Bramcote Hills Primary School

'Make the future better for all'

Maths

Curriculum Depth Map

Contents

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Curriculum Depth Map – 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.

Intent

At BHPS, we provide children with a challenging and engaging maths curriculum. We aim for all pupils to become confident, competent and resilient mathematicians who relish the challenge of maths and have a sense of enjoyment and curiosity about the subject. The curriculum provides pupils with mathematical knowledge essential to everyday life, critical to science, technology and engineering and necessary for financial literacy and most forms of employment, through the teaching of key primary themes, as well as small steps to help pupils gain a deep understanding of complex, abstract idea.

At BHPS, we use White Rose Maths as our tool to deliver the maths curriculum. School recognises the distinction between *conceptual* and *procedural* knowledge.

Conceptual, Procedural and Conditional Knowledge

Conceptual knowledge being the facts, rules and principles, formulae and the relationships between them. It can be described as '*knowing that*'.

In contrast procedural knowledge is knowledge of methods or processes that can be performed, relationships between acts, procedures and missing facts. It can be described as '*knowing how*'.

In addition, there is also conditional knowledge – this knowledge is the understanding of *strategies* which can be used to *reason* and *solve problems.*

Key Primary Themes have been identified to enable children to contextualise, link and understand knowledge. Key primary themes are subject specific and build progressively as pupils move through school. Pupils should be able to apply their knowledge of maths key primary themes and make connections between their learning and build the schema they need.

These include Number and place value, addition and subtraction, multiplication and division, fractions, decimals and percentages, ratio and proportion, algebra, measurement, geometry, statistics.

Implementation

Every year group at BHPS follows the White Rose scheme of learning which is based on the National Curriculum. This allows us to teach the National Curriculum, supported by clear knowledge progression, which is built on each year and sequenced appropriately to maximise learning for all of our pupils. Children follow the small steps for the unit of learning applicable to their age group.

Our Maths curriculum is designed to allow children time to think, discuss, practise, explore and embed. This allows time for teaching, practice and repetition – both in a year group and across key stages. Curriculum coverage is sequenced carefully from EYFS to Year 6 which allows key primary themes, conceptual (substantive knowledge – *knowing that*) and procedural (disciplinary knowledge – *knowing how)* knowledge to be developed and revisited at a deeper level of learning.

BHPS learners get a rich provision of mathematics. The intended weekly provision, for Key Stages 1 and 2, is as follows:
An hour-long daily mathematics lesson comprising:

- **Flashback 4** - recapping of key skills, facts and fluency covered last lesson, last week, last term and last year.
- **Activate** – questions or a problem to start the lesson and get the children retrieving their mathematical knowledge applicable for the current lesson
- **Acquire** – uninterrupted teaching and modelling of new knowledge, including vocabulary shared through a range of activities including: modelling, questioning, dual-coding, questioning for assessment, finishing with a hinge question.
- **Apply** - guided, independent and varied practice – a range of questions and problems sequenced in a way that enables the learners to apply their skills and deepen their understanding of the concepts and processes being studied
- **Articulate** – an opportunity to evaluate whether the children have understood the learning objective. Can they verbalise it?

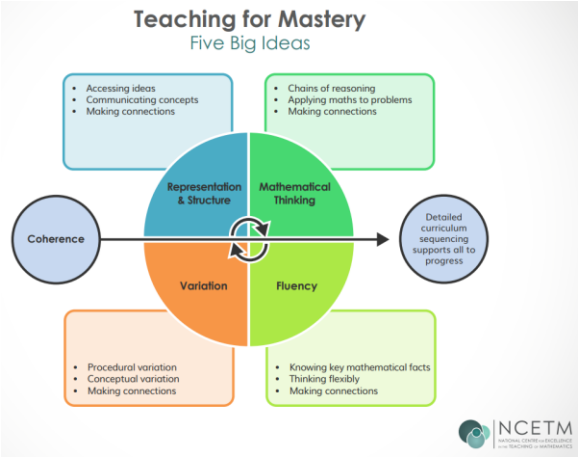
Concrete, pictorial and abstract (CPA) Approach

Teaching is planned around a concrete, pictorial and abstract (CPA) approach. When new concepts are introduced, staff always look for an appropriate strategy using concrete resources and then identify mathematical images to support learning.
Concrete – use concrete objects and manipulatives to help them understand and explain what they are doing.
Pictorial – build on this concrete approach by using pictorial representations, which can then be used to reason and solve problems.
Abstract – with the foundations firmly laid, children can move to an abstract approach using numbers and key concepts with confidence.

Lessons seek to introduce new knowledge and concepts in small, logical steps, in line with cognitive load theory. Children's knowledge will be built up gradually, making links, wherever possible, to previous knowledge and other areas of learning. We seek to further children's ability to commit new learning to long term memory by assessing their retention and revisiting key knowledge. Potential misconceptions will be addressed through carefully selected lesson content and effective feedback.

Mastery Maths

At BHPS, we adopt a mastery approach to teaching mathematics, believing that **all** pupils can be successful mathematicians. Our mathematics curriculum is based on National Curriculum objectives and is influenced by the resources and schemes of learning from White Rose Maths Hub. We work closely alongside our Maths Hub and Maths Hub West Maths Specialist to ensure our approach is current and underpinned by the '5 Big Ideas' (NCETM, 2017).
Five Big Ideas in Teaching for Mastery | NCETM.



All pupils, within a year group, work on the same objectives at the same time. The whole class moves through topics at a similar pace, and the teacher doesn't move on until the vast majority of children understand the concepts. However, work is set at an appropriate level, with pupils being given the support and challenge relative to their own developmental needs. We also acknowledge the value of pupils having rapid recall of basic fluency facts such as number bonds, times tables, equivalences etc. Such aspects are developed as an aid to general arithmetic and to free up working memory so that pupils can apply their knowledge to deep thinking tasks and problem solving.

Calculation policy

At BHPS we use the White Rose Hub Calculation Policy. The calculation policy is divided into four sections: addition, subtraction, multiplication and division. At the start of each section, there is an overview of the progression of skills. Calculations involving decimal numbers and fractions are included. It follows the same concrete, pictorial, abstract approach as our main schemes of learning. Where appropriate, sentence stems and key questions are included alongside the key representations. Where skills are divided into more than one section across the page, there is a progression in the level of difficulty from left to right.

Year 4 MTC

The Multiplication Tables Check (MTC) is a statutory assessment for all year 4 pupils in England to determine if they can fluently recall their times tables up to 12. Being able to recall times tables fluently is helpful for other math activities, such as grasping fractions, division, ratio, and percentages. It also reduces the cognitive load when learning new methods, such as long multiplication.

Pupils take the MTC online, answering questions within six seconds with a three-second pause between each question. The MTC does not have a pass mark. The purpose of the MTC is to determine whether year 4 pupils can fluently recall their multiplication tables.

As a school we use Times Table Rockstars (TTRS) as a way to practise Times Table knowledge, both in preparation for the MTC at the end of Year 4 and to contribute towards children's fluency in mathematical facts. In Lower Key Stage 2, children have a weekly times table session in class in order for teachers to be aware of their current times table knowledge. This allows teaching teams to plan additional lessons or interventions as appropriate. All children from Year 2 have a log in to TTRS.

Impact

The impact of our maths teaching can be constantly monitored through AfL in each session and feedback is given to children verbally, through self/peer assessment and through marking. Teachers then use this assessment to influence their planning. Children are rapidly identified as needing further challenge or additional support, and we ensure that this is provided in a timely manner. Within the TA hub section of the White Rose Scheme, is pre-teach guidance and a number of supporting materials for each of the identified steps. The purpose of pre-teaching is to support children in building up the essential knowledge needed for the upcoming lesson. The intervention is designed to be a short input delivered by either a teacher or TA. The activity and activity sheet provided for each small step gives suggestions of practical, hands on activities that children can take part in to deepen their conceptual understanding in maths; using concrete resources or representations to embed learning.

We assess pupils' depth of understanding frequently through summative assessment opportunities, such as more formal statutory assessments in EYFS, Y4 (MTC) and KS2 SATs and non-statutory assessments such as arithmetic tests, NFER assessments in Y1, Y3, Y4 and Y5 and Y2 practice SATs, to identify whether pupils are on track to meet our curriculum expectations. This process provides an accurate and comprehensive understanding of the quality of education in Mathematics.

The expected impact of following the Maths Depth Map is that children will, by the end of KS2, be able to:

- Know more, remember more and understand more mathematical knowledge
- Demonstrate a rapid recall of facts and procedures including key facts and multiplication tables
- Master mathematical concepts and apply knowledge being able to demonstrate this in multiple ways
- Have flexibility and fluidity to move between different contexts and representations of maths
- Use methods independently and show resilience when tackling problems
- Develop the ability to recognise relationships and make connections in maths lessons, deepening and consolidating their understanding of key primary themes
- Understand and use mathematical vocabulary as a tool for explaining their knowledge and understanding of maths and when problem solving and reasoning
- Explain how and why maths is used in the outside world and in the workplace

Maths Curriculum Depth Map – Progression of Vocabulary by Key Primary Themes

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number and Place Value						
backwards count forwards less than (fewer) /more than numerals one less /one more order	digit equal to compare multiples ones partitioning represent sort tens	compare count in multiples count in steps estimate place value round	10 or 100 less 10 or 100 more ascending descending hundreds	1000 less 1000 more negative numbers roman numerals thousands	integer one hundred thousands powers of ten thousands	millions ten millions
Addition and Subtraction						
add altogether digit number bonds part plus take away /minus total whole	2-digit number addition/add difference equals facts inverse missing number problems problems subtraction	3-digit number commutative estimate sum	column addition column subtraction exchange	4-digit number methods operations		
Multiplication and Division						
double equal even group half odd share twice as many unequal	arrays derived facts dividend division divisor multiplication product operations quotient	commutative cube numbers multiplication tables remainders repeated addition short division	exchange mathematical statements missing number problems square numbers	distributive law factor pairs formal written layout	factors multiples prime numbers	long division multi-digit numbers
Fractions/Decimals/Percentages						
	equal parts half quarter whole	denominator equivalent fractions non-unit fractions numerator one whole third three quarters unit fractions	tenths	convert decimal equivalence decimal point hundredths improper fractions proper fractions	complements factors fifth integer mixed numbers per cent % thousandths	
Statistics						
		block diagram category comparing horizontal / vertical pictograms sorting tally charts totalling	bar chart one-step problem table two-step problem	calculate comparison continuous data discrete data interpret line graph time graph	timetable two-way tables	pie chart mean

Measurement (Measure and Length)						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
length long measure narrow wide	compare	centimetre (cm) estimate metre (m) order record results standard units	millimetre (mm) perimeter	area kilometres (km) rectilinear figure	compound shape decimal notation imperial units inches irregular shapes metric units scaling square centimetres square meters	conversion feet formulae miles parallelograms triangles
Measurement (Height, Weight and Capacity)						
height tall short full/empty more than less than half/half full	mass volume weight capacity heavy light	celsius gram (g) kilogram (kg) litres (l) millimetres (ml) quarter full temperature three quarter full			cubic centimetre pints pounds	cubic kilometre cubic metre cubic millimetre gallons ounces stones
Measurement (Time)						
time now next today yesterday morning afternoon evening	day half past hour minutes month o'clock second week year	intervals of time quarter past duration	12 - hour clock 24 – hour clock am/pm analogue clock digital leap year midnight noon roman numerals	convert		
Measurement (Money)						
	coins money notes pence p pounds £	change value				
Ration, Proportion and Algebra						
						brackets for every known values linear number sequence proportion ratio symbols variable

Geometry (Properties of Shape)						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
circle flat rectangle square straight triangle	2d shapes 3d shapes cone corners cube cuboid curved faces sides sphere	cylinder edges hexagon line of symmetry pentagon properties vertex vertices	acute angle angle half turn heptagon horizontal lines obtuse angle octagon parallel lines perpendicular lines polygon prism properties right angles right-angle triangle three quarters of a turn turn vertical lines	equilateral geometric shapes isosceles kite parallelogram quadrilaterals rhombus scalene trapezium	angles around a point angles on straight line degrees irregular polygon missing angles one whole turn reflex angles regular polygon vertically opposite	circumference diameter dimensions radius
Geometry (Position and Direction)						
next to on over repeat under	behind beneath direction half turn movement position quarter turn three quarter turn whole turn	anti-clockwise arrange clockwise rotation sequences straight line		axis coordinates first quadrant grid plot polygon translation	reflection	coordinate plane four quadrants

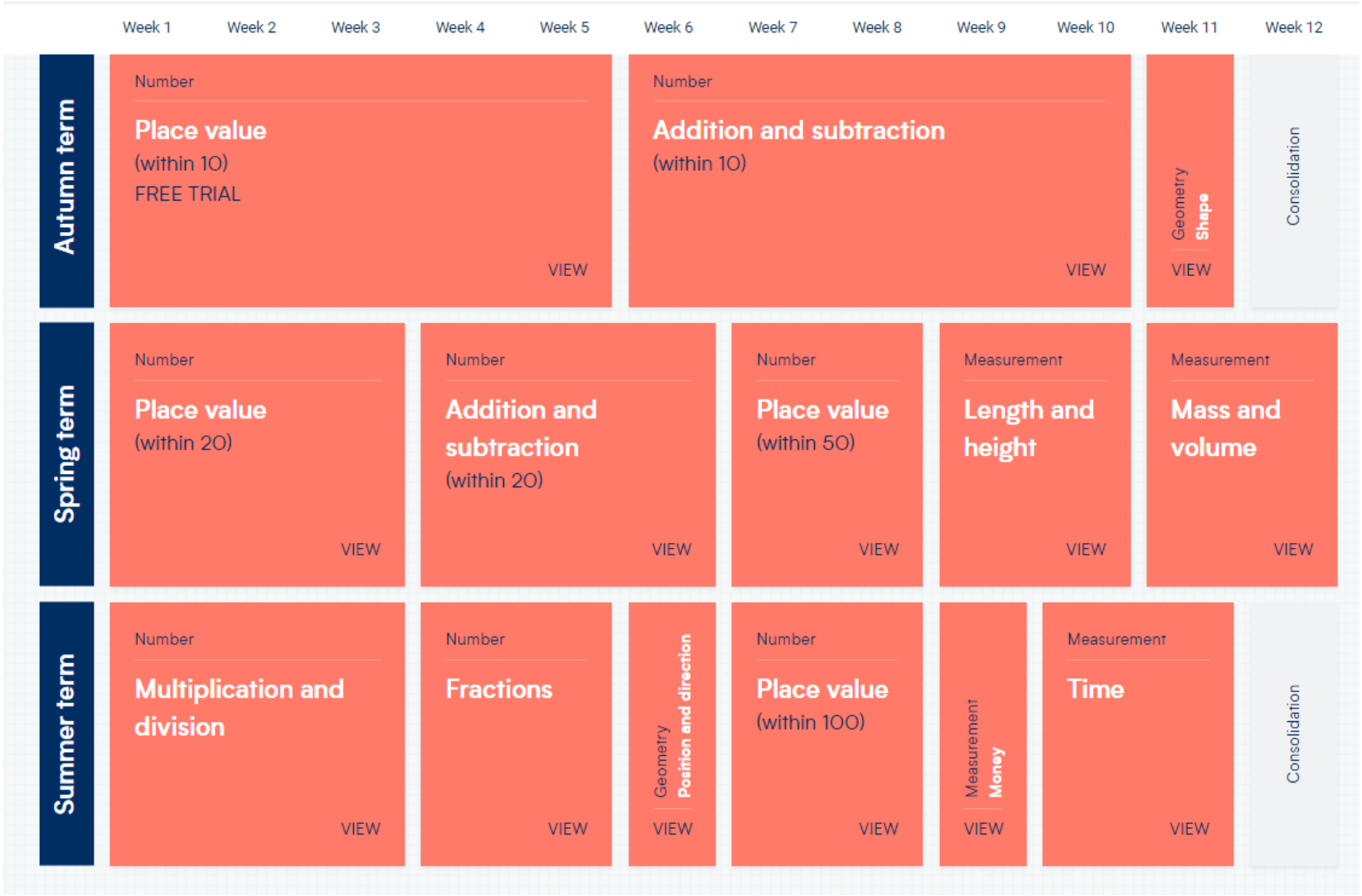
EYFS Curriculum Map

Autumn Term Small Steps
Spring Term Small Steps
Summer Term Small Steps

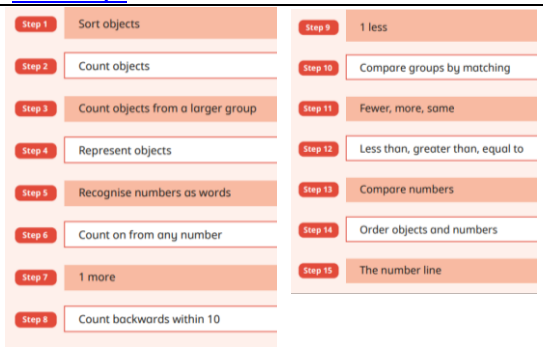
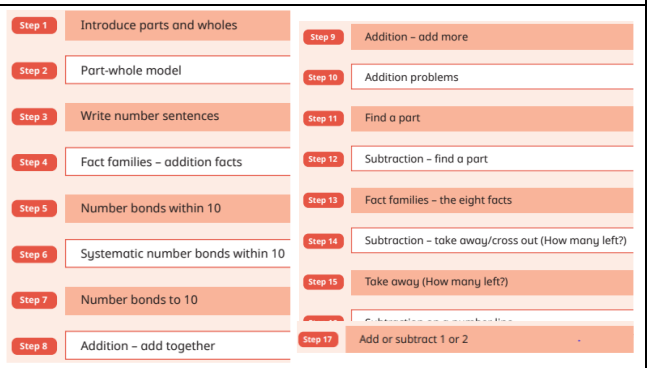
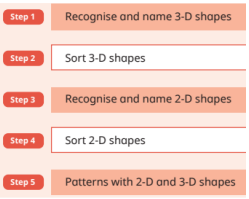
Year 1 Curriculum Map

Year 1 TA Hub Intervention

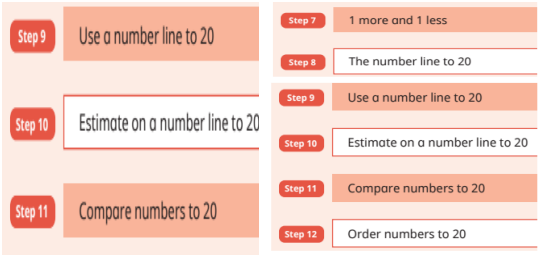
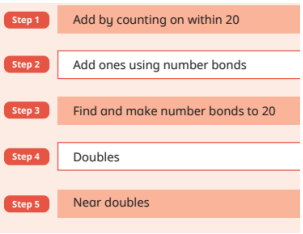
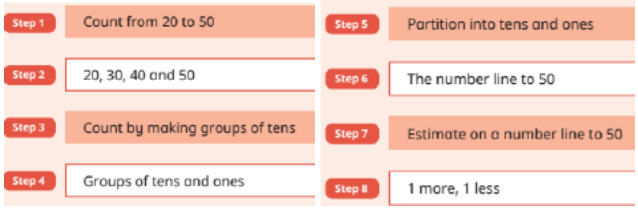
Year 1 Calculation Policy

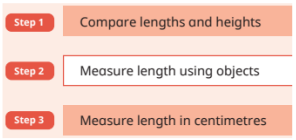
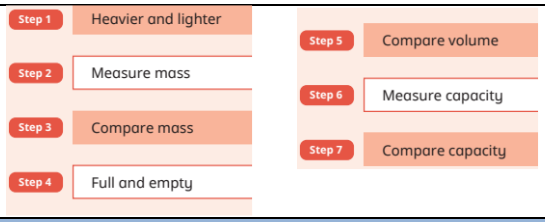
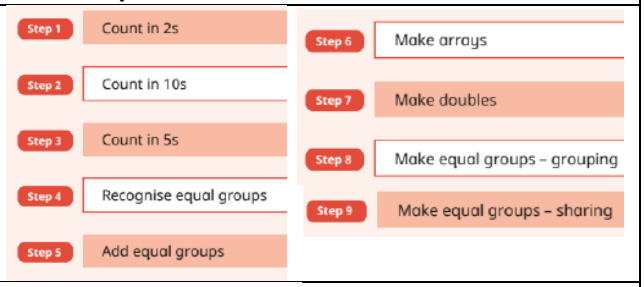
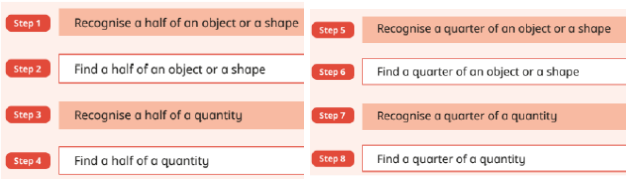
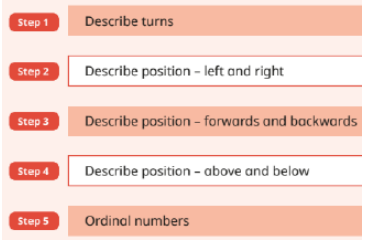
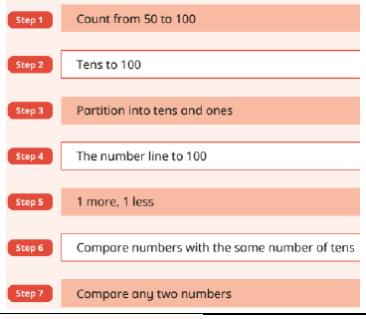
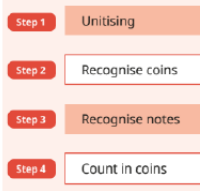
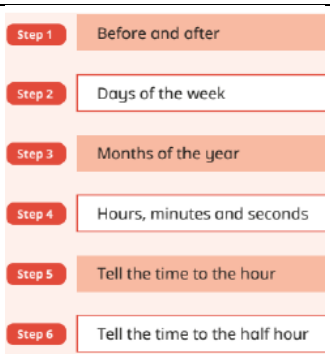


Autumn Term

National Curriculum	Small Steps
Place Value (up to 4 weeks) **Numbers to 10** • 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. • Count to and across 100, forwards and backwards, beginning with 0 or 1 or from any given number. • Compare number using <, > and =. • Read and write numbers from 1 to 20 in numerals and words	
Number + & - (Up to 5 weeks) • 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, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs. • Represent and use number bonds and related subtraction facts within 20. • Add and subtract one-digit and two-digit numbers to 20, including zero.	
Geometry (1 Week) • Recognise and name common 2-D and 3-D shapes, including: -2D shapes [for example, rectangles (including squares), circles and triangles]. -3D shapes [for example, cuboids (including cubes), pyramids and spheres].	

Spring Term

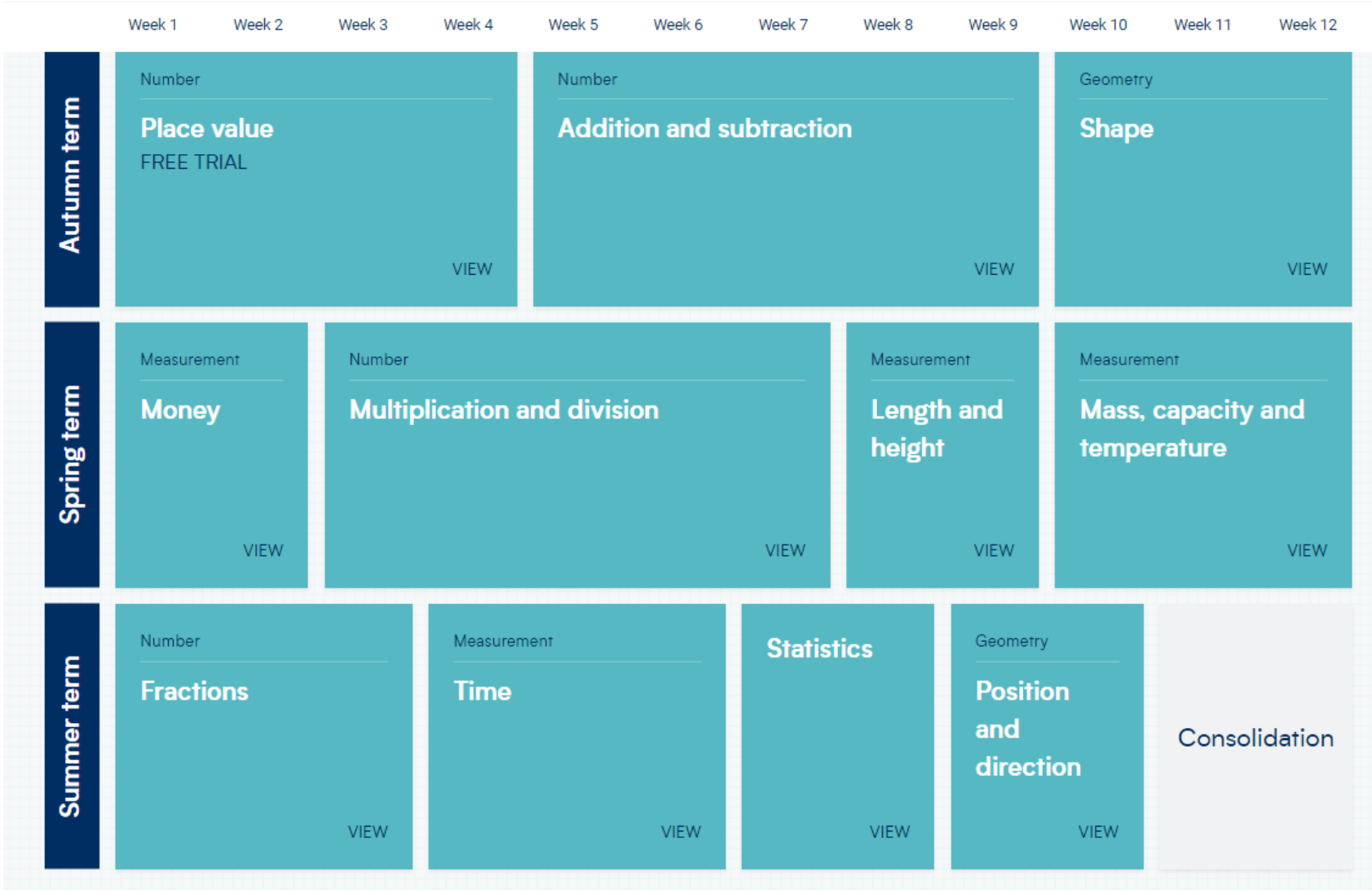
National Curriculum	Small Steps
Place Value (3 Weeks) • Numbers to 20 • Count to and across 100, forwards and backwards, beginning with 0 or 1 or from any given number. • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. • Given a number, identify one more and one less. • Read and write numbers from 1 to 20 in numerals and words. • Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens.	
Number + & - Within 20 (3 Weeks) • Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs. • Add and subtract one-digit and two-digit numbers to 20, including zero. • Represent and use number bonds and related subtraction facts within 20. • Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = – 9.	
Place Value– Within 50 (2 weeks) Numbers to 50 • Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. • 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. • Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens. • Given a number, identify one more and one less.	

Measures (Length and Height—2 Weeks) Compare, describe and solve practical problems for: -lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]. Measure and begin to record the following: -lengths and heights.	
Measures (Mass and Volume) (2 Weeks) Compare, describe and solve practical problems for: -mass/weight [for example, heavy/light, heavier than, lighter than]. -capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]. Measure and begin to record the following: -Mass and Volume.	
Summer Term	
National Curriculum	**Small Steps**
Number x & / (3 Weeks) Count, read and write numbers to 100 in numerals. Count in multiples of 2, 5 and 10. 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.	
Fractions 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 quantity.	
Geometry—Position Describe position, direction and movement, including whole, half, quarter and three-quarter turns.	
Place Value (2 Weeks) **Numbers to 100** Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens. Compare number using <, > and =. 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	
Measures (Money—1 Week) Recognise and know the value of different denominations of coins and notes. Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens.	
Measures (Time) Understanding time [for example, quicker, slower, earlier, later]. Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]. Recognise and use language relating to dates, including days of the week, weeks, months and years. Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. Compare, describe and solve practical problems for time. Measure and begin to record time (hours, minutes, seconds).	

Year 2 Curriculum Map

Year 2 TA Hub Intervention

Year 2 Calculation Policy



Autumn Term

National Curriculum	Small Steps
Number and Place Value (4 Weeks) Read and write numbers to at least 100 in numerals and in words. Recognise the place value of each digit in a two-digit number (tens, ones). Identify, represent and estimate numbers using different representations including number lines. Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward. Use place value and number facts to solve problems. Compare and order numbers from 0 up to 100; use <, > and = signs.	Step 1 Numbers to 20 Step 2 Count objects to 100 by making 10s Step 3 Recognise tens and ones Step 4 Use a place value chart Step 5 Partition numbers to 100 Step 6 Write numbers to 100 in words Step 7 Flexibly partition numbers to 100 Step 8 Write numbers to 100 in expanded form Step 9 10s on the number line to 100 Step 10 10s and 1s on the number line to 100 Step 11 Estimate numbers on a number line Step 12 Compare objects Step 13 Compare numbers Step 14 Order objects and numbers Step 15 Count in 2s, 5s and 10s Step 16 Count in 3s
Number + & - (5 Weeks) Recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100. Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: - A two-digit number and ones. - A two-digit number and tens. - Two two-digit numbers. - Adding three one-digit numbers. Compare and order numbers from 0 up to 100; use <, > and = signs. Solve problems with addition and subtraction: - Using concrete objects and pictorial representations, including those involving numbers, quantities and measures. - Applying their increasing knowledge of mental and written methods. Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	Step 1 Bonds to 10 Step 2 Fact families - addition and subtraction bonds within 20 Step 3 Related facts Step 4 Bonds to 100 (tens) Step 5 Add and subtract 1s Step 6 Add by making 10 Step 7 Add three 1-digit numbers Step 8 Add to the next 10 Step 9 Add across a 10 Step 10 Subtract across 10 Step 11 Subtract from a 10 Step 12 Subtract a 1-digit number from a 2-digit number (across a 10) Step 13 10 more, 10 less Step 14 Add and subtract 10s Step 15 Add two 2-digit numbers (not across a 10) Step 16 Add two 2-digit numbers (across a 10) Step 17 Subtract two 2-digit numbers (not across a 10) Step 18 Subtract two 2-digit numbers (across a 10) Step 19 Mixed addition and subtraction Step 20 Compare number sentences Step 21 Missing number problems
Geometry (3 Weeks) Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. Compare and sort common 2-D and 3-D shapes and everyday objects. Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. Identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid].	Step 1 Recognise 2-D and 3-D shapes Step 2 Count sides on 2-D shapes Step 3 Count vertices on 2-D shapes Step 4 Draw 2-D shapes Step 5 Lines of symmetry on shapes Step 6 Use lines of symmetry to complete shapes Step 7 Sort 2-D shapes Step 8 Count faces on 3-D shapes Step 9 Count edges on 3-D shapes Step 10 Count vertices on 3-D shapes Step 11 Sort 3-D shapes Step 12 Make patterns with 2-D and 3-D shapes

Spring Term

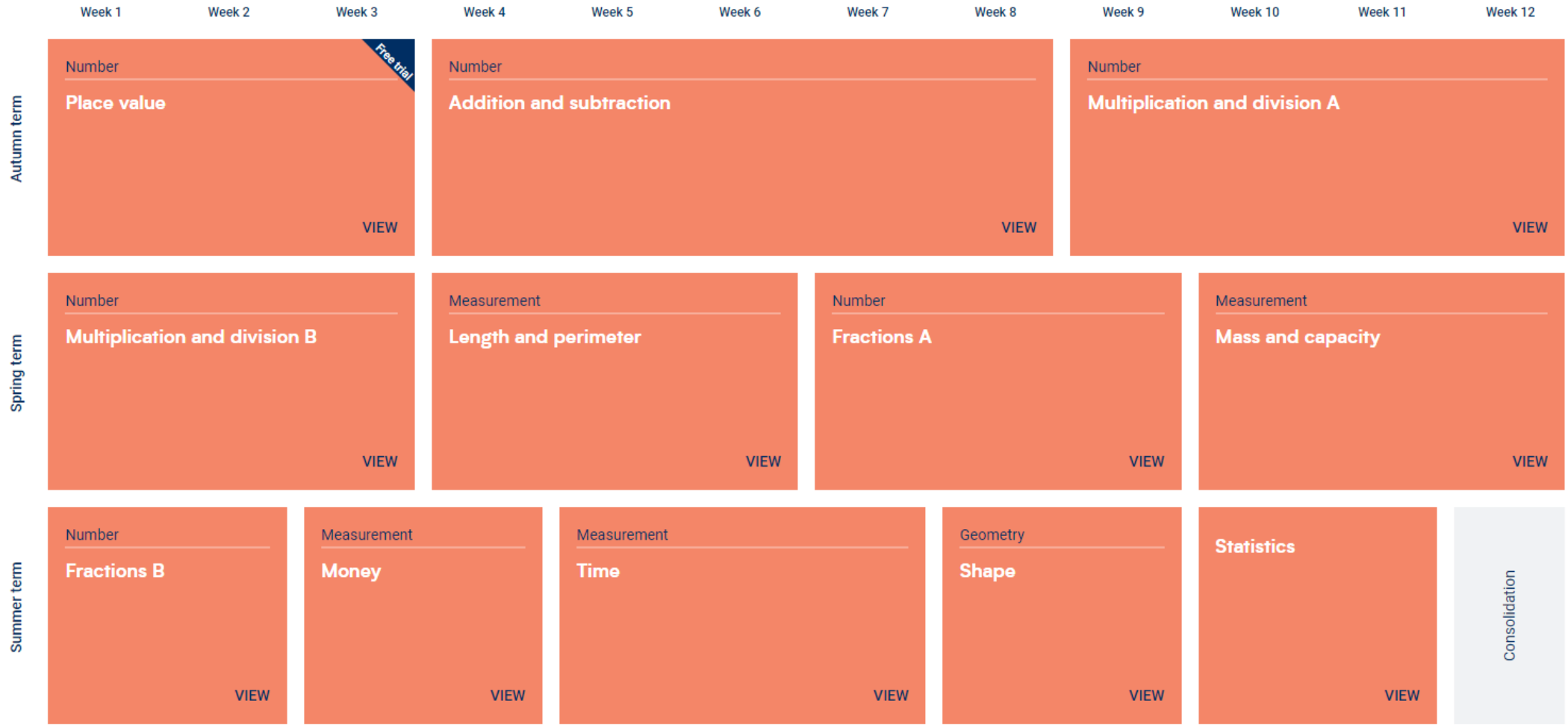
National Curriculum	Small Steps
Measures (Money— 2 Weeks) Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. Find different combinations of coins that equal the same amounts of money.	Step 1 Count money – pence Step 2 Count money – pounds (notes and coins) Step 3 Count money – pounds and pence Step 4 Choose notes and coins Step 5 Make the same amount Step 6 Compare amounts of money Step 7 Calculate with money Step 8 Make a pound Step 9 Find change Step 10 Two-step problems
Number x & ÷ (5 Weeks) Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. Record, recall and use multiplication and division facts for the 2, 5 and 10x tables, including recognising odd and even numbers. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	Step 1 Recognise equal groups Step 2 Make equal groups Step 3 Add equal groups Step 4 Introduce the multiplication symbol Step 5 Multiplication sentences Step 6 Use arrays Step 7 Make equal groups – grouping Step 8 Make equal groups – sharing Step 9 The 2 times-table Step 10 Divide by 2 Step 11 Doubling and halving Step 12 Odd and even numbers Step 13 The 10 times-table Step 14 Divide by 10 Step 15 The 5 times-table Step 16 Divide by 5 Step 17 The 5 and 10 times-tables
Measures (Length and Height—2 Weeks) Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. Compare and order lengths, heights and record the results using >, < and =. Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	Step 1 Measure in centimetres Step 2 Measure in metres Step 3 Compare lengths and heights Step 4 Order lengths and heights Step 5 Four operations with lengths and heights
Measures (Mass, capacity and temperature —3 Weeks) Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. Compare and order mass, volume/capacity and record the results using >, < and =. Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	Step 1 Compare mass Step 2 Measure in grams Step 3 Measure in kilograms Step 4 Four operations with mass Step 5 Compare volume and capacity Step 6 Measure in millilitres Step 7 Measure in litres Step 8 Four operations with volume and capacity Step 9 Temperature

Summer Term	
National Curriculum	**Small Steps**
Fractions (3 Weeks) Recognise, find, name and write fractions , 1/3 , 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity. Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2.	Step 1 Introduction to parts and whole Step 2 Equal and unequal parts Step 3 Recognise a half Step 4 Find a half Step 5 Recognise a quarter Step 6 Find a quarter Step 7 Recognise a third Step 8 Find a third Step 9 Find the whole Step 10 Unit fractions Step 11 Non-unit fractions Step 12 Recognise the equivalence of a half and two-quarters Step 13 Recognise three-quarters Step 14 Find three-quarters Step 15 Count in fractions up to a whole
Measures (Time 3 Weeks) Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day. Compare and sequence intervals of time.	Step 1 O'clock and half past Step 2 Quarter past and quarter to Step 3 Tell the time past the hour Step 4 Tell the time to the hour Step 5 Tell the time to 5 minutes Step 6 Minutes in an hour Step 7 Hours in a day
Statistics (2 Weeks) Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. Ask and answer questions about totalling and comparing categorical data	Step 1 Make tally charts Step 2 Tables Step 3 Block diagrams Step 4 Draw pictograms (1–1) Step 5 Interpret pictograms (1–1) Step 6 Draw pictograms (2, 5 and 10) Step 7 Interpret pictograms (2, 5 and 10)
Geometry—Position (2 Weeks) Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise). Order and arrange combinations of mathematical objects in patterns and sequences	Step 1 Language of position Step 2 Describe movement Step 3 Describe turns Step 4 Describe movement and turns Step 5 Shape patterns with turns

Year 3 Curriculum Map

Year 3 TA Hub Intervention

Year 3 Calculation Policy

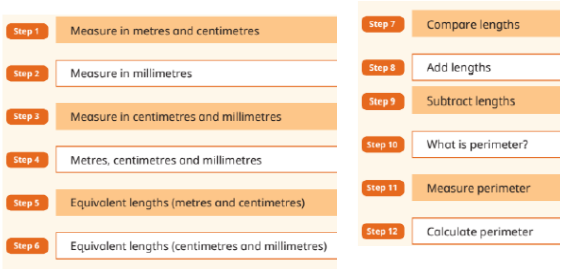
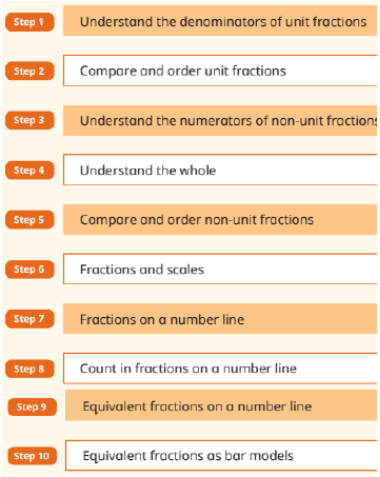
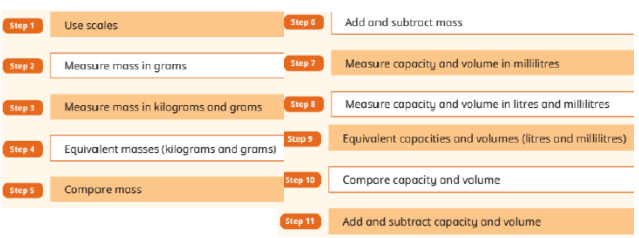
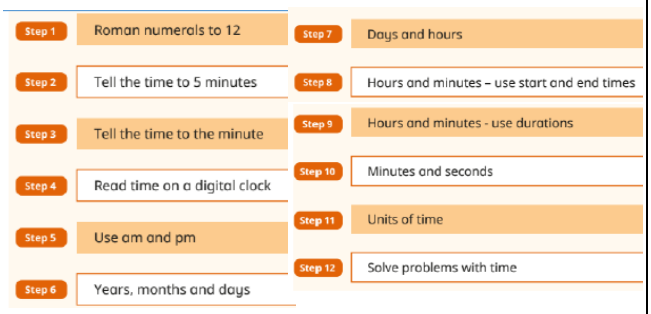


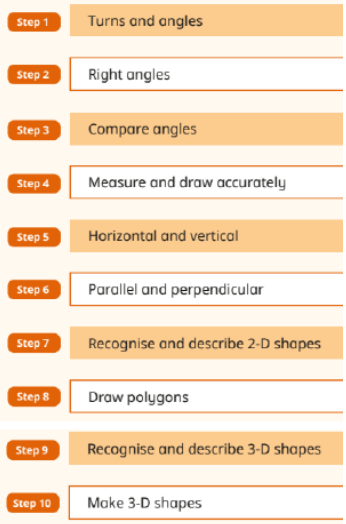
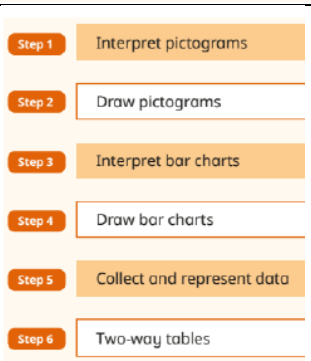
Autumn Term

National Curriculum	Small Steps
Number and Place Value (3 Weeks) Identify, represent and estimate numbers using different representations. Recognise the place value of each digit in a three-digit number (hundreds, tens, ones). Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number. Read and write numbers up to 1000 in numerals and in words. Compare and order numbers up to 1000. Solve number problems and practical problems involving these ideas.	Step 1 Represent numbers to 100 Step 2 Partition numbers to 100 Step 3 Number line to 100 Step 4 Hundreds Step 5 Represent numbers to 1,000 Step 6 Partition numbers to 1,000 Step 7 Flexible partitioning of numbers to 1,000 Step 8 Hundreds, tens and ones Step 9 Find 1, 10 or 100 more or less Step 10 Number line to 1,000 Step 11 Estimate on a number line to 1,000 Step 12 Compare numbers to 1,000 Step 13 Order numbers to 1,000 Step 14 Count in 50s
Number + & - (5 Weeks) Add and subtract numbers mentally, including: a three-digit number and ones three-digit number and tens, a three-digit number and hundreds. Add and subtract numbers with up to three digits, using formal written methods of column addition and subtraction + estimating. Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. Estimate the answer to a calculation and use inverse operations to check answers.	Step 1 Apply number bonds within 10 Step 2 Add and subtract 1s Step 3 Add and subtract 10s Step 4 Add and subtract 100s Step 5 Spot the pattern Step 6 Add 1s across a 10 Step 7 Add 10s across a 100 Step 8 Subtract 1s across a10 Step 9 Subtract 10s across a 100 Step 10 Make connections Step 11 Add two numbers (no exchange) Step 12 Subtract two numbers (no exchange) Step 13 Add two numbers (across a 10) Step 14 Add two numbers (across a 100) Step 15 Subtract two numbers (across a 10) Step 16 Subtract two numbers (across a 100) Step 17 Add 2-digit and 3-digit numbers Step 18 Subtract a 2-digit number from a 3-digit number Step 19 Complements to 100 Step 20 Estimate answers Step 21 Inverse operations Step 22 Make decisions
Number A x & ÷ (4 Weeks) Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit number x 1-digit numbers, using mental and progressing to formal written methods. Recall and use x and / facts for the 3, 4 and 8x tables.	Step 1 Multiplication – equal groups Step 2 Use arrays Step 3 Multiples of 2 Step 4 Multiples of 5 and 10 Step 5 Sharing and grouping Step 6 Multiply by 3 Step 7 Divide by 3 Step 8 The 3 times-table Step 9 Multiply by 4 Step 10 Divide by 4 Step 11 The 4 times-table Step 12 Multiply by 8 Step 13 Divide by 8 Step 14 The 8 times-table Step 15 The 2, 4 and 8 times-tables

Spring Term

National Curriculum	Small Steps
Number B x & ÷ (4 Week Block) Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit number x 1-digit numbers, using mental and progressing to formal written methods. Solve problems including missing number problems, involving x and /, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	Step 1 Multiples of 10 Step 2 Related calculations Step 3 Reasoning about multiplication Step 4 Multiply a 2-digit number by a 1-digit number – no exchange Step 5 Multiply a 2-digit number by a 1-digit number – with exchange Step 6 Link multiplication and division Step 7 Divide a 2-digit number by a 1-digit number – no exchange Step 8 Divide a 2-digit number by a 1-digit number – flexible partitioning Step 9 Divide a 2-digit number by a 1-digit number – with remainders Step 10 Scaling Step 11 How many ways?

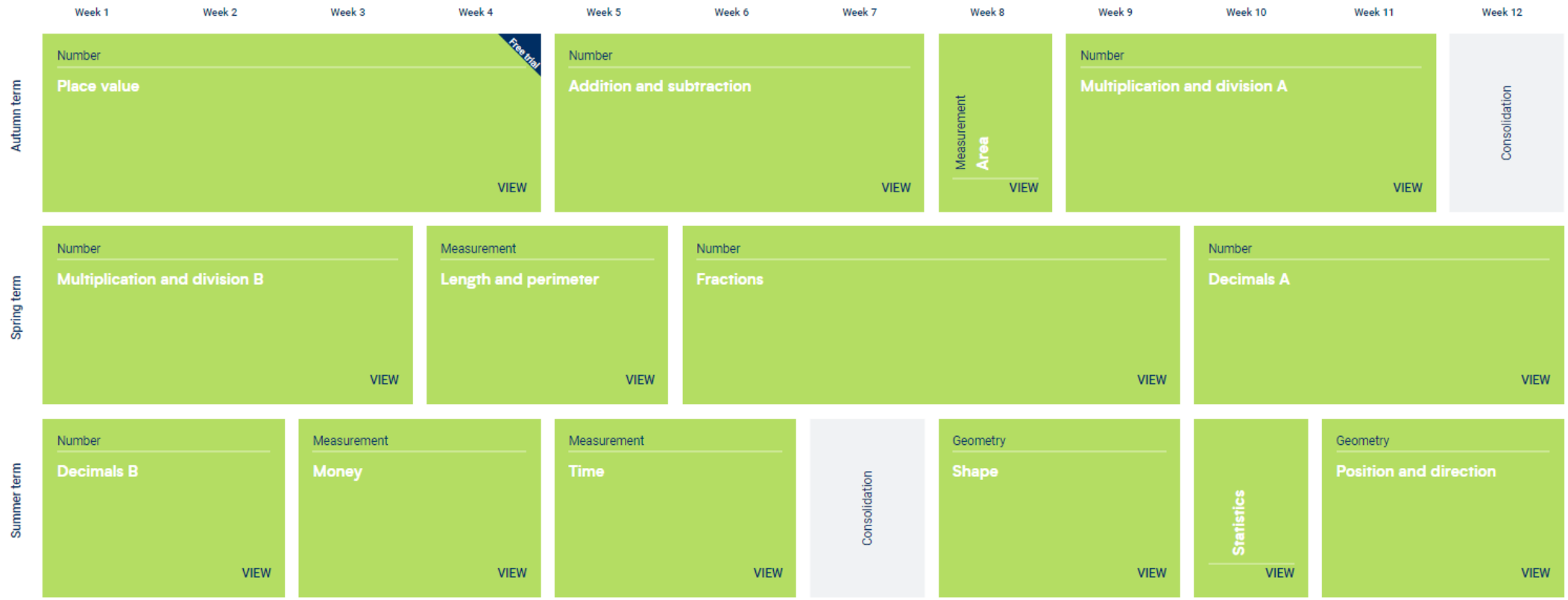
Length and Perimeter (3 Weeks) Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). Measure the perimeter of simple 2-D shapes.	
Fractions Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. Compare and order unit fractions, and fractions with the same denominators. 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 and use fractions as numbers; unit fractions and non-unit fractions with small denominators. Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). Recognise and show, using diagrams, equivalent fractions with small denominators.	
Measures (Mass and Capacity—3 Weeks) Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).	
Summer Term	
National Curriculum	**Small Steps**
Fractions (2 Weeks) Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. Add and subtract fractions with the same denominator within one whole [for example, + =]. Solve problems using all of the above.	
Measures (Money—2 Weeks) Add and subtract amounts of money to give change, using both £ and p in practical contexts	
Measures (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. Know the number of seconds in a minute and the number of days in each month, year and leap year. Compare durations of events [for example to calculate the time taken by particular events or tasks].	

Geometry (2 Weeks) 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. Recognise angles as a property of shape or a description of a turn. Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them. Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).	
Statistics (2 Weeks) Interpret and present data using bar charts, pictograms and tables. Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables	

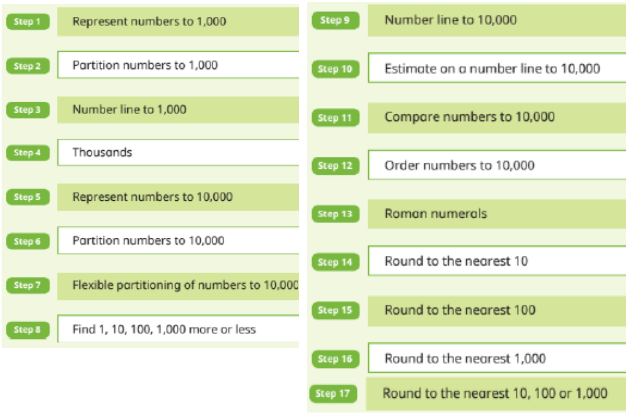
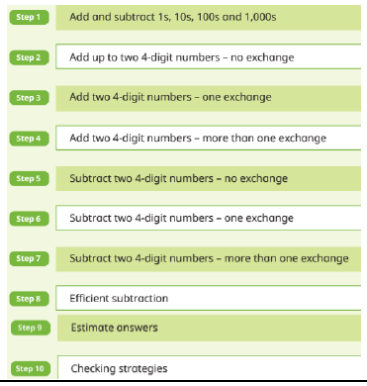
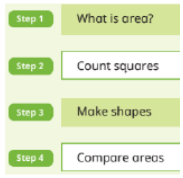
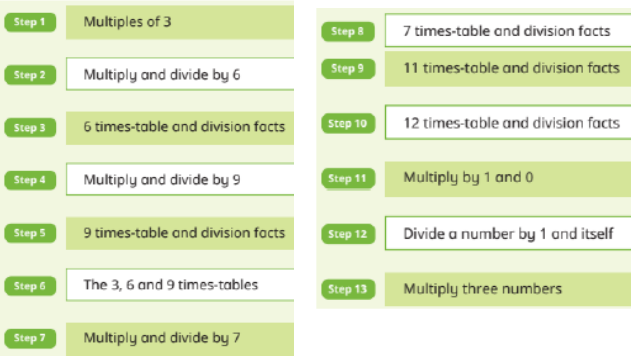
Year 4 Curriculum Map

Year 4 TA Hub Intervention

Year 4 Calculation Policy



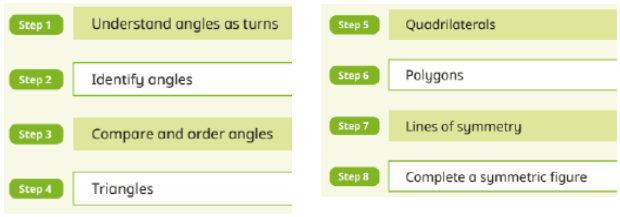
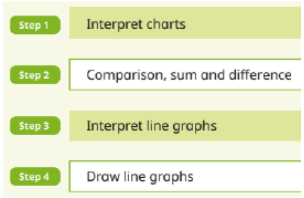
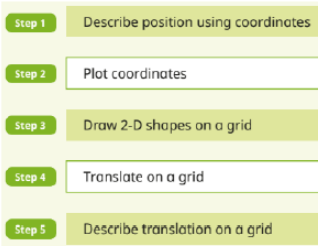
Autumn Term

National Curriculum	Small Steps
Number and Place Value (4 Weeks) Identify, represent and estimate numbers using different representations. Count in multiples of 6, 7, 9, 25 and 1000. Recognise the place value of each digit in a 4-digit number (1000, 100, 10, 1). Find 1000 more or less than a given number. Order and compare numbers beyond 1000. 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. Round any number to the nearest 10, 100 or 1000. Solve number and practical problems that involve all of the above and with increasingly large positive numbers. Count backwards through zero to include negative numbers.	
Number + & - (3 Weeks) Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. Estimate and use inverse operations to check answers to a calculation.	
Measure Area (1 Week) Find the area of rectilinear shapes by counting squares.	
Number A x & ÷ (3 Weeks) Recall multiplication facts up to 12x12. Recognise and use factor pairs and commutativity in mental calculations. Count in multiples of 6, 7, 9, 25 and 1000. 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	

Spring Term

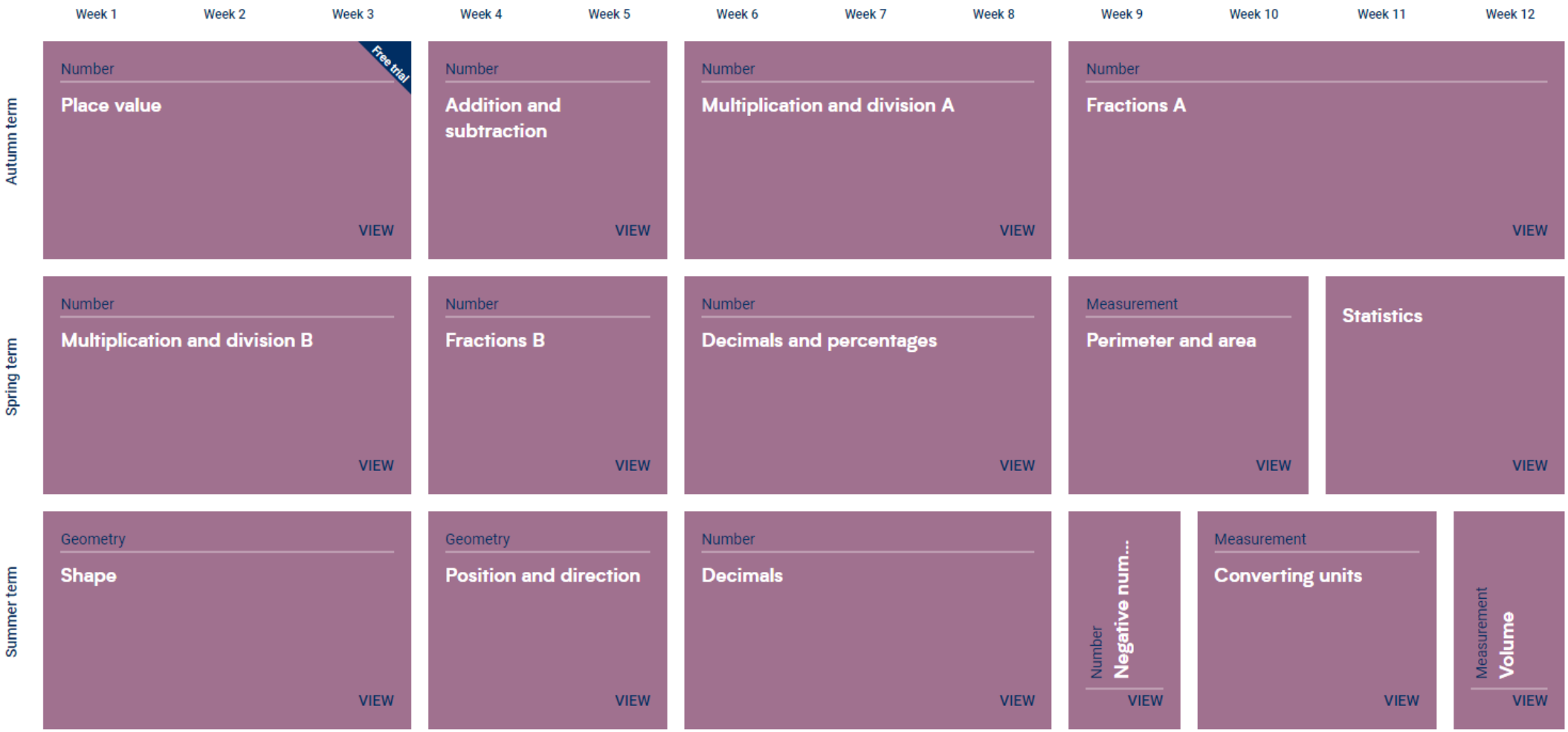
National Curriculum	Small Steps
Number B x & ÷ (3 Weeks) Recognise and use factor pairs and commutativity in mental calculations. Recall multiplication facts up to 12x12. Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	

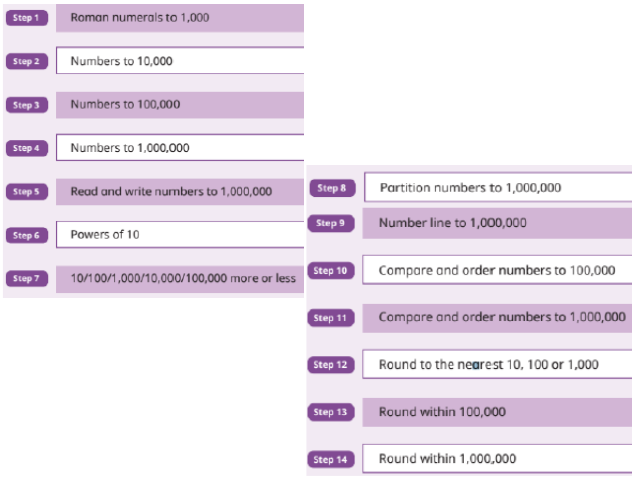
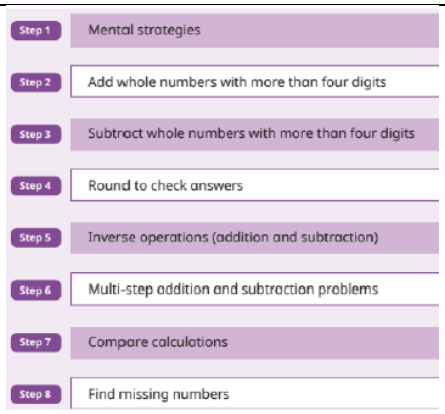
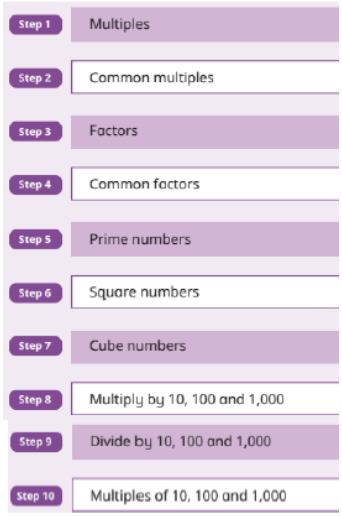
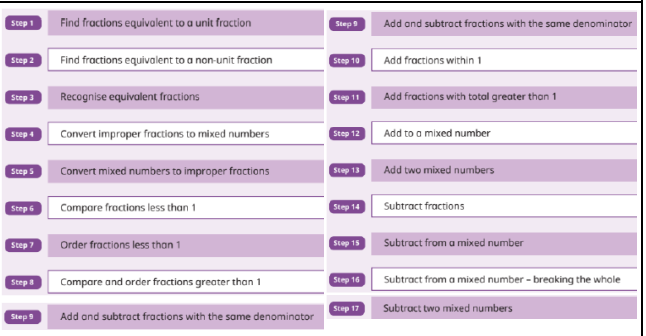
Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.	Step 7 Related facts – multiplication and division Step 8 Informal written methods for multiplication Step 9 Multiply a 2-digit number by a 1-digit number Step 10 Multiply a 3-digit number by a 1-digit number Step 11 Divide a 2-digit number by a 1-digit number (1) Step 12 Divide a 2-digit number by a 1-digit number (2) Step 13 Divide a 3-digit number by a 1-digit number Step 14 Correspondence problems Step 15 Efficient multiplication
Length and Perimeter (2 Weeks) Convert between different units of measure [for example, kilometre to metre). Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.	Step 1 Measure in kilometres and metres Step 2 Equivalent lengths (kilometres and metres) Step 3 Perimeter on a grid Step 4 Perimeter of a rectangle Step 5 Perimeter of rectilinear shapes Step 6 Find missing lengths in rectilinear shapes Step 7 Calculate perimeter of rectilinear shapes Step 8 Perimeter of regular polygons Step 9 Perimeter of polygons
Fractions (4 Weeks) Recognise and show, using diagrams, families of common equivalent fractions. Add and subtract fractions with the same denominator. Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.	Step 1 Understand the whole Step 2 Count beyond 1 Step 3 Partition a mixed number Step 4 Number lines with mixed numbers Step 5 Compare and order mixed numbers Step 6 Understand improper fractions Step 7 Convert mixed numbers to improper fractions Step 8 Convert improper fractions to mixed numbers Step 9 Equivalent fractions on a number line Step 10 Equivalent fraction families Step 11 Add two or more fractions Step 12 Add fractions and mixed numbers Step 13 Subtract two fractions Step 14 Subtract from whole amounts Step 15 Subtract from mixed numbers
Decimals (3 Weeks) Recognise and write decimal equivalents of any number of tenths or hundredths. Compare numbers with the same number of decimal places up to two decimal places. Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths. Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. Recognise and show, using diagrams, families of common equivalent fractions.	Step 1 Tenths as fractions Step 2 Tenths as decimals Step 3 Tenths on a place value chart Step 4 Tenths on a number line Step 5 Divide a 1-digit number by 10 Step 6 Divide a 2-digit number by 10 Step 7 Hundredths as fractions Step 8 Hundredths as decimals Step 9 Hundredths on a place value chart Step 10 Divide a 1- or 2-digit number by 100
Summer Term	
National Curriculum	**Small Steps**
Decimals (2 Weeks) Recognise and write decimal equivalents of any number of tenths or hundredths. Compare numbers with the same number of decimal places up to two decimal places. Solve simple measure and money problems involving fractions and decimals to two decimal places. Round decimals with one decimal place to the nearest whole number. Recognise and write decimal equivalents to 1/4, 1/2, 3/4.	Step 1 Make a whole with tenths Step 2 Make a whole with hundredths Step 3 Partition decimals Step 4 Flexibly partition decimals Step 5 Compare decimals Step 6 Order decimals Step 7 Round to the nearest whole number Step 8 Halves and quarters as decimals
Measures (Money—2 Weeks) Estimate, compare and calculate different measures, including money in pounds and pence.	Step 1 Write money using decimals Step 2 Convert between pounds and pence Step 3 Compare amounts of money Step 4 Estimate with money Step 5 Calculate with money Step 6 Solve problems with money
Measure (Time—2 Weeks) Convert hours to minutes, minutes to seconds, years to months or weeks to days. Solve problems involving converting hours to minutes, minutes to seconds, years to months or weeks to days. Read, write and convert time between analogue and digital 12 and 24 hour clocks.	Step 1 Years, months, weeks and days Step 2 Hours, minutes and seconds Step 3 Convert between analogue and digital times Step 4 Convert to the 24-hour clock Step 5 Convert from the 24-hour clock

Geometry (Shape—2 Weeks) Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Identify acute and obtuse angles and compare and order angles up to two right angles by size. Identify lines of symmetry in 2-D shapes presented in different orientations. Complete a simple symmetric figure with respect to a specific line of symmetry	
Statistics (1 Week) Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	
Geometry (Position—2 Weeks) Describe positions on a 2-D grid as co-ordinates in the first quadrant. Describe movements between positions as translations of a given unit to the left/right and up/down. Plot specified points and draw sides to complete a given polygon.	

Year 5 Curriculum Map

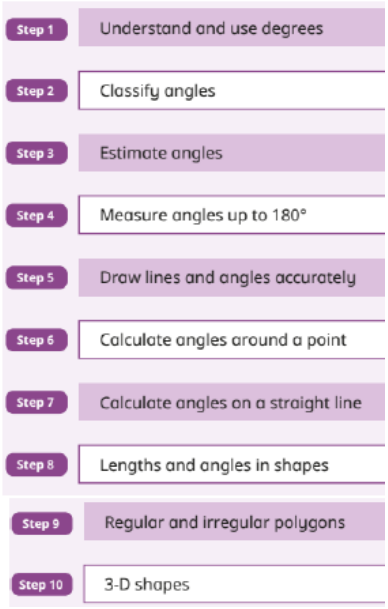
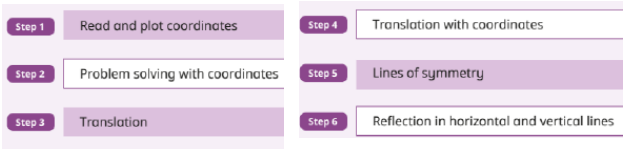
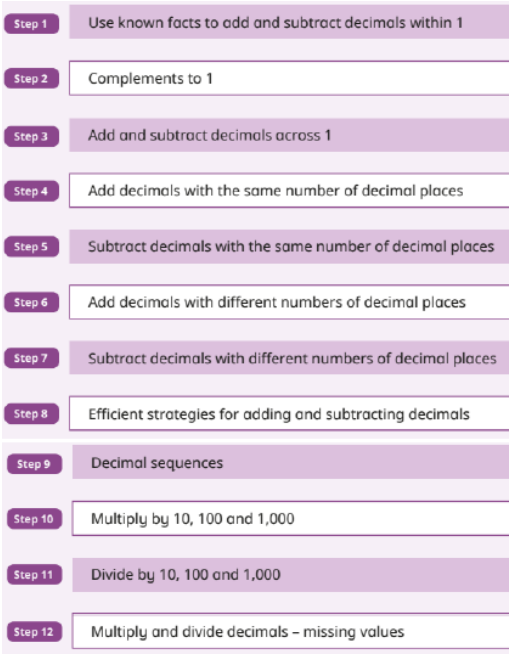
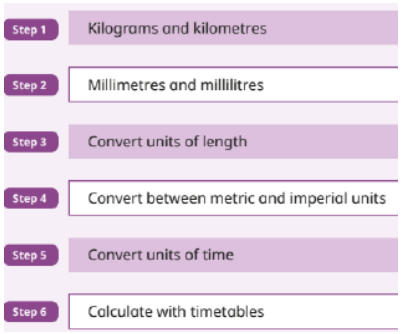
Year 5 TA Hub Intervention
Year 5 Calculation Policy

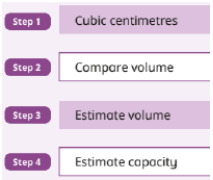


Autumn Term	
National Curriculum	**Small Steps**
Number and Place Value (3 Weeks) Read roman numerals to 1000 (M) and recognise years written in roman numerals. Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit. Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. Solve number problems and practical problems that involve all objectives. Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.	
Number + & - (2 Weeks) Add and subtract numbers mentally with increasingly large numbers. Add and subtract whole numbers with more than 4 digits, including using formal written methods (column addition and subtraction). Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000. Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	
Number A x & ÷ (3 Weeks) Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. Establish whether a number up to 100 is prime and recall prime numbers up to 19. Recognise and use square numbers and cubed numbers, and the notation for squared and cubed. Multiply and divide numbers mentally drawing upon known facts. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.	
Fractions A (4 Weeks) Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, + = = 1]. Compare and order fractions whose denominators are all multiples of the same number. Add and subtract fractions with the same denominator and denominators that are multiples of the same number.	

Spring Term

National Curriculum	Small Steps
Number B x & ÷ (3 Weeks) Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers. 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. Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.	Step 1 Multiply up to a 4-digit number by a 1-digit number Step 2 Multiply a 2-digit number by a 2-digit number (area model) Step 3 Multiply a 2-digit number by a 2-digit number Step 4 Multiply a 3-digit number by a 2-digit number Step 5 Multiply a 4-digit number by a 2-digit number Step 6 Solve problems with multiplication Step 7 Short division Step 8 Divide a 4-digit number by a 1-digit number Step 9 Divide with remainders Step 10 Efficient division Step 11 Solve problems with multiplication and division
Fractions B (2 Weeks) Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.	Step 1 Multiply a unit fraction by an integer Step 2 Multiply a non-unit fraction by an integer Step 3 Multiply a mixed number by an integer Step 4 Calculate a fraction of a quantity Step 5 Fraction of an amount Step 6 Find the whole Step 7 Use fractions as operators
Decimals and Percentages (3 Weeks) Read, write, order and compare numbers with up to three decimal places. Read and write decimal numbers as fractions. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5 and 4/5 and those fractions with a denominator of a multiple of 10 or 25. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. Solve problems involving number up to three decimal places. Round decimals with two decimal places to the nearest whole number and to one decimal place. 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.	Step 1 Decimals up to 2 decimal places Step 2 Equivalent fractions and decimals (tenths) Step 3 Equivalent fractions and decimals (hundredths) Step 4 Equivalent fractions and decimals Step 5 Thousandths as fractions Step 6 Thousandths as decimals Step 7 Thousandths on a place value chart Step 8 Order and compare decimals (same number of decimal places) Step 9 Order and compare any decimals with up to 3 decimal places Step 10 Round to the nearest whole number Step 11 Round to 1 decimal place Step 12 Understand percentages Step 13 Percentages as fractions Step 14 Percentages as decimals Step 15 Equivalent fractions, decimals and percentages
Measure (Area and Perimeter—2 Weeks) Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. 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.	Step 1 Perimeter of rectangles Step 2 Perimeter of rectilinear shapes Step 3 Perimeter of polygons Step 4 Area of rectangles Step 5 Area of compound shapes Step 6 Estimate area
Statistics (2 Weeks) Solve comparison, sum and difference problems using information presented in a line graph. Complete, read and interpret information in tables, including timetables.	Step 1 Draw line graphs Step 2 Read and interpret line graphs Step 3 Read and interpret tables Step 4 Two-way tables Step 5 Read and interpret timetables

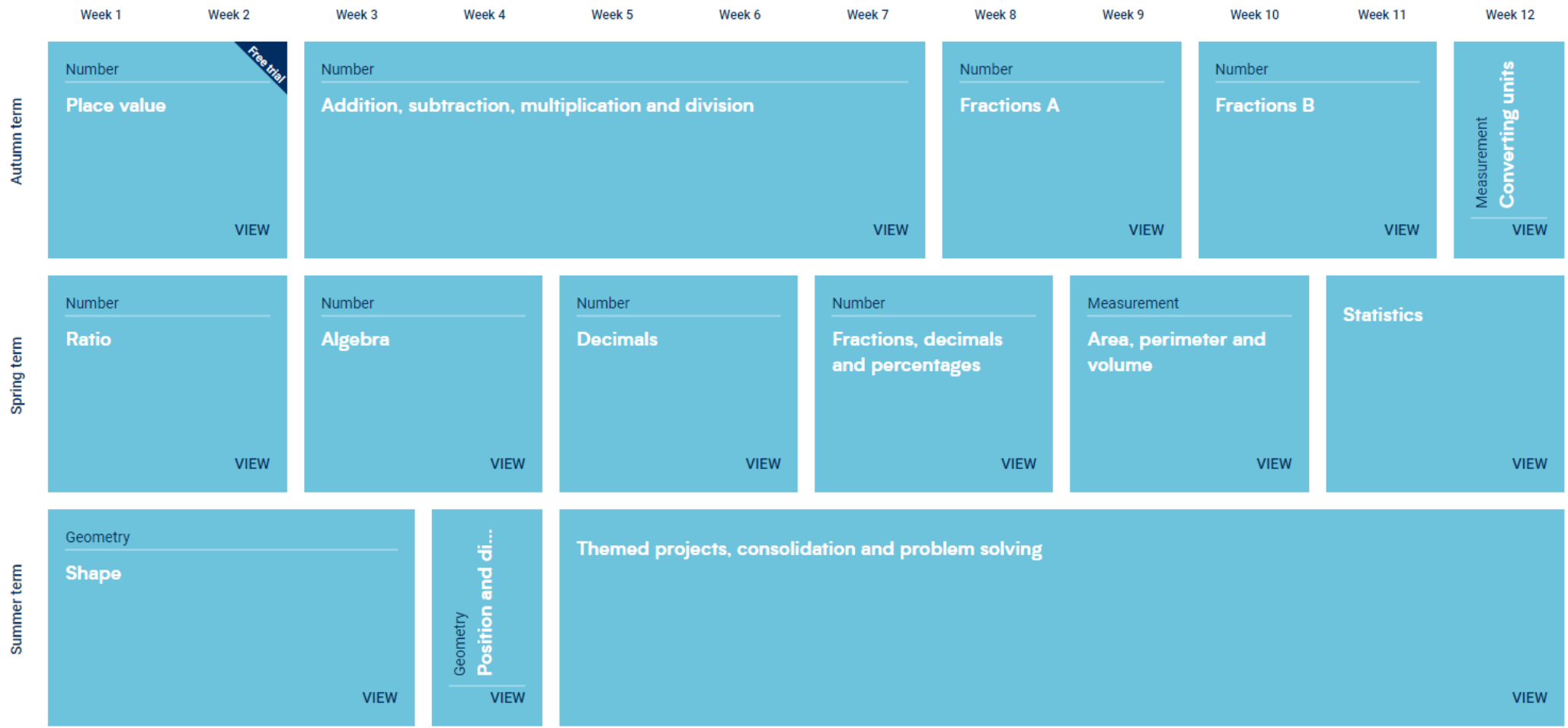
Summer Term	
National Curriculum	**Small Steps**
Geometry (Shape—3 Weeks) Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Draw given angles, and measure them in degrees (o). Identify: • angles at a point and one whole turn (total 360o) • angles at a point on a straight line and • 1/2 a turn (total 180o) • other multiples of 90o Use the properties of rectangles to deduce related facts and find missing lengths and angles. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.	
Geometry (Position—2 Weeks) 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.	
Decimals (3 Weeks) Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. Solve problems involving number up to three decimal places. Read, write, order and compare numbers with up to three decimal places. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 .	
Negative Numbers (1 Week) Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.	
Converting Units (2 Weeks) Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre). Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. Solve problems which involve converting between units of time, e.g, expressing answer as days and weeks. Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	

Measures (Volume 1 Week) Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]. Use all four operations to solve problems involving measure (volume) using decimal notation, including scaling.	

Year 6 Curriculum Map

Year 6 TA Hub Intervention

Year 6 Calculation Policy



Autumn Term	
National Curriculum	**Small Steps**
Number and Place Value (2 Weeks) Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. Solve number and practical problems that involve all of the above. Round any whole number to a required degree of accuracy. Use negative numbers in context, and calculate intervals across zero.	Step 1 Numbers to 1,000,000 Step 2 Numbers to 10,000,000 Step 3 Read and write numbers to 10,000,000 Step 4 Powers of 10 Step 5 Number line to 10,000,000 Step 6 Compare and order any integers Step 7 Round any integer Step 8 Negative numbers
Number + & -, x & ÷ (5 Weeks) Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. Identify common factors, common multiples and prime numbers. Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. Perform mental calculations, including with mixed operations and large numbers. Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context. 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. Use their knowledge of the order of operations to carry out calculations involving the four operations. Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. Solve problems involving addition, subtraction, multiplication and division.	Step 1 Add and subtract integers Step 2 Common factors Step 3 Common multiples Step 4 Rules of divisibility Step 5 Primes to 100 Step 6 Square and cube numbers Step 7 Multiply up to a 4-digit number by a 2-digit number Step 8 Solve problems with multiplication Step 9 Short division Step 10 Division using factors Step 11 Introduction to long division Step 12 Long division with remainders Step 13 Solve problems with division Step 14 Solve multi-step problems Step 15 Order of operations Step 16 Mental calculations and estimation Step 17 Reason from known facts
Fractions A (2 Weeks) Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. Compare and order fractions, including fractions > 1. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. Identify common factors, common multiples and prime numbers. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. Solve problems involving +, -, x and /.	Step 1 Equivalent fractions and simplifying Step 2 Equivalent fractions on a number line Step 3 Compare and order (denominator) Step 4 Compare and order (numerator) Step 5 Add and subtract simple fractions Step 6 Add and subtract any two fractions Step 7 Add mixed numbers Step 8 Subtract mixed numbers Step 9 Multi-step problems
Fractions B (2 Weeks) Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 1/4 × 1/2 = 1/8). Divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6]. Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 0.375] for a simple fraction [for example, 8/3] identify the value of each digit in numbers given to three decimal places. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. Solve problems involving addition, subtraction, multiplication and division.	Step 1 Multiply fractions by integers Step 2 Multiply fractions by fractions Step 3 Divide a fraction by an integer Step 4 Divide any fraction by an integer Step 5 Mixed questions with fractions Step 6 Fraction of an amount Step 7 Fraction of an amount – find the whole

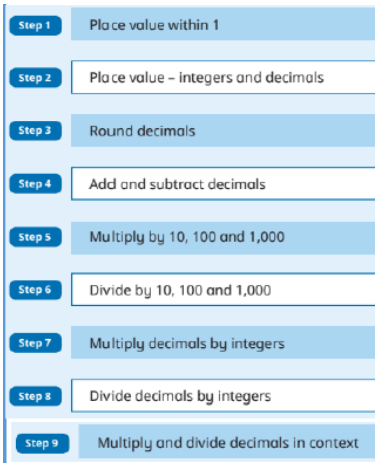
Decimals (2 Weeks)
Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Multiply one-digit numbers with up to two decimal places by whole numbers.

Solve problems which require answers to be rounded to specified degrees of accuracy.

Use written division methods in cases where the answer has up to 2 decimal places.



Spring Term

National Curriculum

Small Steps

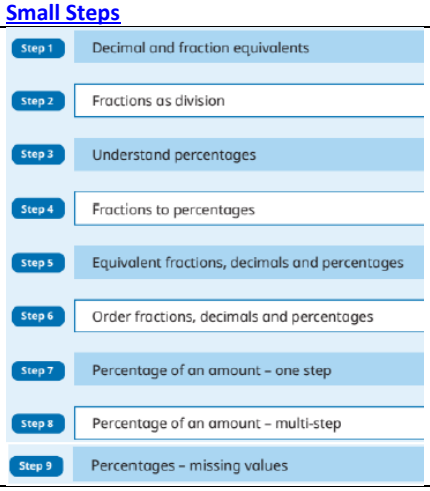
Fractions, Decimals and Percentages (2 Weeks)
Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.

Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction.

Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Compare and order fractions, including fractions > 1.

Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison

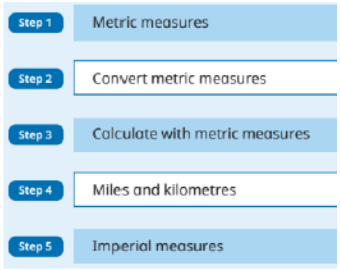


Converting Units (1 Week)
Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.

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.

Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.

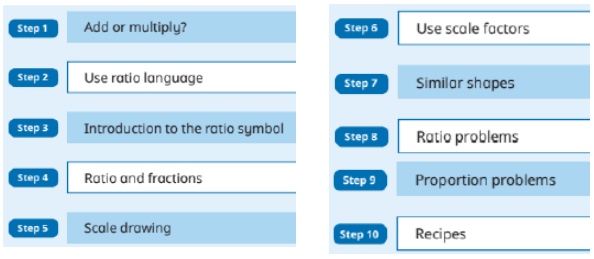
Convert between miles and kilometres.



Ratio and Proportion (2 Weeks)
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.



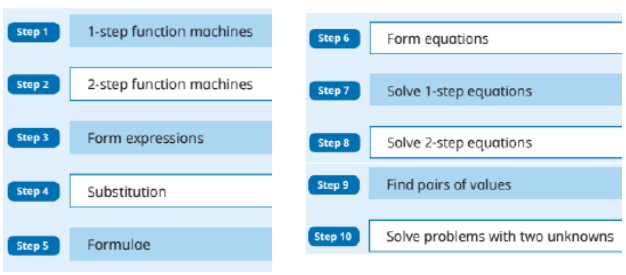
Algebra (2 Weeks)
Use simple formulae.

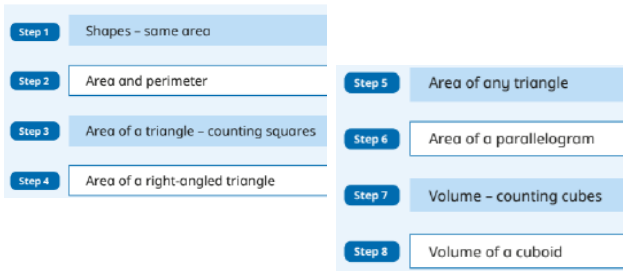
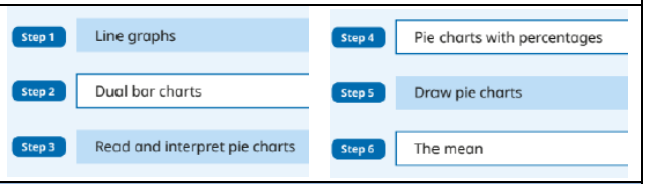
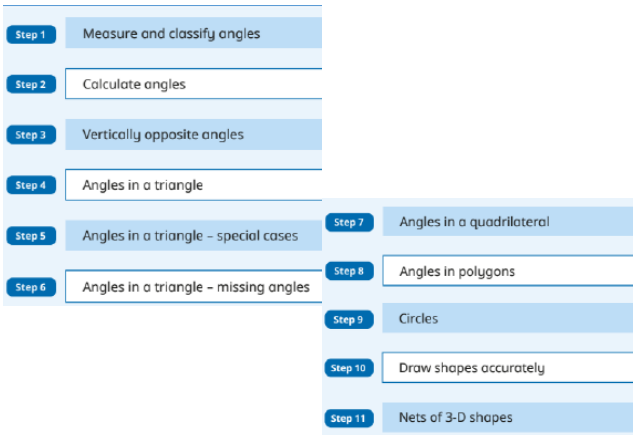
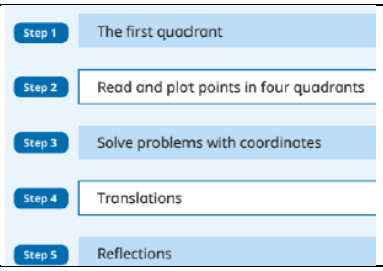
Generate and describe linear number sequences.

Find pairs of numbers that satisfy an equation with two unknowns.

Enumerate possibilities of combinations of two variables.

Express missing number problems algebraically.



Area, Perimeter and Volume (Weeks) Recognise that shapes with the same areas can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. 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].	
Statistics (2 Weeks) Interpret and construct pie charts and line graphs and use these to solve problems. Calculate and interpret the mean as an average.	
Summer Term	
National Curriculum	**Small Steps**
Geometry (Shape—3 Weeks) Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons. Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. Draw 2-D shapes using given dimensions and angles. Recognise, describe and build simple 3-D shapes, including making nets.	
Position and Direction (2 Weeks) Describe positions on the full coordinate grid (all four quadrants). Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.	
Consolidation and themed projects	