numbers, but any book can be used to help children develop early counting and number recognition skills.

Take time to talk about what your child can see on each page. Count objects on the page, and compare the number of objects from page to page. Look at the page numbers and say them together.

4. Count as much as you can
Count whenever you can – count together, as well as letting your child see and hear you counting. Practise chanting numbers and, as your child's confidence grows, start from different numbers – 5, 6, 7, etc.

Count real objects – your child's toy cars, pencils, shoes, or the number of stairs in your house. Don't worry if your child remembers the answer – they can count to check!

Try to stick to a single type of object for each counting activity, and encourage your child to touch or pick up each object as they count it. Ask your child to help you sort cutlery or laundry, counting as you sort. When you go out for a walk, count your footsteps, the number of cars or houses you see etc.

5. Get your hands dirty
Help your child to learn the numerals by exploring their shapes. Have fun forming numbers in sand with a stick, on the pavement with chalk or on sheets of paper with finger paints. Make numbers out of modelling clay. Form numbers out of small objects such as pieces of pasta or beads. Try holding your child's finger and forming the number in the air.

All these activities can help your child to become more familiar with numerals and enjoy themselves in the process!

6. Play maths games
Try fun games with your child to practise early maths skills and help to build your child's confidence, for example, snakes and ladders. Most children love playing games and it's an easy way to support their learning.

7. Get Baking! Baking introduces children to basic numeracy concepts. Measuring ingredients teaches them about quantities, fractions, and numbers for the older children. Counting eggs, spoonfuls of flour, or for toddlers helps reinforce their counting skills in a practical and enjoyable way.

How we teach Maths:

At Mickley Village Primary & Nursery School, we recognise the importance of maths in all aspects of life.

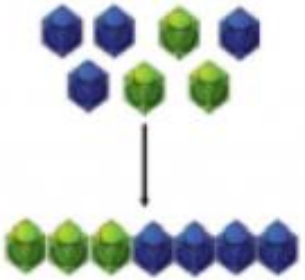
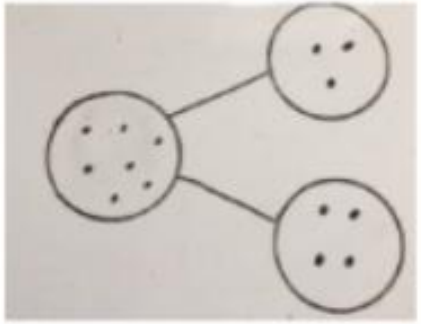
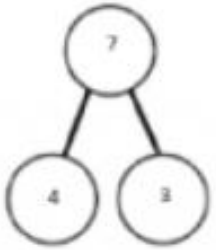
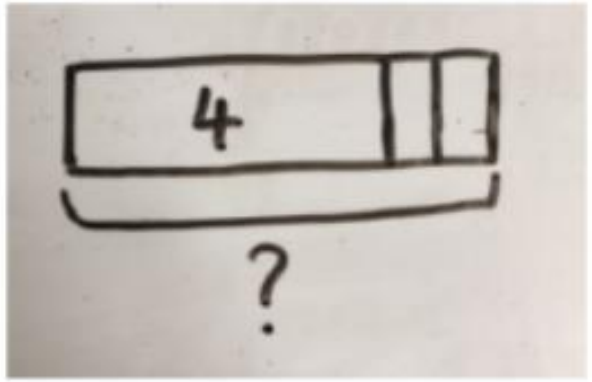
As a core subject, we give the teaching and learning of maths the prominence it requires. Our aim is for all children to be independent, curious and resilient mathematicians. Mathematics is taught daily. We follow the White Rose maths scheme of work across the school. White Rose is progressive and sequential, revisiting prior learning to ensure understanding. Our focus for teaching is around: Number including addition, subtraction, multiplication, division and fractions; Geometry including 2D and 3D shapes and position; Measurement including weight, length, height, volume, capacity and time; Statistics including charts and graphs and data interpretation.

Key concepts:

- Number and Place Value
- Addition and Subtraction
- Multiplication and Division
- Fractions, Decimals and Percentages
- Geometry
- Statistics
- Shape
- Measures

How we teach Maths continued:

Example of addition:

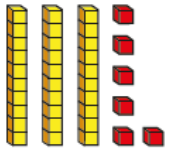
Concrete	Pictorial	Abstract
Combining two parts to make a whole (use other resources too e.g. eggs, shells, teddy bears, cars). 	Children to represent the cubes using dots or crosses. They could put each part on a part whole model too. 	4 + 3 = 7 Four is a part, 3 is a part and the whole is seven. 
Counting on using number lines using cubes or Numicon.  	A bar model which encourages the children to count on, rather than count all. 	The abstract number line: What is 2 more than 4? What is the sum of 2 and 4? What is the total of 4 and 2? 4 + 2 

Year 2 Worksheet example

Mixed addition and subtraction

White Rose MATHS

1 Use base 10 to complete the number sentences.



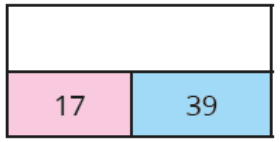
a) 36 + 21 = ☐ 36 − 21 = ☐

b) 36 + 17 = ☐ 36 − 17 = ☐

What do you notice?

2 Complete the bar models.

a)



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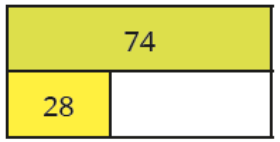
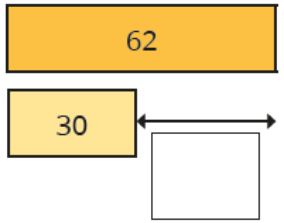
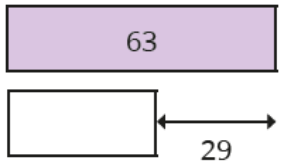


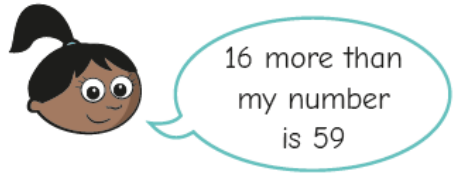
c)



d)



3 Sam is thinking of a number.



What is Sam's number?

☐

4 Dan has 32 sweets.

Fay has 14 fewer sweets.

a) How many sweets does Fay have?

☐

b) How many sweets do Dan and Fay have altogether?

☐

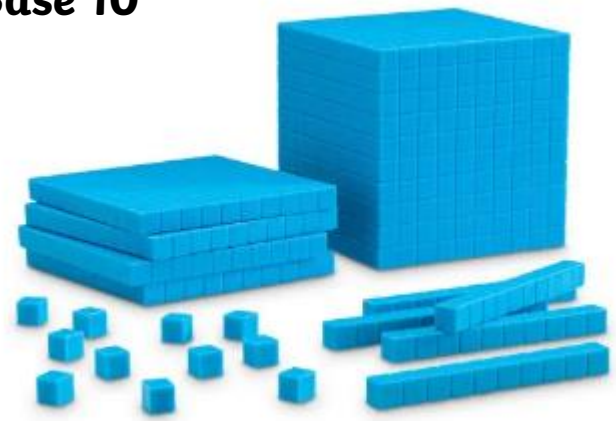
What's included…

	Use concrete manipulatives
	Think deeply – Reasoning and Problem Solving
	Draw a picture to show your thinking
	Explain your thinking
	A bar model will help you with this question

Resources and Manipulatives:

Examples of what could help:

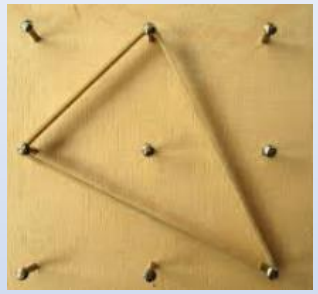
Base 10



Annie uses base 10 to work out 72 – 45

Tens	Ones
	
2	7

	T	O
	6 7	1 2
−	4	5
	2	7



Geoboard

Double sided counters and ten frames

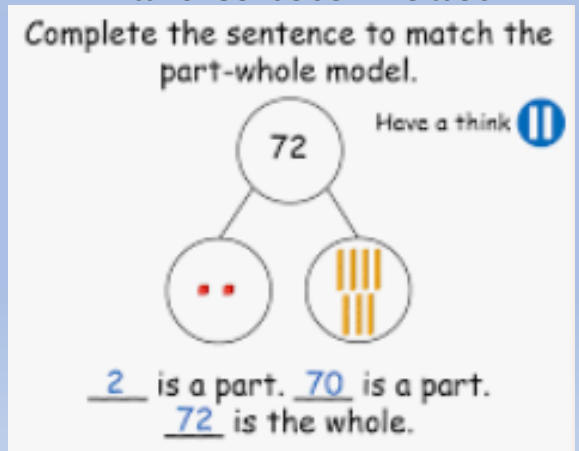
Rekenrek

Numicon

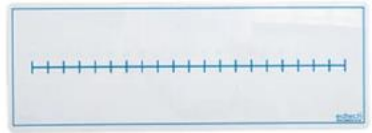
100 square

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

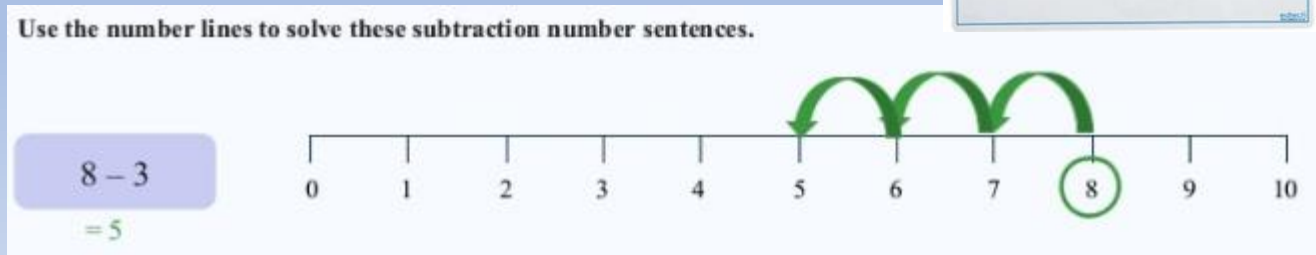
Part Whole Model



Number line



Unifix cubes



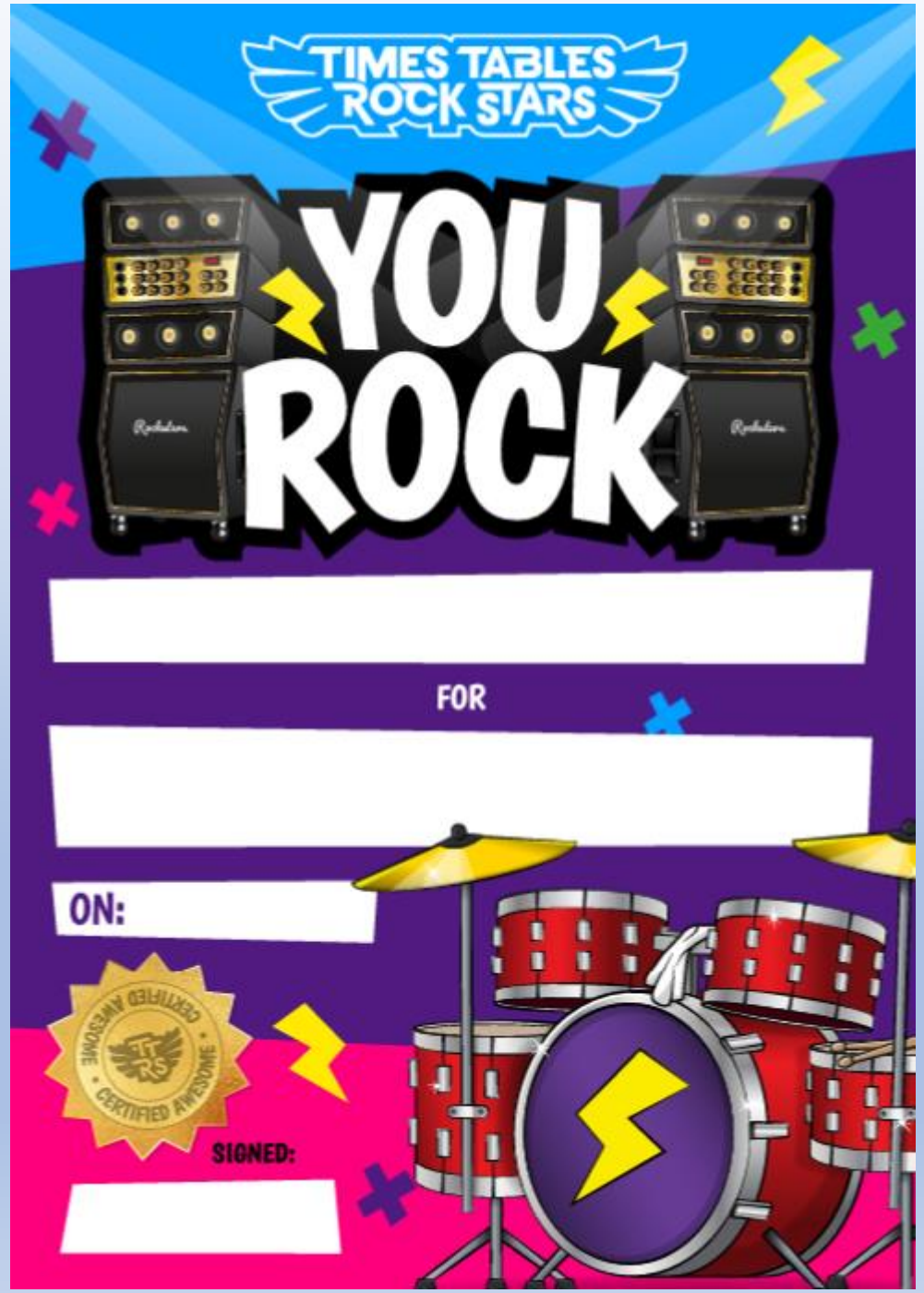
National Curriculum expectations Times Tables:

Year 1	Count in multiples of **2, 5 & 10**. Recall and use all **doubles to 10** and corresponding halves.
Year 2	Recall and use multiplication and division facts for the **2, 5 & 10** multiplication tables.
Year 3	Recall and use multiplication and division facts for the **3, 4 & 8** multiplication tables.
Year 4	Recall and use multiplication and division facts for multiplication tables up to **12 x 12**.
Year 5 and 6	Revision of all times tables and division facts up to 12 x 12.


NUMBOTS
INTRODUCTION FOR PARENTS/CARERS

WHAT IS TIMES TABLES ROCK STARS?

PARENTS AND CARERS GUIDE



Children can earn certificates!

Glossary of terms for counting

Glossary of terms	Explanation	When might my child come across this term?
Subitising	This is to tell at a glance, without counting, the number of items in a set. Counting without counting.	Foundation (EYFS framework)
Number bonds	Pairs of numbers that make up a given number. 6+4=10. 6 and 4 are number bonds of 10.	Foundation (EYFS framework)
Place value	Place value is the value of each digit in a number. For example, the 6 in 360 represents 6 tens, or 60	Year 1
Partitioning	Partitioning is a useful way of breaking numbers up so they are easier to work with.Partitioning links closely to place value: a child will be taught to recognise that the number 54 represents 5 tens and 4 ones, which shows how the number can be partitioned into 50 and 4.	Year 2
Commutative	This is a property of the number operations addition and multiplication. In addition 1 + 2 = 2 + 1, i.e. it works both ways, it is commutative. In subtraction or division it does not work both ways, e.g. 6–7 ≠ 7–6.	Year 2
Bridging to the nearest 10	A mental method of adding two numbers whose total is greater than 10. Pupils are taught to count on to 10 and then add the remainder of the number to 10. For example: 7 + 9 – bridging from 7 to 10 requires 3, which leaves 6 (from the original 9), 10 + 6 = 16.	Year 3
Compensating/ Adjusting	Compensation is a way of adding or taking away numbers that you find easier. **23 - 9 = ?** Try taking away **10** instead. **23- 10 = 13.** You have taken away **1** too many (**10** is **1** more than **9**) So add the **1** back on.	Year 3

Glossary of Terms (White Rose Maths)

Array	An ordered collection of counters, cubes or other item in rows and columns.
Commutative	Numbers can be multiplied in any order.
Dividend	Indivision, the number that is divided.
Divisor	In division, the number by which another is divided.
Exchange	Change a number or expression for another of an equal value.
Factor	A number that multiplies with another to make a product.
Multiplicand	In multiplication, a number to be multiplied by another.
Partitioning	Splitting a number into its component parts.
Product	The result of multiplying one number by another.
Quotient	The result of a division.
Remainder	The amount left over after a division when the divisor is not a factor of the dividend.
Scaling	Enlarging or reducing a number by a given amount, called the scale factor.

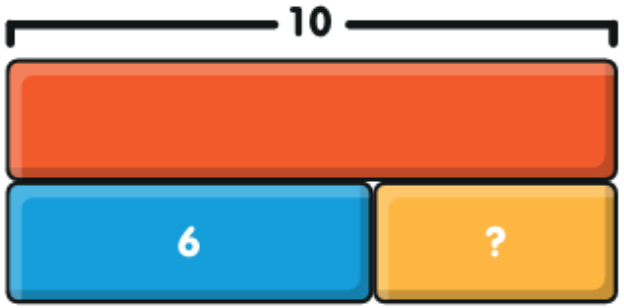
Models and representations to support the teaching of number bonds

Ten Frames

Makes counting values simpler. We can use them to make and split numbers in relation to 5 and 10. They help form the basis for understanding place value in the future.

Bar Model

Remove a number for problem solving opportunities across all operations (+ - x ÷)

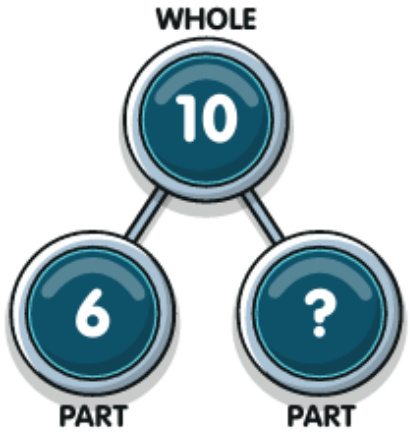


Bead Strings

Usually consists of 10, 20 or 100 beads on a string, grouped by colour. They allow children to move the beads whilst counting and visualising groups of ten.

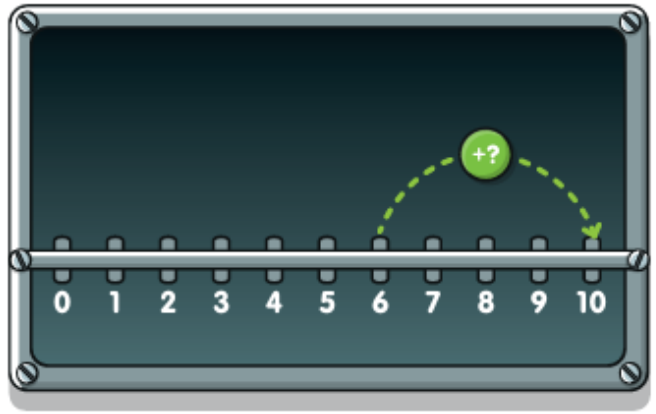
Part Part Whole Model

Within the part whole model, you can use real objects, concrete objects, pictures or numbers. The two parts combine to make the whole and can support with addition and subtraction



Number Line

Can be used to count forwards and backwards or to identify number bonds and patterns.



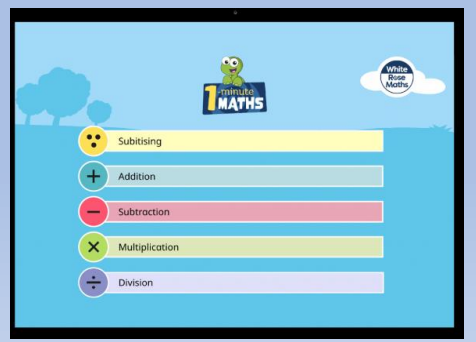
Dienes/Base 10

Can be used practically or drawn to support addition and subtraction.

Online Maths Tools:

In order to advance individual children's maths skills in school and at home, we utilise NUMBOTS for addition and subtraction and Times Tables Rock Stars for multiplication practise, application and consolidation. In addition to this we also recommend White Rose 1-minute maths.

https://play.ttrockstars.com/
https://play.numbots.com/
https://whiteroseeducation.com/1-minute-maths
https://mathsbot.com/
https://www.mickley.derbyshire.sch.uk/maths/



MICKLEY
VILLAGE PRIMARY & NURSERY SCHOOL