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**Challenge, Equality & Opportunity**

**MATHS**

**Whole School Curriculum Intent:**

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| **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.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.**pict0.jpg** | **pict0.jpg**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. **pict0.jpg** | We aim for our children to develop empathy, awareness, respect and tolerance in-keeping with the school’s No Outsiders values.We also want all of our children to understand themselves and be ready for the next steps in their education and the wider world.**pict0.jpg** |
| **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 ideasCommunicate 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.

**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.



Challenge, Equality & Opportunity

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| **Number & Place Value** | **Addition & Subtraction** | **Multiplication &****Division** | **Fractions** |
| Place Value Clipart | C:\Users\17429\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\1CA06A90.tmp | Thrapston Primary School - Y2 Multiplication and Division | Tech Ing The Classroom Web Tools For Teaching Beginning Fractions clipart  free image download |
| **Measurement** | **Geometry - Shape** | **Geometry - Position & Direction** | **Statistics** |
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Challenge, Equality & Opportunity

**Reception**

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|  | **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** | **Week 7** | **Week 8** | **Week 9** | **Week 10** | **Week 11** | **Week 12** |  |  |
| **Autumn** | **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?****Positional language** | **Just like me!** | **It’s Me 1, 2, 3!** | **Light and Dark** |  | **Phase** |
| **Match and Sort****Compare Amounts** | **Representing 1,2 &3****Comparing 1,2 & 3****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, Shape and Spatial Thinking** |
| **Spring** | **Alive in 5** | **Growing 6,7,8** | **Building 9 & 10** | **Consolidation** |  | **Phase** |
| **Introducing zero****Comparing numbers to 5****Composition of 4 & 5** | **6, 7 & 8****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** |
| **Summer** | **To 20 and Beyond** | **First Then Now** | **Find my Pattern** | **On the Move** |  | **Phase** |
| **Building Numbers Beyond 10****Counting Patterns Beyond 10** | **Adding More****Taking Away** | **Doubling****Sharing & Grouping****Even & Odd** | **Deepening Understanding****Patterns and Relationships** |  | **Number** |
| **Spatial Reasoning (1)****Match, Rotate, Manipulate** | **Spatial Reasoning (2)****Compose and Decompose** | **Spatial Reasoning (3)****Visualise and Build** | **Spatial Reasoning (4)****Mapping** |  | **Measure, Shape and Spatial Thinking** |



Challenge, Equality & Opportunity

**YEAR 1**

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|  | **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** | **Week 7** | **Week 8** | **Week 9** | **Week 10** | **Week 11** | **Week 12** |
| **Autumn** | **Number: Place Value – Within 10** | **Number: Addition & Subtraction – within 10** | **Geometry: Shape** | **Consolidation****Assessment** |
| **Spring** | **Number: Place Value****(within 20)** | **Number: Addition & Subtraction- (within 20)** | **Number: Place Value (within 50)** | **Measurement: Length and Height** | **Measurement: Weight and Volume** | **Assessment** |
| **Summer** | **Consolidation** | **Number: Multiplication and Division****(Reinforce multiples of 2, 5 and 10 included)** | **Number: Fractions** | **Geometry: Position & Direction** | **Number: Place Value****(within 100)** | **Measurement: Money** | **Measurement: Time** | **Assessment** |



Challenge, Equality & Opportunity

**YEAR 2**

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|  | **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** | **Week 7** | **Week 8** | **Week 9** | **Week 10** | **Week 11** | **Week 12** |
| **Autumn** | **Number: Place Value**  | **Number: Addition & Subtraction**  | **Geometry: Properties of Shape**  | **Assessment** |
| **Spring** | **Measurement: Money** | **Number: Multiplication and Division** | **Measurement: Length and Height** | **Measurement: Mass, Capacity and Temperature**  | **Consolidation****Assessment** |
| **Summer** | **Statistics** | **Number: Fractions** | **Problem Solving** | **Geometry:****Position and Direction** | **Measurement: Time** | **Assessment** |



Challenge, Equality & Opportunity

**YEAR 3**

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|  | **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** | **Week 7** | **Week 8** | **Week 9** | **Week 10** | **Week 11** | **Week 12** |
| **Autumn** | **Number: Place Value**  | **Number: Addition & Subtraction**  | **Number: Multiplication and Division** | **Consolidation Assessment** |
| **Spring** | **Number: Multiplication and Division** | **Measurement: Length and Perimeter** | **Number: Fractions** | **Measurement: Mass and Capacity** | **Consolidation****Assessment** |
| **Summer** | **Number: Fractions** | **Measurement: Money** | **Measurement: Time** | **Geometry: Properties of Shape** | **Statistics** | **Consolidation Assessment** |



Challenge, Equality & Opportunity

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|  | **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** | **Week 7** | **Week 8** | **Week 9** | **Week 10** | **Week 11** | **Week 12** |
| **Autumn** | **Number: Place Value**  | **Number: Addition & Subtraction** | **Measures: Area** | **Number: Multiplication and Division**  | **Consolidation****Assessment** |
| **Spring** | **Number: Multiplication and Division** | **Measurement: Length and Perimeter** | **Number: Fractions** | **Number: Decimals** | **Consolidation Assessment** |
| **Summer** | **Number: Decimals** | **Measurement: Money** | **Measurement: Time** | **Statistics** | **Geometry: Properties of Shape** | **Geometry: Position and Direction** | **Consolidation****Assessment** |

**YEAR 4**



Challenge, Equality & Opportunity

**Year 3/4**

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|  | **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** | **Week 7** | **Week 8** | **Week 9** | **Week 10** | **Week 11** | **Week 12** |
| **Autumn** | **Number: Place Value** | **Number: Addition and Subtraction** | **Number: Multiplication and Division** | **Assessment** |
| **Spring** | **Number: Multiplication and Division** | **Measurement:****Length, Perimeter and Area** | **Number: Fractions** | **Y3: Measurement: Length and Capacity**  | **Consolidation and Assessment** |
| **Y4: Number: Decimals** |
| **Summer** | **Number: Decimals** | **Measurement: Time** | **Statistics** | **Y3: Geometry: Properties of Shape** | **Consolidation and Assessment** |
| **Y4: Geometry: Position and Direction** |

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| **Maths Curriculum Map - Reception** |
| **Core Curriculum – Small Steps** | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Number and place value – Numbers to 5*** Count up to three or four objects by saying one number name for each item
* Count actions or objects that cannot be moved
* Recognise numerals 1-5
* Select the correct numeral to represent 1-5

**Addition and subtraction – Sorting*** Sorting into groups
* Say the number that is one more or less to 5

**Measurement – Time*** Use everyday language related to time
* Order and sequence familiar events
* Measure short periods of time in simple ways
 | **Number and place value – Comparing groups*** Compare quantities of identical objects
* Compare quantities of non-identical objects

**Addition and subtraction – Change within 5*** Find one more
* Find one less

**Measurement – Measure*** Order two items by weight or capacity
 | **Addition and subtraction – Numbers to 5*** Find the total number of items in two groups by counting all of them
* Say the number that is one more than any number
* Find one more or one less from a group of up to 5 objects
* In practical activities and discussion, is beginning to use the vocabulary involved in adding and subtracting
* Record, using marks that they can interpret and explain

**Addition and subtraction – Numbers to 10****•** Combine two groups to find the whole**Number and place value – Numbers to 10*** Count objects to 10, and begin to count beyond 10
* Count an irregular arrangement of up to ten objects
* Say the number that is one more
* Find one more or less from a group of up to ten objects
* Count out up to six objects from a larger group
* Compare groups up to 10
* Use the language of ‘more’ and ‘fewer’ to compare two sets of objects

**Addition and subtraction – Count on and back****•** Find pairs with a total of 6 or 7**Geometry – Shape and Space*** Begin to use mathematical names for solid 3D shapes and flat 2D shapes
* Use mathematical terms to describe shapes
* Select a particular named shape
* Use familiar objects and common shapes to create and recreate patterns and build models
* Describe their relative position such as ‘behind’ or ‘next to’

  | **Addition and subtraction – Numbers to 10*** In practical activities and discussion, begin to use the vocabulary involved in adding and subtracting
* Find number bonds to 10 using a ten frame
* Find number bonds to 10 using a part-whole model
* Begin to subtract by guessing how many are hiding
* Record, using marks that they can interpret and explain
 | **Addition and subtraction – Count on and back*** Add 1,2 or 3 to any number to 10 by counting on
* Taking away by counting back
* Find doubles to 5 +5

**Measurement – Measure*** Order two or three items by length or height

**Geometry – Exploring patterns*** Make simple patterns
* Explore more complex patterns
* Continue a repeating pattern with three colours/shapes/objects
* Recognise and create symmetrical patterns
 | **Number and place value –Numbers to 20*** Count reliably to 20, place numbers in order and say which number is one more or one less

**Multiplication and Division – Numerical patterns*** Count in 1s and 10s to 100
* Double numbers to 5 +5
* Solve practical problems involving halving and sharing
* Use practical resources to find odd and even numbers
 |
| **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.**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**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 count on/back lots, more, few, fewer, compare, sort, order, before, after, less, many, most, the same as, ones, pair****Addition and Subtraction: add, more, altogether, takeaway, number line, one more, one less, equals, equal to, double, half, how many? make, total****Fractions: double, half, whole****Measure: days of the week, week, month, year, weekend, birthday, holiday, morning, afternoon, evening, night, midnight, bedtime, dinnertime, playtime, today, yesterday, tomorrow, before, after, next, last, now, soon, early, late, quick, fast, slow, old, new, watch, clock, always, never, first, size, weight, capacity, time, money long, longer, longest, short, shorter, shortest, heavy, light, empty, full, tall, small, large, thick, thin, low, deep, ruler, far, near, holds, container, weigh, weighs coin, buy, sell, pay, price, how many?****Multiplication and Division: times, counting in ones, twos, fives, tens, lots of, groups of, once, twice, five times sharing, share, set, group, left, left over****Geometry (Position and Direction): position, distance, after, before, in, on, inside, under, on top of, behind, next to, above, below, top, bottom, side, outside, around, underneath, in front, front, back, before, middle, up, down, forwards, backwards, across, close, far, along, to, from, slide, roll, turn, stretch, bend, move.****Geometry (Properties of Shape): shape, group, sort, round, flat, straight, make, build, draw. square, circle, triangle, cube, cuboid, sphere****General / Problem Solving: listen, join in, say, think, imagine, remember, start from, start with, start at, look at, point to, put, place, fit, change, split, carry on, what comes next? find, choose, collect, use, make, build, tell me, pick out, talk about, explain, show me read, write, finish, copy, colour, tick, cross, draw, draw a line between, join (up), ring, arrow, count, work out, answer, fill in, check, in order, every, each.** |

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| **Maths Curriculum Map - Year 1** |
| **Core Curriculum****Small Steps** | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Number: Place Value (within 10)*** Sort objects
* Count objects Count objects from a larger group
* Represent objects
* Recognise numbers as words
* Count on from any number 1 more
* Count backwards within 10 1 less
* Compare groups by matching Fewer, more, same Less than, greater than, equal to
* Compare numbers
* Order objects and numbers
* The number line
 | **Number: Addition and Subtraction (within 10)*** Introduce parts and wholes
* Part-whole model
* Write number sentences Fact families - addition facts
* Number bonds within 10
* Systematic number bonds within 10
* Number bonds to 10
* Addition - add together
* Addition - add more
* Addition problems
* Find a part Subtraction - find a part
* Fact families - the eight facts
* Subtraction - take away/crossing out (How many left?)
* Subtraction - take away (How many left?)
* Subtraction on a number line
* Add or subtract 1 or 2

**Geometry: Shape*** Recognise and name 3-D shapes
* Sort 3-D shapes
* Recognise and name 2-D shapes
* Sort 2-D shapes
* Make patterns with 2-D and 3-D shapes
 | **Number: Place Value (within 20)*** Count forwards and backwards and write numbers to 20 in numerals and words
* Numbers from 11-20
* Tens and ones
* Count one more and one less
* Compare groups of objects
* Compare numbers
* Order groups of numbers
* Order numbers

**Number: Addition and Subtraction (within 20)*** Add by counting on
* Find and make number bonds
* Add by making 10
* Subtraction including crossing 10
* Related facts
* Compare number sentences

**Number: Place Value (within 50)*** Represent numbers to 50 using tens and ones
* One more one less
* Compare objects and numbers within 50
* Order numbers within 50
* Count in 2s and 5s
 | **Measurement: Length and Height*** Compare lengths and heights
* Measure length

**Measurement: Weight and Volume*** Introduce weight and mass
* Measure and compare mass
* Introduce capacity and volume
* Measure capacity and volume
 | **Number: Multiplication and Division*** Count in 2s, 5s, 10s
* Make and add equal groups
* Make arrays
* Make doubles
* Make equal groups-grouping and sharing

**Number: Fractions*** Find halves and quarters

**Geometry: Position and Direction*** Describe turns and position
 | **Number: Place Value (within 100)*** Count forwards and backwards within 100
* Partition numbers
* Compare and order numbers
* One more, one less

**Measurement: Money*** Recognise coins and notes
* Count in coins

**Measurement: Time*** Before and after
* Dates
* Tell time to the hour and half hour
* Compare time
 |
| **Vocabulary introduced 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.**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..?**Fractions:** whole, equal parts, four equal parts, one half, two halves, a quarter, two quarters.**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.**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**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.**Geometry (Properties of Shape):** pyramid, cone, cylinder. curved, hollow, solid, corner (point, pointed) face, side, edge.**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** **(MATHS BLAST)****Retrieval/****Arithmetic Fluency****(Multiplication)** | **Number and Place Value** **Count reliably to 20, place numbers in order and say which number is one more or one less****Add 1,2 or 3 to any number to 10 by counting on****Taking away by counting back****Find doubles to 5 +5****Addition and Subtraction** **Find number bonds to 10 using a ten frame****Find number bonds to 10 using a part-whole model****Begin to subtract by guessing how many are hiding****Multiplication****Count in 1s and 10s to 100****Double numbers to 5 +5****Solve practical problems involving halving and sharing****Find odd and even numbers** | **Number and Place Value** **Count objects from a larger group** **Recognise numbers as words** **Count on from any number 1 more** **Count backwards within 10 1 less** **Compare numbers** **Order objects and numbers** **Addition and Subtraction****Part-whole model** **Write number sentences Fact families - addition facts** **Number bonds to 10** **Addition - add together** **Addition - add more** **Addition problems****Fact families - the eight facts** **Subtraction - take away/crossing out (How many left?)****Subtraction - take away (How many left?)** **Add or subtract 1 or 2****Multiplication****Count in multiples of 5 up to 60****Count in 2s and 10s**  | **Number and Place Value****Count forwards and backwards and write numbers to 20 in numerals and words****Numbers from 11-20****Tens and ones****Count one more and one less****Compare numbers****Order groups of numbers****Order numbers****Represent numbers to 50 using tens and ones****One more one less** **Order numbers within 50****Count in 2s and 5s****Multiplication****Count in multiples of 10, 2 and 5 fluently** | **Addition and Subtraction** **Add by counting on****Find and make number bonds****Add by making 10****Subtraction including crossing 10****Multiplication****Count in multiples of 10, 2 and 5 fluently** |

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| **Maths Curriculum Map - Year 2** |
| **Core Curriculum****Small Steps** | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Number: Place Value** * Numbers to 20
* Count objects to 100 by making 10s
* Recognise tens and ones
* Use a place value chart
* Partition numbers to 100
* Write numbers to 100 in words
* Flexibly partition numbers to 100
* Write numbers to 100 in expanded form 10s on the number line to 100 10s and 1s on the number line to 100
* Estimate numbers on a number line
* Compare objects
* Compare numbers
* Order objects and numbers
* Count in 2s, 5s and 10s
* Count in 3s

**Number: Addition and Subtraction*** Bonds to 10
* Fact families – addition and subtraction bonds within 20
* Related facts
* Bonds to 100 (tens)
* Add and subtract 1s
* Add by making 10
* Add three 1-digit numbers Add to the next 10
* Add across a 10
* Subtract across 10
* Subtract from a 10
* Subtract a 1-digit number from a 2-digit number (across a 10) 10 more, 10 less
 | **Number: Addition and Subtraction*** Add and subtract 10s
* Add two 2-digit numbers (not across a 10)
* Add two 2-digit numbers (across a 10)
* Subtract two 2-digit numbers (not across a 10)
* Subtract two 2-digit numbers (across a 10)
* Mixed addition and subtraction
* Compare number sentences
* Missing number problems

**Geometry: Properties of Shape*** Recognise 2-D and 3-D shapes
* Count sides on 2-D shapes
* Count vertices on 2-D shapes
* Draw 2-D shapes
* Lines of symmetry on shapes
* Use lines of symmetry to complete shapes
* Sort 2-D shapes
* Count faces on 3-D shapes
* Count edges on 3-D shapes
* Count vertices on 3-D shapes
* Sort 3-D shapes
* Make patterns with 2-D and 3-D shapes
 | **Measurement: Money*** Recognise coins and notes
* Count money-pence and pounds
* Select money
* Make the same amount
* Compare money
* Find the total, difference, change
* Two step problems

**Number: Multiplication and Division*** Make and add equal groups
* Make arrays
* Recognise, make and add equal groups
* Multiplication sentences using x symbol
* Multiplication sentences from pictures
* Use arrays
* Make doubles
* 2,5, and 10 times table
* Make equal groups-sharing and grouping
* Divide by 2
* Odd and even numbers
* Divide by 5 and 10
 | **Measurement: Length and Height*** Compare lengths and heights
* Measure lengths in cm and m
* Compare and order lengths
* Four operations with lengths

**Measurement: Mass, Capacity and Temperature*** Introduce weight and mass
* Measure and compare mass
* Measure mass in grams
* Introduce capacity and volume
* Measure capacity
* Compare volume
* Millilitres and litres

Temperature | **Statistics*** Make tally charts
* Draw and interpret pictograms (1-1)
* Draw and interpret pictograms (2,5 and 10)
* Block diagrams

**Number: Fractions*** Make equal parts
* Recognise and find half and quarter
* Recognise and find one third
* Unit and non-unit fractions
* Equivalence of ½ and 2/4
* Find three-quarters
* Count in fractions
 | **Geometry: Position and Direction*** Describe position, movement and turns
* Make patterns with shapes

**Measurement: Time*** 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
* 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,**Statistics:** count, tally, sort, vote, graph, block graph, pictogram, represent group, set, list, table label, title most popular, most common, least popular, least common**Fractions:** three quarters, one third, a third, equivalence, equivalent.**Measurement:** quarter past/to, fortnight temperature (degrees) m/cm, g/kg, ml/l**Multiplication and Division:** count in multiples of 3**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.**General/Problem Solving:** predict, describe the pattern, describe the rule, find, find all, find different, investigate. |
| **10 Minute Maths in Year 2****(MATHS BLAST)****Retrieval/****Arithmetic****Fluency****(Multiplication)** | **Counting****Count to and across 100 from any given number** **Count, read and write numbers to 100 in numerals****Number and Place Value** **Count forwards and backwards within 100****Partition numbers****Compare and order numbers****One more, one less****Multiplication****Consolidate 2,5,10 in order up to 12X** | **Number and Place Value** **Numbers to 20** **Partition numbers to 100** **Write numbers to 100 in words** **Flexibly partition numbers to 100** **Estimate numbers on a number line** **Compare numbers** **Order numbers** **Count in 3s****Addition and Subtraction****Bonds to 10** **Fact families – addition and subtraction bonds within 20** **Bonds to 100 (tens)** **Add and subtract 1s** **Add by making 10** **Add three 1-digit numbers Add to the next 10** **Add across a 10** **Multiplication****Count fluently from 0 in 2,5 and 10****Recall multiples of 10 up to 12x10 in any order including missing numbers and division facts** | **Addition and Subtraction** **Subtract across 10** **Subtract from a 10** **Subtract a 1-digit number from a 2-digit number (across a 10) 10 more, 10 less** **Add and subtract 10s** **Add two 2-digit numbers (not across a 10)** **Add two 2-digit numbers (across a 10)** **Subtract two 2-digit numbers (not across a 10)** **Subtract two 2-digit numbers (across a 10)** **Multiplication****Recall multiples of 2 up to 12x2 in any order including missing numbers and division facts****Recall multiples of 10 fluently** | **Addition and Subtraction** **Mixed addition and subtraction** **Compare number sentences** **Missing number problems****Geometry: Properties of Shape****Recognise 2-D and 3-D shapes** **Count sides on 2-D shapes** **Count vertices on 2-D shapes** **Count faces on 3-D shapes** **Count edges on 3-D shapes** **Count vertices on 3-D shapes** **Multiplication****Recall multiples of 5 up to 12x5 in any order including missing numbers and division facts****Recall multiples of 2 fluently including division facts** | **Multiplication and Division** **Multiplication sentences using x symbol****Make doubles****Make equal groups-sharing and grouping****Divide by 2****Odd and even numbers** **Multiplication****Count in multiples of 4 up to 12x4 in order from 0 – Relate to doubling 2****Recall multiples of 2 fluently including division facts****Recall multiples of 5 fluently including division facts** | **Fractions** **Recognise and find half and quarter****Recognise and find one third****Equivalence of ½ and 2/4** **Find three-quarters****Count in fractions****Multiplication****Count in multiples of 4 up to 12x4 in order from 0****Recall multiples of 5 up to 12x5 fluently and related division facts** |
| **Maths Curriculum Map - Year 3** |
| **Core Curriculum****Small Steps** | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Number: Place Value** * Represent numbers to 100
* Partition numbers to 100
* Number line to 100
* Hundreds
* Represent numbers to 1,000
* Partition numbers to 1,000
* Flexible partitioning of numbers to 1000
* Hundreds, tens and ones
* Find 1, 10 or 100 more or less
* Number line to 1,000
* Estimating on a number line to 1,000
* Compare numbers to 1,000
* Order numbers to 1,000
* Count in 50s

**Number: Addition and Subtraction*** Apply number bonds within 10
* Add and subtract 1s
* Add and subtract 10s
* Add and subtract 100s
* Spot the pattern
* Add 1s across a 10
* Add 10s across a 100
* Subtract 1s across a 10
* Subtract 10s across a 100
* Make connections
* Add two numbers (no exchange)
* Subtract two numbers (no exchange)
* Add two numbers (across a 10)
* Add two numbers (across a 100)
 | **Number: Addition and Subtraction*** Subtract two numbers (across a 10)
* Subtract two numbers (across a 100)
* Add 2-digit and 3-digit numbers
* Subtract a 2-digit number from a 3-digit number
* Complements to 100
* Estimate answers
* Inverse operations
* Make decisions

**Number: Multiplication and Division*** Multiplication - equal groups
* Use arrays
* Multiples of 2
* Multiples of 5 and 10
* Sharing and grouping
* Multiply by 3
* Divide by 3
* The 3 times-table
* Multiply by 4
* Divide by 4
* The 4 times-table
* Multiply by 8
* Divide by 8
* The 8 times-table
* The 2, 4 and 8 times-tables
 | **Number: Multiplication and Division*** Consolidate 2,4 and 8 times tables
* Compare statements
* Related calculations
* Multiply and divide 2 digit by 1 digit
* Scaling
* How many ways?

**Measurement: Length and Perimeter*** Measure length (m)
* Equivalent lengths m, cm and mm
* Compare lengths
* Add and subtract lengths
* Measure and calculate perimeter
 | **Number: Fractions*** Make equal parts
* Recognise and find half, quarter and third
* Unit and non-unit fractions
* Equivalence of ½ and 2/4
* Count in fractions

**Measurement: Mass and Capacity*** Compare and measure mass
* Add and subtract mass
* Compare volume
* Measure and compare capacity
* Add and subtract capacity
* Temperature
 | **Number: Fractions*** Making the whole
* Count in tenths
* Tenths as decimals
* Fractions on a number line
* Fractions of a set of objects
* Equivalent fractions
* Compare and order fractions
* Add and subtract fractions

**Measurement: Money*** Convert pounds and pence
* Add and subtract money
* Give change

**Measurement: Time*** Clock, half past, quarter to and quarter past
* Months and years
* Hours in a day
* Telling the time to 5 minutes and the minute
* Using am and pm
* 24 hour clock
* Find and compare durations
* Start and end times
* Measuring time in seconds
 | **Geometry: Properties of Shape*** Turns and angles
* Right angles in shapes
* Compare angles
* Draw accurately
* Horizontal, vertical, parallel and perpendicular
* Recognise and describe 2D and 3D shapes
* Make 3D shapes

**Statistics*** Make tally charts
* Draw and interpret pictograms (2,5 and 10)
* Pictograms, bar charts, tables
 |
| **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)****Retrieval/****Arithmetic****Fluency****(Multiplication)** | **Addition and Subtraction:****Mixed addition and subtraction** **Compare number sentences** **Missing number problems****Time****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****Multiplication****Count in multiples of 2 up to 12x2 in any order including missing numbers and division facts.****Count in multiples of 4 up to 12x4 in order from 0 with growing fluency** | **Number and Place Value****Represent numbers to 100** **Partition numbers to 100** **Partition numbers to 1,000** **Flexible partitioning of numbers to 1000** **Find 1, 10 or 100 more or less** **Compare numbers to 1,000** **Order numbers to 1,000** **Count in 50s****Addition and Subtraction** **Apply number bonds within 10** **Add and subtract 1s** **Add and subtract 10s** **Add and subtract 100s** **Subtract 1s across a 10** **Add two numbers (no exchange)** **Subtract two numbers (no exchange)****Add two numbers (across a 10)** **Add two numbers (across a 100)****Multiplication****Recall multiples of 4 up to 12x4 in any order, missing numbers and division facts** **Introduce (relating to 4) and begin to count multiples of 8 from 0 to 12x8** | **Addition and Subtraction** **Subtract two numbers (across a 10)** **Subtract two numbers (across a 100)** **Add 2-digit and 3-digit numbers** **Subtract a 2-digit number from a 3-digit number** **Complements to 100** **Inverse operations****Multiplication****Recall multiples of 4 up to 12x4 in any order, missing numbers and division facts** **Count in multiples of 8 to 12x8 in any order** | **Addition and Subtraction** **Add and subtract numbers mentally, including:****A three digit number and 1s****A three digit number and 10s****A three digit number and 100s****Length and Perimeter****Equivalent lengths m, cm and mm****Add and subtract lengths****Measure and calculate perimeter****Multiplication** **Recall multiples of 4 up to 12x4 in any order, missing numbers and division facts****Count in multiples of 8 to 12x8 in any order** | **Fractions****Recognise and find half, quarter and third****Equivalence of ½ and 2/4** **Count in fractions****Mass and Capacity****Add and subtract mass****Add and subtract capacity****Temperature****Multiplication****Recall multiples of 4 up to 12x4 in any order, missing numbers and division facts****Recall multiples of 8 up to 12x8 in any order, missing numbers and division facts** | **Fractions** **Count in tenths****Tenths as decimals****Equivalent fractions****Compare and order fractions****Add and subtract fractions****Time****Clock, half past, quarter to and quarter past****Months and years****Hours in a day****Telling the time to 5 minutes and the minute****Using am and pm****24 hour clock****Measuring time in seconds** **Multiplication****Recall multiples of 8 up to 12x8 in any order, missing numbers and division facts****Introduce counting in 3s and multiples of 3** |

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| **Maths Curriculum Map - Year 4** |
| **Core Curriculum****Small Steps** | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Number: Place Value** * Represent numbers to 1,000
* Partition numbers to 1,000
* Number line to 1,000
* Thousands
* Represent numbers to 10,000
* Partition numbers to 10,000
* Flexible partitioning of numbers to 10,000
* Find 1, 10, 100, 1,000 more or less
* Number line to 10,000
* Estimate on a number line to 10,000
* Compare numbers to 10,000
* Order numbers to 10,000
* Roman numerals
* Round to the nearest 10
* Round to the nearest 100
* Round to the nearest 1,000
* Round to the nearest 10, 100 or 1,000

**Number: Addition and Subtraction*** Add and subtract 1s, 10s, 100s and 1,000s
* Add up to two 4-digit numbers - no exchange
* Add two 4-digit numbers - one exchange
* Add two 4-digit numbers– more than one exchange
* Subtract two 4-digit numbers - no exchange
* Subtract two 4-digit numbers - one exchange
* Subtract two 4-digit numbers – more than one exchange
* Efficient subtraction
* Estimate answers
* Checking strategies
 | **Measurement: Area*** What is area?
* Counting squares
* Making shapes
* Comparing area

**Number: Multiplication and Division*** Multiples of 3
* Multiply and divide by 6
* 6 times-table and division facts
* Multiply and divide by 9
* 9 times-table and division facts
* The 3, 6 and 9 times-tables
* Multiply and divide by 7
* 7 times-table and division facts
* 11 times-table and division facts
* 12 times-table and division facts
* Multiply by 1 and 0
* Divide by 1 and itself
* Multiply three numbers
 | **Number: Multiplication and Division*** Factor pairs
* Efficient multiplication
* Written methods
* Multiply 2 digits by 1 digit
* Multiply 3 digits by 1 digit
* Divide 2 digits by 1 digit

**Measurement: Length and Perimeter*** Equivalent lengths-m and cm, mm and cm
* Kilometres
* Add lengths
* Subtract lengths
* Measure perimeter
* Perimeter on a grid
* Perimeter or rectangles and rectilinear shapes
 | **Number: Fractions** * Unit and non-unit fractions
* Tenths –count in tenths
* Equivalent fractions
* Fractions greater than 1
* Count in fractions
* Add fractions
* Add 2 or more fractions

**Number: Decimals*** Recognise tenths and hundredths
* Tenths as decimals
* Tenths on a place value grid and number line
* Divide 1 then 2 digits by 10
* Hundredths as decimals
* Hundredths on a place value grid
* Divide 1 or 2 digits by 100
 | **Number: Decimals*** Bonds to 10 and 100
* Make a whole
* Write, compare and order decimals
* Round decimals
* Halves and quarters

**Measurement: Money*** Pounds and pence
* Ordering money
* Estimating money
* Convert pounds and pence
* Add and subtract money
* Find change
* Four operations

**Measurement: Time*** Telling the time to 5 minutes
* Telling the time to the minute
* Using a.m. and p.m.
* 24 hour clock
* Hours, minute and seconds
* Years, months, weeks and days
* Analogue to digital-12 hour
* Analogue to digital -24 hour
 | **Statistics*** Interpret charts
* Comparison, sum and difference
* Introduce line graphs

**Geometry: Properties of Shape*** Turns and angles
* Right angles in shapes
* Compare, identify and order angles
* Recognise and describe 2-D shapes
* Triangles and quadrilaterals
* Horizontal and vertical
* Lines of symmetry
* Complete a symmetrical figure

**Geometry: Position and Direction*** Describe a position
* Draw on a grid
* Move on a grid
* Describe movement on a grid
 |
| **Vocabulary introduced in Year 4** | **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:** continuous data, line graphs |
| **10 Minute Maths in Year 4****(MATHS BLAST)****Retrieval/****Arithmetic****Fluency****(Multiplication)** | **Shape****Right angles****Compare angles****Horizontal, vertical, parallel and perpendicular****Recognise and describe 2D and 3D shapes****Multiplication****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 6s up to 12x6** | **Number and Place Value** **Partition numbers to 1,000** **Partition numbers to 10,000** **Find 1, 10, 100, 1,000 more or less** **Compare numbers to 10,000** **Order numbers to 10,000** **Roman numerals** **Round to the nearest 10, 100 or 1,000****Addition and Subtraction** **Add and subtract 1s, 10s, 100s and 1,000s** **Add two 4-digit numbers– more than one exchange** **Multiplication****Introduce 6s in order up to 12x6 Relate to multiples of 3****Fluently count in 9s in order up to 12x9** | **Addition and Subtraction** **Subtract two 4-digit numbers - no exchange** **Subtract two 4-digit numbers – more than one exchange** **Efficient subtraction** **Multiplication****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** | **Multiplication and Division** **Factor pairs****Written methods****Multiply 2 digits by 1 digit****Multiply 3 digits by 1 digit****Divide 2 digits by 1 digit****Length and Perimeter****Equivalent lengths-m and cm, mm and cm****Kilometres****Measure perimeter** **Perimeter of rectangles and rectilinear shapes** **Multiplication****Recall multiples of 7 and order including missing numbers and division facts fluently****Fluently count in 11s in order up to 12x12** | **Fractions** **Tenths –count in tenths****Equivalent fractions** **Fractions greater than 1****Count in fractions****Add 2 or more fractions****Decimals****Tenths as decimals****Divide 1 then 2 digits by 10****Hundredths as decimals****Divide 1 or 2 digits by 100****Multiplication****Recall multiples of 7 and 11 in any order.****Fluently count in 12s****MULTIPLICATION TABLES CHECK** | **Decimals****Write, compare and order decimals****Round decimals****Halves and quarters****Time****Telling the time to 5 minutes****Telling the time to the minute****24 hour clock****Hours, minute and seconds****Years, months, weeks and days****Analogue to digital-12 hour****Analogue to digital -24 hour****Multiplication****Recall multiples of 12 in any order.****END OF YEAR SECURE IN ALL 12 TIMES TABLES** |

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| **Maths Curriculum Map - Year 3/4** |
| **Core Curriculum****Small Steps** | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Y3** | **Y4** | **Y3** | **Y4** | **Y3** | **Y4** | **Y3** | **Y4** | **Y3** | **Y4** | **Y3** | **Y4** |
| **Number: Place Value** Represent numbers to 100 Partition numbers to 100 Number line to 100 Hundreds Represent numbers to 1,000 Partition numbers to 1,000 Flexible partitioning of numbers to 1000 Hundreds, tens and ones Find 1, 10 or 100 more or less Number line to 1,000 Estimating on a number line to 1,000 Compare numbers to 1,000 Order numbers to 1,000 Count in 50s**Number: Addition and Subtraction**Apply number bonds within 10 Add and subtract 1s Add and subtract 10s Add and subtract 100s Spot the pattern Add 1s across a 10 Add 10s across a 100 Subtract 1s across a 10 Subtract 10s across a 100 Make connections Add two numbers (no exchange) Subtract two numbers (no exchange)Add two numbers (across a 10) Add two numbers (across a 100)  | **Number: Place Value** Represent numbers to 1,000 Partition numbers to 1,000 Number line to 1,000 Thousands Represent numbers to 10,000 Partition numbers to 10,000 Flexible partitioning of numbers to 10,000 Find 1, 10, 100, 1,000 more or less Number line to 10,000 Estimate on a number line to 10,000 Compare numbers to 10,000 Order numbers to 10,000 Roman numerals Round to the nearest 10 Round to the nearest 100 Round to the nearest 1,000 Round to the nearest 10, 100 or 1,000**Number: Addition and Subtraction**Add and subtract 1s, 10s, 100s and 1,000s Add up to two 4-digit numbers - no exchange Add two 4-digit numbers - one exchange Add two 4-digit numbers– more than one exchange Subtract two 4-digit numbers - no exchange Subtract two 4-digit numbers - one exchange Subtract two 4-digit numbers – more than one exchange Efficient subtraction Estimate answers Checking strategies | **Number: Addition and Subtraction**Subtract two numbers (across a 10) Subtract two numbers (across a 100) Add 2-digit and 3-digit numbers Subtract a 2-digit number from a 3-digit number Complements to 100 Estimate answers Inverse operationsMake decisions**Number: Multiplication and Division**Multiplication - equal groups Use arrays Multiples of 2 Multiples of 5 and 10 Sharing and grouping Multiply by 3 Divide by 3 The 3 times-table Multiply by 4 Divide by 4 The 4 times-table Multiply by 8 Divide by 8 The 8 times-table The 2, 4 and 8 times-tables | **Measurement: Area**What is area?Counting squaresMaking shapesComparing area**Number: Multiplication and Division**Multiples of 3 Multiply and divide by 6 6 times-table and division facts Multiply and divide by 9 9 times-table and division facts The 3, 6 and 9 times-tables Multiply and divide by 7 7 times-table and division facts 11 times-table and division facts 12 times-table and division facts Multiply by 1 and 0 Divide by 1 and itself Multiply three numbers | **Number: Multiplication and Division**Consolidate 2,4 and 8 times tablesCompare statementsRelated calculationsMultiply and divide 2 digit by 1 digitScalingHow many ways?**Measurement: Length and Perimeter**Measure length (m)Equivalent lengths m, cm and mmCompare lengthsAdd and subtract lengthsMeasure and calculate perimeter | **Number: Multiplication and Division**Factor pairsEfficient multiplicationWritten methodsMultiply 2 digits by 1 digitMultiply 3 digits by 1 digitDivide 2 digits by 1 digit**Measurement: Length and Perimeter**Equivalent lengths-m and cm, mm and cmKilometresAdd lengthsSubtract lengthsMeasure perimeter Perimeter on a gridPerimeter or rectangles and rectilinear shapes  | **Number: Fractions**Make equal parts Recognise and find half, quarter and thirdUnit and non-unit fractionsEquivalence of ½ and 2/4 Count in fractions**Measurement: Mass and Capacity**Compare and measure massAdd and subtract massCompare volumeMeasure and compare capacityAdd and subtract capacityTemperature | **Number: Fractions** Unit and non-unit fractionsTenths –count in tenthsEquivalent fractions Fractions greater than 1Count in fractionsAdd fractionsAdd 2 or more fractions**Number: Decimals**Recognise tenths and hundredthsTenths as decimalsTenths on a place value grid and number lineDivide 1 then 2 digits by 10Hundredths as decimalsHundredths on a place value gridDivide 1 or 2 digits by 100 | **Number: Fractions**Making the wholeCount in tenthsTenths as decimalsFractions on a number lineFractions of a set of objectsEquivalent fractionsCompare and order fractionsAdd and subtract fractions**Measurement: Money**Convert pounds and penceAdd and subtract moneyGive change**Measurement: Time**Clock, half past, quarter to and quarter pastMonths and yearsHours in a dayTelling the time to 5 minutes and the minuteUsing am and pm24 hour clockFind and compare durationsStart and end timesMeasuring time in seconds  | **Number: Decimals**Bonds to 10 and 100Make a wholeWrite, compare and order decimalsRound decimalsHalves and quarters**Measurement: Money**Pounds and penceOrdering moneyEstimating moneyConvert pounds and penceAdd and subtract moneyFind changeFour operations**Measurement: Time**Telling the time to 5 minutesTelling the time to the minuteUsing a.m. and p.m.24 hour clockHours, minute and secondsYears, months, weeks and daysAnalogue to digital-12 hourAnalogue to digital -24 hour | **Geometry: Properties of Shape**Turns and anglesRight angles in shapesCompare anglesDraw accuratelyHorizontal, vertical, parallel and perpendicularRecognise and describe 2D and 3D shapesMake 3D shapes**Statistics**Make tally chartsDraw and interpret pictograms (2,5 and 10)Pictograms, bar charts, tables | **Statistics**Interpret chartsComparison, sum and difference Introduce line graphs**Geometry: Properties of Shape**Turns and anglesRight angles in shapesCompare, identify and order anglesRecognise and describe 2-D shapesTriangles and quadrilateralsHorizontal and verticalLines of symmetryComplete a symmetrical figure**Geometry: Position and Direction**Describe a positionDraw on a gridMove on a gridDescribe movement on a grid |
| **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 |
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| **Vocabulary introduced in Year 4** | **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:** continuous data, line graphs |

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| **10 Minute Maths in Year 3 (MATHS BLAST)****Retrieval/****Arithmetic****Fluency****(Multiplication)** | **Time****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****Multiplication****Count in multiples of 2 up to 12x2 in any order including missing numbers and division facts.****Count in multiples of 4 up to 12x4 in order from 0 with growing fluency****Shape****Right angles****Compare angles****Horizontal, vertical, parallel and perpendicular****Recognise and describe 2D and 3D shapes****Multiplication****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 6s up to 12x6** | **Number and Place Value****Partition numbers to 100** **Partition numbers to 1,000** **Find 1, 10 or 100 more or less** **Order numbers to 1,000** **Count in 50s****Addition and Subtraction** **Apply number bonds within 10** **Add and subtract 1s** **Add and subtract 10s** **Add and subtract 100s** **Subtract 1s across a 10** **Add two numbers (across a 10)** **Add two numbers (across a 100)****Multiplication****Recall multiples of 4 up to 12x4 in any order, missing numbers and division facts** **Introduce (relating to 4) and begin to count multiples of 8 from 0 to 12x8****Number and Place Value** **Partition numbers to 10,000** **Find 1, 10, 100, 1,000 more or less** **Order numbers to 10,000** **Roman numerals** **Round to the nearest 10, 100 or 1,000****Addition and Subtraction** **Add and subtract 1s, 10s, 100s and 1,000s** **Add two 4-digit numbers– more than one exchange** **Multiplication****Introduce 6s in order up to 12x6 Relate to multiples of 3****Fluently count in 9s in order up to 12x9** | **Addition and Subtraction** **Subtract two numbers (across a 10)** **Subtract two numbers (across a 100)** **Add 2-digit and 3-digit numbers** **Subtract a 2-digit number from a 3-digit number** **Complements to 100** **Inverse operations****Multiplication****Recall multiples of 4 up to 12x4 in any order, missing numbers and division facts** **Count in multiples of 8 to 12x8 in any order****Addition and Subtraction** **Subtract two 4-digit numbers - no exchange** **Subtract two 4-digit numbers – more than one exchange** **Efficient subtraction** **Multiplication****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** **Add and subtract numbers mentally, including:****A three digit number and 1s****A three digit number and 10s****A three digit number and 100s****Length and Perimeter****Equivalent lengths m, cm and mm****Add and subtract lengths****Measure and calculate perimeter****Multiplication** **Recall multiples of 4 up to 12x4 in any order, missing numbers and division facts****Count in multiples of 8 to 12x8 in any order****Multiplication and Division** **Factor pairs****Written methods****Multiply 2 digits by 1 digit****Multiply 3 digits by 1 digit****Divide 2 digits by 1 digit****Length and Perimeter****Equivalent lengths-m and cm, mm and cm****Kilometres****Measure perimeter** **Perimeter of rectangles and rectilinear shapes** **Multiplication****Recall multiples of 7 and order including missing numbers and division facts fluently****Fluently count in 11s in order up to 12x12** | **Fractions****Recognise and find half, quarter and third****Equivalence of ½ and 2/4** **Count in fractions****Mass and Capacity****Add and subtract mass****Add and subtract capacity****Temperature****Multiplication****Recall multiples of 4 up to 12x4 in any order, missing numbers and division facts****Recall multiples of 8 up to 12x8 in any order, missing numbers and division facts****Fractions** **Tenths –count in tenths****Equivalent fractions** **Fractions greater than 1****Count in fractions****Add 2 or more fractions****Decimals****Tenths as decimals****Divide 1 then 2 digits by 10****Hundredths as decimals****Divide 1 or 2 digits by 100****Multiplication****Recall multiples of 7 and 11 in any order.****Fluently count in 12s****MULTIPLICATION TABLES CHECK** | **Fractions** **Count in tenths****Tenths as decimals****Equivalent fractions****Compare and order fractions****Add and subtract fractions****Time****Clock, half past, quarter to and quarter past****Months and years****Hours in a day****Telling the time to 5 minutes and the minute****Using am and pm****24 hour clock****Measuring time in seconds** **Multiplication****Recall multiples of 8 up to 12x8 in any order, missing numbers and division facts****Introduce counting in 3s and multiples of 3****Decimals****Write, compare and order decimals****Round decimals****Halves and quarters****Time****Telling the time to 5 minutes****Telling the time to the minute****24 hour clock****Hours, minute and seconds****Years, months, weeks and days****Analogue to digital-12 hour****Analogue to digital -24 hour****Multiplication****Recall multiples of 12 in any order.****END OF YEAR SECURE IN ALL 12 TIMES TABLES** |

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**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.

**SOURCES OF SUPPORT, INFORMATION AND GUIDANCE FOR TEACHERS**

[**https://whiterosemaths.com/**](https://whiterosemaths.com/)

[**https://www.ncetm.org.uk/teaching-for-mastery/**](https://www.ncetm.org.uk/teaching-for-mastery/)

[**https://nrich.maths.org/teacher-primary**](https://nrich.maths.org/teacher-primary)

[**https://www.iseemaths.com/**](https://www.iseemaths.com/)

[**https://numbersensemaths.com/**](https://numbersensemaths.com/)

[**https://ttrockstars.com/**](https://ttrockstars.com/)

[**https://www.learningblocks.tv/numberblocks/home**](https://www.learningblocks.tv/numberblocks/home)

[**https://www.mathsisfun.com/**](https://www.mathsisfun.com/)

[**https://mathsframe.co.uk/**](https://mathsframe.co.uk/)

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