## Kinnerley CE Primary Maths Curriculum Overview

## National Curriculum Maths Aims

## The national curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately;
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language;
- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

DfE Mathematics Programmes of Study, September 2013

## Maths Curriculum Intent

This is the purpose and aims of our maths curriculum. It is what we want our children to experience and achieve through their mathematical learning journey at our school.

## Statement of Maths Intent

At Kinnerley CE Primary School, we intend for all pupils to experience an inspiring, number-rich and motivational maths environment. We aim for all pupils to have access to a maths curriculum which meets the needs of all learners and equips them with the mathematical skills necessary for them to succeed on whichever path they follow. We want all pupils or develop a positive 'can do' attitude to maths and support all children to become mathematicians. We want to use maths purposefully across other curricular areas and for pupils to understand the purpose of maths - to see the link between the maths they experience in the classroom and the rich contexts of maths experienced in real life.

Our youngest children will begin their early mathematical journey supported by excellent early mathematical teaching using concrete and pictorial representations which supports the development of early number sense, giving them the foundational skills needed to confidently reason and solve mathematical problems.

Our intent is for every child to leave our school as able and independent mathematicians, with the confidence and skills required to calculate fluently, reason confidently and solve problems efficiently. They will be thoroughly prepared in all aspects of mathematics and fully equipped for the next step in their educational journey.

## Statement of Maths Implementation

Our Maths curriculum at Kinnerley CE Primary School is currently delivered with the support of cyclical curriculum statements, this year using the Planbee Maths Curriculum resource. This scheme of work supports teachers to structure maths learning effectively in mixed age and single age groupings, and provides consistent models and images and teaching throughout the school. In EYFS the use of Numberblocks and associated resources from NCETM and Twinkl will be utilised to full effect to ensure a strong start for our youngest learners, along with pupil led, teacher led and topic led learning activities.

Resources such as White Rose, NCETM, Classroom Secrets, NRich, Hamilton Trust and Twinkl support the delivery of additional well-structured and exciting mathematical opportunities that enable our children to learn, revisit and progressively develop their skills in maths at an age-appropriate level. These are selected according to their effectiveness for the different groupings, learning styles, and specific maths area being taught.

Lessons are structured in a variety of ways to ensure the best learning opportunities for all learners. Using TAs, HLTAs and other learning support staff, cohorts may be taught in mixed aged or single age groupings, or a combination of both, at the discretion of the teacher. In our mixed age classes opportunities for challenge or additional coverage are exploited for maximum effect

The curriculum is designed to promote the retention of knowledge. In mixed age classes pupils are naturally exposed to objectives from other year groups which aids retention, fluency and consolidates understanding. Other strategies include revisiting objectives using resources, such as 'Flashback Four' from White Rose, at the beginning of each lesson.

Teachers and other adults working in EYFS are fully trained in supporting early mathematical development and helping our youngest learners to acquire early number sense. This is achieved through practical and engaging activities, which children can access, alongside adults or independently with peers, to practise their maths skills.

In key stages one and two, maths lessons are planned to follow the small-step mastery approach to acquiring maths skills. This enables children to progress through knowledge and skills in Maths sequentially, building on prior knowledge and skills. Teachers plan and deliver lessons which teach pupils essential skills, give them time to develop their fluency and apply their knowledge to practise mathematical reasoning and solve problems. Teachers promote and encourage pupils to work collaboratively, as well as independently, and provide excellent modelling of all mathematical processes and concepts as part of everyday teaching.

Good practice in Maths is celebrated in Celebration assembly, by showing another class teacher, through certificates and stickers. Work is also shared with parents/carers on Seesaw.

Maths is assessed during class tasks by the class teacher against Age Related Expectations, and also through termly PUMA assessment tests. Intervention groups/tasks are identified by the class teacher and delivered by them or class TAs.

Staff are trained and supported well. Maths CPD is high on the school agenda, as is access to high quality resources and schemes.
Opportunities to engage in Maths are included in the school day, outside of maths lessons, with times tables activities, quizzes, mathematical board games, and use of online Apps to promote application and recall.

Maths is enriched by events such as Number Day, whole school activities, and outdoor lessons such as orienteering. Opportunities for using Maths is promoted through other curriculum areas such as cooking, and through pupils costing and organising events.

## Maths Curriculum Impact

Since Covid disruption we have seen a downturn in attainment results, despite quality first teaching and structured catch up and intervention programmes. In response we have made adjustments to our scheme of work, reduced the number of year groups taught together in each class and planned improved classroom practice.

The impact of this will be monitored through assessment, evaluation of lessons, work in children's books, and pupil voice.
At Kinnerley CE Primary School, it is clear to see the high aspiration for mathematics throughout the school. Children are able to confidently talk about their work in Mathematics lessons and can apply age-appropriate skills and knowledge in their work. There is a culture of demonstrating a willingness to take risks and learn from their mistakes, showing both perseverance and resilience in mathematical learning.

## SERIES 1

## SERIES 2



| Counting (1 to 6); subitising (dice patterns) |
| :--- |
| 7 is more than 6; counting (1 to 7) |
| Counting (1 to 8); 8 is one more than 7; subitising (8) |
| Counting (1 to 9); the structure of square numbers (4 and 9); partitioning <br> and combining 9 |
| Counting (1 to 10); 10 ones are equivalent to one 10 |
| Adding 1; counting (1 to 10) |
| Count back from 10 to 1; number bonds that total 10 |
| Exploring equivalent ways to represent 6; partitioning 6 into equal groups; <br> factors of 6 |
| Doubling (1, 2, 4, 8) and halving; partitioning 8 into equal groups |
| Partitioning 9 into 3 equal groups; partitioning is the inverse of combining |
| Odd and even numbers; equal groups |
| Counting (1 to 8); number bonds within 7 |
| Subtracting 2 from numbers up to 10; counting in 2s |
| Adding more than 1 to make 5 to 10 |
| Subtracting 1; counting (1 to 10); counting down 10 to 1 |


| A review of numbers 1 to 5 |
| :--- |
| Comparison of numbers 1 to 5 using the language of 'greater than' and <br> 'less than' |
| Composition of 5; partitioning and combining 5 in different ways |
| Composition of numbers to 5 ; exploring the part-part-whole model to <br> partition and combine numbers to 5 |
| Introducing the concept of zero; zero is one less than 1 and an absence of <br> something |
| A review of numbers 6 to 10 |
| Counting to 10 |
| Building with blocks and exploring space and pattern |
| Comparison of numbers to 10 using the language of 'bigger than', 'smaller <br> than' leading to 'greater than' and 'less than' |
| Composition of numbers to 10; partitioning and combining numbers in <br> different ways |
| Comparison of numbers to 10; finding the difference to make 7 |
| Subtraction |
| Numbers 6 to 10 are made from 5 and a 'bit' |
| Pairs of numbers that total 8 |
| Pairs of numbers that total 10 |
| $2 D$ shape |


| Pattern |
| :--- |
| Problem solving and finding the missing number |
| Adding multiples of the same number |
| Problem solving - reasoning about number |
| Learn about numbers that make rectangle shapes (arrays) |
| Partition 12 into equal groups |
| Solve problems involving arrays |
| Number $11 ; 11$ is 10 and 1 |
| Number 12 and arrays |
| Number $14 ; 14$ is 10 and 4 |
| Number $15 ; 15$ is $1+2+3+4+5$ |
| Exploring numbers $11,12,13,14$, and 15 |
| Number $13 ; 13$ is 10 and 3 |
| Other numbers made of consecutive numbers ( $3,6,10$ and 15) |


| Numbers 1 to 15 |
| :--- |
| Place value numbers 1 to 15 |
| Learn about numbers that are 'ten and a bit' |
| Learn more about numbers that are 'ten and a bit' and adding |
| Learn all about the number 16; 16 is 10 and 6 |
| The structure of numbers up to 16 that make squares |
| Learn all about the number $17 ; 17$ is 10 and 7 |
| Learn all about the number 18; 18 is 10 and 8 |
| Learn more about numbers that can make rectangle shapes (arrays) |
| Learn all about the number 19; 19 is 10 and 9 |
| Learn all about the number 20; 20 is two tens |
| Numbers 16 to 20 |
| Explore numbers 11 to 20 as ten-and-a-friend |
| Counting in steps forward and back |
| Properties of numbers to 20 |


| Multiplication as repeated addition |
| :--- |
| The sharing structure of division |
| The grouping structure of division |
| Division involving the grouping structure |
| Learn about the numbers 21, 22 and 23 |
| Learn more about square numbers |
| Learn about the numbers 30,40 and 50 |
| Learn how to count, add and think in multiples of 10 |
| Count in steps of 5 |
| Learn about the numbers $60,70,80$ |
| Learn to count to 99 |
| Introduction to 100 |
| Learn about huge numbers |
| Numbers are everywhere |

## SERIES 5

| Learn about number lines, comparing numbers, and more |
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| Learn how to write numbers with Numberblocks Zero to Nine |
| Learn number bonds to $6,7,8,9$ and 10 |
| Learn how to recognise numbers of things without counting them |
| Sing along and learn the one times table |
| Learn about number bonds to 20 |
| Learn about adding past 10 |
| Learn about even numbers to 20 |
| Sing along and learn the two times table |
| Learn about odd and even numbers to 20 |
| Learn about the numbers 23 and 24 and explore arrays |
| Learn about the different arrays numbers can make |
| Learn about numbers that can split into equal parts |
| Learn about the number 26 and how it splits into two thirteens |

## PlanBee ${ }^{\text {em, }}$, PlanBee Primary Maths Curriculum | Year 1 and Year 2

|  | Autumn Term Y1 | Autumn Term Y2 | Spring Term Y1 | Spring Term Y2 | Summer Term Y1 | Summer Term Y2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week <br> 1 | Let's identify numbers <br> - identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least - read and write numbers from 1 to 20 in numerals and words | What's my number? <br> - identify, represent and estimate numbers using different representations, including the number line - read and write numbers to at least 100 in numerals and in words | Let's read, write and use numbers <br> - given a number, identify one more and one less <br> - identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least - read and write numbers from 1 to 20 in numerals and words | How can we compare numbers? <br> - recognise the place value of each digit in a two-digit number (tens, ones) <br> - compare and order numbers from 0 up to 100; use <, > and = signs <br> - read and write numbers to at least 100 in numerals and in words <br> - use place value and number facts to solve problems | Let's use numbers to <br> 100 <br> - count to and across <br> 100, forwards and backwards, beginning with 0 or 1 , or from any given number - given a number, identify one more and one less <br> - identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least | Let's multiply and divide <br> - recall and use <br> multiplication and division facts for the 2,5 and 10 multiplication tables, including recognising odd and even numbers <br> - calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ( $\times$ ), division $(\div)$ and equals (=) signs <br> - show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot <br> - solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts |


| $\begin{aligned} & \text { Week } \\ & 2 \end{aligned}$ | Let's represent numbers <br> - identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least - read and write numbers from 1 to 20 in numerals and words | What is place value? <br> - recognise the place value of each digit in a two-digit number (tens, ones) <br> - identify, represent and estimate numbers using different representations, including the number line <br> - compare and order numbers from 0 up to 100; use < , > and = signs <br> - use place value and number facts to solve problems | Let's count in twos, fives and tens <br> - count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens | Let's learn our times tables <br> - recall and use multiplication and division facts for the 2,5 and 10 multiplication tables, including recognising odd and even numbers <br> - calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ( $\times$ ), division $(\div)$ and equals (=) signs | Let's use number facts <br> - read, write and interpret mathematical statements involving addition (+), subtraction $(-)$ and equals (=) signs <br> - represent and use number bonds and related subtraction facts within 20 <br> - solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7=$ _9 | Let's add big numbers <br> - read and write numbers to at least 100 in numerals and in words <br> - use place value and number facts to solve problems <br> - add and subtract numbers using concrete objects, pictorial representations, and mentally, including - a two-digit number and tens <br> - two two-digit numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week <br> 3 | Let's add objects <br> - read and write numbers from 1 to 20 in numerals and words <br> - read, write and interpret mathematical statements involving addition (+), subtraction $(-)$ and equals (=) signs | Let's use number bonds <br> - show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot <br> - solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures <br> - recall and use addition and subtraction facts to | Let's learn number bonds <br> - read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs <br> - represent and use number bonds and related subtraction facts within 20 | Let's explore 3D shapes <br> - identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces <br> - identify 2-D shapes on the surface of 3-D shapes <br> - compare and sort common 2-D and 3-D shapes and everyday objects | Let's halve and quarter <br> - recognise, find and name a half as one of two equal parts of an object, shape or quantity - recognise, find and name a quarter as one of four equal parts of an object, shape or quanitity | Let's subtract big numbers <br> - read and write numbers to at least 100 in numerals and in words <br> - add and subtract numbers using concrete objects, pictorial representations, and mentally, including - a two-digit number and ones <br> - a two-digit number and tens <br> - two two-digit numbers |


|  |  | 20 fluently, and derive and use related facts up to 100 |  |  |  |  |
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| Week <br> 4 | Let's subtract objects <br> - read and write numbers from 1 to 20 in numerals and words <br> - read, write and interpret mathematical statements involving addition (+), subtraction $(-)$ and equals (=) signs | What is multiplication? <br> - calculate mathematical <br> statements for multiplication and division within the multiplication tables and write them using the multiplication ( $\times$ ), division ( $\div$ ) and equals (=) signs - solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts | Let's make shapes <br> - recognise and name common 2-D and 3-D shapes | Let's measure weight <br> - choose and use appropriate standard units to estimate and measure mass (kg/g) - compare and order lengths, mass, volume/capacity and record the results using $>$, < and = | Let's find the total by grouping <br> - count in multiples of twos, fives and tens <br> - solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher | Can we find fractions of numbers? <br> - recognise, find, name and write fractions $1 / 3^{1 / 4}$, $2 / 4$ and $3 / 4$ of a length, shape, set of objects or quantity <br> - write simple fractions for example, $1 / 2$ of $6=3$ and recognise the equivalence of $2 / 4$ and $1 / 2$ |
| Week <br> 5 | Let's identify 2D Shapes <br> - recognise and name common 2-D and 3-D shapes | What is division? <br> - calculate mathematical <br> statements for <br> multiplication and <br> division within the <br> multiplication tables and <br> write them using the <br> multiplication ( $\times$ ), <br> division $(\div)$ and equals <br> (=) signs <br> - solve problems <br> involving multiplication | What is half? <br> - recognise, find and name a half as one of two equal parts of an object, shape or quantity - recognise, find and name a quarter as one of four equal parts of an object | Can we link addition and subtraction? <br> - recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 <br> - show that addition of two numbers can be done in any order (commutative) and subtraction of one | Let's share objects equally <br> - count in multiples of twos, fives and tens <br> - solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations | Let's measure capacity <br> - choose and use <br> appropriate standard units to estimate and measure capacity (litres/ml) to the nearest appropriate unit, using measuring vessels <br> - compare and order volume/capacity and record the results using $\gg$ < and $=$ |


|  |  | and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts |  | number from another cannot <br> - recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems | and arrays with the support of the teacher |  |
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| Week <br> 6 | Let's compare length, height and mass <br> - compare, describe and solve practical problems for: <br> - lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half) - mass/weight (e.g. heavy/light, heavier than, lighter than) | Let's explore 2D shapes <br> - identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line <br> - compare and sort common 2-D and 3-D shapes and everyday objects | Let's tell the time <br> - sequence events in chronological order using language (e.g. before, after, next, first, today) <br> - recognise and use language relating to dates, including days of the week, weeks, months and years <br> - tell the time to the hour and half past the hour and draw hands on a clock face to show these times | Can we link multiplication and division? <br> - recall and use multiplication and division facts for the 2,5 and 10 multiplication tables, including recognising odd and even numbers <br> - show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot <br> - solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts | Which direction? <br> - describe position, direction and movement, including whole, half, quarter and three quarter turns | Let's go shopping <br> - recognise and use symbols for pounds ( $£$ ) and pence (p); combine amounts to make a particular value <br> - find different combinations of coins that equal the same amounts of money - solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change |


| Week $7$ | Let's find one more and one less <br> - given a number, identify one more and one less <br> - identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least - read and write numbers from 1 to 20 in numerals and words | Let's use a ruler <br> - choose and use appropriate standard units to estimate and measure length/height in any direction ( $\mathrm{m} / \mathrm{cm}$ ) - compare and order lengths, mass, volume/capacity and record the results using $>$, < and = | Let's use a number line <br> - read and write numbers from 1 to 20 in numerals and words <br> - identify and represent numbers using objects and pictorial representations including the number line - given a number, identify one more and one less <br> - count read and write numbers to 100 in numerals | Let's find fractions <br> - recognise, find, name and write fractions $1 / 3^{1 / 4}$, $2 / 4$ and $3 / 4$ of a length, shape, set of objects or quantity <br> - write simple fractions for example, $1 / 2$ of $6=3$ and recognise the equivalence of $2 / 4$ and $1 / 2$ | Let's get confident with numbers <br> - count read and write numbers to 100 in numerals; count in multiples of twos, fives and tens <br> - count to and across 100, forwards and backwards, beginning with 0 or 1 , or from any given number <br> - identify and represent numbers using objects and pictorial representations including the number line | Let's make charts <br> - interpret and construct simple pictograms, tally charts, block diagrams and simple tables <br> - ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity <br> - ask and answer questions about totalling and comparing categorical data |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week <br> 8 | Let's add and subtract objects <br> - read and write numbers from 1 to 20 in numerals and words <br> - read, write and interpret mathematical statements involving addition (+), subtraction $(-)$ and equals (=) signs | Let's make a pictogram <br> - interpret and construct simple pictograms, tally charts, block diagrams and simple tables <br> - ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity <br> - ask and answer questions about totalling and comparing categorical data | Let's count in multiples <br> - identify and represent numbers using objects and pictorial representations including the number line <br> - count in multiples of twos, fives and tens <br> - solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher | How can we tell the time? <br> - compare and sequence intervals of time <br> - tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times <br> - know the number of minutes in an hour and the number of hours in a day | Let's identify and use shapes <br> - recognise and name common 2-D and 3-D shapes | Let's solve place value problems <br> - count in steps of 2, 3, and 5 from 0 , and in tens from any number, forward and backward <br> - recognise the place value of each digit in a two-digit number (tens, ones) <br> - identify, represent and estimate numbers using different representations, including the number line - use place value and number facts to solve problems |


| Week 9 | Can you recognise these coins? <br> - recognise and know the value of different denominations of coins | Let's use number patterns <br> - recall and use multiplication and division facts for the 2,5 and 10 multiplication tables, including recognising odd and even numbers - count in steps of 2,3 , and 5 from 0 , and in tens from any number, forward and backward - read and write numbers to at least 100 in numerals and in words | Let's solve missing number problems <br> - read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs - add and subtract onedigit and two-digit numbers to 20 , including zero <br> - solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7=\square$ -9 | Let's explore charts and tables <br> - interpret and construct simple pictograms, tally charts, block diagrams and simple tables <br> - ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity <br> - ask and answer questions about totalling and comparing categorical data | Let's tell the time to half past the hour <br> - compare, describe and solve practical problems for: <br> - time (e.g. quicker, slower, earlier, later) <br> - sequence events in chronological order using language <br> - tell the time to the hour and half past the hour and draw hands on a clock face to show these times <br> - measure and begin to record the following - time (hours, minutes, seconds) | What time is it? <br> - compare and sequence intervals of time <br> - tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times <br> - know the number of minutes in an hour and the number of hours in a day |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Week } \\ & 10 \end{aligned}$ | Let's find the value of coins <br> - recognise and know the value of different denominations of coins | How can we add numbers? <br> - add and subtract numbers using concrete objects, pictorial representations, and mentally, including adding three one-digit numbers <br> - solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures | Let's make totals using coins (part 1) <br> - recognise and know the value of different denominations of coins - count in multiples of twos, fives and tens | Let's explore position and direction <br> - order and arrange combinations of mathematical objects in patterns and sequences - use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns | Let's measure time <br> - compare, describe and solve practical problems for: <br> - time (e.g. quicker, slower, earlier, later) <br> - measure and begin to record the following - time (hours, minutes, seconds) <br> - sequence events in chronological order using language <br> - recognise and use language relating to dates, including days of | What's the answer? <br> - solve problems with <br> addition and subtraction: <br> - using concrete objects <br> and pictorial <br> representations, including those involving numbers, quantities and measures - applying their increasing knowledge of mental and written methods <br> - recognise and use the inverse relationship between addition and subtraction and use this |


|  |  | - solve problems with addition and subtraction applying their increasing knowledge of mental and written methods - add and subtract numbers using concrete objects, pictorial representations, and mentally, including a two-digit number and ones <br> a add and subtract numbers using concrete objects, pictorial representations, and mentally, including a two-digit number and tens |  | (clockwise and anticlockwise) | the week, weeks, months and years | to check calculations and solve missing number problems. <br> - solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week <br> 11 | Let's identify 3D shapes - recognise and name common 2-D and 3-D shapes | How can we subtract numbers? <br> - add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens <br> - solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving | Let's make totals using coins (part 2) <br> - recognise and know the value of different denominations of coins and notes <br> - count in multiples of twos, fives and tens | How hot is it? <br> - choose and use appropriate standard units to estimate and measure temperature $\left({ }^{\circ} \mathrm{C}\right)$ to the nearest appropriate unit using scales and thermometers - compare and order lengths, mass, volume/capacity and record the results using $>$, < and = | Let's use money <br> - recognise and know the value of different denominations of coins and notes | Let's sort shapes and objects <br> - identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line <br> - identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces <br> - identify 2-D shapes on the surface of 3-D shapes <br> - compare and sort common 2-D and 3-D |


|  |  | numbers, quantities and measures |  |  |  | shapes and everyday objects |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \hline \text { Week } \\ & 12 \end{aligned}$ | Let's use time language <br> - sequence events in chronological order using language (e.g. before, after, next, first, today) <br> - recognise and use language relating to dates, including days of the week, weeks, months and years | Let's use pounds and pence <br> - recognise and use symbols for pounds ( $£$ ) and pence (p); combine amounts to make a particular value <br> - find different combinations of coins that equal the same amounts of money - solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change | Let's compare mass and capacity <br> - compare, describe and solve practical problems for: <br> - mass/weight (e.g. heavy/light, heavier than, lighter than) <br> - capacity and volume <br> (e.g. full/empty, more than, less than, half, half full, quarter) <br> - measure and begin to record the following <br> - lengths and heights <br> - mass/weight <br> - capacity and volume | Let's solve problems <br> - solve problems with <br> addition and subtraction: <br> - using concrete objects and pictorial representations, including those involving numbers, quantities and measures <br> - applying their increasing knowledge of mental and written methods -recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems | Let's measure <br> - compare, describe and solve practical problems for: <br> - lengths and heights <br> (e.g. long/short, <br> longer/shorter, tall/short, double/half) <br> - mass/weight (e.g. heavy/light, heavier than, lighter than) <br> - capacity and volume <br> (e.g. full/empty, more than, less than, half, half full, quarter) <br> - measure and begin to record the following <br> - lengths and heights <br> - mass/weight <br> - capacity and volume | What is your position? <br> - order and arrange combinations of mathematical objects in patterns and sequences - use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise) |

## PlanBee, PlanBee Primary Maths Curriculum | Year 3 and Year 4

| $\begin{aligned} & \hline \text { Week } \\ & 1 \end{aligned}$ | Understanding Place Value <br> - recognise the place value of each digit in a three-digit number (hundreds, tens, ones) - compare and order numbers up to 1000 <br> - read and write numbers up to 1000 in numerals and in words <br> - solve number problems and practical problems involving these ideas <br> - solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction - count from 0 in multiples of $4,8,50$ and 100; find 10 or 100 more or less than a given number | Place Value and Ordering <br> - count in multiples of 6 , <br> $7,9,25$ and 1000 <br> - find 1000 more or less than a given number <br> - recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) <br> - order and compare numbers beyond 1000 <br> - read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value | Using Place Value <br> - recognise the place value of each digit in a three-digit number (hundreds, tens, ones) <br> - compare and order numbers up to 1000 <br> - read and write numbers up to 1000 in numerals and in words <br> - solve number problems and practical problems involving these ideas <br> - solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction | Comparing Numbers <br> - find 1000 more or less than a given number <br> - count backwards through zero to include negative numbers <br> - recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) <br> - order and compare numbers beyond 1000 <br> - identify, represent and estimate numbers using different representations <br> - solve number and practical problems that involve all of the above and with increasingly large positive numbers | Rounding and <br> Estimating <br> - recognise the place value of each digit in a three-digit number (hundreds, tens, ones) <br> - compare and order numbers up to 1000 <br> - identify, represent and estimate numbers using different representations | Rounding and Ordering Numbers <br> - count in multiples of 6, <br> 7, 9, 25 and 1000 <br> - recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) <br> - order and compare numbers beyond 1000 <br> - identify, represent and estimate numbers using different representations <br> - round any number to the nearest 10, 100 or 1000 <br> - solve number and practical problems that involve all of the above and with increasingly large positive numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Week } \\ & 2 \end{aligned}$ | Investigating Number <br> Facts <br> - add and subtract numbers mentally, including: <br> - a three-digit number and ones <br> - a three-digit number and tens - a three-digit number and hundreds <br> - estimate the answer to | Exploring Addition <br> - add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate <br> - solve addition and subtraction two-step problems in contexts, deciding which | Doubling and Halving <br> - add and subtract numbers mentally, including a three-digit number and ones; a three-digit number and tens; a three-digit number and hundreds - solve problems, including missing number problems, using number facts, place | Methods of Addition <br> - add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate <br> - estimate and use inverse operations to check answers to a calculation | Knowing Number Facts <br> - count from 0 in multiples of $4,8,50$ and 100 ; find 10 or 100 more or less than a given number <br> - add and subtract numbers mentally, including: <br> - a three-digit number and ones - a three-digit number | Using Addition and Subtraction 1 <br> - add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate <br> - estimate and use inverse operations to check answers to a |


|  | a calculation and use inverse operations to check answers <br> - solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction | operations and methods to use and why | value, and more complex addition and subtraction | - solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why | and tens <br> - a three-digit number <br> and hundreds <br> - solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction | calculation <br> - solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Week } \\ & 3 \end{aligned}$ | Mental Addition <br> - add and subtract numbers mentally, including: <br> - a three-digit number and ones <br> - a three-digit number and tens <br> - a three-digit number and hundreds <br> - estimate the answer to <br> a calculation and use inverse operations to check answers <br> - solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction <br> - add and subtract amounts of money to give change, using both $£$ and p in practical contexts | Seeing Doubles <br> - use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1 ; dividing by 1 ; multiplying together three numbers - multiply two-digit and three-digit numbers by a one-digit number using formal written layout | Partition Addition <br> - add and subtract numbers mentally, including a three-digit number and ones; a three-digit number and tens; a three-digit number and hundreds <br> - estimate the answer to <br> a calculation and use inverse operations to check answers <br> - solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction | Methods of Subtraction <br> - add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate <br> - solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why | Let's Add and Subtract <br> - add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction <br> - estimate the answer to a calculation and use inverse operations to check answers <br> - solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction | Using Addition and <br> Subtraction 2 <br> - add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate <br> - estimate and use inverse operations to check answers to a calculation <br> - solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why |
| Week <br> 4 | Mental Subtraction <br> - solve problems, | Exploring Subtraction <br> - add and subtract | Solving Subtraction <br> - add and subtract | Shape Angles <br> - compare and classify | Using Times Tables <br> - recall and use | Multiplying Doubles and Digits |


|  | including missing number problems, using number facts, place value, and more complex addition and subtraction <br> - add and subtract amounts of money to give change, using both £ and p in practical contexts | numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate <br> - estimate and use inverse operations to check answers to a calculation <br> - solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why | numbers with up to three digits, using formal written methods of columnar addition and subtraction <br> - solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction <br> - add and subtract numbers mentally, including: <br> - a three-digit number and ones <br> - a three-digit number and tens - a three-digit number and hundreds | geometric shapes, including quadrilaterals and triangles, based on their properties and sizes <br> - identify acute and obtuse angles and compare and order angles up to two right angles by size <br> - identify lines of symmetry in 2-D shapes presented in different orientations <br> - complete a simple symmetric figure with respect to a specific line of symmetry | multiplication and division facts for the 3, 4 and 8 multiplication tables <br> - write and calculate mathematical <br> statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods <br> - solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which $n$ objects are connected to m objects | - use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1 ; dividing by 1 ; multiplying together three numbers <br> - multiply two-digit and three-digit numbers by a one-digit number using formal written layout <br> - recognise and use factor pairs and commutativity in mental calculations |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week <br> 5 | 2D Shape <br> - measure the perimeter of simple 2-D shapes <br> - draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them | Properties of 2D Shapes <br> - measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres <br> - find the area of rectilinear shapes by counting squares - compare and classify | Space and 3D Shape <br> - draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them | Measuring Weight <br> - convert between different units of measure <br> - estimate, compare and calculate different measures, including money in pounds and pence | Shapes and Angles <br> - draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them - recognise angles as a property of shape or a description of a turn | Position and Direction <br> - describe positions on a 2-D grid as coordinates in the first quadrant <br> - describe movements between positions as translations of a given unit to the left/right and up/down <br> - plot specified points |


|  |  | geometric shapes, including quadrilaterals and triangles, based on their properties and sizes |  |  | - identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle <br> - identify horizontal and vertical lines and pairs of perpendicular and parallel lines | and draw sides to complete a given polygon <br> - interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week <br> 6 | What is length? <br> - measure, compare, add and subtract: lengths (m/cm/mm) | Recording Length <br> - convert between <br> different units of measure [for example, kilometre to metre; hour to minute] <br> - estimate, compare and calculate different measures, including money in pounds and pence | What is weight? <br> - measure, compare, add and subtract: mass (kg/g) | Presenting Data <br> - interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs <br> - solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs | Multiplication Problems <br> - recall and use <br> multiplication and division facts for the 3, 4 and 8 multiplication tables <br> - write and calculate mathematical <br> statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods <br> - solve problems, including missing number problems, involving multiplication and division, including positive integer scaling | Times Table Facts <br> - recall multiplication and division facts for multiplication tables up to $12 \times 12$ |


|  |  |  |  |  | problems and correspondence problems in which n objects are connected to m objects |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week 7 | Time <br> - tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12 -hour and 24 -hour clocks <br> - estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight <br> - know the number of seconds in a minute and the number of days in each month, year and leap year <br> - compare durations of events | Data Handling <br> - interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs <br> - solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs | Organising Data <br> - interpret and present data using bar charts, pictograms and tables <br> - solve one-step and two- <br> step questions using information presented in scaled bar charts and pictograms and tables | Using Multiplication and Division <br> - recall multiplication and division facts for multiplication tables up to $12 \times 12$ <br> - use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1 ; dividing by 1 ; multiplying together three numbers | Clock Watching <br> - tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12 -hour and 24 -hour clocks <br> - estimate and read time with increasing accuracy to the nearest minute; record and $\cdot$ compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight <br> - know the number of seconds in a minute and the number of days in each month, year and leap year <br> - compare durations of events | Dividing and Multiplying <br> - recall multiplication and division facts for multiplication tables up to $12 \times 12$ <br> - use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1 ; dividing by 1 ; multiplying together three numbers <br> - recognise and use factor pairs and commutativity in mental calculations <br> - solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n |



|  |  |  | objects are connected to m objects |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week <br> 9 | Multiplying and Dividing <br> - recall and use <br> multiplication and division facts for the 3,4 and 8 multiplication tables <br> - write and calculate mathematical <br> statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods <br> - solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which $n$ objects are connected to m objects | Revising Multiplication and Division <br> - recall multiplication and division facts for multiplication tables up to $12 \times 12$ <br> - use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1 ; dividing by 1 ; multiplying together three numbers - recognise and use factor pairs and commutativity in mental calculations | Using Division and <br> Multiplication <br> - recall and use <br> multiplication and <br> division facts for the 3,4 <br> and 8 multiplication <br> tables <br> - write and calculate <br> mathematical <br> statements for <br> multiplication and <br> division using the <br> multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods <br> - solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects | Telling the Time <br> - convert between different units of measure <br> - read, write and convert time between analogue and digital 12- and 24hour clocks <br> - solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days | Collecting and Sorting Data <br> - interpret and present data using bar charts, pictograms and tables <br> - solve one-step and twostep questions using information presented in scaled bar charts and pictograms and tables | Handling Data <br> - interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs <br> - solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs |

- count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10
- recognise, find and write fractions of a discrete set of objects: unit fractions and nonunit fractions with small denominators - recognise and show, using diagrams, equivalent fractions with small denominators - compare and order unit fractions, and fractions with the same denominators - solve problems that involve all of the above

Fractions and Time

- recognise and show, using diagrams, families of common equivalent fractions
- recognise and write decimal equivalents of any number of tenths or hundredths - find the effect of dividing a one- or twodigit number by 10 and 100 , identifying the value of the digits in the answer as ones, tenths and hundredths - read, write and convert time between analogue and digital 12- and 24hour clocks

What's the time?

- tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12 -hour and 24 -hour clocks
- estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight - compare durations of events

Fractions and Decimals

- count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten - add and subtract fractions with the same denominator - recognise and write decimal equivalents of any number of tenths or hundredths
- recognise and write decimal equivalents to $1 / 4,1 / 2$ and $3 / 4$
- compare numbers with the same number of decimal places up to two decimal places

Fractions in Action

- recognise and use fractions as numbers: unit fractions and nonunit fractions with small denominators
- recognise and show, using diagrams, equivalent fractions with small denominators - add and subtract fractions with the same denominator within one whole
- compare and order unit fractions, and fractions with the same denominators - solve problems that involve all of the above

Proportion Problems - recognise and show, using diagrams, equivalent fractions with small denominators - solve problems that involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, include nonunit fractions where the answer is a whole number - add and subtract fractions with the same denominator

- round decimals with one decimal place to the nearest whole number - solve simple measure and money problems involving fractions and decimals to two decimal places


## PlanBee. ${ }^{2,1}$, PlanBee Primary Maths Curriculum |Year 5 and Year 6

|  | Autumn Term Y5 | Autumn Term Y6 | Spring Term Y5 | Spring Term Y6 | Summer Term Y5 | Summer Term Y6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week <br> 1 | A Million Numbers <br> - read, write, order and compare numbers to at least 1000000 and determine the value of | Decimal Place Value <br> - read, write, order and compare numbers up to 10000000 and determine the value of | Exploring Decimals <br> - read and write decimal numbers as fractions - round decimals with two decimal places to | Working with Numbers <br> - round any whole number to a required degree of accuracy <br> - use negative numbers | Positive and Negative Numbers <br> - count forwards or backwards in steps of powers of 10 for any | Comparing and Ordering Numbers <br> - read, write, order and compare numbers up to 10000000 and |


|  | each digit <br> - round any number up to <br> 1000000 to the nearest <br> 10, 100, 1000, 10000 <br> and 100000 <br> - solve number problems <br> and practical problems <br> that involve all of the above <br> - read Roman numerals to 1000 (M) and recognise years written in Roman numerals | each digit <br> - identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10 , 100 and 1000 giving answers up to three decimal places <br> - solve problems which require answers to be rounded to specified degrees of accuracy <br> - calculate and interpret the mean as an average | the nearest whole number and to one decimal place <br> - read, write, order and compare numbers with up to three decimal places <br> - solve problems involving number up to three decimal places | in context, and calculate intervals across zero <br> - solve number and practical problems that involve all of the above - identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10 , 100 and 1000 giving answers up to three decimal places | given number up to <br> 1000000 <br> - interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero <br> - solve number problems and practical problems that involve all of the above <br> - multiply and divide whole numbers and those involving decimals by 10,100 and 1000 | determine the value of each digit <br> - use negative numbers in context, and calculate intervals across zero <br> - solve number and practical problems that involve all of the above |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week <br> 2 | What's the Total? <br> - count forwards or backwards in steps of powers of 10 for any given number up to 1 000000 <br> - add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) <br> - add and subtract numbers mentally with increasingly large numbers <br> - use rounding to check answers to calculations and determine, in the | Choosing Methods <br> - perform mental calculations, including with mixed operations and large numbers <br> - solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why <br> - solve problems involving addition, subtraction, multiplication and division <br> - use estimation to check answers to calculations and determine, in the context | Calculating Decimals <br> - recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents <br> - read, write, order and compare numbers with up to three decimal places <br> - solve problems involving number up to three decimal places - read and write decimal numbers as fractions <br> - add and subtract fractions with the same denominator and denominators that are | Calculating Fractions and Decimals <br> - use common factors to simplify fractions; use common multiples to express fractions in the same denomination <br> - add and subtract fractions with different denominators and mixed numbers, using the :5seiconcept of equivalent fractions <br> - multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $1 / 4 \times 1 / 2=1 / 8$ ] - divide proper fractions by whole numbers [for | Mental and Written Addition <br> - add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) <br> - add and subtract numbers mentally with increasingly large numbers <br> - use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy - solve addition and subtraction multi-step problems in contexts, | Ratio, Percentages and Proportion <br> - solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts - solve problems involving similar shapes where the scale factor is known or can be found - solve problems involving unequal sharing and grouping using knowledge of fractions and multiples |



|  |  |  |  |  |  | decimal places by whole numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week <br> 4 | Measuring Shapes <br> - measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres <br> - calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes <br> - estimate volume and capacity | Calculating Compound Shapes <br> - recognise that shapes with the same areas can have different perimeters and vice versa <br> - recognise when it is possible to use formulae for area and volume of shapes <br> - calculate the area of parallelograms and triangles | Decimals and Fractions <br> - compare and order fractions whose denominators are all multiples of the same number <br> - identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths <br> - add and subtract fractions with the same denominator and denominators that are multiples of the same number <br> - multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams - read and write decimal numbers as fractions | Parts and Percentages <br> - solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts - solve problems involving the calculation of percentages [for example, of measures, and such as $15 \%$ of 360 ] and the use of percentages for comparison | Symmetry, Reflection and Coordinates <br> - identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed | Algebra <br> - use simple formulae <br> - generate and describe linear number sequences <br> - express missing number problems algebraically <br> - enumerate possibilities of combinations of two variables |


| Week <br> 5 | Fractions and Proportion <br> - compare and order <br> fractions whose <br> denominators are all <br> multiples of the same <br> number <br> - identify, name and write <br> equivalent fractions of a given fraction, represented visually, including tenths and hundredths <br> - recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number <br> - add and subtract fractions with the same denominator and denominators that are multiples of the same number | Parts and Proportion <br> - compare and order fractions, including fractions > 1 <br> - solve problems involving similar shapes where the scale factor is known or can be found - solve problems involving unequal sharing and grouping using knowledge of fractions and multiples | Let's Calculate <br> - multiply and divide numbers mentally drawing upon known facts <br> - solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign <br> - solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates | Mental Multiplication and Division <br> - perform mental calculations, including with mixed operations and large numbers <br> - identify common factors, common multiples and prime numbers | Factors and Multiples <br> - identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers - multiply and divide numbers mentally drawing upon known facts <br> - solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes | Geometric Shapes <br> - draw 2-D shapes using given dimensions and angles <br> - recognise, describe and build simple 3-D shapes, including making nets <br> - compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons <br> - illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius <br> - recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week <br> 6 | Methods for Multiplying and Dividing <br> - multiply numbers up to <br> 4 digits by a one- or twodigit number using a formal written sisem method, including long multiplication for twodigit numbers <br> - multiply and divide numbers mentally | Practising Multiplication and Division <br> - multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication <br> - divide numbers up to 4 digits by a two-digit number using the formal | Converting Measures <br> - convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) <br> - understand and use | Measures <br> - solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate <br> - use, read, write and convert between standard units, | Percentage and Proportion <br> - recognise the per cent symbol (\%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal | More Multiplication and Division <br> - multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication <br> - divide numbers up to 4 digits by a two-digit number using the formal |


|  | drawing upon known facts <br> - solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates | written method of short division where appropriate, interpreting remainders according to the context <br> - solve problems involving addition, subtraction, multiplication and division | approximate <br> equivalences between <br> metric units and common imperial units such as inches, pounds and pints <br> - use all four operations to solve problems involving measure using decimal notation, including scaling | converting <br> measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places <br> - convert between miles and kilometres <br> - calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units [for example, mm3 and km3] | - solve problems which require knowing percentage and decimal equivalents of $1 / 2,1 / 4$, $1 / 5,2 / 5,4 / 5$ and those fractions with a denominator of a multiple of 10 or 25 | written method of short division where appropriate, interpreting remainders according to the context <br> - divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context <br> - solve problems involving addition, subtraction, multiplication and division |
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| Week <br> 7 | Angles and Triangles <br> - know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles <br> - draw given angles, and measure them in degrees ( ${ }^{\circ}$ ) <br> - identify angles at a point and one whole turn (total $360^{\circ}$ ) <br> - identify angles at a point on a straight line and $1 / 2$ a turn (total $180^{\circ}$ ) | Using Money <br> - solve problems involving addition, subtraction, multiplication and division <br> - use negative numbers in context, and calculate intervals across zero <br> - multiply one-digit numbers with up to two decimal places by whole numbers <br> - use written division methods in cases where | Graphs and Diagrams <br> - solve comparison, sum and difference problems using information presented in a line graph | Mean, Mode and Median <br> - calculate and interpret the mean as an average - interpret and construct pie charts and line graphs and use these to solve problems | Primes, Squares and <br> Cubes <br> - recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) <br> - solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes <br> - know and use the vocabulary of prime numbers, prime factors | More About Algebra <br> - use simple formulae <br> - find pairs of numbers that satisfy an equation with two unknowns <br> - enumerate possibilities of combinations of two variables |



|  |  |  |  |  |  | remainders according to the context <br> - perform mental calculations, including with mixed operations and large numbers <br> - identify common factors, common multiples and prime numbers <br> - solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why <br> - solve problems involving addition, subtraction, multiplication and division <br> - use simple formulae |
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| Week <br> 9 | Squares, Cubes and <br> Factors <br> - identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers <br> - multiply and divide numbers mentally drawing upon known facts <br> - recognise and use square numbers and cube numbers, and the notation for squared (2) | Calculators <br> - use their knowledge of the order of operations to carry out calculations involving the four operations <br> - solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why | Solving Multiplication and Division <br> - divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context <br> - solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates | Difficult Division <br> - divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context <br> - solve problems involving addition, subtraction, | Short Division <br> - multiply and divide numbers mentally drawing upon known facts <br> - divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context <br> - solve problems involving multiplication and division, including | Charts and Graphs <br> - interpret and construct pie charts and line graphs and use these to solve problems |


|  | and cubed (3) <br> - solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes |  | - multiply numbers up to 4 digits by a one- or twodigit number using a formal written isseimethod, including long multiplication for twodigit numbers | multiplication and division <br> - use written division methods in cases where the answer has up to two decimal places | scaling by simple fractions and problems involving simple rates <br> - solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign |  |
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| $\begin{aligned} & \text { Week } \\ & 10 \end{aligned}$ | Length, Weight and Capacity <br> - convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) <br> - estimate volume and capacity <br> - use all four operations to solve problems involving measure using decimal notation, including scaling | Solving Data Problems <br> - interpret and construct pie charts and line graphs and use these to solve problems | Calendars, Timetables and Calculators <br> - solve problems involving converting between units of time - complete, read and interpret information in tables, including timetables | Time and Money <br> - multiply one-digit numbers with up to two decimal places by whole numbers <br> - solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate <br> - use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places | Describing Data <br> - solve comparison, sum and difference problems using information presented in a line graph - complete, read and interpret information in tables, including timetables | The Fibonacci Sequence <br> - solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why <br> - solve problems involving addition, subtraction, multiplication and division <br> - use simple formulae <br> - generate and describe linear number sequences |

