Maths Curriculum at Roundwood Primary School

Where we are going

You need to:

- Understand mathematics in a way that promotes confidence, fosters enjoyment and provides a strong mathematical foundation **(curiosity)**
- Extend range of mathematical knowledge, skills and techniques and be able to make connections **(curiosity, resilience, independence)**
- Use mathematical skills to reason and solve challenging problems (**resilient, curiosity)**,
- Apply maths skills to other areas of the curriculum
- Be able to explore, question and explain mathematical information verbally and written **(curiosity, resilient, independence)**

Who we are

Mathematical skills are fundamental to all aspects of our lives, from following a recipe, to reading a train timetable, from budgeting effectively, to carrying out home improvements and understanding a mortgage statement. Maths is used everyday without us even being aware of it. At Roundwood Primary School we are committed to ensuring that all children develop a love of maths and that they leave our school with the knowledge and skills to feel confident to continue their lifelong mathematical journey. Maths is ingrained in everything we do! As part of our school ethos, all children are encouraged to be curious and they are supported to develop their independence and resilience in all areas of learning.

Our children come from a variety of socio-economic backgrounds, where they experience different personal circumstances. Furthermore, the COVID Pandemic has created challenges for our families and has meant that our children have experienced vastly varied learning opportunites and support from adults at home. From knowing our families and children incredibly well, we are aware that whilst some families will be shopping and baking together with children developing an understanding of money, measuring ingredients and learning to tell the time; there are many who do not have these opportunities. When some children are playing games, gardening and building models together, many will be spending their time watching TV or playing on an electronic device. Therefore, at Roundwood, we ensure that children experience high quality Maths teaching in our lessons, as well as reinforcing and extending their understanding across the curriculum and in everyday activities at school.

Maths is also an intrinsic part of our Outdoor Learning, where lessons are bought to life outdoors! Opportunities to use and apply maths are carefully planned into our Outdoor Learning and Forest School provision. To further support our children and families, we have also invested in a fantastic online learning package called ‘Doodle Maths’ which provides all pupils with a bespoke, personalised learning programme. Doodle Maths assesses the children in order to create activities at the correct ability level for each child, so that children are able to work independently. Adults are able to track children’s progress and the app is motivational, interactive and fun with the children collecting badges and earning Doodle stars. We love that this enables all children to progress and achieve success in Maths at their own level and builds their confidence in their own ability.

Vocabulary

At Roundwood, we believe that accurate use of mathematical vocabulary is of great importance in ensuring a deep level of mathematical understanding. For each new unit, teachers will ensure that the correct and appropriate vocabulary is identified in planning and this will be shared with class teams so that all staff have the confidence to use this during teaching and learning. Vocabulary will be explicitly taught to the children and then it will be displayed on our Maths Working Walls for reference throughout lessons. Please see separate vocabulary document.

RPS Maths Journey

Early Years

Maths is one of the four specific areas within the Early Years Foundation Stage (EYFS). At Roundwood, from the moment they start school we encourage the use of appropriate mathematical language and promote reasoning about numbers. During the children's time in Foundation Stage, they will be introduced to mathematical equipment and will familiarise themselves with pictorial representations and concrete objects, for example, using tens frames and part-whole models with counters and cubes.

Number: Cardinality and Counting

In Early Years we place a real importance on the children's understanding of the value of number and developing their number sense.

- Children will understand the cardinal value of a number, e.g. the quantity it represents or the 'howmanyness.' They will use counting to help establish how many things are in a group and different concrete resources will be used to represent this.
- Children will also begin to recognise and/or use numerals to represent a quantity.
- Children will say words in the correct sequence and understand when counting that each number word represents a specific quantity. E.g.Nursery Rhymes
- As children grow with confidence in their number sense, they will move on to subitising, i.e. being able to recognise how many things are in a group without having to count each one individually.

Number: Comparison

- They will learn to compare collections and begin to talk about which group has more or fewer. They have a basic understanding that 3 sweets would be less than 4 apples and so recognising the relationship between the numbers 3 and 4.
- Children will also recognise two groups that are worth the same amount and are equal.
- They will begin to know which numbers are worth more or less than each other and this understanding will help them on their way to developing a mental number line.

Number: Composition

- Children will know that numbers are made up of two or more other smaller numbers and they will be introduced to 'part-whole' understanding.
- They will begin to 'see' a whole number and its parts at the same time.
- Children will investigate partitioning numbers into other numbers and putting them back together using concrete resources and pictorial representations. This will underpin their understanding of addition and subtraction as inverse operations and help them as they move into Key Stage 1.
- In Early Years there will be lots of opportunities such as classroom routines/tidy-up time and hiding games with a number of objects, for children to say how many are hidden in a known number of things.

Pattern

- In Early Years, children will develop an awareness of pattern which will provide opportunities for them to observe and verbalise generalisations.
- Patterns will be made with objects like coloured cubes, small toys, buttons and keys, and with outdoor materials like pine cones, leaves or large blocks, as well as with movements and sounds, linking with music, dance, phonics and rhymes.
- Children can also spot and create patterns in a range of other contexts, such as printed patterns, timetables, numbers and stories.

Shape and Space

- At Roundwood, we aim to develop the two aspects of spatial awareness and shape awareness from an early age. Children are encouraged to develop visualising skills and understand relationships such as the effects of movement and combining shapes together. Children

explore spatial relations and the properties of shapes in order to develop mathematical thinking.

- Through play – particularly in construction – children have lots of opportunities to explore shapes and to select shapes to fulfil a particular need. Children will also construct and create things that represent objects in their environment and they will notice shape properties of the object that they want to represent.
- Children may use informal language but their attention can be drawn to properties of shape such as: curvedness, number of sides and corners (2D) or edges, faces and vertices (3D), equal sides, angles including right angles etc.
- Children will choose 2D shapes to construct a 3D model, make decorations by folding and cutting and make 3D shapes using interlocking shapes.

Measures

- Children are able to recognise the specific attributes of (for example) length e.g. adults are tall. (Their initial recognition may be a descriptor and over-applied e.g. all adults are tall). Children use gestures or words to compare amounts of quantities by pointing to items that are big, tall, full or heavy and adults seek opportunities to model language. Water and sand-play are used to provide lots of opportunities to highlight capacity.
- Children can find something that is longer/shorter or heavier/lighter than a given reference item. When comparing lengths directly, children need to ensure that they align the starting points, and compare like-for-like, e.g. straightening skipping ropes before comparing lengths. When comparing capacities directly, children can pour from one container to another to find which holds more, or find one that is the same.
- Children will experience using units to 'measure' and compare.
- To prepare children for telling the time, in Early Years we begin by drawing children's attention to sequencing of activities, important times in their day, and some sequences of time that are significant to them. Class calendars, visual timetables and timers will be used so that children experience specific time durations.

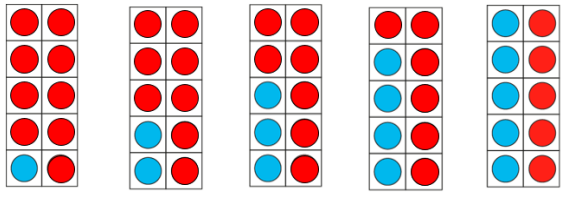
In Year 1

Number and Place Value

- Children will use a range of resources to support ***counting within 100***, forwards and backwards, starting with any number.
- They will ***reason about the location of numbers to 20*** within the linear number system, including comparing using less than < more than > and equal to = symbols.

Number Facts

- Children will become fluent with ***addition and subtraction facts within 10*** *(See Year 2)* and use tens frames to support the learning of number bonds to 10:



1 + 9 = 10
9 + 1 = 10

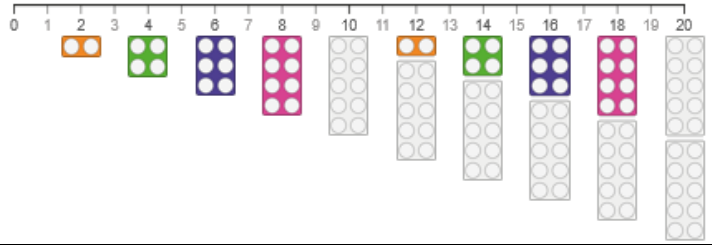
2 + 8 = 10
8 + 2 = 10

3 + 7 = 10
7 + 3 = 10

4 + 6 = 10
6 + 4 = 10

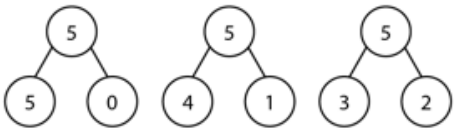
5 + 5 = 10

- They will ***count forwards and backwards in multiples of 2, 5 and 10***, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers. Numicon, number lines and 100 squares can be used to find the patterns, e.g.

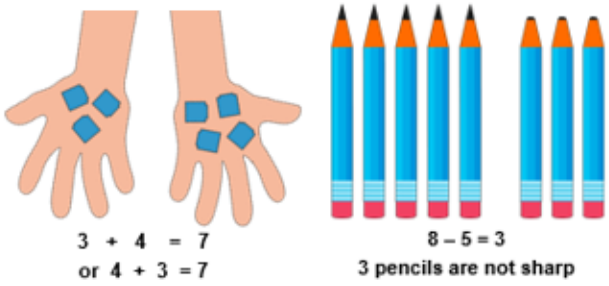


Addition and Subtraction

- Compose numbers to 10 from 2 parts, and ***partition numbers to 10 into parts***, including recognising odd and even numbers. For example, partitioning 5 in different ways:



- ***Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols***, and relate additive expressions and equations to real-life contexts.



Multiplication and Division

- In Year 1 simple multiplication and division problems are solved using concrete objects, pictorial representations and arrays with the support of the teacher.

Fractions

- In Year 1 fraction work concentrates on recognising, finding and naming a half as one of two equal parts and a quarter as one of four equal parts of an object, shape or quantity.

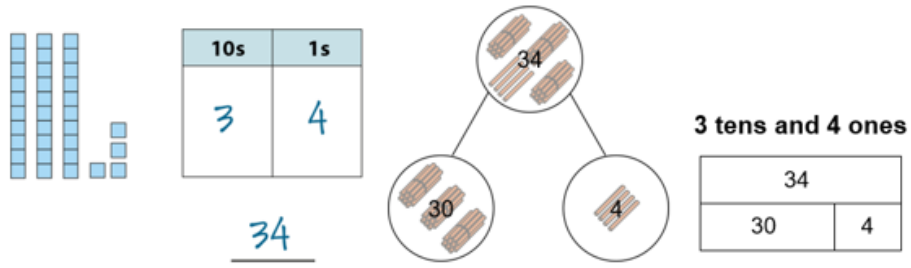
Geometry

- Children will recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.
- Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.

In Year 2

Number and Place Value

- Children use concrete resources such as dienes or place value counters and using part-whole models, place value charts and bar models, children ***recognise the place value of each digit in two-digit numbers*** and they are able to compose and decompose two-digit numbers using standard and non-standard partitioning.



- ***Reason about the location of any two-digit number*** in the linear number system, including identifying the previous and next multiple of 10.

Number Facts

- Building on learning from Year 1, children will now ***secure fluency in addition and subtraction facts within 10***, through continued practice:

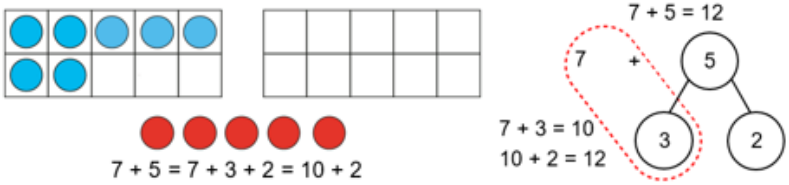
+	0	1	2	3	4	5	6	7	8	9	10
0	0+0	0+1	0+2	0+3	0+4	0+5	0+6	0+7	0+8	0+9	0+10
1	1+0	1+1	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+9	1+10
2	2+0	2+1	2+2	2+3	2+4	2+5	2+6	2+7	2+8	2+9	2+10
3	3+0	3+1	3+2	3+3	3+4	3+5	3+6	3+7	3+8	3+9	3+10
4	4+0	4+1	4+2	4+3	4+4	4+5	4+6	4+7	4+8	4+9	4+10
5	5+0	5+1	5+2	5+3	5+4	5+5	5+6	5+7	5+8	5+9	5+10
6	6+0	6+1	6+2	6+3	6+4	6+5	6+6	6+7	6+8	6+9	6+10
7	7+0	7+1	7+2	7+3	7+4	7+5	7+6	7+7	7+8	7+9	7+10
8	8+0	8+1	8+2	8+3	8+4	8+5	8+6	8+7	8+8	8+9	8+10
9	9+0	9+1	9+2	9+3	9+4	9+5	9+6	9+7	9+8	9+9	9+10
10	10+0	10+1	10+2	10+3	10+4	10+5	10+6	10+7	10+8	10+9	10+10

Y1 facts
Y2 facts

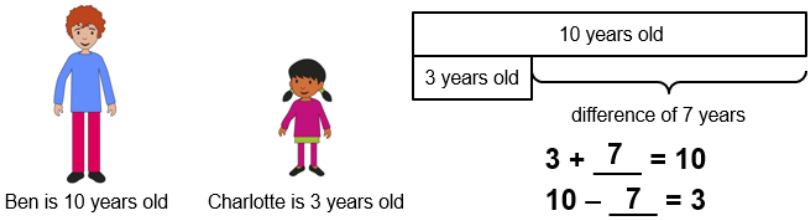
Adding 1
Adding 2
Bonds to 10
Adding 0
Doubles
Near doubles

Addition and Subtraction

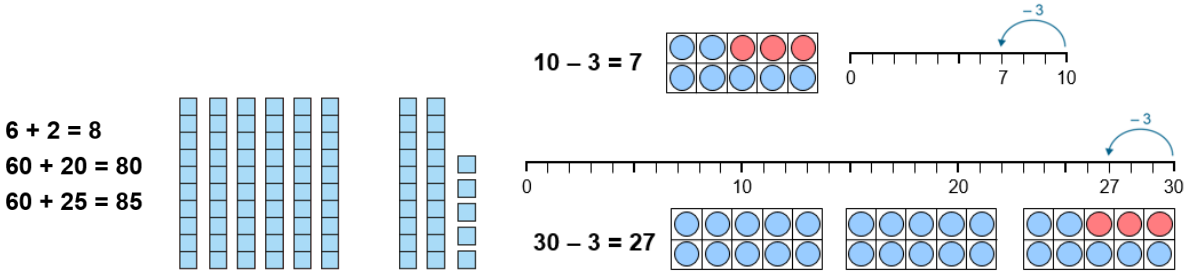
- Children will ***add and subtract across 10***. Part-part whole models and tens frames could be used to support this e.g:



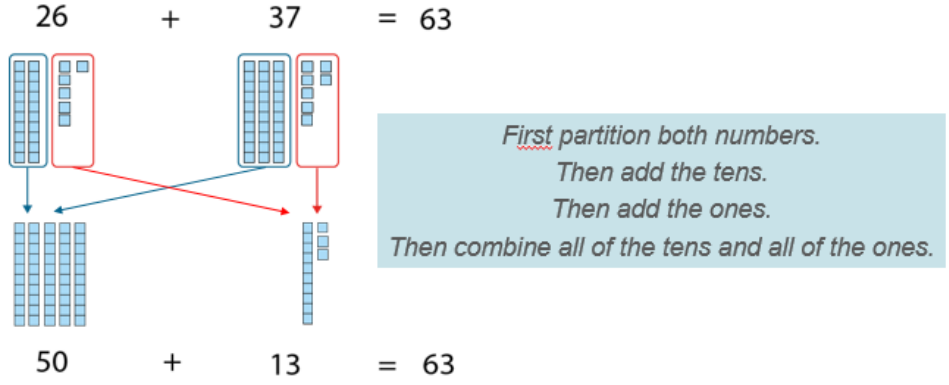
- They should recognise the subtraction structure of 'difference' and answer questions of the form 'How many more…?' One way they can represent this is by using bar models:



- They ***add and subtract within 100*** by applying related one-digit addition and subtraction facts; add and subtract only ones or only tens to/from a two-digit number. Tens Frames, number lines and concrete resources such as dienes will be used to represent this:



- They also ***add and subtract any 2 two-digit numbers***. For example:



Multiplication and Division

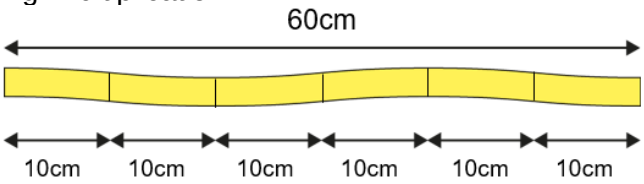
- ***Recognise repeated addition contexts***, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.

So, 5, 10, 15… there are 15 eggs in total.

So, 3 times 5 is equal to 15.

5 + 5 + 5 3 × 5 = 15

- Relate ***grouping problems*** where the number of groups is unknown to multiplication equations with a missing factor, and to division equations with finding how many groups.
E.g. Multiplication:



6 × 10 = 60

How many 10cm pieces do you think I can cut from the ribbon?

If I have 60cm of ribbon, I can cut 6 pieces which are each 10cm long from it.

E.g. Division:

40 ÷ 10 = 4

12 ÷ 2 = 6

Fractions

- In Year 2, children work practically and begin to recognise, find, name and write fractions: a half, a third, a quarter and three quarters of a length, shape, set of objects or quantity.

Geometry

- Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.

In Year 3

Number and Place Value

- Children ***make connections about 10s and 100s*** e.g.10 tens are equivalent to 1 hundred and 100 is 10 times the size of 10. They can then identify and work out how many 10s are in other three-digit multiples of 10.
- Children build on place value knowledge from Year 2 and now use concrete resources and pictorial representations to ***recognise the place value of each digit in three-digit numbers*** and they are able to compose and decompose three-digit numbers using standard and non-standard partitioning. E.g. using part-whole model and place value counters:

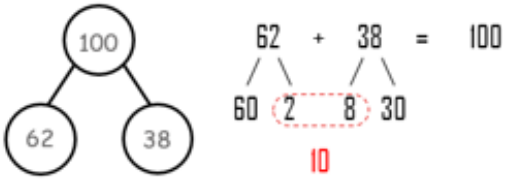
- ***Reason about the location of any three-digit number*** in the linear number system, including identifying the previous and next multiple of 100 and 10.
- Children will ***divide 100 into 2, 4, 5 and 10 equal parts***, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 parts. These skills will be used in a range of measurement contexts such as working out capacity, mass, temperature as well as when interpreting data in statistics.

Number Facts

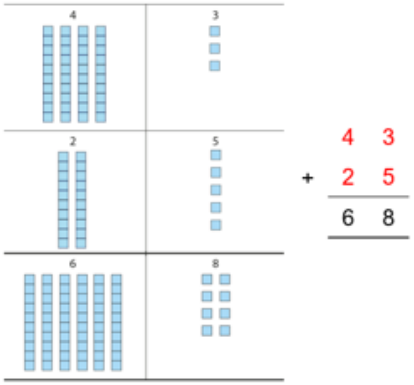
- Children will ***secure fluency in addition and subtraction facts that bridge 10***, through continued practice.
- ***Recall of multiplication and division facts in the 10, 5, 2, 4 and 8 times tables***. They also recognise products in these times tables as multiples of the corresponding number.
- Apply place-value knowledge to known additive and multiplication facts. Children can scale facts by 10, e.g. 8 x 3 = 24 so 8 x 30 = 240 or 12 – 5 = 7 so 12 tens – 5 tens = 120 – 50 = 70

Addition and Subtraction

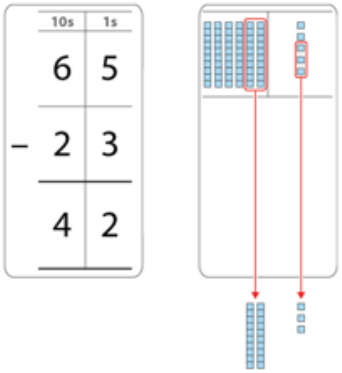
- Children will ***calculate compliments to 100***.



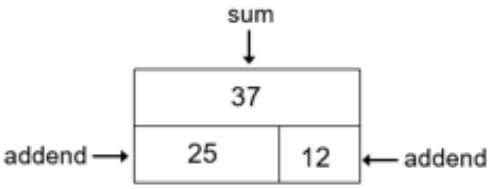
- ***Add and subtract up to three-digit numbers*** using columnar methods. This will be done practically laying out concrete resources so that children have a secure understanding of what is happening. This is particularly important when you are regrouping for addition or exchanging for subtraction. Below are some examples using dienes (no regrouping or exchanging in these examples) alongside the columnar method:



$$\begin{array}{r} 43 \\ +\ 25 \\ \hline 68 \end{array}$$



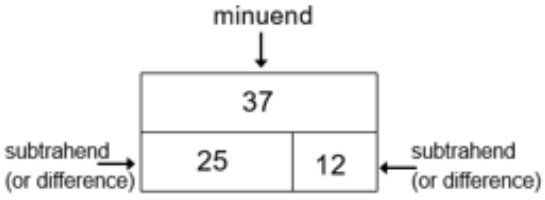
- Children will understand the ***inverse relationship between addition and subtractio***n and how both relate to the part-part-whole structure. They will understand and use the commutative property of addition and understand the related property for subtraction. Bar models and part-whole models will be used as significant representations here so that children can clearly see the relationships.



25 + 12 = 37

12 + 25 = 37

addend + addend = sum



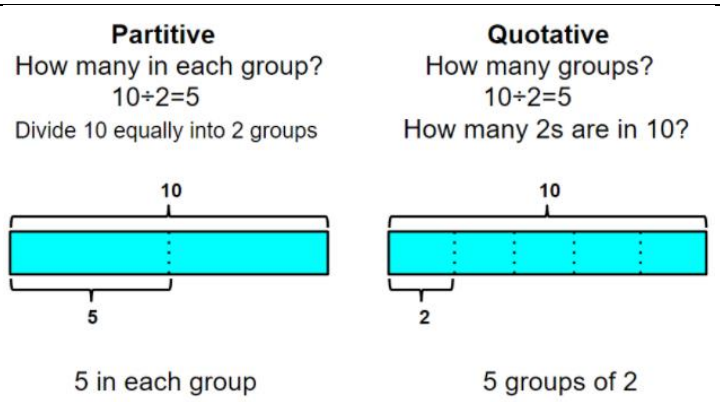
37 – 25 = 12

37 – 12 = 25

minuend – subtrahend = difference

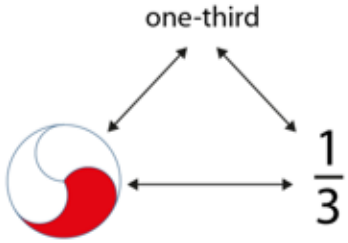
Multiplication and Division

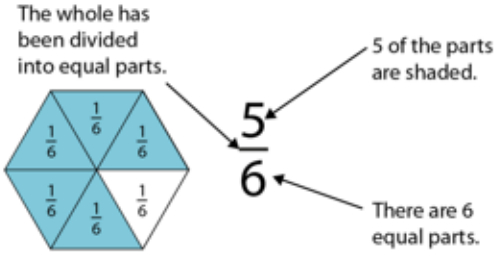
- Children will ***apply known multiplication and division facts to solve contextual problems*** with different structures. This includes using quotative division (dividing numbers into groups of) and partitive division (dividing numbers into known number of groups, also known as 'fair share' division) as shown below:



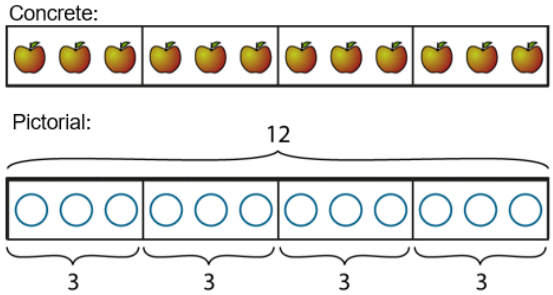
Fractions

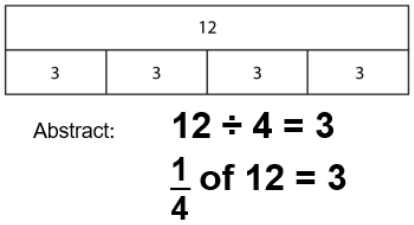
- Children will ***interpret and write proper fractions*** to represent 1 or several parts of a whole that is divided into equal parts e.g.



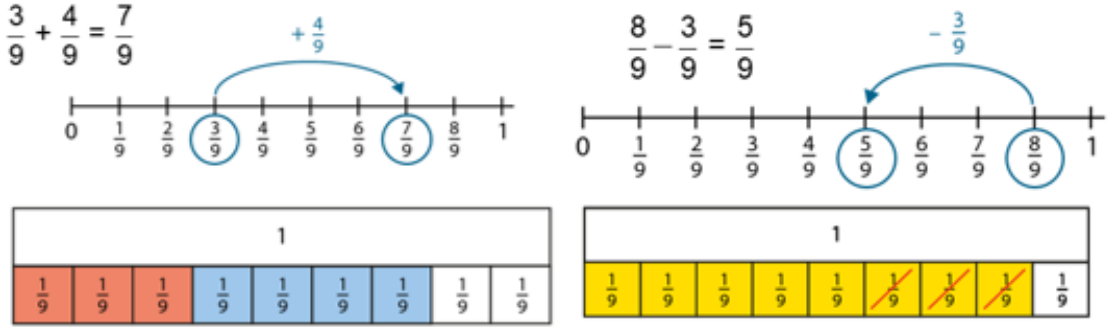


- ***Find unit fractions of quantities using know division facts*** (using multiplication tables fluency). Bar models are used to visualise the sharing of the quantities. For example:





- ***Reason about the location of fractions within 1*** in the linear number system and realise that when comparing unit fractions the larger the denominator the smaller the fraction is.
- ***Add and subtract fractions with the same denominator, within 1***. Fraction numberlines and bar models are a great visual way to represent this e.g:



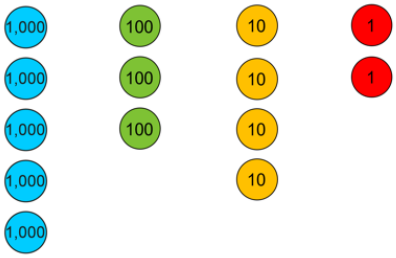
Geometry

- Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations.
- Draw polygons by joining marked points, and identify parallel and perpendicular sides.

In Year 4

Number and Place Value

- Children continue to ***make connections about 10s, 100s and 1000s***. They now know that 10 hundreds are equivalent to 1 thousand and 1000 is 10 times the size of 100. They can then apply this to identify and work out how many 100s are in other four-digit multiples of 100.
- Building on Year 3, children now recognise the ***place value of each digit in four-digit numbers*** and they are able to compose and decompose four-digit numbers using standard and non-standard partitioning. E.g.



5,000 + 300 + 40 + 2 = 5,342

1,000s	100s	10s	1s
5	3	4	2

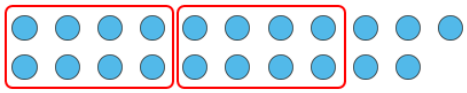
5,342

- ***Reason about the location of any four-digit number*** in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.
- Children will ***divide 1,000 into 2, 4, 5 and 10 equal parts***, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 parts. Once again these skills will be used in a range of real-life contexts such as measurement and statistics.

Number Facts

- ***Recall multiplication and division facts up to 12 x 12*** and recognise products in times tables as multiples of the corresponding number.
- ***Solve division problems***, with two-digit dividends and one-digit divisors, ***that involve remainders***, and interpret remainders appropriately according to the context. The use of counters and visual representations will help to see the remainders.E.g.

21 ÷ 8 = 2 remainder 5



2 groups of 8 are 16, 5 more make 21.

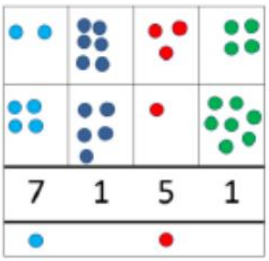
16 ÷ 8 = 2

21 ÷ 8 = 2 r 5

- ***Apply place-value knowledge to known additive and multiplication facts***. Children can scale facts by 100, e.g. 8 + 6 = 14, 8 hundreds + 6 hundreds = 14 hundreds so 800 + 600 = 1,400

Addition and Subtraction

- In Year 4, children will continue to use formal written methods of ***columnar addition and subtraction where appropriate with up to four-digits***. Once again the use of concrete resources will secure understanding and children will be encouraged to cross out where they have exchanged/regrouped before finally moving on to just the abstract workings. Here is an example of the types of workings children may wish to use:

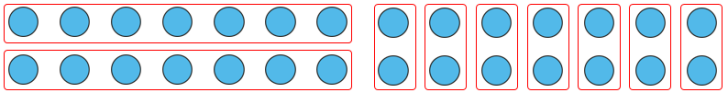


Th	H	T	O
	2	6	3	4
+	5	5	1	7
	7	1	5	1
	1		1	

- Children will grow in confidence with ***estimating and using inverse operations to check answers*** to calculations. They will also improve their confidence with using mental methods and known number facts to solve problems.

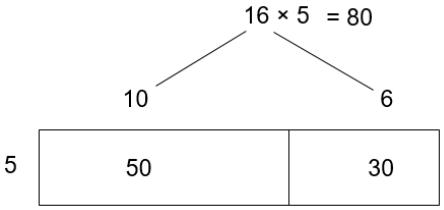
Multiplication and Division

- ***Multiply and divide whole numbers by 10 and 100*** (keeping to whole number quotients) and understand this as equivalent to making a number 10 or 100 times the size.
- ***Manipulate multiplication and division equations***, and understand and apply the commutative property of multiplication. Using resources to make arryas be beneficial to seeing this relationship:



$2 \times 7 = 14$ $14 \div 2 = 7$ $7 \times 2 = 14$ $14 \div 7 = 2$

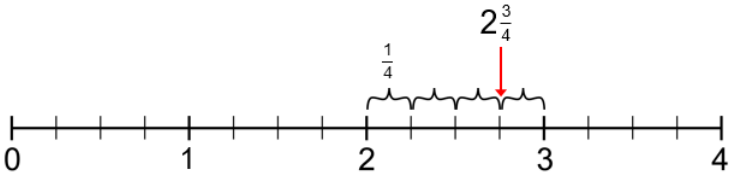
- Children will ***understand and apply the distributive property of multiplication*** to solve more complex multiplication problems:



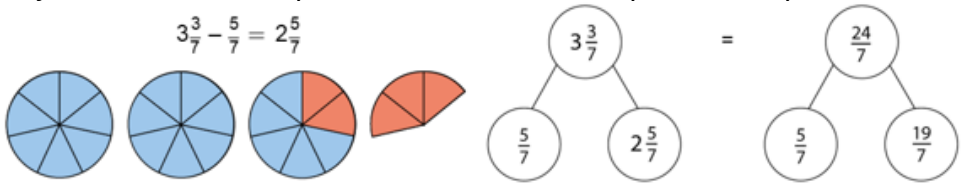
$16 \times 5 = (10 \times 5) + (6 \times 5)$
$= 50 + 30$
$= 80$

Fractions

- Children will now ***reason about the location of mixed numbers*** in the linear number system.



- They will be able to ***convert mixed numbers to improper fractions*** (top-heavy fractions) and vice versa. E.g. 3 ½ = 7/2; 9/4 = 2 ¼
- ***Add and subtract improper and mixed fractions with the same denominator***, including bridging whole numbers. Using drawings, bar models, number lines and part-whole models may all be useful to help them to visualise and represent the problems. Here is an example:



Geometry

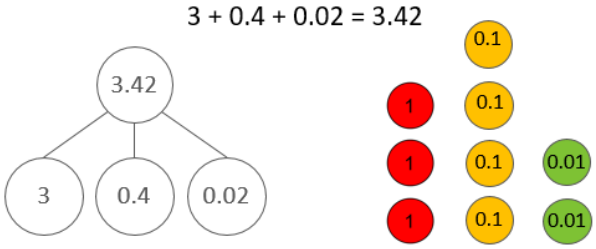
- Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.
- Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal.
- Find the perimeter of regular and irregular polygons.
- Identify lines of symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.

In Year 5

Number and Place Value

- Children ***relate learning about tens, hundreds and thousands to tenths and hundredths***. They know that:
  - 10 tenths are equivalent to 1 one and that 1 is 10 times the size of 0.1
  - 100 hundredths are equivalent to 1 one and that 1 is 100 times the size of 0.01
  - 10 hundredths are equivalent to 1 tenth and that 0.1 is 10 times the size of 0.01

- Building on Year 4, children now ***recognise the place value of each digit in numbers with up to 2 decimal places*** and they are able to compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning. E.g.



- ***Reason about the location of any number with up to 2 decimal places*** in the linear number system, including identifying the previous and next multiple of 1 and 0.1, and rounding to the nearest of each.
- ***Children will divide 1 into 2, 4, 5 and 10 equal parts***, and read scales/number lines marked in multiples of 1 with 2, 4, 5 and 10 parts.
- Children will also ***convert between units of measure***, including using common decimals and fractions.

Number Facts

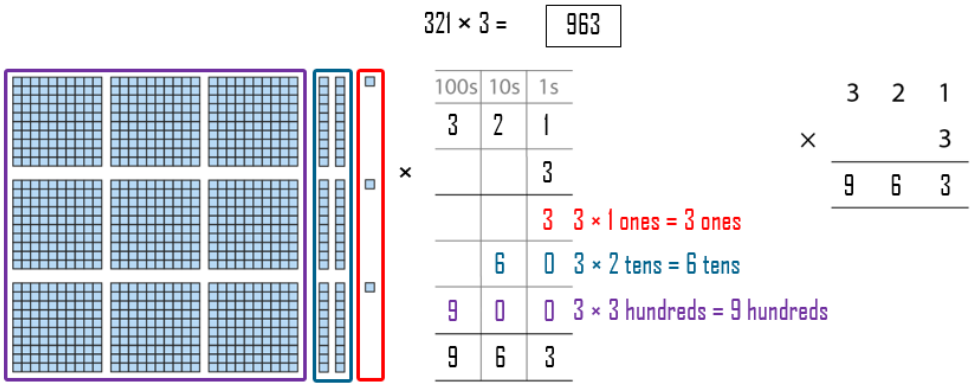
- ***Secure fluency in all multiplication table facts and corresponding division facts***, through continued practice.
- ***Apply place-value knowledge to known additive and multiplication facts***. Children can scale facts by 1 tenth or 1 hundredth e.g.
  - 6 + 9 = 15 so 6 tenths + 9 tenths = 15 tenths so 0.6 + 0.9 = 1.5
  - 12 – 5 = 7 so 12 hundredths – 5 hundredths = 7 hundredths so 0.12 – 0.05 = 0.07

Addition and Subtraction

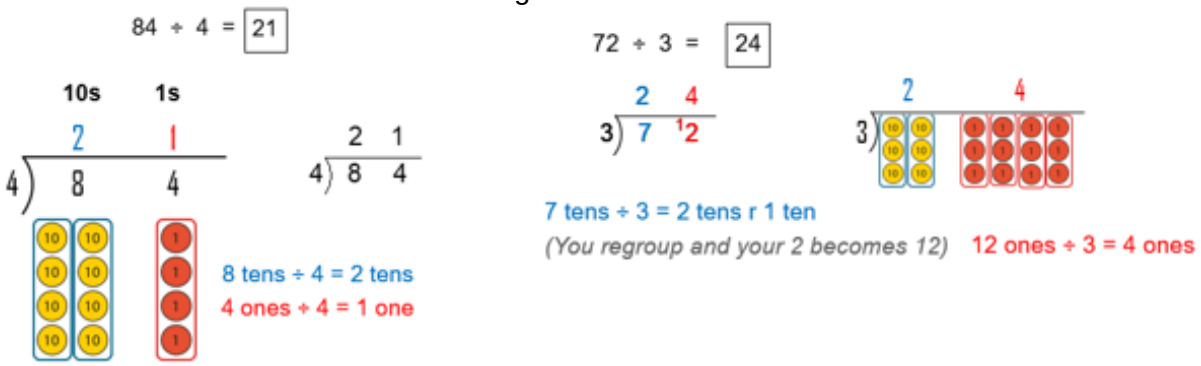
In Year 5, children ***continue to practice addition and subtraction skills already learnt*** and can now use formal written methods with decimals. Concrete resources will continue to be used. They also continue to practice mental methods and use number facts to solve a range of problems involving addition and subtraction.

Multiplication and Division

- ***Multiply and divide numbers by 10 and 100*** and understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.
- ***Find factors and multiples of positive whole numbers***, including common factors and common multiples, and express a given number as a product of 2 or 3 factors. For example:
  - Factors of 24 are 1, 24, 2, 12, 3, 8, 4, 6
  - 24 is the product of 8 x 3
  - 24 is also the product of 2 x 4 x 3
- Children will ***multiply any whole number with up to four-digits by any one-digit number*** using a formal written method. Using dienes and place value counters alongside this will be a valuable teaching aid, e.g.

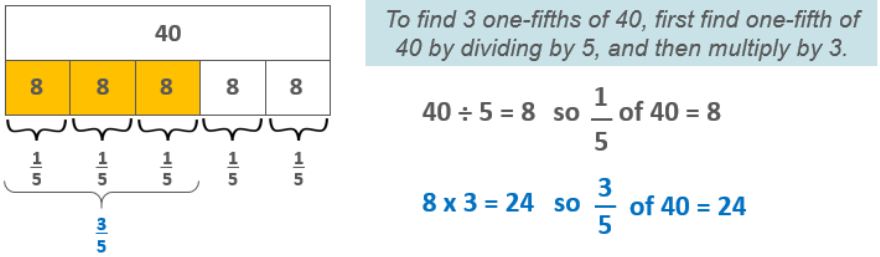


- They will be able to ***divide a number with up to four-digits by a one-digit number*** using a formal written method and interpret remainders. Laying out place value counters initially before moving on to the abstract workings will help children understand what is happening to the numbers and visualise the remainders.E.g.



Fractions

- Building on previous learning, children will now be able to find non-unit fractions of quantities.



- They will ***find equivalent fractions*** and understand that they have the same value and the same position in the linear number system. Children will have spotted these patterns already, for example they will recognise that two quarters is worth the same as a half.
- They will be able to ***recall decimal fraction equivalents for half, quarter, fifth and tenth***.

Geometry

- Angle work will now move on to comparing angles, estimatine and measuring angles in degrees and drawing angles of a given size.
- They will compare areas and calculate the area of rectangles (including squares) using standard units.

In Year 6

Number and Place Value

- Children ***understand the relationship between powers of 10 from 1 hundredth to 10 million***, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).
- Building on Year 5, children now ***recognise the place value of each digit in numbers up to 10 million, including decimal fractions*** and they are able to compose and decompose numbers up to 10 million using standard and non-standard partitioning. E.g.

3,870,291.46

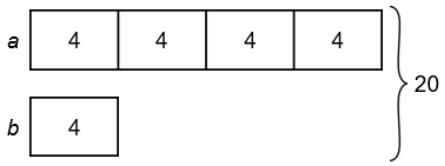
Millions			Thousands			Ones				
100s	10s	1s	100s	10s	1s	100s	10s	1s	0.1s	0.01s
		3	8	7	0	2	9	1	4	6

- ***Reason about the location of any number up to 10 million, including decimal fractions,*** in the linear number system, and round numbers, as appropriate, including in contexts.
- ***Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts***, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts. This skill will be used in a range of context such as measurements and when presenting/interpreting information in tables such as bar charts.

Addition and Subtraction and Multiplication and Division

- In Year 6, ***the four operations are practised and used fluently together***. Children will understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).
- ***Use a given additive or multiplicative calculation to derive or complete a related calculation***, using arithmetic properties, inverse relationships, and place-value understanding.
- They will ***solve problems involving ratio relationships*** and they will solve problems with 2 unknowns. Bar models may be used to help represent the problems:

The sum of two numbers is 20. One number is four times the other number. What are the two numbers?



one part = 20 ÷ 5 = 4

b = 4

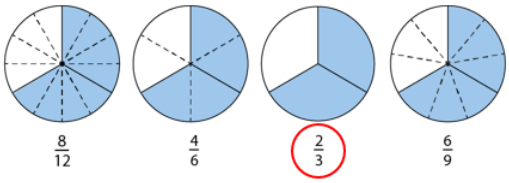
a = 4 × 4 = 16

The two numbers are 16 and 4.

Check: 16 + 4 = 20

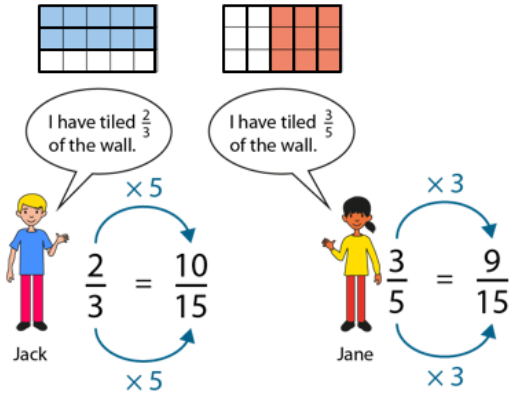
Fractions

- They will now be able to ***recognise when fractions can be simplified***, and use common factors to simplify fractions. E.g.



$\frac{2}{3}$ is in its simplest form. I know this because the only common factor of the numerator and the denominator is 1.

- ***Express fractions in a common denomination*** and use this to compare fractions that are similar in value.



5 is not a multiple of 3.

15 is a multiple of both 3 and 5.

We can use 15 as the common denominator.

We need to express both fractions in fifteenths.

- ***Compare fractions with different denominators, including fractions greater than 1***, using reasoning, and choose between reasoning and common denomination as a comparison strategy.

Geometry

- Children will now be able to draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.

Links with other subjects

All cross curricular links will be provided at an appropriate mathematical level and will be purposeful. Providing children with the opportunity to use and apply their mathematics in meaningful contexts.

Science

- During investigations and practical work, make choices about data to collect, equipment to use and how to record and present findings.
- Read, interpret and a draw conclusions from data in tables and graphs.
- Make choices about the most appropriate graphs for their purpose.

Geography

- Read, interpret and a draw conclusions from data in tables and graphs.
- Through fieldwork, collect, present and interpret data.
- Make choices about the most appropriate graphs for their purpose.

History

- Read, interpret and draw conclusions from historical data in order to deepen understanding of historical events and contexts.
- To learn about significant mathematicians and the impact of their work on society.

Art

- Recognise patterns and use of geometric shapes in art work. Including symmetry and transformations.
- Using geometric shapes in own art work. Opportunities to produce simple or complex patterns using symmetry and rotation.

Design Technology

- Measuring in different ways, using different scales and equipment, will be incorporated into all DT projects, including measuring length using mm, cm's and metres.
- Measuring angles in degrees using protractors.
- When preparing food the children will measure the weight and capacity of different ingredients using different scales.
- Older children will apply their understanding of ratio and scaling to increase and decrease measurements within a recipe.

As a Mathematician leaving RPS

I will be able to:

- Access the KS3 curriculum because I will have a deep understanding of the KS1 and KS2 Maths curriculum.
- Fluently recall Number Facts including Number Bonds and Times Tables and be able to use and apply these facts to solve problems.
- Understand and use a wide range of mathematical language so that I can express my ideas clearly.
- Confidently use a range of calculation strategies and be able to select the most efficient for a particular calculation.
- Make connections in my learning so that I can solve problems accurately and efficiently.
- Solve problems in real life contexts, be able to use reasoning to explain and discuss the strategies I have used.

Memory Makers

I will have experienced

- Interactive and engaging maths lessons throughout my time at Roundwood.
- Carefully planned lessons, broken down into small steps to ensure I develop a deep understanding in all areas of Maths.
- Organising and running a stall at the school fete. Managing a budget and generating the greatest profit to win a class reward.

- Taking an active role in House Competitions – sport's days, weekly house point rewards
- Organising school council fundraising events and deciding how to spend the money
- A trip to Bletchley Park to learn about famous mathematicians and see Maths in action.

Because I went to RPS
What should go here?