MIDDLETON PARISH CHURCH SCHOOL

'Excellence, Truth & Grace'

HOW CAN I HELP WITH MATHEMATICS IN YEAR 2?

Year 2 Mathematicians

Mathematics is an essential life skill. Developed across centuries, mathematics is key feature of many parts of the wider world from history to science, engineering to hospitality, retail and beyond. Most forms of employment require the use of mathematics in some form and it is necessary for financial literacy. With this in mind, it is essential that children are engaged in their mathematics learning and are able to see how it fits into the wider world and our every day lives. So what better place to do this than at home! It is essential that the learning which takes place at school is reinforced at home where possible so that children have as many opportunities as possible to secure their learning and remember more.

What can families do?

Maths skills can be developed at home by involving them in everyday activities such as baking, looking at the best supermarket deals or sharing out sweets equally. This also develops their problem solving and reasoning skills! Don't underestimate yourself, or the power you have as a parent getting involved in your child's learning.

- A **positive mindset is EVERYTHING!** You may find yourself from time to time saying 'I was never good at Maths.' Children will pick up and mirror this energy. We would advise parents and carers to use positive language such as 'It's fine to make mistakes, we all do' or 'It's ok that you find this tricky, let's look through it together.' Positivity can go a long way to improving their attitude towards Maths.

- **Use Maths talk every day.** This could be as simple as asking your child to count the chicken nuggets in ones, twos and fives! Then helping to share them out equally. You could further develop their knowledge by asking questions such as: What if I had double this amount? What if you ate 3 of those nuggets? How many would be remaining? Physical objects In every day life really help this process.

-**Develop their memory skills.** It has been found that the younger generation have little need to memorise things such as phone numbers. Start off with something simple like memorising a phone number. Make a game out of it to help develop their memory skills. This will soon develop into memorising times tables, addition facts, subtraction facts and many other mathematical skills.

-**Play maths games together.** Games have always been a fun way to engage children in their learning and a great bonding tool between adults and their children. Simple counting games, or games linked to their current objective in Maths, can support the children in engaging in their learning and retaining what they have learned.

-**Numbers and shapes are EVERYWHERE.** Help your child to recognise that numbers and shapes are everywhere. Asking them what the shape of a sign is on a walk or what number they see on the sign can be really important in developing their knowledge of Maths in real life contexts. This could be developed further by asking questions such as: If you added another ten to the number on the sign, what number would you now have?

TT Rockstars!

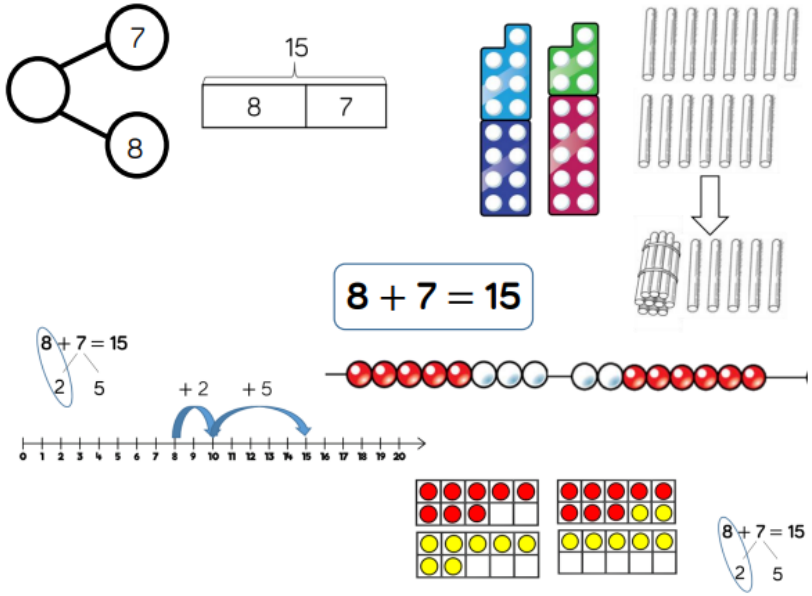
By the end of year 2, children will be expected to rapidly and fluently recall most of the facts related to the multiplication tables that they have been taught: 2s, 5s, 10s. To support this, we subscribe to Times Tables Rockstars to provide the children with a fun and engaging way of learning their tables facts. Each child has a login and there are a range of ways in which they can practise on the website. We would expect children to be logging into TT Rockstars to practise at least three times a week. If you have any further questions about this, please contact the Year 2 team at year2@middletonparishce.rochdale.sch.uk.

Doodle Maths

Doodle maths is a new tool for us at Parish. Each child has completed a baseline assessment which determines if they have any gaps in their learning. From here it then develops a bespoke programme of learning for each child so that they can close any gaps they have and enable them to become more confident mathematicians. Alongside this, class teachers are also able to set assignments for children to complete at home which further supports the learning taking place in class. All children have been given log-ins for Doodle maths and we expect children to be logging on to practise their mathematics at least three times a week. If you have any further questions about this, please contact the Year 2 team at year2@middletonparishce.rochdale.sch.uk.

Skill: Add 1 and 2-digit numbers to 20

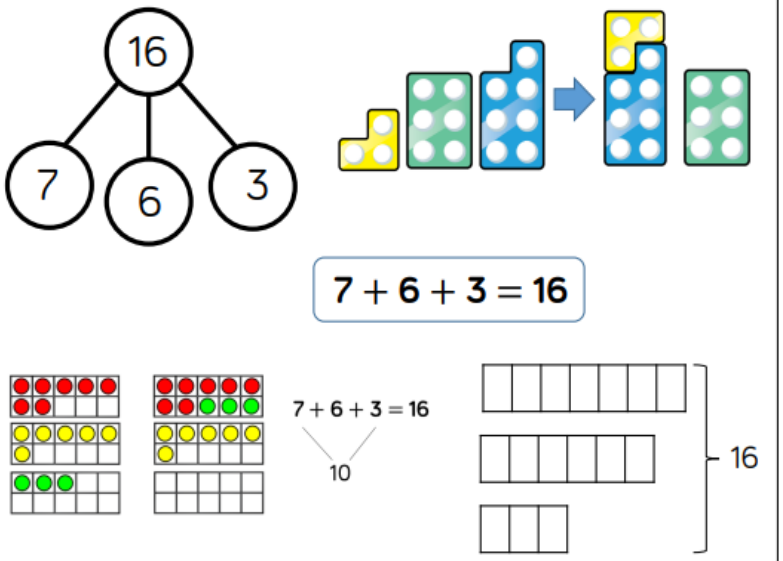
Year: 1/2



When adding one-digit numbers that cross 10, it is important to highlight the importance of ten ones equalling one ten. In Year 1, this is only done just by counting on. From Year 2, use different manipulatives can be used to represent this exchange alongside number lines to support children in understanding how to partition their jumps.

Skill: Add three 1-digit numbers

Year: 2



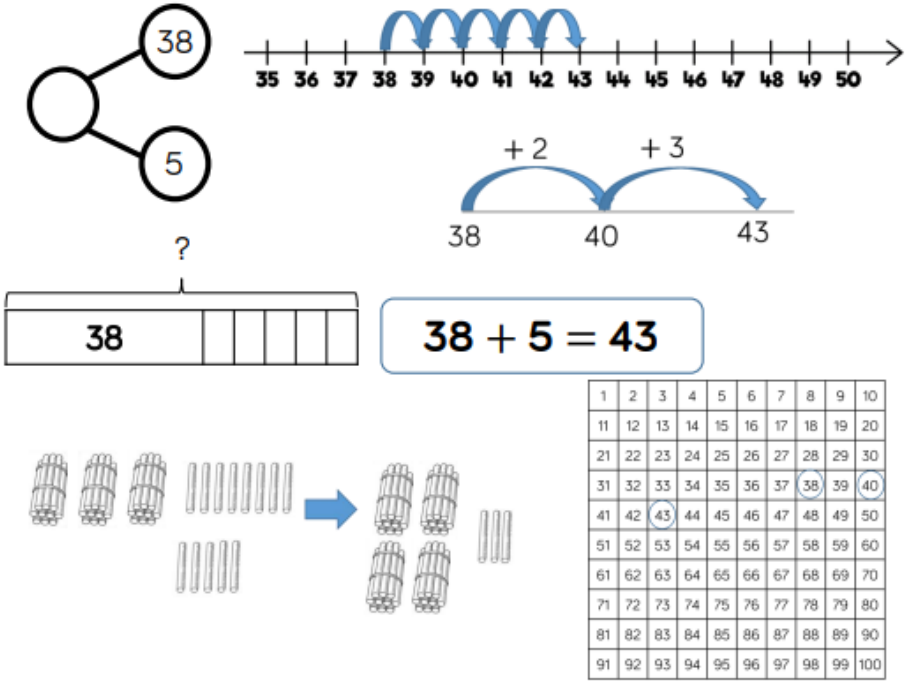
When adding three 1-digit numbers, children should be encouraged to look for number bonds to 10 or doubles to add the numbers more efficiently.

This supports children in their understanding of commutativity.

Manipulatives that highlight number bonds to 10 are effective when adding three 1-digit numbers.

Skill: Add 1-digit and 2-digit numbers to 100

Year: 2/3



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

When adding single digits to a two-digit number, children should be encouraged to count on from the larger number.

They should also apply their knowledge of number bonds to add more efficiently e.g. 8 + 5 = 13 so 38 + 5 = 43.

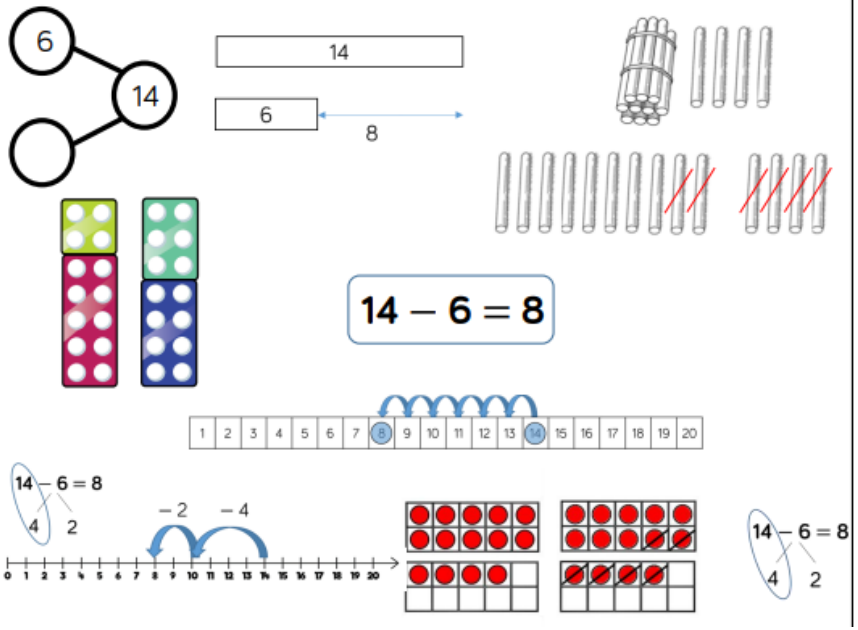
Hundred squares and straws can support children to find the number bond to 10.

Hundreds	Tens	Ones
H	T	O

Addition (+)	Subtraction (-)	Multiplication (x)	Division (÷)	Equals (=)
add	subtract	multiply	divide by	same as
more	minus	times	share	makes
plus	less	lots of	group	balances
altogether	take away	groups of	divide	
	difference	repeated addition	share equally	

Skill: Subtract 1 and 2-digit numbers to 20

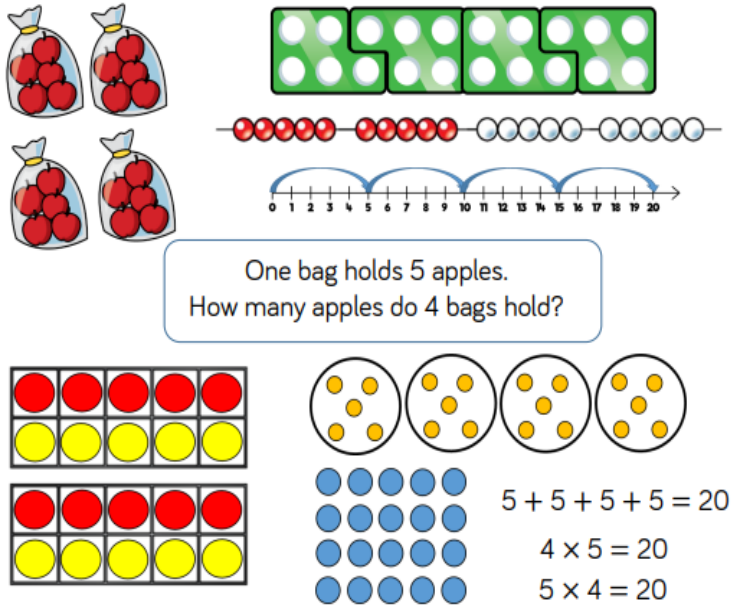
Year: 1/2



In Year 1, subtracting one-digit numbers that cross 10, is done by counting back, using objects, number tracks and number lines. From Year 2, children should be encouraged to find the number bond to 10 when partitioning the subtracted number. Ten frames, number shapes and number lines are particularly useful for this.

Skill: Solve 1-step problems using multiplication

Year: 1/2



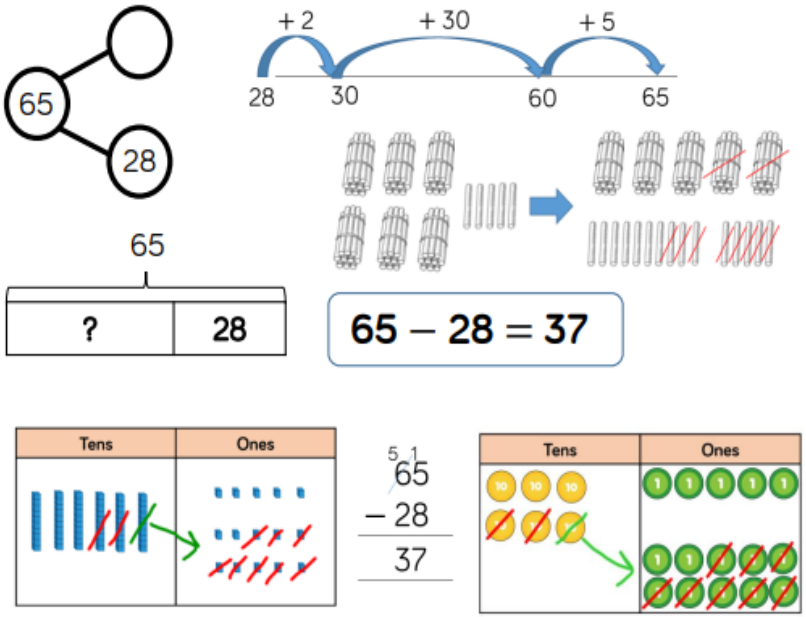
Children represent multiplication as repeated addition in many different ways.

In Year 1, children use concrete and pictorial representations to solve problems. They are not expected to record multiplication formally.

In Year 2, children are introduced to the multiplication symbol.

Skill: Subtract 1 and 2-digit numbers to 100

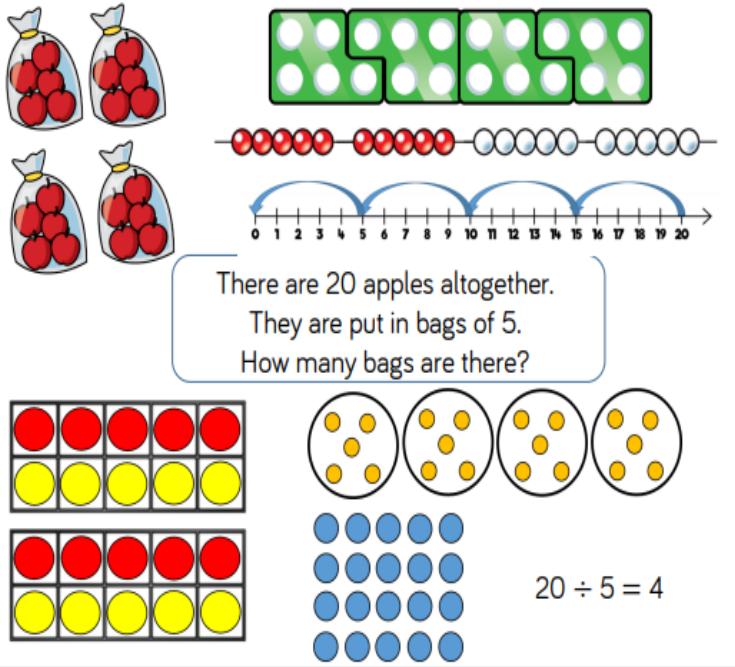
Year: 2/3



Children can also use a blank number line to count back to find the difference. Encourage them to jump to multiples of 10 to become more efficient.
From Year 3, encourage children to use the formal column method when calculating alongside straws, base 10 or place value counters. As numbers become larger, straws become less efficient.

Skill: Solve 1-step problems using division (grouping)

Year: 1/2



Children solve problems by grouping and counting the number of groups. Grouping encourages children to count in multiples and links to repeated subtraction on a number line. They can use concrete representations in fixed groups such as number shapes which helps to show the link between multiplication and division.

Fluency and Rapid Recall of Number Facts

An essential aspect of mathematics is children's composition of number. This is the understanding of how numbers are made up. For example, the fact that 5 can be made up of 1 + 4, 2 + 3, 5 + 0, 1+1+1+1+1 etc. In order for children to become confident mathematicians and to be able to solve problems confidently, it is essential that they can re-call all addition and subtraction facts within 20 and that they are able to rapidly recall their multiplication and related division facts. Below is the progression of these facts within the curriculum. As you can see, children should be able to recall all the addition and related subtraction facts by the time they reach the end of year 1. However, not all children learn at the same pace and it is therefore important that we continue to revise and then apply these facts in different contexts on a daily basis. If your child is able to confidently recall all of these facts, practise using them to find other related facts. For example, if I know that 2 + 3 = 5, I also know that 2 tens (20) + 3 tens (30) = 5 tens (50) and so on.

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Mathematics Progression Map: Key Number Facts

	Autumn Term	Spring Term	Summer Term
Reception	• Manipulating Numbers in preparation for Spring onwards • 1+1 • 2+1 • 2+2 • 3+1	• Number bonds to 5 • 2+2 • 3+1 • 2+3 • 4+1 • 3+3 • 4+2 • 5+1 • 5+2 • 4+3 • 6+1 • 4+4 • 5+5	• Number bonds to 5 • Number bonds to 10 • 4+2 • 5 + 2 • 6 + 2 • 7 + 2 • 4 + 3 • 5 + 3 • 6 + 3
Year 1	• 3+8 • 3+9 • 4+7 • 4+8 • 4+9 • 6 + 6 • 7 + 7 • 8 + 8 • 9 + 9 • 8 + 7 • 8 + 9	• 5 + 9 • 6 + 9 • 7 + 9 • 5 + 7 • 5 + 8 • 6 + 8 • 5 + 4 • 5 + 6 • 6 + 7 • 8 + 7 • 8 + 9 • 4 + 9	• X10 tables Consolidation of all previously taught facts
Year 2	• x5 tables • x2 tables	• Revise x2, x5 and x10 tables	• x3 tables **Consolidation of all previously taught facts making connections to facts within 100. For example: If I know that 6+4=10, I know that 60+40=100**

Practical Ways of Supporting Mathematics

One of the best ways in which to support your child's learning is to make it as practical as possible and to incorporate it into your every day routines. Here are some ways in which you could support your child's understanding of some of the mathematical concepts taught in year 2:

- **Time**—Encourage and model the telling of the time in your daily routines—what time do we get up? Go to bed? Ask them to tell you the time at different points of the day, get them a watch, use different types of clocks around the home such as analogue and digital.
- **Measurement**—bake or cook together and ask them to read the scales whilst baking/cooking. What do we measure...in? Discuss different units of measure when in the car or in the swimming baths etc.
- **Money**—ask children to find the total cost of a few items when in the shop. Encourage them to count and handle money calculating how much change may be needed for a few items. If you saved your pocket money for 3 weeks, how much would you have? Etc
- **Fractions**—look at fractions in different context such as looking at a quarter or half of a pizza, number of sweets etc
- **Shape**—identify 2D and 3D shapes while on a walk, in the house, out shopping etc. Can you find me a cube/triangle etc.

Maths – End of Year 2 Expectations	
New National Curriculum Objectives	
Number and Place Value	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward
	compare and order numbers from 0 up to 100; use <, > and = signs
	Rounding two-digit numbers to the nearest 10
	identify, represent and estimate numbers using different representations, including the number line
	read and write numbers to at least 100 in numerals and in words
	recognise the place value of each digit in a two-digit number (tens, ones)
	use place value and number facts to solve problems
Addition and Subtraction	recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
	Halve and double 2 digit numbers
	add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones /a two-digit number and tens / two two-digit numbers adding three one-digit numbers
	show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
	recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.
	solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures and applying their increasing knowledge of mental and written methods
	solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
Multiplication and Division	recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
	show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
	calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs
	solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
Fractions	recognise, find, name and write fractions ½ ¼ ¾ 1/3 2/4 and / of a length, shape, set of objects or quantity
	write simple fractions e.g. ½ of 6 = 3 and recognise the simple equivalence
Measurement	compare and order lengths, mass, volume/capacity and record the results using >, < and =
	compare and sequence intervals of time
	choose and use appropriate standard units to estimate and measure **length/height** in any direction (m/cm); **mass** (kg/g); **temperature** (°C); **capacity** (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
	recognise and use symbols for pounds **(£) and pence (p)**; combine amounts to make a particular value
	find different combinations of coins that equal the same amounts of money
	solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
Time	tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.
	know the number of minutes in an hour and the number of hours in a day.
Geometry Shape and Position	identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
	identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
	identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]
	compare and sort common 2-D and 3-D shapes and everyday objects
	use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)
	order and arrange combinations of mathematical objects in patterns and sequences
Statistics	interpret and construct simple pictograms, tally charts, block diagrams and simple tables
	Using lists/tables/diagrams to sort objects
	ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
	ask and answer questions about totalling and comparing categorical data