Challenge, Equality \& Opportunity
MATHS

## Whole School Curriculum Intent:

| We can build knowledge and skills | We are creative | We are resilient | We understand ourselves and each Other |
| :---: | :---: | :---: | :---: |
| We strive for all of our children to have competency in the basic skills of reading, writing, maths and communication to underpin their learning, give them access to the broader curriculum and build their confidence as learners. <br> We want our children to know more, remember more and be able to do more as a result of every learning experience across the curriculum. | We want our children to be creative in their thinking so that they use their knowledge and skills to solve problems and create new knowledge, skills, thoughts and objects which give them enjoyment and inspire them to take their learning further. | We need our children to develop independence and resilience so that they are able to grow as thinkers and learners. | We aim for our children to develop empathy, awareness, respect and tolerance in-keeping with the school's No Outsiders values. <br> We also want all of our children to understand themselves and be ready for the next steps in their education and the wider world. |
|  |  |  |  |

## What does this look like?

Achieve well in reading, writing and communication, including being at the age related expectation in early reading and phonics.
Can build on previous learning. Can access new learning experiences.
Value and enjoy success in the core subjects. Choose reading and use reading effectively. Apply maths, reading, writing and communication across the curriculum.

## Reflect, adapt and develop ideas.

 Explore concepts.Make links across the curriculum. Ask questions and are curious. Use initiative.
Hypothesise and generate ideas Communicate learning.
Direct own learning through range of skills.
Can argue and use evidence.

Bounce back and try again. Try new things and take risks. Manage their own things, time and learning as appropriate.
Engage with extra-curricular activities.
Solve problems through perseverance.
Work towards a goal.

Listen to others.
Can work in a group and cooperate with others. Assess own success and learning. Take turns and are patient. Use manners and are polite in interactions with everyone.
Can manage emotions and support others. Show respect.
Are kind and begin to show compassion. Can follow the Golden Rules.
Can express themselves.

## Mathematics Intent

## We can build knowledge and skills

Aim for all of our children to love to learn, become resilient, fluent mathematicians and who have the ability and skills to tackle a variety of problem solving activities.
Provide a curriculum which caters for the needs of all individuals and sets them up with the necessary skills and knowledge for them to become successful throughout their lives.

Incorporate sustained levels of challenge through varied and high quality activities with a focus on fluency, reasoning and problem solving.
Value a maths curriculum that is creative and engaging where children can access and master the curriculum and make significant progress in this subject.
Provide opportunities for children to revisit prior learning and build their knowledge and skills through a fluid and progressive curriculum.

## We are Creative

Deliver a curriculum that allows pupils to be part of creative and engaging lessons allowing them to explore maths in depth, using mathematical vocabulary to reason and explain their workings.

Learn to construct informed responses that involve thoughtful selection and organisation of relevant mathematical information.
Appreciate patterns and connections. Rather than seeing it as purely knowledge, rules and answers that are either right or wrong. By developing creativity in maths, we enable children to apply their knowledge in the real world.

Opportunities to work with open-ended problems, to discuss and share ideas and strategies, appreciating that there are often different solutions to the same problems. 3

## We are Resilient

Encourage resilience, perseverance and an acceptance that struggle is often a necessary step in learning.
Use a wide vocabulary of appropriate and accurate mathematical terms.
Ask and answer questions with confidence drawing on previous learning and experiences in Maths.
Offer questions that may challenge their own views and thinking, or that of others.
Inspiring children by creating challenging opportunities which can be worked on to an end-point creating a sense of achievement, self-satisfaction and ultimately success.
We Understand Ourselves and Each Other

Work collaboratively to develop communication skills and critical thinking skills.
Give children the language, experience and knowledge to evaluate their own work and the work of others.
Provide learning opportunities through social contexts to allow collaborative learning which helps to maintain intrinsic motivation and in turn provides satisfaction and pride in working things out together.

Evaluate and re-evaluate opinions, adjusting points of view if appropriate, in the light of subsequent learning and additional evidence.

## Mathematics Implementation

The content and principles underpinning the 2014 Mathematics curriculum and the Maths curriculum at Havannah First School are reflected within each maths lesson. These principles and features characterise this approach and convey how our curriculum is implemented:

Teachers reinforce an expectation that all children are capable of achieving high standards in Mathematics.
-The large majority of children progress through the curriculum content at the same pace.

- Differentiation is achieved by emphasising deep knowledge and through individual support and intervention.

Early Years is at the start of the mathematical journey and the focus is on developing a strong sense of number and a recognition of maths being all around us. Pattern spotting, subitising and making maths are key areas that are an integral part of everything that is developing in early maths. Maths in the Early Years takes place both indoors and outdoors through a wide range of practical activities. Children then have the opportunity to apply and explore these concepts though continuous provision as well as adult directed tasks.

In KS 1 and 2, Maths is taught 5 times in a week. Schemes of learning are based on the White Rose Maths Schemes of Work and support our school's mastery approach to teaching and learning and are consistent with the aims and objectives of the National Curriculum. Number is at the heart of our schemes of learning and a significant
amount of time is spent reinforcing number in order to build competency and allow and ensure children can confidently access the rest of the curriculum. We aim for children to stay within the required Key Stage so that children acquire depth of knowledge in each topic. Opportunities to re-visit previously learnt skills are built into planning. Children can progress through schemes of learning as a whole group, encouraging children of all abilities to support each other in their learning. Research shows that all children, when introduced to a new concept, should have the opportunity to build competency by following the CPA approach which features throughout the children's pathway of learning. Children should have the opportunity to work with physical objects/concrete resources, in order to bring the maths to life and to build understanding of what they are doing. Alongside concrete resources, children should work with pictorial representations, making links to the concrete. Visualising a problem in this way can help children to reason and to solve problems. With the support of both the concrete and pictorial representations, children can develop their understanding of abstract methods. Every block in the schemes of learning is broken down into manageable small steps (See progression maps of small steps attached).

Across the school from Year 1 to Year 4 children work in mixed ability groups. Flexible groupings are used to provide support for children according to assessment information. Children have opportunities to work independently, within pairs or as a group. The vast majority of children progress through the curriculum at a similar pace. This enables the most able to deepen their subject knowledge through rich sophisticated problems, while the lower ability children are able to continue to develop their fluency and reasoning skills as well as given opportunities to solve mathematical problems. SEN children will predominantly be covering the curriculum content of their year group. Their learning will be supported through the use of models, scaffolds and practical apparatus. Specific targets are set which focus on a gap in their learning. Additional work will be set to support the child in meeting this target. Staff will support these children at points within their learning.

Mathematical topics are taught in blocks based on the White Rose Maths Hub, to enable the achievement of 'mastery' over time (Long Term Planning). These are designed to ensure coverage and progression. Teaching is underpinned by methodical curriculum design (Medium Term Planning) and supported by carefully crafted lessons with small steps which are carefully sequenced and built upon systematically (Short Term Planning) and resources to foster deep conceptual and procedural knowledge. The design of the 12 week blocks allows flexibility within each term so teachers can work on misconceptions or small steps can be re-visited or given more time if necessary.

Carefully designed variation within the start of a lesson builds fluency and understanding of underlying mathematical concepts. Teachers use careful questions to draw out children's discussions and their reasoning skills which are applied in activities. Tasks are then designed which allow children to apply their fluency and reasoning skills to solve mathematical problems. Concrete manipulatives are available in every classroom and are accessible for children to use as directed or independently. Children are encouraged to use the correct mathematical vocabulary and use their reasoning skills when answering questions. Teachers and TAs move around the classroom and actively respond, challenge and support children with their learning. Working walls are used to display strategies that are being used and include the key vocabulary being taught in that unit. Additional time, outside of lessons - Flashback 4 and MATHS BLAST are used to support, retrieve and recall previous learning using arithmetic strategies in number with a strong emphasis on multiplication.

Questioning, marking and feedback of work helps to identify those children who need further support, provides opportunities to address misconceptions and also allows children to make corrections or complete next step challenges. This allows the vast majority of children to continue to work at a similar pace.

| Number \& Place Value | Addition \& Subtraction | Multiplication \& Division | Fractions |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| Measurement | Geometry - Shape | Geometry - Position \& Direction | Statistics |
|  |  |  |  |

Challenge, Equality \& Opportunity

Reception

|  | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Wee |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 镸 | Getting to Know You Opportunities for settling in, introducing the areas of provision and getting to know the children. Key times of day, class routines. Exploring the continuous provision inside and out. Where do things belong? <br> Positional language |  |  | Just like me! |  |  | It's Me 1, 2, 3 ! |  |  | Light and Dark |  |  | Phase |
|  |  |  |  | Match and Sort Compare Amounts |  |  | Representing 1,2 \&3 <br> Comparing 1,2 \& 3 <br> Composition of $1,2 \& 3$ |  |  | Representing Numbers to 5 One More and Less |  |  | Number |
|  |  |  |  | Compare Size, Mass \& Capacity Exploring Pattern |  |  | Circles and Triangles Positional Language |  |  | Shapes with 4 Sides Time |  |  | Measure, <br> Shape and <br> Spatial <br> Thinking |
| $\begin{aligned} & \text { en } \\ & \text { 릉 } \\ & \hline \end{aligned}$ | Alive in 5 |  |  |  | wing 6,7 |  |  | ding 9 \& |  | Consolidation |  |  | Phase |
|  | Introducing zero Comparing numbers to 5 Composition of 4 \& 5 |  |  | $6,7 \& 8$ <br> Combining 2 amounts Making pairs |  |  | Counting to 9 \& 10 Comparing numbers to 10 Bonds to 10 |  |  |  |  |  | Number |
|  | Compare Mass (2) Compare Capacity (2) |  |  | Length \& Height Time |  |  | 3d-shapes Patterns |  |  |  |  |  | Measure, Shape and Spatial Thinking |
|  | To 20 and Beyond |  |  | First Then Now |  |  |  | my Patt |  |  | n the Mov |  | Phase |
|  | Building Numbers Beyond 10 Counting Patterns Beyond 10 |  |  | Adding More Taking Away |  |  |  | Doubling g \& Gro ven \& Od |  | Deep <br> Patt | ng Unders and Relati | ding <br> ships | Number |
|  | Spatial Reasoning (1) Match, Rotate, Manipulate |  |  | Spatial Reasoning (2) Compose and Decompose |  |  |  | Reason lise and |  |  | Reasonin Mapping |  | Measure, Shape and Spatial Thinking |

Challenge, Equality \& Opportunity
YEAR 1

|  | Week 1 | Week 2 | Week 3 Week |  | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \frac{E}{E} \\ & \frac{5}{3} \\ & \frac{3}{4} \end{aligned}$ | Number: Place Value - Within 10 |  |  |  |  | Number: Addition \& Subtraction - within 10 |  |  |  |  | Geometry: Shape |  |
| $\begin{aligned} & \text { 음 } \\ & \text { in } \end{aligned}$ | Num | ber: Place (within 20) | alue N <br>  <br> Sub <br>   | Number: Addition \& Subtraction- (within 20) |  |  | Number: Place Value (within 50) |  | Measurement: Length and Height |  | Measurement: <br> Weight and Volume |  |
|  |  | Number: Multiplication and Division <br> (Reinforce multiples of 2, 5 and 10 included) |  | Number: Fractions |  |  |  | Number: Place Value (within 100) |  |  | Measureme nt: Time |  |

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## YEAR 2

|  | Week 1 Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\frac{5}{E}$ $\frac{3}{3}$ $\frac{3}{4}$ | Number: Place Value |  |  | Number: Addition \& Subtraction |  |  |  |  | Geo <br> Propert | try: of Shape |  |
|  | Measurement: Money | Number: Multiplication and Division |  |  |  |  | Meas Leng H | ement: <br> hand ght | Measure Cap Tem | nt: Mass, and ature |  |
|  | Statistics | Number: Fractions |  |  | Problem Solving |  | Geo <br> Posit <br> Dir | etry: <br> n and tion | Measur | nt: Time |  |

Challenge, Equality \& Opportunity

## YEAR 3

|  | Week 1 Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { E } \\ & \frac{1}{3} \\ & \frac{1}{3} \\ & \hline \end{aligned}$ | Number: Place Value |  | Number: Addition \& Subtraction |  |  |  |  | Number: Multiplication and Division |  |  |  |
| $\begin{aligned} & \text { Co } \\ & \text { 른 } \\ & \text { in } \end{aligned}$ | Number: Multiplication and Division |  | Measurement: Length and Perimeter |  |  | Number: Fractions |  |  | Meas Mass | nent: apacity |  |
|  | Number: Fractions | Measurement: Money |  | Measurement: Time |  |  | Geometry: Properties of Shape |  |  |  |  |

YEAR 4

|  | Week 1 Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \frac{5}{E} \\ & \frac{5}{2} \\ & \frac{3}{2} \end{aligned}$ | Number: Place Value |  |  | Number: Addition \& Subtraction |  |  |  | Number: Multiplication and Division |  |  |  |
|  | Number: Multiplication and Division |  | Measurement: Length and Perimeter |  | Number: Fractions |  |  |  | Number | cimals |  |
| $\begin{aligned} & \text { ̀ } \\ & \frac{1}{E} \\ & \frac{1}{3} \end{aligned}$ | Number: Decimals | Measurement: Money |  | Measurement: Time |  | n \# \# \# H | Geometry: Properties of Shape |  | Geomet and | osition tion |  |

Challenge, Equality \& Opportunity

|  | Year 3/4 |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Week 1 Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 |
| 들 $\frac{5}{5}$ $\frac{3}{2}$ | Number: Place Value |  |  | Number: Addition and Subtraction |  |  |  | Number: Multiplication and Division |  |  |  |
| $\begin{aligned} & \text { Bo } \\ & \text { Bo } \\ & \text { in } \end{aligned}$ | Number: Multiplication and Division | Measurement: Length, <br> Perimeter and Area |  | Number: Fractions |  |  |  | Y3: Measurement: Length and Capacity |  |  |  |
| $\begin{aligned} & \frac{4}{0} \\ & \frac{1}{5} \\ & \frac{1}{3} \end{aligned}$ | Number: Decimals |  | Measurement: Time |  | Statistics |  | Y3: Geometry: Properties of Shape |  |  |  |  |

## Maths Curriculum Map - Reception

| Cor | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Curriculum | Number and place value - Numbers to 5 <br> - Count up to three or four objects by saying one number name for each item <br> - Count actions or objects that cannot be moved <br> - Recognise numerals 1-5 <br> - Select the correct numeral to represent 1-5 <br> Addition and subtraction - Sorting <br> - Sorting into groups <br> - Say the number that is one more or less to 5 <br> Measurement - Time <br> - Use everyday language related to time <br> - Order and sequence familiar events <br> - Measure short periods of time in simple ways | Number and place value - Comparing groups <br> - Compare quantities of identical objects <br> - Compare quantities of nonidentical objects <br> Addition and subtraction - Change within 5 <br> - Find one more <br> - Find one less <br> Measurement Measure <br> - Order two items by weight or capacity <br> Geometry - Shape and Space <br> - Begin to use mathematical names for solid 3D shapes and flat 2D shapes <br> - Use mathematical terms to describe shapes <br> - Select a particular named shape <br> - Use familiar objects and common shapes to create and recreate patterns and build models | Addition and subtraction - Numbers to 5 <br> - Find the total number of items in two groups by counting all of them <br> - Say the number that is one more than any number <br> - Find one more or one less from a group of up to 5 objects <br> - In practical activities and discussion, is beginning to use the vocabulary involved in adding and subtracting <br> - Record, using marks that they can interpret and explain <br> Addition and subtraction - Numbers to 10 <br> - Combine two groups to find the whole <br> Number and place value - Numbers to 10 <br> - Count objects to 10 , and begin to count beyond 10 <br> - Count an irregular arrangement of up to ten objects <br> - Say the number that is one more <br> - Find one more or less from a group of up to ten objects <br> - Count out up to six objects from a larger group <br> - Compare groups up to 10 <br> - Use the language of 'more' and 'fewer' to compare two sets of objects <br> Addition and subtraction - Count on and back <br> - Find pairs with a total of 6 or 7 | Addition and subtraction <br> - Numbers to 10 <br> - In practical activities and discussion, begin to use the vocabulary involved in adding and subtracting <br> - Find number bonds to 10 using a ten frame <br> - Find number bonds to 10 using a part-whole model <br> - Begin to subtract by guessing how many are hiding <br> - Record, using marks that they can interpret and explain <br> - Geometry exploring patterns <br> - Make simple patterns <br> - Explore more complex patterns <br> - Continue a repeating pattern with three colours/shapes/objects <br> - Recognise and create symmetrical patterns | Addition and subtraction Count on and back <br> - Add 1,2 or 3 to any number to 10 by counting on <br> - Taking away by counting back <br> - Find doubles to $5+5$ <br> Measurement - Measure <br> - Order two or three items by length or height <br> Geometry - Exploring patterns <br> - Make simple patterns <br> - Explore more complex patterns <br> - Continue a repeating pattern with three colours/shapes/objects <br> - Recognise and create symmetrical patterns | Number and place value <br> -Numbers to 20 <br> - Count reliably to 20, place numbers in order and say which number is one more or one less <br> Multiplication and Division - Numerical patterns <br> - Count in 1 s and 10 s to 100 <br> - Double numbers to 5 +5 <br> - Solve practical problems involving halving and sharing <br> - Use practical resources to find odd and even numbers |


|  | - Describe their relative position such as 'behind' or 'next to' |  |
| :---: | :---: | :---: |
| Maths through Daily Routines | Number and Place Value (Securing Numbers, Ordering and Comparing): Counting forwards and backwards in 1s to 20 - teen numbers; Order a set of consecutive numbers to 10 , subitising to 10 . <br> Addition and Subtraction (Multiples): Partitioning 3 or 4 objects in different ways; Number bonds to 5; Knowing 1 more / less than numbers to 5 / 10; Counting all-combining groups; Counting on to add from any number; Knowing 1 less than numbers to 5 ; Counting back to subtract <br> Multiplication and Division (Doubling Numbers / Near Doubles): Double numbers to 5; Halve even numbers up to 10 by sharing |  |
| Vocabulary introduced in Reception | Number and Place Value: number, zero 1-20 cou <br> Addition and Subtraction: add, more, altogether <br> Fractions: double, half, whole <br> Measure: days of the week, week, month, year, tomorrow, before, after, next, last, now, soon, ea short, shorter, shortest, heavy, light, empty, full, <br> Multiplication and Division: times, counting in on <br> Geometry (Position and Direction): position, dist front, front, back, before, middle, up, down, forw Geometry (Properties of Shape): shape, group, s <br> General / Problem Solving: listen, join in, say, thi find, choose, collect, use, make, build, tell me, pi count, work out, answer, fill in, check, in order, ev | t on/back lots, more, few, fewer, compare, sort, order, before, after, less, many, most, the same as, ones, pair <br> takeaway, number line, one more, one less, equals, equal to, double, half, how many? make, total <br> veekend, birthday, holiday, morning, afternoon, evening, night, midnight, bedtime, dinnertime, playtime, today, yesterday, rly, late, quick, fast, slow, old, new, watch, clock, always, never, first, size, weight, capacity, time, money long, longer, longest, tall, small, large, thick, thin, low, deep, ruler, far, near, holds, container, weigh, weighs coin, buy, sell, pay, price, how many? <br> es, twos, fives, tens, lots of, groups of, once, twice, five times sharing, share, set, group, left, left over <br> ance, after, before, in, on, inside, under, on top of, behind, next to, above, below, top, bottom, side, outside, around, underneath, in ards, backwards, across, close, far, along, to, from, slide, roll, turn, stretch, bend, move. <br> rt, round, flat, straight, make, build, draw. square, circle, triangle, cube, cuboid, sphere <br> k, imagine, remember, start from, start with, start at, look at, point to, put, place, fit, change, split, carry on, what comes next? ck out, talk about, explain, show me read, write, finish, copy, colour, tick, cross, draw, draw a line between, join (up), ring, arrow, very, each. |


|  | Maths Curriculum Map - Year 1 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Core | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| Curriculum | Number: Place Value (within 10) <br> - Sort, count and represent objects <br> - Count, read and write forwards and backwards from any number 0-10 <br> - Count one more and one less <br> - One-to-one correspondence to compare groups <br> - Compare groups using language such as equal, more/greater, less/fewer <br> - Introduce <,> and = symbols <br> - Compare, order numbers and groups of objects <br> - Ordinal numbers ( $1^{\text {st }}, 2^{\text {nd }}$, $3^{\text {rd }} . .$. ) <br> - Use a number line for counting | Number: Addition and Subtraction (within 10) <br> - Use a part-whole model <br> - Find number bonds for numbers within 10 <br> - Compare number bonds <br> - Addition-adding together, adding more, finding a part <br> - Subtraction-taking away, how many left? <br> - Subtraction-finding a part, breaking away, counting back, finding the difference <br> - Fact families <br> - Comparing addition and subtraction statements <br> Geometry: Shape <br> - Recognise and name 3-D shapes <br> - Sort 3-D shapes <br> - Recognise and name 2-D shapes <br> - Sort 2-D shapes <br> - Make patterns with 2-D and 3D shapes | Number: Place Value (within 20) <br> - Count within 20 <br> Understand 10 <br> Understand 11, 12 and <br> 13 <br> - Understand 14,15 and 16 <br> - Understand 17, 18 and 19 Step 6 Understand 20 <br> - 1 more and 1 less The number line to 20 <br> - Use a number line to 20 <br> - Estimate on a number line to 20 Compare numbers to 20 <br> - Order numbers to 20 <br> - Number: Addition and Subtraction (within 20) <br> - Add by counting on within 20 <br> - Add ones using number bonds <br> - Find and make number bonds to 20 <br> - Doubles <br> - Near doubles Subtract ones using number bonds Subtraction counting back <br> - Subtraction - finding the difference <br> - Related facts <br> - Missing number problems | Number Place Value (within 50) <br> - Count from 20 to 50 <br> - $20,30,40$ and 50 Count by making groups of tens <br> - Groups of tens and ones <br> - Partition into tens and ones <br> - The number line to 50 <br> - Estimate on a number line to 50 <br> - 1 more, 1 less <br> Measurement: Length <br> and Height <br> - Compare lengths and heights <br> - Measure length using objects Measure length in centimetres <br> Measurement: Weight <br> and Volume <br> - Heavier and lighter Measure mass <br> - Compare mass <br> - Full and empty <br> - Compare volume <br> - Measure capacity <br> - Compare capacity | Number: Multiplication and Division <br> - Count in $2 \mathrm{~s}, 5 \mathrm{~s}, 10 \mathrm{~s}$ <br> - Make and add equal groups <br> - Make arrays <br> - Make doubles <br> - Make equal groups-grouping and sharing <br> Number: Fractions <br> - Find halves and quarters <br> Geometry: Position and Direction <br> - Describe turns and position | Number: Place Value (within 100) <br> - Count forwards and backwards within 100 <br> - Partition numbers <br> - Compare and order numbers <br> - One more, one less <br> Measurement: Money <br> - Recognise coins and notes <br> - Count in coins <br> Measurement: Time <br> - Before and after <br> - Dates <br> - Tell time to the hour and half hour <br> - Compare time |


| Vocabulary <br> introduced <br> in Year 1 | Number and Place value: 20-100 count (on/up/to/from/ down), least, fewest, smallest, greater, lesser, equal to, odd, even, units, tens, ten more/less, digit, numeral, figure(s), compare (In) order/a different order, size, value, between, halfway between, above, below. <br> Addition and subtraction: number bonds, addition, plus, sum, greater, inverse, near double, halve, is the same as, (including equals sign), difference between, how many more to make..?, how, many more is...than..?, how much more is..? subtract, minus, how many fewer is...than..?, how much less is..? <br> Fractions: whole, equal parts, four equal parts, one half, two halves, a quarter, two quarters. <br> Measurement: size, bigger, larger, length, width, height, depth, taller, tallest, high, higher, highest, wide, narrow, shallow, close, Metre, metre stick. half full, balances, heavier, heaviest, lighter, lightest, scales. <br> Measurement (Time): Seasons (Spring, Summer, Autumn, Winter) quicker, quickest, quickly, faster, fastest, slower, slowest, slowly, older, oldest, newer, newest, takes longer, takes less time, hour, o clock, half past, hands, how long ago? how long will it be to...? how long will it take to...? how often? often, sometimes, usually, once, twice, second, third etc, estimate, close to, about the same as, just over/under, too many/few, not enough, enough. spend, spent, change, dear(er), costs more, costs less, cheaper, costs the same as, how much? Multiplication and Division: odd, even, count in twos, fives, tens, (forwards from/backwards from), how many times?, multiple of, multiply, multiply by repeated addition, array, row, column, halve, share equally, group in pairs, threes, etc. equal groups of, divide, divided by <br> Geometry (Position and Direction): over, beside, opposite, apart, between, edge, centre, corner, direction, journey, left, right, sideways, near, through, towards, away from, movement, whole turn, half turn. <br> Geometry (Properties of Shape): pyramid, cone, cylinder. curved, hollow, solid, corner (point, pointed) face, side, edge. <br> General / Problem Solving: arrange, rearrange, change over, separate, continue, repeat, describe, explain, record, trace, complete, shade, same number(s)/different number(s)/missing number(s) number facts, same way, different way, best way, another way, in a different order, not all. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 10 Minute Maths in Year 1 | MASTERING NUMBER PROGRAMME |  |  |  |
| MASTERING NUMBER <br> (Multiplication) | Multiplication <br> Count in $\mathbf{2 s}$ to 24 link even and odd numbers Count in 10s in order up to 120 | Multiplication <br> Count in multiples of 5 up to 60 Count in 2 s and 10 s | Multiplication <br> Count in multiples of $\mathbf{1 0 , 2}$ and 5 fluently | Multiplication Count in multiples of 10, 2 and 5 fluently |

## Maths Curriculum Map - Year 2

| Core Curriculum | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number: Place Value <br> - Count forwards and backwards within 20 <br> - Tens and ones within 20 <br> - Count forwards and backwards within 50 <br> - Tens and ones within 50 <br> - Compare numbers within 50 <br> - Count objects, read, write and represent numbers to 100 <br> - Tens and ones with a part whole model <br> - Tens and ones using addition <br> - Use a place value chart <br> - Compare and order objects and numbers <br> Number: Addition and Subtraction <br> - Fact families-addition and subtraction bonds to 20 <br> - Compare number sentences and related facts <br> - Bonds to 100 (10s) <br> - Add and subtract 1 s <br> - 10 more and 10 less <br> - Add and subtract 10 s <br> - Add by making 10 <br> - Add a 2 and 1 digit number crossing 10 <br> - Subtract a 1 digit from a 2 digit number-crossing 10 <br> - Add 2 digit numbers not crossing then crossing 10 | Number: <br> Multiplication and Division <br> - Make and add equal groups <br> - Make arrays <br> Geometry: <br> Properties of Shape <br> - Recognise 2D and <br> 3D shapes <br> - Count sides and vertices on 2D shapes <br> - Draw, sort and make patterns with 2D shapes <br> - Lines of symmetry <br> - Count faces, edges and vertices on 3D shapes <br> - Sort and make patterns with 3D shapes | - Count money - pence Count money - pounds (notes and coins) <br> - Count money - pounds and pence <br> - Choose notes and coins Make the same amount Compare amounts of money <br> - Calculate with money Make a pound <br> - Find change <br> - Two-step problems <br> Number: Multiplication and Division <br> - Recognise equal groups <br> - Make equal groups <br> - Add equal groups <br> - Introduce the multiplication symbol <br> - Multiplication sentences <br> - Use arrays <br> - Make equal groups - grouping <br> - Make equal groups - sharing <br> - The 2 times-table <br> - Divide by 2 <br> - Doubling and halving <br> - Odd and even numbers <br> - The 10 times-table <br> - Divide by 10 <br> - The 5 times-table <br> - Divide by 5 <br> - The 5 and 10 times-tables | Measurement: Length and <br> - Measure in centimetres <br> - Measure in metres <br> - Compare lengths and heights <br> - Order lengths and heights Four operations with lengths and heights <br> Measurement: Mass, Capacity <br> and Temperature <br> - Compare mass <br> - Measure in grams <br> - Measure in kilograms <br> - Four operations with mass <br> - Compare volume and capacity <br> - Measure in millilitres <br> - Measure in litres <br> - Four operations with volume and capacity <br> - Temperature | Statistics <br> - Make tally charts <br> - Draw and interpret pictograms (1-1) <br> - Draw and interpret pictograms ( 2,5 and 10 ) <br> - Block diagrams <br> Number: Fractions <br> - Make equal parts <br> - Recognise and find half and quarter <br> - Recognise and find one third <br> - Unit and non-unit fractions <br> - Equivalence of $1 / 2$ and 2/4 <br> - Find three-quarters <br> - Count in fractions | Geometry: Position and Direction <br> - Describe position, movement and turns <br> - Make patterns with shapes <br> Measurement: Time <br> - Tell time to the hour and half hour <br> - clock and half past <br> - Quarter past and quarter to <br> - Tell time to 5 minutes <br> - Hours and days <br> - Find and compare durations of time |


| Vocabulary introduced in Year 2 | Number and Place Value: numbers to one hundred, hundreds, partition, recombine, hundred more/less, represents, exchange, <br> Statistics: count, tally, sort, vote, graph, block graph, pictogram, represent group, set, list, table label, title most popular, most common, least popular, least common <br> Fractions: three quarters, one third, a third, equivalence, equivalent. <br> Measurement: quarter past/to, fortnight temperature (degrees) $\mathrm{m} / \mathrm{cm}, \mathrm{g} / \mathrm{kg}, \mathrm{ml} / \mathrm{l}$ <br> Multiplication and Division: count in multiples of 3 <br> Geometry (Position and Direction): rotation, clockwise, anticlockwise, straight line, ninety degree turn, right angle. Geometry (Properties of shape): smaller, symmetrical, line of symmetry, fold, match, mirror line, reflection, pattern, repeating pattern, vertices, vertex. pentagon, hexagon, octagon, circular, triangular, right angle. <br> General/Problem Solving: predict, describe the pattern, describe the rule, find, find all, find different, investigate. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10 Minute Maths in Year 2 (MATHS BLAST) <br> Retrieval/ <br> Arithmetic Fluency | Counting <br> Count to and across 100 from any given number <br> Count, read and write numbers <br> to 100 in numerals <br> Count in multiples of 2,3,5 and 10 from any number forward and back. <br> Number and Place Value <br> (Securing Numbers, Ordering and Comparing): <br> Count forwards and backwards in 1s to 100; <br> Order a set of random numbers to 100; <br> Compare numbers using symbols < > = <br> Multiplication <br> Consolidate $\mathbf{2 , 5 , 1 0}$ in order up to 12X | Number and Place <br> Value (Counting): <br> Count <br> forwards/backwards <br> in 10s and 1s to 100 <br> (mixed counting) <br> e.g.,20, 30,40 etc, <br> $20,30,31,32,33$ <br> etc, $80,70,60$ etc <br> Number facts (+ -) <br> Use place value and number facts to <br> solve problems <br> Recall and use <br> addition and <br> subtraction facts to <br> 20 fluently <br> Derive and use <br> related facts up to <br> 100 <br> Multiplication <br> Count fluently from <br> 0 in 2,5 and 10 <br> Recall multiples of <br> 10 up to $12 \times 10$ in <br> any order including <br> missing numbers <br> and division facts | Addition and Subtraction (Multiples): <br> Recall number bonds to 20 and use this to find bonds to 18,19 ; Add 3 numbers where bond to 10 evident; <br> Partition numbers (1 number) using number bonds to add/subtract (reordering numbers) e.g. $8+7=8+2+5,13$ $-5=13-(3-5)$ <br> Subtract any single digit number from a multiple of 10 e.g. 80-7 (knowledge of bonds to 10) Mental (+-) <br> Add and subtract numbers mentally: <br> - A two digit number and 1 s <br> - A two digit number and 10 s <br> - 2 two digit numbers <br> - Add 3 one digit numbers Multiplication <br> Recall multiples of $\mathbf{2}$ up to $\mathbf{1 2 \times 2}$ in any order including missing numbers and division facts Recall multiples of 10 fluently | Addition and Subtraction <br> (Adding / Subtracting 10's, 100's, 1000's): <br> Add 1 to any number to 100; Count in 10s from any number (forwards/backwards); Add/subtract near 10s and adjusting e.g. 9, 11 Number bonds to 100 e.g. $70+30$; Add multiples of ten e.g. $30+$ $20,30+60,30+80$ Written (+-) <br> Record addition and subtraction in columns to prepare for formal written methods with larger numbers Multiplication <br> Recall multiples of 5 up to 12×5 in any order including missing numbers and division facts <br> Recall multiples of 2 fluently including division facts | Multiplication and Division (Doubling Numbers / Near Doubles): Double teen numbers $16+$ 16 Near doubles $16+17$; Double multiples of $\mathbf{1 0}$ to 100 e.g double 20; Halve multiples of 10 with even number of 10 s to 100 e.g. half of 40. Focus on doubling/halving multiples of 10 with odd number of 10 s by partitioning and recombining e.g. half of $30,50,70,30=20+10$ Double even numbers up to 100 by partitioning and recombining; <br> Halve even numbers up to 100 by partitioning and recombining. <br> Multiplication <br> Count in multiples of 4 up to $12 \times 4$ in order from 0 Relate to doubling 2 Recall multiples of 2 fluently including division facts <br> Recall multiples of 5 fluently including division facts | Multiplication and Division (Order of Operations): <br> Explore commutativity using arrays e.g. $4 \times 3=3 \times 4$; <br> Rewrite repeated addition as multiplication; <br> Relationship between 5 x and 10x table and doubling and halving. <br> Mental / Written ( $\mathrm{x} \div$ ) Show that multiplication of 2 numbers can be done in any order (commutative) and division of 1 number by another cannot <br> Fractions Decimals and <br> Percentages (Comparing, <br> Ordering and Calculating): <br> Count in fractions up to 10 , starting from any number and using the $1 / 2$ and $2 / 4$ equivalence on the number line <br> Multiplication <br> Count in multiples of 4 up to $12 \times 4$ in order from 0 Recall multiples of 5 up to 12x5 fluently and related division facts |

## Maths Curriculum Map - Year 3

## Core Curriculum

| Autumn 1 | Autumn 2 | Spring 1 |
| :---: | :---: | :---: |
| Number: Place Value <br> - Represent numbers to 100 <br> - Tens and ones using addition <br> - Hundreds <br> - Represent numbers to 1000 <br> - $100 \mathrm{~s}, 10 \mathrm{~s}$ and 1 s <br> - Number line to 1000 <br> - Find 1,10,100 more or less than a given number <br> - Compare objects to 1000 <br> - Compare and order numbers to 1000 <br> - Count in 50 s <br> Number: Addition and <br> Subtraction <br> - Add and subtract multiples of 100 <br> - Add and subtract 1 s <br> - Add and subtract 2,3 and 1 digit numbers and crossing 10 <br> - Subtract 2 digit and 1 digit and then 3 digit and 1 digit numbers and crossing 10 <br> - Subtract 3 and 2 digit numbers and crossing 100 | Number: Addition and Subtraction <br> - Add and subtract 100s <br> - Spot patterns <br> - Add two 2 digit numbers crossing 10 <br> - Subtract 2 digit from a 2 digit number crossing 10 <br> Number: <br> Multiplication and Division <br> - Multiplicationequal groups <br> - Multiplication using the symbol <br> - Using arrays <br> - 2 and 5 times table <br> - Make equal groups-sharing and grouping <br> - Divide by 2,5 and 10 <br> - Multiply and divide by 3 <br> - 3 times table | Number: Multiplication and Division <br> - Multiples of 10 <br> - Related calculations <br> - Reasoning about multiplication <br> - Multiply a 2-digit number by a 1digit number - no exchange <br> - Multiply a 2-digit number by a 1digit number - with exchange <br> - Link multiplication and division <br> - Divide a 2-digit number by a 1digit number - no exchange <br> - Divide a 2-digit number by a 1digit number - flexible partitioning <br> - Divide a 2-digit number by a 1digit number - with remainders <br> - Scaling <br> - How many ways? <br> Measurement: Length and <br> Perimeter <br> - Measure in metres and centimetres Measure in millimetres <br> - Measure in centimetres and millimetres <br> - Metres, centimetres and millimetres <br> - Equivalent lengths (metres and centimetres) Equivalent lengths (centimetres and millimetres) <br> - Compare lengths <br> - Add lengths <br> - Subtract lengths <br> - What is perimeter? <br> - Measure perimeter <br> - Calculate perimeter |


| Vocabulary introduced in Year 3 | Number and Place Value: numbers to 1,000 Addition and subtraction: column addition and subtraction Fractions: numerator, denominator, unit fraction, non-unit fraction, compare and order, tenths Measurement: leap year twelve-hour/24-hour clock, am/pm, century roman numerals I-XII mm Multiplication and Division: count in multiples of 4, 8 and 11, product, scale up Geometry (Position and Direction): greater/less than 90 degrees orientation (same orientation, different orientation), north, south, east, west Geometry (Properties of Shape): horizontal, vertical, perpendicular and parallel lines. perimeter hemi-sphere, prism, semi-circle Statistics: chart, bar chart, frequency table, Carroll diagram, Venn diagram, axis, axes diagram |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10 Minute Maths in Year 3 (MATHS BLAST) <br> Retrieval/ <br> Arithmetic Fluency <br> (Multiplication) | Number and Place Value <br> (Securing Numbers, Ordering and <br> Comparing): <br> Count in $\mathbf{1 0 0}, \mathbf{1 0}$ s, 1s from any number to 1000; <br> Order a set of random numbers <br> to 1000; <br> Compare numbers using symbols <br> < > and = up to 1000 <br> Number and Place Value <br> (Counting): <br> Add 100 to any 2 / 3digit number $\text { e.g., } 45+100,145+100 ;$ <br> Add multiples of $\mathbf{1 0 0}$ to any $\mathbf{2} / \mathbf{3}$ <br> digit number $45+200,145+200$, <br> $145+700$ (regrouping) <br> Counting <br> Count from 0 in multiples of <br> 4,8,50 and 100 <br> Find $\mathbf{1 0}$ or $\mathbf{1 0 0}$ more or less than <br> a given number <br> Multiplication <br> Count in multiples of 2 up to $12 \times 2$ in any order including missing numbers and division facts. <br> Count in multiples of 4 up to $12 \times 4$ in order from 0 with growing fluency | Addition and <br> Subtraction <br> (Multiples): <br> Add any multiple of 10 to a $2 / 3$ digit number e.g. $153+$ 20, $153+70$ (regrouping); Subtract any multiple of 10 from a $2 / 3$ digit number, e.g. $153-20,153$ 70 (regrouping) Counting in 10s e.g. Use number bonds/partitioning $153-(50+20)$; <br> To subtract many amounts, combine to add first in context. Eg $£ 1$ - $(20 p-30 p), £ 1-50 p$ <br> Multiplication <br> Recall multiples of 4 up to $12 \times 4$ in any order, missing numbers and division facts Introduce (relating to 4) and begin to count multiples of 8 from 0 to $12 \times 8$ | Addition and Subtraction (Adding <br> /Subtracting 10's, 100's, 1000's): <br> Add 10 to any number, $43+10$, $143+10$ <br> Add multiples of 10 to any number e.g. 43+ 30 (no regrouping), $43+70$ (regrouping), <br> $143+30$ (no regrouping), $143+$ 70 (regrouping); <br> Explain effects of adding $\mathbf{1 0}$. Why do 1s not change when adding 10s? When will 100s change?; Add near multiples of 10 e.g. + 99, 31, 29 etc including in simple money context e.g. 99p, £1.99 <br> Multiplication <br> Recall multiples of 4 up to $12 \times 4$ in any order, missing numbers and division facts Count in multiples of 8 to $12 \times 8$ in any order | Addition and Subtraction <br> Mental (+-) <br> Add and subtract numbers mentally, including: <br> - A three digit number and 1s <br> - A three digit number and 10s <br> - A three digit number and 100s <br> Multiplication <br> Recall multiples of 4 up to $12 \times 4$ in any order, missing numbers and division facts Count in multiples of 8 to $12 \times 8$ in any order | Multiplication and <br> Division (Doubling <br> Numbers / Near Doubles): <br> Doubles of multiples of <br> 10/near10s $60+60,60+$ <br> 70; Review <br> doubling/halving <br> multiples of 10 with odd <br> number of 10 s by <br> partitioning and recombining e.g. half of <br> $30,50,70,30=20+10$, <br> Half is $10+5=15$; Double <br> simple 3 digit numbers <br> (multiples of 10, 50, 100) <br> e.g. double 200, double <br> 250 <br> Multiplication <br> Recall multiples of 4 up to <br> $12 \times 4$ in any order, missing <br> numbers and division <br> facts <br> Recall multiples of 8 up to <br> 12x8 in any order, missing numbers and division <br> facts | Fractions and Decimals <br> Count up and down in tenths <br> Add and subtract fractions with the same denominator within one whole <br> Multiplication and Division (Order of Operations): <br> Multiplication and division of whole numbers by 10 exploring the effect of moving digits e.g. $6 \times 10,10 \times$ $10,16 \times 10$; Use known facts to multiply and divide by multiples of 10 e.g. $6 \times 3,6 x$ 30 Knowledge of doubling e.g. double $4 x$ table $=8 x$; Know that... e.g. $50 \times 2=100$, $25 \times 4=100,20 \times 5=100$; Link to measure and reading scales e.g. 50 p $\times 2=£ 1.00$, $£ 50 \times 2=£ 100,25 p \times 4=$ £1.00 £25 x $4=£ 100,20 p \times 5$ $=£ 1.00 \quad, 1000 \mathrm{~g}=1 \mathrm{~kg}$ $1000 \mathrm{ml}=11,1000 \mathrm{~cm}=1 \mathrm{~km}$, $1000 \div 2=500 \quad 1000 \div 4=$ $250,1 / 2 \mathrm{l} / \mathrm{kg} / \mathrm{km}=500,1 / 4$ $\mathrm{l} / \mathrm{kg} / \mathrm{km}=250,3 / 4 \mathrm{l} / \mathrm{kg} / \mathrm{km}=$ 750 <br> Multiplication <br> Recall multiples of 8 up to $12 \times 8$ in any order, missing numbers and division facts Introduce counting in 3s and multiples of 3 |

## Maths Curriculum Map - Year 3/4




|  | Number and Place Value: numbers to 1,000 Addition and subtraction: column addition and subtraction Fractions: numerator, denominator, unit fraction, non-unit fraction, compare and order, tenths Measurement: leap year twelve-hour/24-hour clock, am/pm, century roman numerals I-XII mm Multiplication and Division: count in multiples of 4, 8 and 11, product, scale up Geometry (Position and Direction): greater/less than 90 degrees orientation (same orientation, different orientation), north, south, east, west Geometry (Properties of Shape): horizontal, vertical, perpendicular and parallel lines. perimeter hemi-sphere, prism, semi-circle Statistics: chart, bar chart, frequency table, Carroll diagram, Venn diagram, axis, axes diagram |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number and Place value: tenths, hundredths, numeral decimal places round (to nearest) thousand more / less negative integers count through zero roman numerals I to C Multiplication and Division: count in multiples of $6,7,9,12$, inverse, derive division facts Fractions: equivalent fractions and decimals, decimal point, decimal fraction hundredths Geometry (Position and Direction): coordinates translation, translate, quadrant x-axis, y-axis Geometry (Properties of Shape): area, net rectilinear adjacent quadrilaterals: (rhombus, parallelogram, trapezium, trapezoid, kite). heptagon, polygon, tetrahedron, polyhedron, cylindrical triangles (isosceles, scalene) right angle, acute angle, obtuse angles Measurement: convert, noon Statistics: continuous data, line graphs |  |  |  |  |  |
| 10 Minute <br> Maths in Year 3 <br> (MATHS BLAST) <br> Retrieval/ <br> Arithmetic Fluency <br> (Multiplication) | Time <br> Tell time to the hour and half hour clock and half past Quarter past and quarter to Tell time to 5 minutes Hours and days <br> Multiplication <br> Count in multiples of 2 up to $12 \times 2$ in any order including missing numbers and division facts. <br> Count in multiples of 4 up to $12 \times 4$ in order from 0 with growing fluency <br> Shape <br> Right angles <br> Compare angles <br> Horizontal, vertical, parallel <br> and perpendicular <br> Recognise and describe 2D and 3D shapes <br> Multiplication <br> Recall multiples of 3, 4 and 8 up to 12 x in any order including missing numbers and related division facts fluently Fluently count in 6 s up to $12 \times 6$ | Number and Place Value <br> Partition numbers to 100 <br> Partition numbers to 1,000 <br> Find $\mathbf{1 , 1 0}$ or 100 more or less <br> Order numbers to 1,000 <br> Count in 50s <br> Addition and Subtraction <br> Apply number bonds within 10 <br> Add and subtract 1 s <br> Add and subtract 10s <br> Add and subtract 100s <br> Subtract 1s across a 10 <br> Add two numbers (across a 10) <br> Add two numbers (across a 100) <br> Multiplication <br> Recall multiples of 4 up to $12 \times 4$ in any order, missing numbers and division facts <br> Introduce (relating to 4) and begin to count multiples of 8 from 0 to 12x8 <br> Number and Place Value <br> Partition numbers to $\mathbf{1 0 , 0 0 0}$ <br> Find 1, 10, 100, 1,000 more or less <br> Order numbers to $\mathbf{1 0 , 0 0 0}$ <br> Roman numerals <br> Round to the nearest $\mathbf{1 0 , 1 0 0}$ or 1,000 <br> Addition and Subtraction <br> Add and subtract $1 \mathrm{~s}, 10 \mathrm{~s}, 100 \mathrm{~s}$ and 1,000s <br> Add two 4-digit numbers- more than one exchange <br> Multiplication <br> Introduce 6s in order up to $\mathbf{1 2 x 6}$ <br> Relate to multiples of 3 <br> Fluently count in 9 s in order up to 12x9 | Addition and Subtraction <br> Subtract two numbers (across a 10) <br> Subtract two numbers (across a <br> 100) <br> Add 2-digit and 3-digit numbers <br> Subtract a 2-digit number from a 3digit number <br> Complements to 100 <br> Inverse operations <br> Multiplication <br> Recall multiples of 4 up to $12 \times 4$ in any order, missing numbers and division facts <br> Count in multiples of 8 to $\mathbf{1 2 \times 8}$ in any order <br> Addition and Subtraction <br> Subtract two 4-digit numbers - no exchange <br> Subtract two 4-digit numbers more than one exchange Efficient subtraction <br> Multiplication <br> Recall multiples of 6 in any order missing boxes and division Recall multiples of 9 and order including missing numbers and division facts fluently Fluently count in 7s in order up to 12x7 | Addition and Subtraction <br> Add and subtract numbers mentally, including: <br> A three digit number and 1s <br> A three digit number and 10s <br> A three digit number and 100s <br> Length and Perimeter <br> Equivalent lengths $\mathrm{m}, \mathrm{cm}$ and mm <br> Add and subtract lengths <br> Measure and calculate <br> perimeter <br> Multiplication <br> Recall multiples of 4 up to $12 \times 4$ <br> in any order, missing numbers <br> and division facts <br> Count in multiples of 8 to $\mathbf{1 2 \times 8}$ <br> in any order <br> Multiplication and Division <br> Factor pairs <br> Written methods <br> Multiply 2 digits by 1 digit <br> Multiply 3 digits by 1 digit <br> Divide 2 digits by 1 digit <br> Equivalent lengths-m and cm, mm and cm <br> Kilometres <br> Measure perimeter <br> Perimeter of rectangles and <br> rectilinear shapes <br> Multiplication <br> Recall multiples of 7 and order including missing numbers and division facts fluently <br> Fluently count in 11s in order up to $\mathbf{1 2 \times 1 2}$ | Fractions <br> Recognise and find half, quarter and third <br> Equivalence of $1 / 2$ and $2 / 4$ <br> Count in fractions <br> Mass and Capacity <br> Add and subtract mass <br> Add and subtract capacity <br> Temperature <br> Multiplication <br> Recall multiples of 4 up to $12 \times 4$ in any order, missing numbers and division facts <br> Recall multiples of 8 up to $12 \times 8$ in any order, missing numbers and division facts <br> Fractions <br> Tenths -count in tenths <br> Equivalent fractions <br> Fractions greater than 1 <br> Count in fractions <br> Add 2 or more fractions <br> Decimals <br> Tenths as decimals <br> Divide 1 then 2 digits by 10 <br> Hundredths as decimals <br> Divide 1 or $\mathbf{2}$ digits by 100 <br> Multiplication <br> Recall multiples of $\mathbf{7}$ and 11 in any order. <br> Fluently count in 12 s <br> MULTIPLICATION TABLES CHECK |  |
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|  |  |  |  |  |  | Write, compare and order decimals |
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|  |  |  |  |  |  | 12 TIMES TABLES |

## Maths Curriculum Map - Year 4

|  | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Curriculum | Number: Place Value <br> - Represent numbers to 1000 <br> - $100 \mathrm{~s}, 10 \mathrm{~s}$ and 1 s <br> - Number line to 1000 <br> - Round to nearest 10,100 <br> - Count in 1000 s <br> - $1000 \mathrm{~s}, 100 \mathrm{~s}, 10 \mathrm{~s}, 1 \mathrm{~s}$ <br> - Partitioning <br> - Number line to 10000 <br> - Find $1,10,100$ more or less <br> - 1000 more or less <br> - Compare numbers <br> Number: Addition and <br> Subtraction <br> - Add and subtract $1 \mathrm{~s}, 1 \mathrm{~s}, 100 \mathrm{~s}, 1000 \mathrm{~s}$ <br> - Add two 3 digit numbers not crossing then crossing 10 and 100 <br> - Add two 4 digit numbers, no exchange then one or more exchanges <br> - Subtract a 3 digit from a 3 digit number no exchange <br> - Subtract a 4 digit from a 4 digit number no exchange <br> - Subtract a 3 digit from a 3 digit number-exchange <br> - Subtract two 4 digit numbersexchange <br> - Efficient subtraction <br> - Estimate answers and check strategies | Number: Multiplication and Division <br> - Multiply and divide by 10 and 100 <br> - Multiply by 1 and 0 <br> - Divide by 1 and itself <br> - Multiply and divide by 3 <br> - The 3 times table <br> - Multiply and divide by 6 <br> - 6 times table and division facts <br> - Multiply and divide by 9 <br> - 9 times table and division facts <br> - Multiply and divide by 7 <br> - 7 times table and division facts <br> Measurement: Area <br> - What is area? <br> - Counting squares <br> - Making shapes <br> - Comparing area | Number: Multiplication and Division <br> - Factor pairs <br> - Use factor pairs <br> - Multiply by 10 <br> - Multiply by 100 <br> - Divide by 10 <br> - Divide by 100 <br> - Related facts multiplication and division <br> - Informal written methods for multiplication <br> - Multiply a 2 -digit number by a 1 -digit number <br> - Multiply a 3-digit number by a 1 -digit number <br> - Divide a 2-digit number by a 1-digit number (1) <br> - Divide a 2-digit number by a 1-digit number (2) <br> - Divide a 3-digit number by a 1 -digit number <br> - Correspondence problems <br> - Efficient multiplication <br> Measurement: Length and <br> Perimeter <br> - Measure in kilometres and metres <br> - Equivalent lengths (kilometres and metres) <br> - Perimeter on a grid <br> - Perimeter of a rectangle <br> - Perimeter of rectilinear shapes <br> - Find missing lengths in rectilinear shapes <br> - Calculate perimeter of rectilinear shapes <br> - Perimeter of regular polygons | Number: Fractions <br> - Understand the whole <br> - Count beyond 1 <br> - Partition a mixed number <br> - Number lines with mixed numbers <br> - Compare and order mixed numbers <br> - Understand improper fractions <br> - Convert mixed numbers to improper fractions <br> - Convert improper fractions to mixed numbers <br> - Equivalent fractions on a number line <br> - Equivalent fraction families <br> - Add two or more fractions <br> - Add fractions and mixed numbers <br> - Subtract two fractions <br> - Subtract from whole amounts <br> - Subtract from mixed numbers <br> Number: Decimals <br> - Tenths as fractions <br> - Tenths as decimals <br> - Tenths on a place value chart <br> - Tenths on a number line <br> - Divide a 1 -digit number by 10 <br> - Divide a 2 -digit number by 10 <br> - Hundredths as fractions <br> - Hundredths as decimals <br> - Hundredths on a place value chart <br> - Divide a 1- or 2-digit number by 100 | Number: Decimals <br> - Bonds to 10 and 100 <br> - Make a whole <br> - Write, compare and order decimals <br> - Round decimals <br> - Halves and quarters <br> Measurement: Money <br> - Pounds and pence <br> - Ordering money <br> - Estimating money <br> - Convert pounds and pence <br> - Add and subtract money <br> - Find change <br> - Four operations <br> Measurement: Time <br> - Telling the time to 5 minutes <br> - Telling the time to the minute <br> - Using a.m. and p.m. <br> - 24 hour clock <br> - Hours, minute and seconds <br> - Years, months, weeks and days <br> - Analogue to digital12 hour <br> - Analogue to digital 24 hour | Statistics <br> - Interpret charts <br> - Comparison, sum and difference <br> - Introduce line graphs Geometry: Properties of Shape <br> - Turns and angles <br> - Right angles in shapes <br> - Compare, identify and order angles <br> - Recognise and describe 2-D shapes <br> - Triangles and quadrilaterals <br> - Horizontal and vertical <br> - Lines of symmetry <br> - Complete a symmetrical figure <br> Geometry: Position and Direction <br> - Describe a position <br> - Draw on a grid <br> - Move on a grid <br> - Describe movement on a grid |

Vocabulary
introduced
in Year 4

|  | continuous data, line graphs |  |  |
| :---: | :---: | :---: | :---: |
| 10 Minute <br> Maths in <br> Year 4 <br> (MATHS <br> BLAST) <br> Retrieval/ <br> Arithmetic <br> Fluency <br> (Multiplication) | Number and Place Value <br> (Securing Numbers, Ordering and Comparing): <br> Count in 1 s across boundaries 1000, 10,000, 100,000; <br> Order a set of random numbers to 100,000; Compare numbers using symbols < and < up to 100,000 <br> Counting <br> Count in multiples of 6,7,9, 25 and 1000 <br> Find 1000 more or less than a given number through zero to include negative numbers <br> Multiplication <br> Recall multiples of 3, 4 and 8 up to $12 x$ in any order including missing numbers and related division facts fluently Fluently count in 6 s up to $12 \times 6$ | Number and Place Value <br> (Counting): Count in 10, <br> 100s, 1000s forwards <br> and backwards across boundaries 1000, <br> $10,000,100,000$; What is <br> 10, 100, 1000 more/less <br> than ....?; Round any number to the nearest <br> 10,100 or $1000 ;$ <br> Addition and <br> Subtraction (Multiples): <br> Add any multiple of 10 <br> to a 4-digit number <br> e.g., $2153+20,2153+70$ <br> (regrouping); Add any <br> multiple of 100 to a 4- <br> digit number e.g. $2153+$ <br> 100, 2153 + 300, 2153 + <br> 900 (regrouping) <br> Written (+-) <br> Add and subtract <br> numbers with up to 4 <br> digits using the formal <br> written methods of <br> columnar addition and <br> subtraction where <br> appropriate <br> Multiplication <br> Introduce 6s in order up to $12 \times 6$ Relate to multiples of 3 <br> Fluently count in $9 s$ in order up to $12 \times 9$ | Fractions and decimals <br> Count up and down in hundredths <br> Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten Written (+ -) <br> Multiply two and three digit numbers by a one digit number using formal written layout <br> Multiplication <br> Recall multiples of 6 in any order missing boxes and division <br> Recall multiples of 9 and order including missing numbers and division facts fluently <br> Fluently count in 7 s in order up to $12 \times 7$ | continuous data, line graphs

(Securing Numbers Ordering in 10 100s, 1000 forwards $10,000,100,000$; What is 10, 100, 1000 more/less han ....?; Round any number to the nearest 10,100 or $1000 ;$ ition and Subtraction (Multiples): Add any multiple of 10 to a 4-digit number eg.,2153 + 20, $2153+70$ (regrouping); Add any multiple of 100 to a $4-$ digl numberg. $2153+$ 900 (regrouping) Written (+-) d subtract bers with up to 4 digits using the formal rolum dition and Multilica mur Re Fluently count in 9s in order up to 12x9

Number and Place value: tenths, hundredths, numeral decimal places round (to nearest) thousand more / less negative integers count through zero roman numerals I to C Multiplication and Division: count in multiples of $6,7,9,12$, inverse, derive division facts Fractions: equivalent fractions and decimals, decimal point, decimal fraction hundredths Geometry (Position and Direction): co-ordinates translation, translate, quadrant $x$-axis, $y$-axis Geometry (Properties of Shape): area, net rectilinear adjacent quadrilaterals: (rhombus, parallelogram, trapezium, trapezoid, kite). heptagon, polygon, tetrahedron, polyhedron, cylindrical triangles (isosceles, scalene) right angle, acute angle, obtuse angles Measurement: convert, noon Statistics:

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 Doubling Numbers / Near Doubles): Near doubles to multiple of 10 e.g., $60+59$; Double simple 3-digit numbers by recall of known facts or partitioning and recombining (multiples of 10, 50, 100) e.g. double 200, double 250 , double 220 , half of 140 .Multiplication and Division
(Order of Operations):
Multiplication and division of whole numbers by 10 and 100 and multiples of e.g., $6 \times 100,10$ x 100.. Distributive law e.g., 39 x $7=30 \times 7+9 \times 7$; Associative law and reordering calculations to make it easier, expressing equal calculations e.g. $2 \times 6 \times 5=10 x$ 6 ; Multiply by 50 by multiply by 100 and halving e.g. $23 \times 50=$ half of $23 \times 100$; Know all the table facts and the related division facts e.g. $500 \times 2=$ $1000,1000 \div 2=500,250 \times 4=$ $1000,1000 \div 4=250,200 \times 5=$ $1000,1000 \div 5=200$;

## Multiplication

Recall multiples of 7 and order including missing numbers and division facts fluently
Fluently count in 11s in order up to $12 \times 12$

## Number and Place Value (Counting): Round decimals with

 one decimal place to the nearest whole numberMultiplication and Division (Rounding and Adjusting): Rounding and adjusting decimals in context of money e.g, 3 items costing 99p or $£ 1.99$
Mental / Written ( $\mathrm{x} \div$ ) Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1 ; dividing by 1;
Multiply together three numbers Recognise and use factor pairs and commutativity in mental calculations Multiplication Recall multiples of 7 and 11 in any order. Fluently count in 12 s MULTIPLICATION TABLES CHECK

Fractions and decimals Add and subtract fractions with the same denominator Find the effect of dividing a one or two digit number by 10 and 100 , identifying the value of the digits in the answer as ones, tenths and hundredths Count up and down in hundredths;
compare numbers with the same number of decimal places up to two decimal places;
round decimals with one decimal place to the nearest whole number;
recognise and write decimal equivalents of any number of tenths or hundredths, recognise and write decimal equivalents to $1 / 4 ; 1 / 2 ; 3 / 4$ Multiplication
Recall multiples of 12 in any order.

END OF YEAR SECURE IN ALL 12 TIMES TABLES

## A Typical Maths Lesson at Havannah First School

## Each KS1 and 2 lesson typically, but not exclusively, follows the following format:

1. Flashback 4 (Daily retrieval - questions based on last lesson, last week, two weeks ago and further back)
2. Starter Activity - Practice skills needed for main activity - introduce key vocabulary.
3. Prime and Tether - Talk activity - what do the children know/build on previous knowledge.
4. Open questioning task - to engage all learners (discussion of strategies)
5. Misconception question - a question that shows a common misconception.
6. Progress to different questions which encourages reasoning/strategies - e.g. How do you know? What's the same and what's different, missing lengths or representations, True or False etc...
7. Independent Practice - Fluency/Reasoning and Problem Solving questions in book.
8. Recap of lesson/Self marking and discussions.
9. Maths Blast - Fast recall (retrieval) of previous term's content (knowledge and skills). Maths Blast might be taught discretely at the start of the school day. Lessons often follow the 'Ping Pong' strategy of 'I do - You do'

If individual or groups of children are not ready to move on then opportunities are built in later that day (post/pre -teach) or next lesson if necessary, to address misconceptions of the small step.

Lesson structures can vary to suit the content and the objective.
Children will largely work within the classroom setting although outdoor learning is encouraged if it supports mathematical learning.
Vocabulary is built upon and used in each lesson. Expectations of the vocabulary that is expected to be learned and used is also included as part of the Medium Term Curriculum Maps.

Marking is used to identify errors and misconceptions which can be addressed in future planning - there is little purpose in over-marking and it is not encouraged.
End of block units and End of Term Assessments are used to assess whether children have retained small steps knowledge, skills and understanding in their longer term memory and opportunities are planned to discuss or even re-visit common errors or misconceptions.
https://whiterosemaths.com/
https://www.ncetm.org.uk/teaching-for-mastery/
https://nrich.maths.org/teacher-primary
https://www.iseemaths.com/
https://numbersensemaths.com/
https://ttrockstars.com/
https://www.learningblocks.tv/numberblocks/home
https://www.mathsisfun.com/
https://mathsframe.co.uk/

## White Rose Maths

