Corpus Christi Catholic Primary School

MATHEMATICS HANDBOOK

MATHEMATICS CURRICULUM: INTENT: All of our children will have consistent access to a broad, balanced and high quality mathematics curriculum which will:

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

MATHEMATICS Together we DREAM, together we learn

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.

At Corpus Christi, our mission statement and the teaching of Jesus is at the centre of all we do.

We intend to show this through our mathematics curriculum:

Give opportunities to DISCOVER new facts, skills, information and experiences, through mathematical enquiry.
Teach children to RESPECT each other, the use of different methods and the mathematical resources used to enhance learning across the school.
Provide experiences to ENTHUSE and excite and develop mathematical knowledge and understanding.
Encourage high ASPIRATIONS in both school and beyond, and applying those aspirations in their mathematics work.
Show ways our children can MAKE A DIFFERENCE to themselves, each other and outside, in big and small ways, and use their understanding in mathematics to aid their ideas.

STRATEGIES: In order to achieve our aims our school provides:

On site facilities:

- Online White Rose Maths Planning and Resources
- Online Maths Shed Resources
- ICT resources- Ipads and Smart TV in every classroom
- Outdoor learning- sand and water trays and playground games.

Off site facilities:

- Math Hub
- NCETM online resources
- Teacher Research Group training and sessions in other schools.

Equipment/Resources

The school maintains a range of resources for mathematics- resources within every classroom to aid daily mathematics tasks, such as: place value counters, base ten, ten frames, rulers etc. Resources within shared areas for daily mathematics tasks, such as: 2D and 3D shapes, clocks, bead strings, mirrors, money, measuring equipment, games etc.

Curriculum Provision

Reception– Y6: 60 minute mathematics lesson daily (plus 4-a-day completed every day within Y3-Y6)
Children follow the school's scheme of work (White Rose) and are continuously assessed against clear learning objectives.

Extra-Curricular Provision

Additional examples of our commitment to mathematics include:

Involvement in the Teacher Research Group sessions with North West Maths Hub, Number Day supporting NSPCC every February,

Continuing Professional Development

Teachers and support staff are encouraged to develop their skills and knowledge to enhance the teaching of mathematics in school.

- Subject Leadership training – Maths Lead
- Research Projects – EYFS, Y2, Y4.
- Support through team teaching

- Support through research schools.
- Maths Lead attend training to review Mastery, Tests, mental maths.
- All teachers to follow 'White Rose' Maths planning from September 2019.
- 2 teachers trained to improve multiplication tables and fractions, decimals and percentage fluency across KS2.

Reporting

Verbal reports to parents take place twice a year at Parent's Evening.
Written reports are provided annually.

- **All staff are continuously trained so as to ensure that mathematics is taught to a high standard**
- **This high quality teaching is supported through the appropriate funding, resources, timetables and our whole school environment, which is maintained to a high standard and enhances and promotes our teaching and our children's experiences and learning**
- **Staff plan and deliver daily high quality mathematics lessons**
- **Staff meet regularly to review the quality of our provision and to refresh, reposition and change as appropriate**
- **Staff meet regularly to track and review the progress of our children and this high quality formative assessment contributes good rates of progress and high levels of attainment**
- **Strong parent partnerships and home/school systems contribute the quality of our provision**

OUTCOMES

The teaching of all aspects of mathematics is consistently good with much outstanding practice.
All of our children develop their enjoyment, knowledge, understanding and skills in mathematics and use these successfully across all areas of the curriculum.
All of our children make good progress from their starting point in mathematics.

MONITORING EVALUATION REVIEW

The school implements an annual programme of quality assurance which includes:

- Scrutiny of planning
- assessment and work books
- Lesson Observations
- Learning walks
- Conversations with children
- Consultation with parents

MATHEMATCIS: CURRICULUM IMPLEMENTATION: PLANNING

Our long term planning ensures coverage of the National Mathematics Curriculum and is responsive to local influences. In order to widen and deepen pupils' essential knowledge, skills, understanding and behaviours, our children continuously return to key concepts and skills in order to gain a deeper and more insightful understanding.

Nursery start to follow White Rose material using resources from **Master the Curriculum:**

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn Starters: Number songs	Colours • Red • Blue • Yellow	Colours • Green • Purple • Mix of colours	Match • Buttons and colours • Matching towers • Matching shoes	Match • Match number shapes • Match shapes • Pattern handprints – big and small	Sort • Colour • Size • Shape	Sort • What do you notice? • Guess the rule • Guess the rule	Number 1 • Subitising • Counting • Numeral	**Number 2** Subitising-dice pattern Subitising-random pattern Subitising – different sizes	**Number 2** • Counting • Numeral • Numeral	**Pattern** • Extend AB Colour patterns • Extend AB Outdoor Patterns • AB Movement Patterns	• Fix my Pattern • Extend ABC Colour patterns • Extend ABC Outdoor Patterns	Consolidation Activities - Winter activity week
Spring Starters: Number songs	Number 3 Subitising Subitising Subitising	Number 3 3 Little pigs 1:1 counting Numerals/Triangles	Number 4 1:1 counting Numerals Squares/rectangles	Number 4 Composition of 4 Composition of 4 Composition of 4	Number 5 1:1 counting Numerals Pentagon	Number 5 Composition of 5 Composition of 5 Composition of 5	Consolidate 1 - 5	Number 6 Introduce 10 frame	Height & Length • Tall and short • Long and short • Tall/long and short	Mass Relate to books 3 little pigs goldilocks	Capacity	Consolidation
Summer Starters – subitising and revision	More than/fewer than	One more	One less	Shape – 2D Revisit pattern from Autumn	Shape – 3D Revisit pattern from Autumn	Consolidation: More than/fewer one more and one less	Number composition 1 – 5 Revision	Night and Day Order events in their day at nursery Order events in their day at nursery What happens day/night	Positional Language	Positional Language	Consolidation / Activity weeks SUMMER	Consolidation / Activity weeks

Reception

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Autumn	Getting to Know You			Just Like Me!			It's Me 1 2 3!			Light and Dark			Consolidation	
Spring	Alive in 5!			Growing 6, 7, 8			Building 9 and 10			Consolidation				
Summer	To 20 and Beyond			First Then Now			Find My Pattern			On The Move				

Autumn Term

Week 1	Week 2	Week 3		Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Getting to Know You			Phase	Just Like Me!			It's Me 1 2 3!			Light and Dark		
Opportunities for settling in, introducing the areas of provision and getting to know the children.			Number	Match and Sort Compare Amounts			Representing 1, 2 & 3 Comparing 1, 2 & 3 Composition of 1, 2 & 3			Representing Numbers to 5. One More and Less.		
Key times of day, class routines. Exploring the continuous provision inside and out. Where do things belong? Positional language.			Measure, Shape and Spatial Thinking	Compare Size, Mass & Capacity Exploring Pattern			Circles and Triangles Positional Language			Shapes with 4 Sides. Time		

Master the Curriculum:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	**Getting to Know You** Use these weeks to get to know your children. You will not find maths planning, there are maths activity sheets to get to know the class.			Just Like Me			It's Me, 1,2,3			Light & Dark		
	Castle number assessment to 25 How old are you Maths about me Favourite animal and count Colour favourite pet Count the pets Colour and count favourite fruit Match fruits Make a pattern with favourite colours	Favourite book – focus on Goldilocks activities Colour and count the characters – ten frame Colour by number How many can you see? Count how many Colour favourite character and count Puzzle number strips Patterns	Favourite nursery rhymes- focus on Humpty Dumpty Positional language and sequence Sequencing day Sequence Humpty Dumpty Favourite meals and sequencing Humpty Dumpty Number game	Identify matching buttons Identify matching socks Describe size and shapes of lids Sorting buttons in groups Collecting natural material and sorting 	Match sizes Compare – more and fewer Compare taller and shorter Compare longer shorter Capacity using boxes	AB Patterns with natural objects AB Patterns with household items AB shape patterns Spot the mistake in repeated pattern Patterns using body and movement	Number 1 Number 2 Number 3 Number 1,2,3 Sorting objects and subitising Number 1,2,3 Memory game 	Sorting 1,2,3 Sorting 1,2,3 – dominoes Matching pictures to the numerals 1,2,3 Find 1 more and 1 less Composition of 3	Sorting shapes – triangles and circles Make shape pictures using triangles and circles Circles and triangles with real life objects. Positional language – where's teddy? Positional language – obstacle course	Number 4 Number 5 Number 4 and 5 Composition of 4 Composition of 5  	Composition of 4 and 5 Cube shapes with 4 and 5 Finding 1 more to a number Finding 1 less 1 more and 1 less	Sorting rectangles and squares Shape hunt Rectangles and squares Day and night Sequencing events

Spring Term

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
Phase	Alive in 5!			Growing 6, 7, 8			Building 9 & 10		
Number	Introducing zero Comparing numbers to 5 Composition of 4 & 5			6, 7 & 8 Combining 2 amounts Making pairs			Counting to 9 & 10 Comparing numbers to 10 Bonds to 10		
Measure, Shape and Spatial Thinking	Compare Mass (2) Compare Capacity (2)			Length & Height Time			3d-shapes Patterns		

Master the Curriculum:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Spring	**Alive in 5**			**Growing 6,7,8**			**Building 9 & 10**			**Consolidation**		
	One Less Zero Composition of 5 Composition of 5 Equal and unequal groups	Composition of numbers How many altogether? Composition of numbers – 3 groups How many are hiding? (animals) How many are hiding (cubes)	Balance scales Full and empty Measuring capacity Measuring capacity Measuring ingredients	Representing 6 Making 7 Making 8 Matching 6,7,8. One more and one less	Matching 6, 7 8 Making pairs Combining 2 groups Combining 2 groups Adding more	Comparing height Comparing length Days of the week Measuring height Measuring time	Representing 9 and 10 Sorting 9 and 10 in different ways Order numbers to 10 Composition of 9 and 10 Bingo – Numbers to 10	Counting backwards from 10 Comparing within 10 Comparing numbers within 10 Making 10 Making 10	Building 9 and 10 Matching 3D Shapes Real life objects Making 3D Prints Patterns Movement Patterns	Activities for: Composition of 5 Equal and unequal groups Measurement Zero **Click to see this overview**	Activities for: Combining 2 groups Length and height Number 6 Number 7 Number 8 **Click to see this overview**	Activities for: 3D and Pattern Assessment 3D and real life images Investigate 3D shapes Patterns **Click to see this overview**

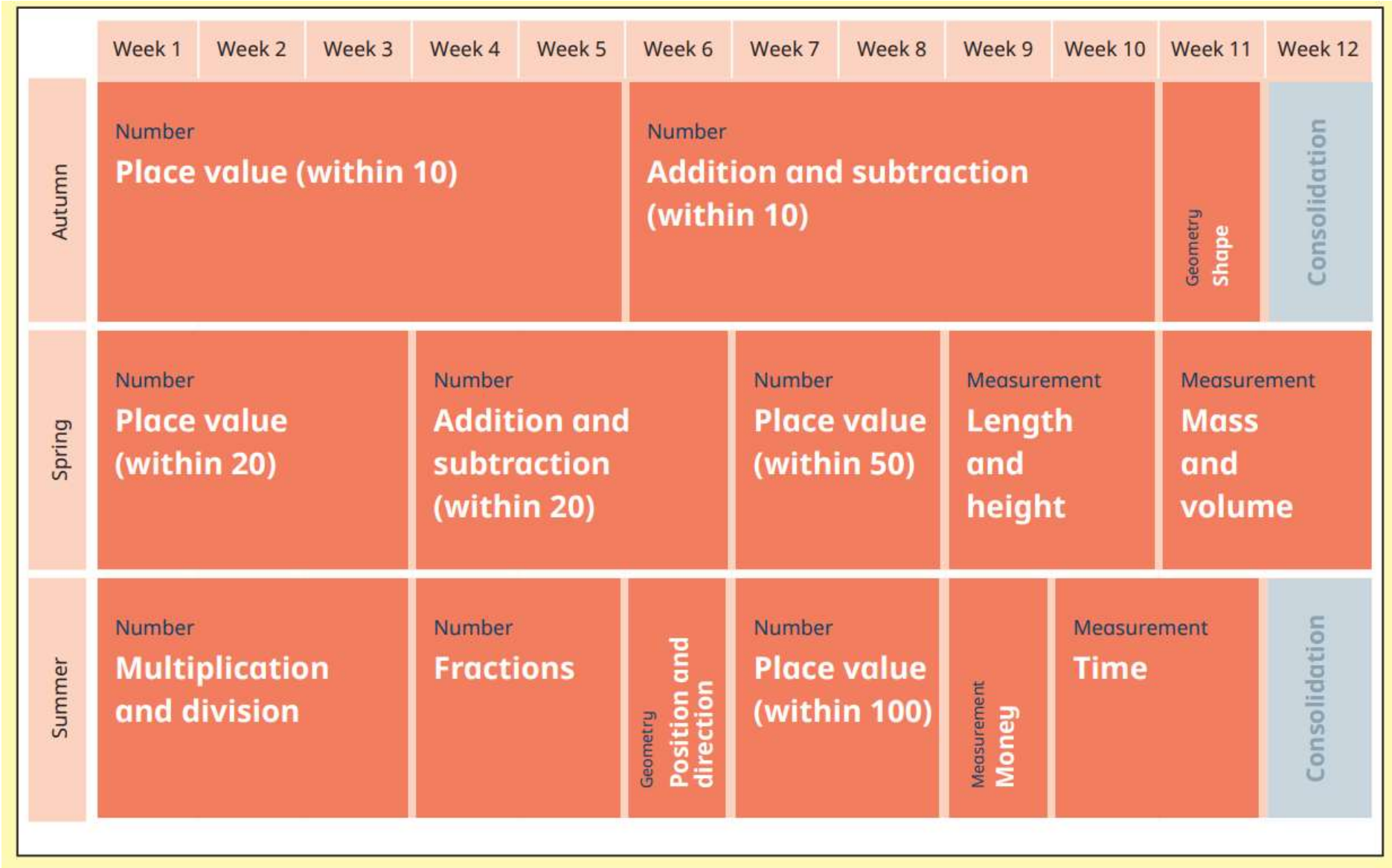
Summer Term

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Phase	To 20 and Beyond			First Then Now			Find my Pattern			On the Move		
Number	Building Numbers Beyond 10 Counting Patterns Beyond 10			Adding More Taking Away			Doubling Sharing & Grouping Even & Odd			Deepening Understanding Patterns and Relationships		
Spatial Thinking	Spatial Reasoning (1) Match, Rotate, Manipulate			Spatial Reasoning (2) Compose and Decompose			Spatial Reasoning (3) Visualise and Build			Spatial Reasoning (4) Mapping		

Master the Curriculum:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Summer	**To 20 and Beyond**			**First, Then and Now**			**Find My Pattern**			**On the Move**		
	Number Patterns Matching Pictures to numerals Ten frame fill Estimating Ten frame subtraction	Missing Numbers Ordering Numerals to 20 Race to 20 Bingo Which holds the most?	Find my match – shapes Find my match – Models Match and fill Replicate my shape Tangrams	Counting On Adding More Adding More Adding Unknown Then Adding Unknown First	Take Away with Pebbles Take Away Take Away Unknown Then Pass it on	Making new shapes – Triangles Making new shapes – Squares Grandpa's Quilt Tangrams Pattern Blocks	Doubles Doubling Double Dice game Double Barrier Game Double Dominoes	Sharing Picnic – Sharing More people! Grouping (1) Grouping (2)	Even and Odd One Odd Day Even and Odd (2) Match – Barrier Game How Many Cubes	Harry and his bucketful of dinosaurs – adding and subtracting Mr Gumpy's Outing – Composition of number How many Legs? Problem solving Making Boats- Problem solving, how many marbles can the boat hold? Building Bridges – Which bridge is the longest?	Cuisenaire Rods – Comparing lengths Cuisenaire Rods – Staircase Bean bag game – Composition of number and number bonds Patterns Patterns	Making maps Journey to school Obstacle course X marks the spot Designing mazes

Year 1 – Yearly Overview



Autumn Term

	Block 1 Weeks 1-5 Place Value (within 10)	Block 2 Weeks 6-10 Addition and Subtraction (within 10)	Block 3 Week 11 Shape	Week 12
White Rose	Sort objects. Count objects. Represent objects. Count, read and write forwards from any number 0 to 10. Count, read and writing backwards from any number 0 to 10. Count one more./Count one less. One to one correspondence to start to compare groups. Compare groups using language such as equal, more/greater, less/fewer. Introduce = , > and < symbols. Compare numbers. Order groups of objects. Order numbers. Ordinal numbers (1st, 2nd, 3rd ….). The number line.	Part whole model. Addition symbol.. Fact families – Addition facts. Find number bonds for numbers within 10. Systematic methods for number bonds within 10. Number bonds to 10. Compare number bonds. Addition: Adding together. Addition: Adding more. Finding a part. Subtraction: Taking away, how many left? Crossing out. Subtraction: Taking away, how many left? Introducing the subtraction symbol. Subtraction: Finding a part, breaking apart. Fact families – The 8 facts. Subtraction: Counting back. Subtraction: Finding the difference. Comparing addition and subtraction statements a + b > c. Comparing addition and subtraction statements a + b > c + d	Recognise and name 3D shapes. Sort 3D shapes. Recognise and name 2D shapes. Sort 2D shapes. Patterns with 3 D and 2D shapes.	Consolidation
NCTEM	The Big Ideas: The position a digit is placed in a number determines its value. The language used to name numbers does not always expose the place value, for example the word ‘twelve’ does not make it transparent that the value of this number is ten and two. It is important that children develop secure understanding of the value of each digit. Place value is based on unitising: treating a group of things as one ‘unit’. In mathematics, units can be any size, for example units of 1, 2, 5 and 10 are used in money. In place value units of 1, 10 and 100 are used.	The Big Ideas: Relating numbers to 5 and 10 helps develop knowledge of the number bonds within 20. For example, given 8 + 7, thinking of 7 as 2 + 5 and adding the 2 to 8 to make 10 and then the 5 to total 15. Thinking of part whole relationships is helpful in linking addition and subtraction. For example, where the whole is 6, and 4 and 2 are parts. This means that 4 and 2 together form the whole, which is 6 and 6 subtract 4 leaves the 2 and 6 subtract 2 leaves the 4	The Big Ideas: It is important for children to be familiar with a range of 2-D and 3-D shapes and not just recognise them in specific orientations, e.g. thinking that this is a triangle but this or this are not . It is preferable to introduce 3-D shapes before 2-D shapes, since 2-D shapes only exist in the real world as faces of 3-D shapes.	

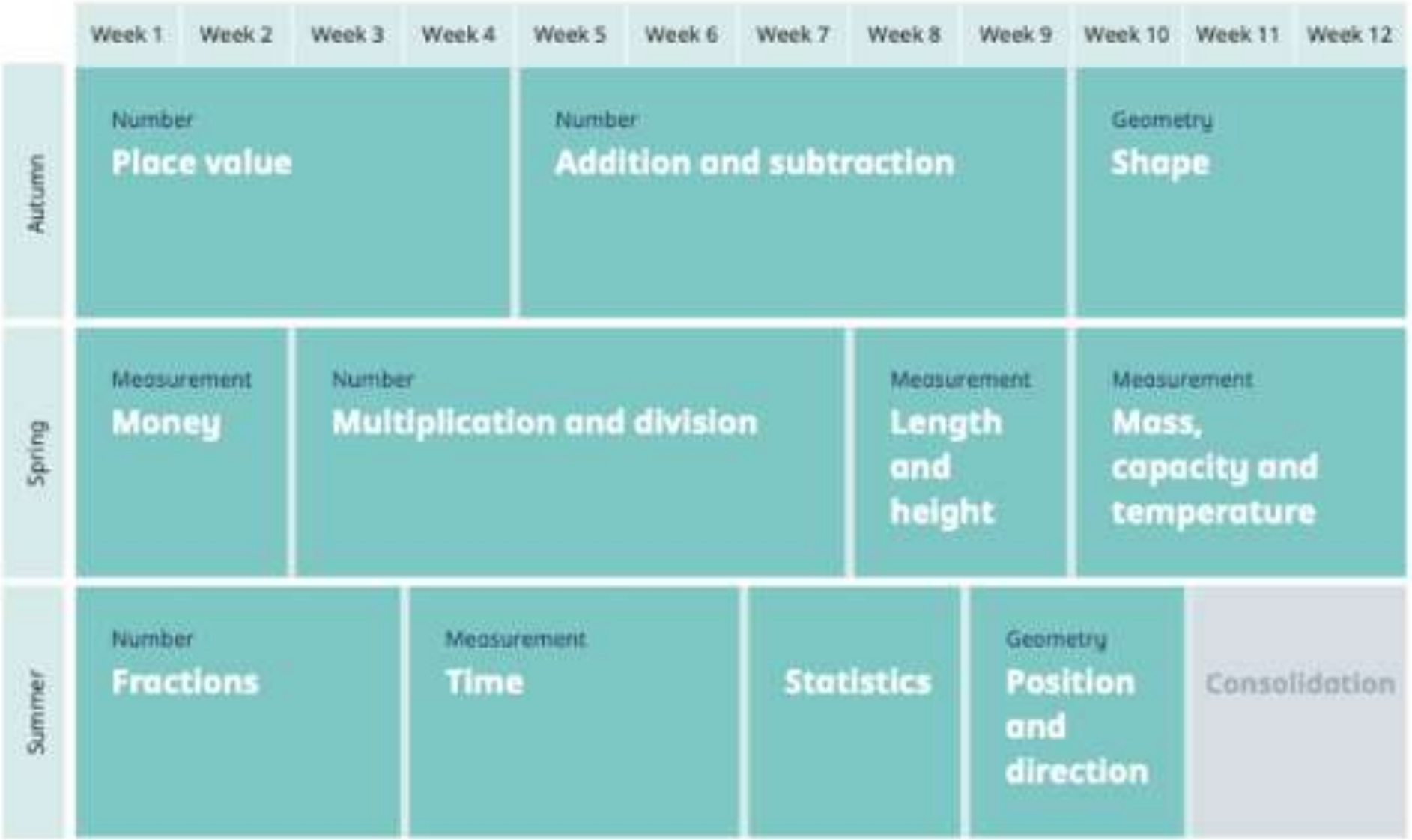
Spring Term

	Block 1 Weeks 1-3 Place Value (within 20)	Block 2 Weeks 4-6 Addition and Subtraction	Block 3 Week 7-8 Place Value (Within 50, m of 2, 5, 10)	Block 4 Weeks 9-10 Length and Height	Block 5 Weeks 11-12 Weight and Volume
White Rose	Count forwards and backwards and write numbers to 20 in numerals and words. Numbers from 11 to 20. Tens and ones. Count one more and one less. Compare groups of objects. Compare numbers. Order groups of objects Order numbers.	Subtraction – Crossing 10 (1). Subtraction – Crossing 10 (2). Related Facts. Add by counting on. Find and make number bonds. Add by making 10. Subtraction – Not crossing 10. Compare Number Sentences.	Numbers to 50. Tens and ones. Represent numbers to 50. One more one less. Compare objects within 50. Compare numbers within 50. Order numbers within 50. Count in 2s. Count in 5s	Compare lengths and heights. Measure length (1). Measure length (2).	Introduce weight and mass. Measure mass. Compare mass. Introduce capacity. Measure capacity. Compare capacity
NCTEM	The Big Ideas: The position a digit is placed in a number determines its value. The language used to name numbers does not always expose the place value, for example the word 'twelve' does not make it transparent that the value of this number is ten and two. It is important that children develop secure understanding of the value of each digit. Place value is based on unitising: treating a group of things as one 'unit'. In mathematics, units can be any size, for example units of 1, 2, 5 and 10 are used in money. In place value units of 1, 10 and 100 are used.	The Big Ideas: Relating numbers to 5 and 10 helps develop knowledge of the number bonds within 20. For example, given 8 + 7, thinking of 7 as 2 + 5 and adding the 2 to 8 to make 10 and then the 5 to total 15. Thinking of part whole relationships is helpful in linking addition and subtraction. For example, where the whole is 6, and 4 and 2 are parts. This means that 4 and 2 together form the whole, which is 6 and 6 subtract 4 leaves the 2 and 6 subtract 2 leaves the 4.	The Big Ideas: The position a digit is placed in a number determines its value. The language used to name numbers does not always expose the place value, for example the word 'twelve' does not make it transparent that the value of this number is ten and two. It is important that children develop secure understanding of the value of each digit. Place value is based on unitising: treating a group of things as one 'unit'. In mathematics, units can be any size, for example units of 1, 2, 5 and 10 are used in money. In place value units of 1, 10 and 100 are used.	The Big Ideas: Measurement is about comparison, for example measuring to find out which rope is the longest. Measurement is about equivalence, for example how many cubes are equivalent to the length of the table or the mass of the teddy? Standard units can initially be introduced through using a unit that is greater than the things being compared, for example comparing the capacity of a cup and a carton by filling each and pouring into matching bottles to compare the two. Measuring is a practical activity and the activities below should be conducted in practical contexts, using real materials.	

Summer Term

	Block 1 Weeks 1-3 Multiplication (m 2, 5,10)	Block 2 Weeks 4-5 Fractions	Block 3 Week 6 Position and Direction	Block 4 Weeks 7-8 Place Value (within 100)	Block 5 Week 9 Money	Block 6 Weeks 10-11 Time	Week 12
White Rose	Count in 10s. Make equal groups. Add equal groups. Make arrays. Make doubles. Make equal groups – grouping. Make equal groups – sharing.	Halving shapes or objects. Halving a quantity. Find a quarter of a shape or object. Find a quarter of a quantity.	Describe turns. Describe Position (1). Describe Position (2).	Counting to 100. Partitioning numbers. Comparing numbers (1). Comparing numbers (2). Ordering numbers. One more, one less	Recognising coins. Recognising notes. Counting in coins.	Before and after. Dates. Time to the hour. Time to the half hour. Writing time. Comparing time.	Consolidation
NCTEM	The Big Ideas: Counting in steps of equal sizes is based on the big idea of 'unitising' ; treating a group of, say, five objects as one unit of five. Working with arrays helps pupils to become aware of the commutative property of multiplication, that 2 × 5 is equivalent to 5 × 2.	The Big Ideas: Fractions express a relationship between a whole and equal parts of the whole. Ensure children express this relationship when talking about fractions. For example, 'If the circle (where the circle is divided into four equal parts with one part shaded) is the whole, one part is one quarter of the whole circle.' Halving involves partitioning an object, shape or quantity into two equal parts. The two parts need to be equivalent in, for example, area, mass or quantity.	The Big Ideas: The development of precise language to describe position and movement is important.	The Big Ideas: The position a digit is placed in a number determines its value. The language used to name numbers does not always expose the place value, for example the word 'twelve' does not make it transparent that the value of this number is ten and two. It is important that children develop secure understanding of the value of each digit. Place value is based on unitising: treating a group of things as one 'unit'. In mathematics, units can be any size, for example units of 1, 2, 5 and 10 are used in money. In place value units of 1, 10 and 100 are used.	The Big Ideas: Measurement is about comparison, for example measuring to find out which rope is the longest. Measurement is about equivalence, for example how many cubes are equivalent to the length of the table or the mass of the teddy? Standard units can initially be introduced through using a unit that is greater than the things being compared, for example comparing the capacity of a cup and a carton by filling each and pouring into matching bottles to compare the two. Measuring is a practical activity and the activities below should be conducted in practical contexts, using real materials.		

Year 2 – Yearly Overview



Autumn Term

	Block 1 Weeks 1-4 Place Value	Block 2 Weeks 5-9 Addition and Subtraction	Block 3 Week 10-12 Shape
White Rose	Count objects to 100 and read and write numbers in numerals and words. Represent numbers to 100. Tens and ones with a part whole model. Tens and ones using addition. Use a place value chart. Compare objects. Compare numbers. Order objects and numbers. Count in 2s, 5s and 10s.	Fact families –Addition and subtraction bonds to 20. Check calculations. Compare number sentences. Related facts. Bonds to 100 (tens). Add and subtract 1s. 10 more and 10 less. Add and subtract 10s. Add a 2-digit and 1-digit number –crossing ten. Subtract a 1-digit number from a 2-digit number –crossing 10. Add two 2-digit numbers –not crossing ten –add ones and add tens. Add two 2-digit numbers –crossing ten –add ones and add tens. Subtract a 2-digit number from a 2-digit number –not crossing ten. Subtract a 2-digit number from a 2-digit number –crossing ten –subtract ones and tens. Bonds to 100 (tens and ones). Add three 1-digit numbers.	Recognise 2D and 3D shapes. Count sides on 2D shapes. Count vertices on 2D shapes. Draw 2D shapes. Lines of symmetry. Sort 2D shapes. Make patterns with 2D shapes. Count faces on 3D shapes. Count edges on 3D shapes. Count vertices on 3D shapes. Sort 3D shapes. Make patterns with 3D shapes.
NCTEM	**The Big Ideas:** The position (place) of a digit in a number determines its value. Hence the term place value	**The Big Ideas:** Understanding that addition of two or more numbers can be done in any order is important to support children's fluency. When adding two numbers it can be more efficient to put the larger number first. For example, given 3 + 8 it is easier to calculate 8 + 3. When adding three or more numbers it is helpful to look for pairs of numbers that are easy to add. For example, given 5 + 8 + 2 it is easier to add 8 + 2 first than to begin with 5 + 8. Understanding the importance of the equals sign meaning 'equivalent to' (i.e. that 6 + 4 = 10, 10 = 6 + 4 and 5 + 5 = 6 + 4 are all valid uses of the equals sign) is crucial for later work in algebra. Empty box problems can support the development of this key idea. Correct use of the equals sign should always be reinforced . Altering where the equals sign is placed develops fluency and flexibility.	**The Big Ideas:** It is not uncommon for pupils to say that this is a square and this is not , or that something like this is a triangle . It is important for pupils to know what the properties are that make up certain shapes, and for them not to just learn the names of typical proto looking shapes. It is helpful to think about non examples of shapes. For example, why this is not a triangle: Recognising pattern and generalising structures and relationships are key elements for laying the foundations for later work in algebra.

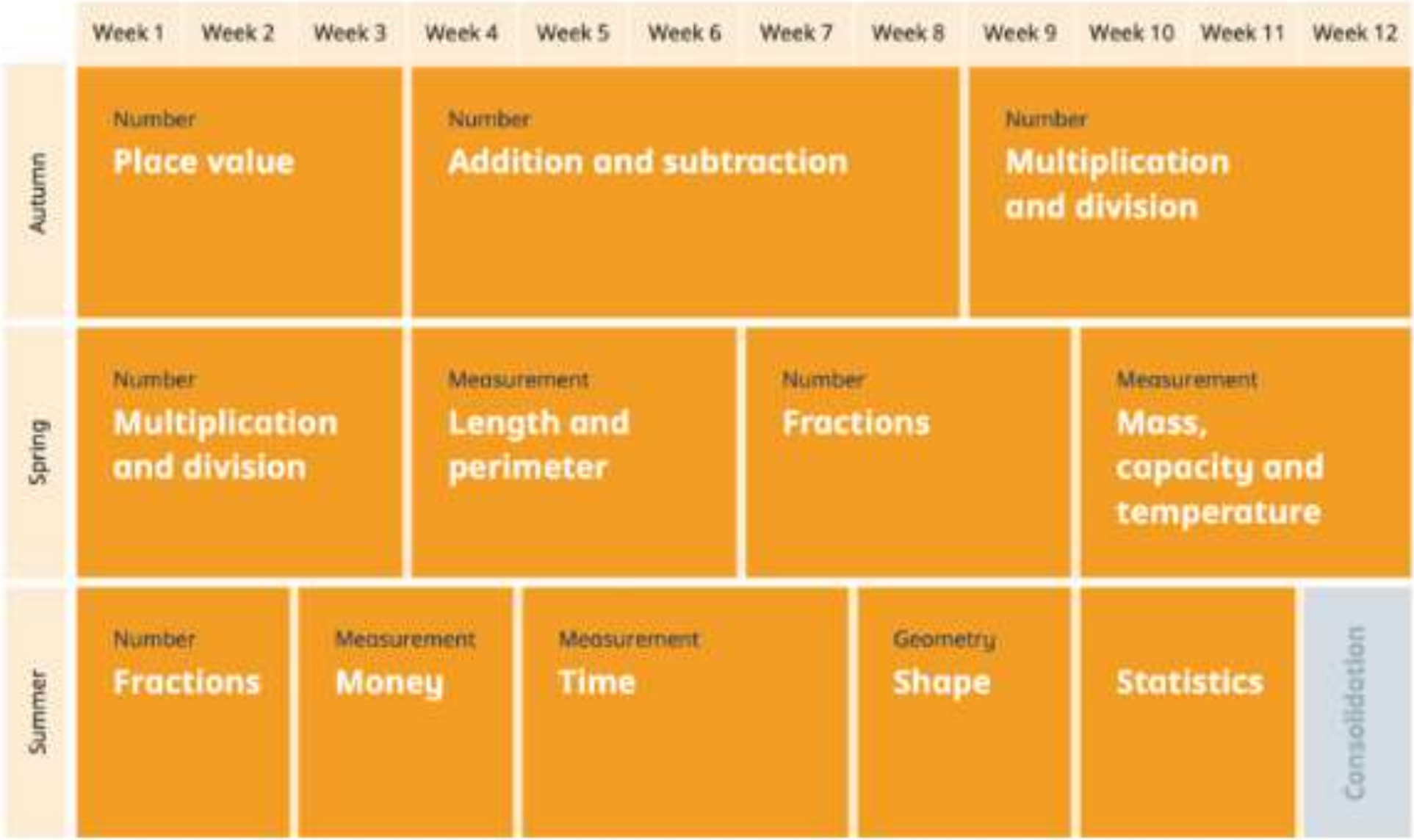
Spring Term

	Block 1 Weeks 1-2 Money	Block 2 Weeks 3-7 Multiplication and Division		Block 3 Weeks 8-9 Length and Height	Block 4 Weeks 10-12 Mass and Capacity
White Rose	Count money –pence. Count money –pounds (notes and coins). Count money –notes and coins. Select money. Make the same amount. Compare money. Find the total. Find the difference. Find change. Two-step problems.	Multiplication Recognise equal groups. Make equal groups. Add equal groups. Multiplication sentences using the x symbol. Multiplication sentences from pictures. Use arrays. 2 times-table. 5 times-table. 10 times-table.	Division Make equal groups – sharing. Make equal groups – grouping. Divide by 2. Odd and even numbers. Divide by 5. Divide by 10	Measure length (cm). Measure length (m). Compare lengths. Order lengths. Four operations with lengths.	Compare mass. Measure mass in grams. Measure mass in kilograms. Compare capacity. Millilitres. Litres. Temperature.
NCTEM	The Big Ideas: The position a digit is placed in a number determines its value. The language used to name numbers does not always expose the place value, for example the word 'twelve' does not make it transparent that the value of this number is ten and two. It is important that children develop secure understanding of the value of each digit. Place value is based on unitising: treating a group of things as one 'unit'. In mathematics, units can be any size, for example units of 1, 2, 5 and 10 are used in money. In place value units of 1, 10 and 100 are used.	The Big Ideas: It is important that pupils both commit multiplication facts to memory and also develop an understanding of conceptual relationships. This will aid them in using known facts to work out unknown facts and in solving problems. Pupils should look for and recognise patterns within tables and connections between them (e.g. 5× is half of 10×). Pupils should recognise multiplication and division as inverse operations and use this knowledge to solve problems. They should also recognise division as both grouping and sharing. The recognition of pattern in multiplication helps pupils commit facts to memory, for example doubling twice is the same as multiplying by four, or halving a multiple of ten gives you the related multiple of five.		The Big Ideas: We need standard units of measure in order to compare things more accurately and consistently.	

Summer Term

	Block 1 Weeks 1-3 Fractions	Block 2 Weeks 4-6 Time	Block 3 Week 7-8 Statistics	Block 4 Weeks 9-10 Position and Direction	Week 11-12
White Rose	Make equal parts. Recognise half. Find half. Recognise quarter. Find a quarter. Recognise a third. Find a third. Unit fractions. Non-unit fractions. Equivalence of ½ and $^{2}/_{4}$. Find three quarters. Count in fractions.	O'clock and half past. Quarter past and quarter to. Telling time to 5 minutes. Minutes in an hour, hours in a day. Find durations of time. Compare durations of time.	Make tally charts. Draw pictograms (1-1). Interpret pictograms (1-1). Draw pictograms (2, 5 and 10). Interpret pictograms (2, 5 and 10). Block diagrams.	Describing movement. Describing turns. Describing movement and turns. Making patterns with shapes.	Consolidation
NCTEM	The Big Ideas: Fractions involve a relationship between a whole and parts of a whole. Ensure children express this relationship when talking about fractions. For example, 'If the bag of 12 sweets is the whole, then 4 sweets are one third of the whole.' Partitioning or 'fair share' problems when each share is less than one gives rise to fractions. Measuring where the unit is longer than the item being measured gives rise to fractions.	The Big Ideas: We need standard units of measure in order to compare things more accurately and consistently.	The Big Ideas: Data need to be collected with a question or purpose in mind. Tally charts are used to collect data over time (cars passing the school)	The Big Ideas: The development of precise language to describe position and movement is important.	

Year 3 – Yearly Overview



Autumn Term

	Block 1 Weeks 1-3 Place Value	Block 2 Weeks 4-8 Addition and Subtraction	Block 3 Week 9-12 Multiplication and Division
White Rose	Hundreds. Represent numbers to 1,000. 100s, 10s and 1s (1). 100s, 10s and 1s (2). Number line to 1,000. Find 1, 10, 100 more or less than a given number. Compare objects to 1,000. Compare numbers to 1,000. Order numbers. Count in 50s.	Add and subtract multiples of 100. Add and subtract 3-digit numbers and ones –not crossing 10. Add 3-digit and 1-digit numbers –crossing 10. Subtract a 1-digit number from a 3-digit number –crossing 10. Add and subtract 3-digit numbers and tens –not crossing 100. Add a 3-digit number and tens –crossing 100. Add and subtract 100s. Spot the pattern –making it explicit. Add and subtract a 2-digit and 3-digit number –not crossing 10 or 100. Add a 2-digit and 3-digit number –crossing 10 or 100. Subtract 2-digit number from a 3-digit number cross the 10 or 100. Add two 3-digit numbers –not crossing 10 or 100. Add two 3-digit numbers –crossing 10 or 100. Subtract a 3 –digit number from a 3-digit number –no exchange. Subtract a 3-digit number from a 3-digit number –exchange. Exchange answers to calculations. And check.	Multiplication –equal groups. Multiplying by 3. Dividing by 3. The 3 times-table. Multiplying by 4. Dividing by 4. The 4 times-table. Multiplying by 8. Dividing by 8. The 8 times-table.
NCTEM	The Big Ideas: The value of a digit is determined by its position in a number. Place value is based on unitising, treating a group of things as one 'unit'. This generalises to 3 units + 2 units = 5 units (where the units are the same size).	The Big Ideas: Relating numbers to 5 and 10 helps develop knowledge of the number bonds within 20. For example, given 8 + 7, thinking of 7 as 2 + 5, and adding the 2 and 8 to make 10, then the 5 to 15. This should then be applied when calculating with larger numbers. Subtraction bonds can be thought of in terms of addition: for example, in answering 15 – 8, thinking what needs to be added to 8 to make 15. Counting on for subtraction is a useful strategy that can also be applied to larger numbers.	The Big Ideas: It is important for children not just to be able to chant their multiplication tables but also to understand what the facts in them mean, to be able to use these facts to figure out others and to use in problems. It is also important for children to be able to link facts within the tables (e.g. 5× is half of 10×). They understand what multiplication means, see division as both grouping and sharing, and see division as the inverse of multiplication.

Spring Term

	Block 1 Weeks 1-3 Multiplication and Division	Block 2 Weeks 4-6 Length and Perimeter	Block 3 Week 7-9 Fractions	Block 4 Weeks 10-12 Capacity
White Rose	Comparing statements. Related calculations. Multiply 2-digits by 1-digit (1). Multiply 2-digits by 1-digit (2). Divide 2-digits by 1-digit (1). Divide 2-digits by 1-digit (2). Divide 2-digits by 1-digit (3). Scaling. How many ways?	Measure length. Equivalent lengths –m & cm. Equivalent lengths –mm & cm. Compare lengths. Add lengths. Subtraction lengths. Measure perimeter. Calculate perimeter.	Unit and non-unit fractions. Making the whole. Tenths. Count in tenths. Tenths as decimals. Fractions of a number line. Fractions of a set of objects (1). Fractions of a set of objects (2). Fractions of a set of objects (3).	Measure mass (1). Measure mass (2). Compare mass. Add and subtract mass. Measure capacity (1). Measure capacity (2). Compare capacity. Add and subtract capacity.
NCTEM	The Big Ideas: It is important for children not just to be able to chant their multiplication tables but also to understand what the facts in them mean, to be able to use these facts to figure out others and to use in problems. It is also important for children to be able to link facts within the tables (e.g. 5× is half of 10×). They understand what multiplication means, see division as both grouping and sharing, and see division as the inverse of multiplication.	The Big Ideas: Developing benchmarks to support estimation skills is important as pupils become confident in their use of standard measures. The height of a door frame, for example, is approximately 2 metres, and a bag of sugar weighs approximately 1 kilogram.	The Big Ideas: Fractions are equal parts of a whole. Equal parts of shapes do not need to be congruent but need to be equal in area. Decimal fractions are linked to other fractions. The number line is a useful representation that helps children to think about fractions as numbers.	The Big Ideas: Developing benchmarks to support estimation skills is important as pupils become confident in their use of standard measures. The height of a door frame, for example, is approximately 2 metres, and a bag of sugar weighs approximately 1 kilogram.

Summer Term

	Block 1 Weeks 1-2 Fractions	Block 2 Weeks 3-4 Money	Block 3 Week 5-7 Time	Block 4 Weeks 8-9 Properties of Shape	Block 5 Week 10-11 Statistics	Week 12
White Rose	Equivalent fractions (1), Equivalent fractions (2). Equivalent fractions (3). Compare fractions. Order fractions. Add fractions. Subtract fractions.	Pounds and pence. Converting pounds and pence. Adding money. Subtracting money. Giving change.	Months and years. Hours in a day. Telling the time to 5 minutes. Telling the time to the minute. AM and PM. 24 hour clock. Finding the duration. Comparing the duration. Start and end times. Measuring time in seconds.	Turns and angles. Right angles in shapes. Compare angles. Draw accurately. Horizontal and vertical. Parallel and perpendicular. Recognise and describe 2D shapes. Recognise and describe 3D shapes. Make 3D shapes.	Pictograms. Bar charts. Tables.	Consolidation
NCTEM	The Big Ideas: Fractions are equal parts of a whole. Equal parts of shapes do not need to be congruent but need to be equal in area. Decimal fractions are linked to other fractions. The number line is a useful representation that helps children to think about fractions as numbers.	The Big Ideas: Developing benchmarks to support estimation skills is important as pupils become confident in their use of standard measures. The height of a door frame, for example, is approximately 2 metres, and a bag of sugar weighs approximately 1 kilogram.		The Big Ideas: During this year there is an increasing range of shapes that pupils are familiar with. The introduction of symmetrical and non-symmetrical polygons and the requirement that pupils should be able to draw them will give rise to discussions about lengths of sides and sizes of angles. Pupils need to appreciate these features as properties of shapes as well as the number of sides and vertices. Pupils recognise that angles are about the amount of turn – the lengths of the lines used to represent angles do not affect the size of the angle. Pupils recognise that relationships are at the heart of properties of shapes, not particular measurements. For example, the opposite sides of any rectangle will always be equal, not that rectangles have a pair of long sides and a pair of short sides.	The Big Ideas: Data needs to be collected with a question or purpose in mind. Tally charts are used to collect data over time (cars passing the school, birds on the bird table). They can also be used to keep track of counting.	

Year 4 – Yearly Overview

Autumn Term

	Block 1 Weeks 1-4 Place Value	Block 2 Weeks 5-7 Addition and Subtraction	Block 3 Week 8 Area	Block 4 Weeks 9-11 Multiplication and Division	Week 12
White Rose	Roman numerals to 100. Round to the nearest 10. Round to the nearest 100. Count in 1,000s. 1,000s, 100s, 10s and 1s. Partitioning. Number line to 10,000. 1,000 more or less. Compare numbers. Order numbers. Round to the nearest 1,000. Count in 25s. Negative numbers.	Add and subtract 1s, 10s, 100s and 1000s. Add two 4-digit numbers –no exchange. Add two 4-digit numbers –one exchange. Add two 4-digit numbers –more than one exchange. Subtract two 4-digit numbers –no exchange. Subtract two 4-digit numbers –one exchange. Subtract two 4-digit numbers –more than one exchange. Efficient subtraction. Estimate answers. Checking strategies	What is area? Counting squares Making shapes. Comparing area	Multiply by 10. Multiply by 100. Divide by 10. Divide by 100. Multiply by 1 and 0. Divide by 1. Multiply and divide by 6. 6 times-table and division facts. Multiply and divide by 9. 9 times-table and division facts. Multiply and divide by 7. 7 times-table and division facts.	Consolidation
NCTEM	**The Big Ideas:** Imagining the position of numbers on a horizontal number line helps us to order them: the number to the right on a number line is the larger number. So 5 is greater than 4, as 5 is to the right of 4. But –4 is greater than –5 as – 4 is to the right of –5. Rounding numbers in context may mean rounding up or down. Buying packets of ten cakes, we might round up to the nearest ten to make sure everyone gets a cake. Estimating the number of chairs in a room for a large number of people we might round down to estimate the number of chairs to make sure there are enough. We can think of place value in additive terms: 456 is 400 + 50 + 6, or in multiplicative terms: one hundred is ten times as large as ten.	**The Big Ideas:** It helps to round numbers before carrying out a calculation to get a sense of the size of the answer. For example, 4786 – 2135 is close to 5000 – 2000, so the answer will be around 3000. Looking at the numbers in a calculation and their relationship to each other can help make calculating easier. For example, 3012 – 2996. Noticing that the numbers are close to each other might mean this is more easily calculated by thinking about subtraction as difference.	**The Big Ideas:** The smaller the unit, the greater the number of unit s needed to measure (that is, there is an inverse relationship between size of unit and measure).	**The Big Ideas:** It is important for children not just to be able to chant their multiplication tables but to understand what the facts in them mean, to be able to use these facts to figure out others and to use them in problems. It is also important for children to be able to link facts within the tables (e.g. 5× is half of 10×). They understand what multiplication means and see division as both grouping and sharing, and to see division as the inverse of multiplication. The distributive law can be used to partition numbers in different ways to create equivalent calculations. For example, 4 × 27 = 4 × (25 + 2) = (4 × 25) + (4 × 2) = 108. Looking for equivalent calculations can make calculating easier. For example, 98 × 5 is equivalent to 98 × 10 ÷ 2 or to (100 × 5) – (2 × 5). The array model can help show equivalences.	

Spring Term

	Block 1 Weeks 1-3 Multiplication and Division	Block 2 Weeks 4-5 Length and Perimeter	Block 3 Week 6-9 Fractions	Block 4 Weeks 10-12 Decimals
White Rose	11 and 12 times-table. Multiply 3 numbers. Factor pairs. Efficient multiplication. Written methods. Multiply 2-digits by 1 –digit. Multiply 3-digits by 1-digit. Divide 2-digits by 1-digit (1). Divide 2-digits by 1-digit (2). Correspondence problems.	Kilometres. Perimeter on a grid. Perimeter of a rectangle. Perimeter of rectilinear shapes	What is a fraction? Equivalent fractions (1) Equivalent fractions (2). Fractions greater than 1. Count in fractions. Add 2 or more fractions. Subtract 2 fractions. Subtract from whole amounts. Calculate fractions of a quantity. Problem solving –calculate quantities.	Recognise tenths and hundredths. Tenths as decimals. Tenths on a place value grid. Tenths on a number line. Divide 1 digit by 10. Divide 2 digits by 10. Hundredths. Hundredths as decimals. Hundredths on a place value grid. Divide 1 or 2 digits by 100.
NCTEM	The Big Ideas: It is important for children not just to be able to chant their multiplication tables but to understand what the facts in them mean, to be able to use these facts to figure out others and to use them in problems. It is also important for children to be able to link facts within the tables (e.g. 5× is half of 10×). They understand what multiplication means and see division as both grouping and sharing, and to see division as the inverse of multiplication. The distributive law can be used to partition numbers in different ways to create equivalent calculations. For example, 4 × 27 = 4 × (25 + 2) = (4 × 25) + (4 × 2) = 108. Looking for equivalent calculations can make calculating easier. For example, 98 × 5 is equivalent to 98 × 10 ÷ 2 or to (100 × 5) – (2 × 5).	The Big Ideas: The smaller the unit, the greater the number of units needed to measure (that is, there is an inverse relationship between size of unit and measure).	The Big Ideas: Fractions arise from solving problems, where the answer lies between two whole numbers. Fractions express a relationship between a whole and equal parts of a whole. Children should recognise this and speak in full sentences when answering a question involving fractions. For example, in response to the question What fraction of the chocolate bar is shaded? the pupil might say Two sevenths of the whole chocolate bar is shaded. Equivalency in relation to fractions is important. Fractions that look very different in their symbolic notation can mean the same thing.	The Big Ideas: Fractions arise from solving problems, where the answer lies between two whole numbers. Fractions express a relationship between a whole and equal parts of a whole. Children should recognise this and speak in full sentences when answering a question involving fractions. For example, in response to the question What fraction of the chocolate bar is shaded? the pupil might say Two sevenths of the whole chocolate bar is shaded. Equivalency in relation to fractions is important. Fractions that look very different in their symbolic notation can mean the same thing.

Summer Term

	Block 1 Weeks 1-2 Decimals	Block 2 Weeks 3-4 Money	Block 3 Week 5-6 Time	Week 7	Block 4 Week 8-9 Properties of Shape	Block 5 Weeks 10 Statistics	Block 6 Week 11-12 Position and Direction
White Rose	Make a whole. Write decimals. Compare decimals. Order decimals. Round decimals. Halves and quarters.	Pounds and pence. Ordering amounts of money. Using rounding to estimate money. Four operations.	Hours, minutes and seconds. Years, months, weeks and days. Analogue to digital – 12 hour. Analogue to digital – 24 hour.	Consolidation	Identify angles. Compare and order angles. Triangles. Quadrilaterals. Lines of symmetry. Complete a symmetric figure.	Interpret charts. Comparison, sum and difference. Introducing line graphs. Line graphs.	Describe position. Draw on a grid. Move on a grid. Describe a movement on a grid.
NCTEM	The Big Ideas: Fractions arise from solving problems, where the answer lies between two whole numbers. Fractions express a relationship between a whole and equal parts of a whole. Children should recognise this and speak in full sentences when answering a question involving fractions. For example, in response to the question What fraction of the chocolate bar is shaded? the pupil might say Two sevenths of the whole chocolate bar is shaded. Equivalency in relation to fractions is important. Fractions that look very different in their symbolic notation can mean the same thing.	The Big Ideas: The smaller the unit, the greater the number of units needed to measure (that is, there is an inverse relationship between size of unit and measure).			The Big Ideas: During this year, pupils increase the range of 2-D and 3-D shapes that they are familiar with. They know the correct names for these shapes, but, more importantly, they are able to say why certain shapes are what they are by referring to their properties, including lengths of sides, size of angles and number of lines of symmetry. The naming of shapes sometimes focuses on angle properties (e.g. a rectangle is rightangled), and sometimes on properties of sides (e.g. an equilateral triangle is an equal sided triangle). Shapes can belong to more than one classification. For example, a square is a rectangle, a parallelogram, a rhombus and a quadrilateral.	The Big Ideas: In mathematics the focus is on numerical data. These can be discrete or continuous. Discrete data are counted and have fixed values, for example the number of children who chose red as their favourite colour (this has to be a whole number and cannot be anything in between). Continuous data are measured, for example at what time did each child finish the race? Continuous data are best presented with a line graph where every point on the line has a potential value.	The Big Ideas: The development of precise language to describe position and movement is important.

Year 5 – Yearly Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number **Place value**			Number **Addition and subtraction**		Number **Multiplication and division**			Number **Fractions A**			
Spring	Number **Multiplication and division**			Number **Fractions B**		Number **Decimals and percentages**			Measurement **Perimeter and area**		Statistics	
Summer	Geometry **Shape**			Geometry **Position and direction**		Number **Decimals**			Number **Negative numbers**	Measurement **Converting units**		Measurement **Volume**

Autumn Term

	Block 1 Weeks 1-3 Place Value	Block 2 Weeks 4-5 Addition and Subtraction	Block 3 Week 6-8 Multiplication and Division	Block 4 Weeks 9-12 Fractions
White Rose	Number to 10,000. Roman numerals to 1,000. Round to the nearest 10, 100 and 1000. Number to 100,000. Compare and order numbers to 100,000. Round numbers within 100,000. Numbers to a million. Counting in 10s, 100s, 1,000s, 10,000s and 100,000s. Compare and order numbers to a million. Round numbers to a million. Negative numbers.	Add whole numbers with more than 4-digits (column method). Subtract whole numbers with more than 4-digits (column method). Round to estimate and approximate. Inverse operations (addition and subtraction). Multi-step addition and subtraction problems.	Multiples. Factors. Common factors. Prime numbers. Square numbers. Cube numbers. Multiplying by 10, 100 and 1000. Dividing by 10, 100 and 1000. Multiples of 10, 100 and 1000	Equivalent fractions. •Improper fractions to mixed numbers. Mixed numbers to improper fractions. Number sequences. Compare and order fractions less than 1. Compare and order fractions greater than 1. Add and subtract fractions. Add fractions within 1. Add 3 or more fractions. Add fractions.
NCTEM	The Big Ideas: Large numbers of six digits are named in a pattern of three: hundreds of thousands, tens of thousands, ones of thousands, mirroring hundreds, tens and ones. It is helpful to relate large numbers to real-world contexts, for example the number of people that a local sports arena can hold.	The Big Ideas: Before starting any calculation is it helpful to think about whether or not you are confident that you can do it mentally. For example, 3689 + 4998 may be done mentally, but 3689 + 4756 may require paper and pencil. Carrying out an equivalent calculation might be easier than carrying out the given calculation. For example 3682 – 2996 is equivalent to 3686 – 3000 (constant difference).	The Big Ideas: Pupils have a firm understanding of what multiplication and division mean and have a range of strategies for dealing with large numbers, including both mental and standard written methods. They see the idea of factors, multiples and prime numbers as connected and not separate ideas to learn. They recognise how to use their skills of multiplying and dividing in new problem solving situations. Fractions and division are connected ideas: 36÷18=36=2;18=1 36 2 Factors and multiples are connected ideas: 48 is a multiple of 6 and 6 is a factor of 48.	The Big Ideas: Representations that may appear different sometimes have similar underlying ideas. For example 1 4, 0·25 and 25% are used in different contexts but are all connected to the same idea.

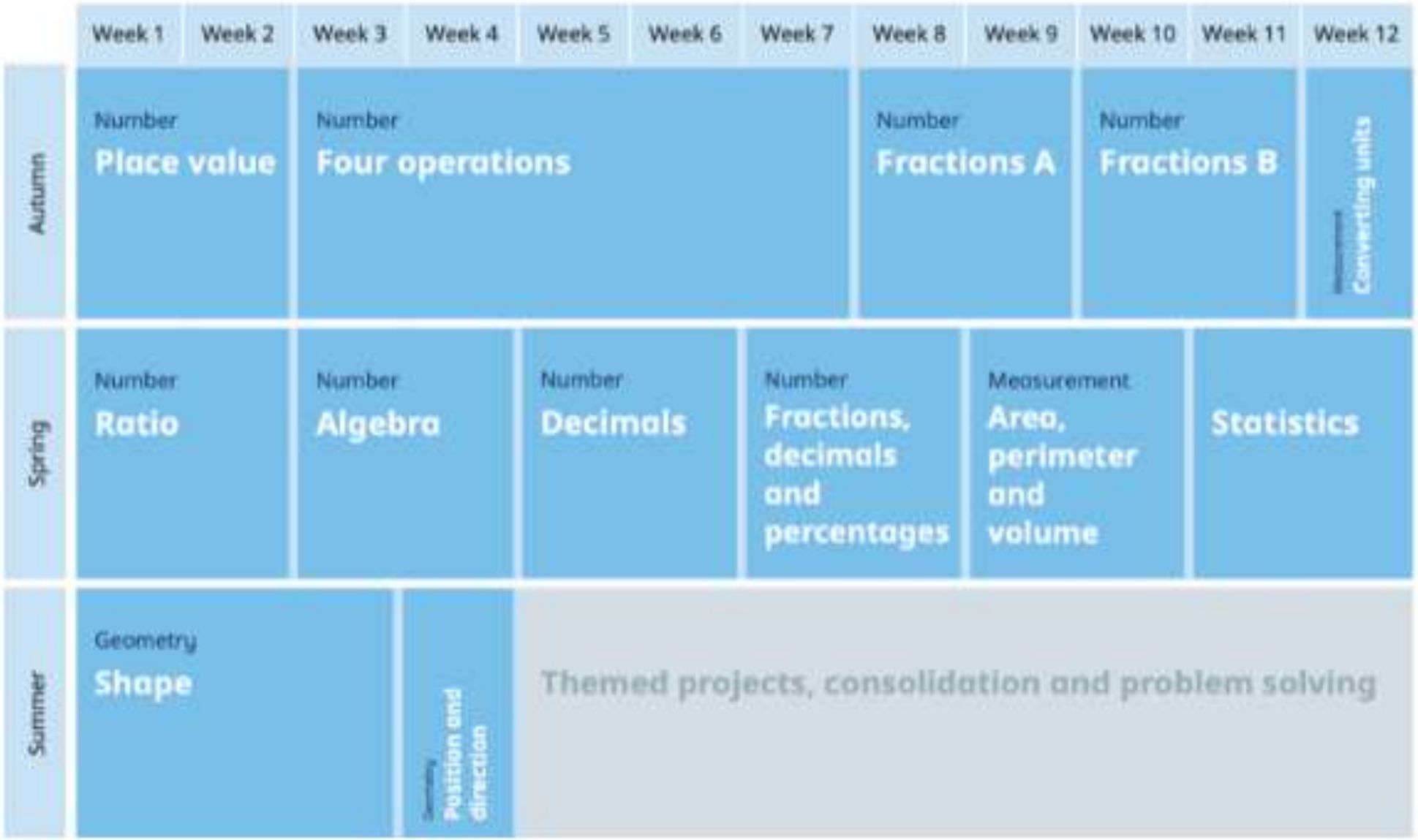
Spring Term

	Block 1 Weeks 1-3 Multiplication and Division	Block 2 Weeks 4-5 Fractions	Block 3 Week 6-8 Decimals and Percentages	Block 4 Weeks 9-10 Perimeter and Area	Block 5 Weeks 11-12 Statistics
White Rose	Multiply 4-digits by 1-digit. Multiply 2-digits (area model). Multiply 2-digits by 2-digits. Multiply 3-digits by 2-digits. Multiply 4-digits by 2-digits. Divide 4-digits by 1-digit. Divide with remainders.	Add mixed numbers. Subtract fractions. Subtract mixed numbers. Subtract –breaking the whole. Subtract 2 mixed numbers. Multiply unit fractions by an integer. Multiply non-unit fractions by an integer. Multiply mixed numbers by integers. Fraction of an amount. Using fractions as operators.	Decimals up to 2 d.p. Decimals as fractions (1). Decimals as fractions (2). Understand thousandths. Thousands as decimals. Rounding decimals. Order and compare decimals. Understand percentages. Percentages as fractions and decimals. Equivalent F.D.P.	Measure perimeter. Calculate perimeter. Area of rectangles. Area of compound shapes. Area of irregular shapes.	Read and interpret line graphs. Draw line graphs. Use line graphs to solve problems. Read and interpret tables. Two-way tables. Timetables.
NCTEM	The Big Ideas: Representations that may appear different sometimes have similar underlying ideas. For example, 1 4, 0·25 and 25% are used in different contexts but are all connected to the same idea.	The Big Ideas: Representations that may appear different sometimes have similar underlying ideas. For example, 1 4, 0·25 and 25% are used in different contexts but are all connected to the same idea.	The Big Ideas: Representations that may appear different sometimes have similar underlying ideas. For example 1 4, 0·25 and 25% are used in different contexts but are all connected to the same idea.	The Big Ideas: The relationship between area and perimeter is not a simple one. Increasing or decreasing area does not necessarily mean the perimeter increases or decreases respectively, or vice versa. Area is measured in square units. For rectangles, measuring the length and breadth is a shortcut to finding out how many squares would fit into each of these dimensions.	The Big Ideas: Different representations highlight different aspects of data. It is important to be able to answer questions about data using inference and deduction, not just direct retrieval.

Summer Term

	Block 1 Weeks 1-3 Shape	Block 2 Weeks 4-5 Position and Direction	Block 3 Week 6-8 Decimals	Block 4 Weeks 9 Negative Numbers	Block 5 Week 10-11 Converting Units	Block 6 Weeks 12 Volume
White Rose	Measuring angles in degrees. Measuring with a protractor (1). Measuring with a protractor (2). Drawing lines and angles accurately. Calculating angles on a straight line. Calculating angles around a point. Calculating lengths and angles in shapes. Regular and irregular polygons. Reasoning about 3D shapes	Position in the first quadrant. Reflection. Reflection with coordinates. Translation. Translation with coordinates.	Adding decimals within 1. Subtracting decimals within 1. Complements to 1. Adding decimals –crossing the whole. Adding decimals with the same number of decimal places. Subtracting decimals with the same number of decimal places. Adding decimals with a different number of decimal places. Subtracting decimals with a different number of decimal places. Adding and subtracting whole and decimals. Decimal sequences. Multiplying decimals by 10, 100 and 1000. Dividing decimals by 10, 100 and 1,000.	Negative numbers Round number to 1 million	Kilograms and kilometres. Milligrams and millilitres. Metric units. Imperial units. Converting units of time. Timetables.	What is volume? Compare volume. Estimate volume. Estimate capacity.
NCTEM	**The Big Ideas:** During this year, pupils increase the range of 2-D and 3-D shapes that they are familiar with. With 3-D shapes they think about the faces as well as the number of vertices and through considering nets think about the 2-D shapes that define the 3-D shapes. Pupils learn about a range of angle facts and use them to describe certain shapes and derive facts about them. Regular shapes have to have all sides and all angles the same. Although non-square rectangles have four equal angles, the fact that they do not have four equal sides means that they are not regular. Some properties of shapes are dependent upon other properties. For example, a rectangle has opposite sides equal because it has four right angles. A rectangle is defined as a quadrilateral with four right angles. It does not have to be defined as a quadrilateral with four right angles and two pairs of equal sides.		**The Big Ideas:** Representations that may appear different sometimes have similar underlying ideas. For example, 1 4, 0·25 and 25% are used in different contexts but are all connected to the same idea.	**The Big Ideas:** Large numbers of six digits are named in a pattern of three: hundreds of thousands, tens of thousands, ones of thousands, mirroring hundreds, tens and ones. It is helpful to relate large numbers to real-world contexts, for example the number of people that a local sports arena can hold.	**The Big Ideas:** The smaller the unit, the greater the number of unit s needed to measure (that is, there is an inverse relationship between size of unit and measure).	**The Big Ideas:** Developing benchmarks to support estimation skills is important as pupils become confident in their use of standard measures. The height of a door frame, for example, is approximately 2 metres, and a bag of sugar weighs approximately 1 kilogram.

Year 6 – Yearly Overview



Autumn Term

	Block 1 Weeks 1-2 Place Value	Block 2 Weeks 3-7 Four Operations	Block 3 Week 8-9 Fractions (Addition and Subtraction)	Block 4 Weeks 10-11 Fractions (Multiplication and Division)	Block 5 Weeks 12 Converting Units
White Rose	Numbers to ten million. Compare an order any number. Round any numbers. Negative numbers.	Add and subtract whole numbers. Multiply up to 4-digit by 2-digit number. Short division. Division using factors. Long division (1). Long division (2). Long division (3). Long division (4). Common factors. Common multiples. Primes. Squares and cubes. Order of operations. Mental calculations and estimation. Reasoning from known facts.	Simplify fractions. Fractions on a number line. Compare & order (denominator). Compare & order (numerator). Add & subtract fractions (1). Add & subtract fractions (2). Adding fractions. Subtracting fractions. Mixed addition and subtraction.	Multiply fractions by integers. Multiply fractions by fractions. Divide fractions by integers (1). Divide fractions by integers (2). Four rules with fractions. Fraction of an amount. Finding the whole.	Calculate with metric measures. Miles and kilometres. Imperial measures.
NCTEM	The Big Ideas: For whole numbers, the more digits a number has, the larger it must be: any 4-digit whole number is larger than any 3-digit whole number. But this is not true of decimal numbers: having more digits does not make a decimal number necessarily bigger. For example, 0·5 is larger than 0·35. Ordering decimal numbers uses the same process as for whole numbers i.e. we look at the digits in matching places in the numbers, starting from the place with the highest value i.e. from the left. The number with the higher different digit is the higher number. For example, 256 is greater than 247 because 256 has 5 tens but 247 has only 4 tens. Similarly 1·0843 is smaller than 1·524 because 1·0843 has 0 tenths but 1·524 has 5 tenths.	The Big Ideas: Deciding which calculation method to use is supported by being able to take apart and combine numbers in many ways. For example, calculating 8·78 + 5·26 might involve calculating 8·75 + 5·25 and then adjusting the answer. The associative rule helps when adding three or more numbers: 367 + 275 + 525 is probably best thought of as 367 + (275 + 525) rather than (367 + 275) + 525 The Big Ideas: Standard written algorithms use the conceptual structures of the mathematics to produce efficient methods of calculation. Standard written multiplication method involves a number of partial products. For example, 36 × 24 is made up of four partial products 30 × 20, 30 × 4, 6 × 20, 6 × 4. There are connections between factors, multiples and prime numbers and between fractions, division and ratios.	The Big Ideas: Fractions express a relationship between a whole and equal parts of a whole. Pupils should recognise this and speak in full sentences when answering a question involving fractions. For example, in response to the question 'What fraction of the journey has Tom Travelled?' the pupil might respond, 'Tom has travelled two thirds of the whole journey.' Equivalent fractions are connected to the idea of ratio: keeping the numerator and denominator of a fraction in the same proportion creates an equivalent fraction. Putting fractions in place on the number lines helps understand fractions as numbers in their own right.		The Big Ideas: To read a scale, first work out how much each mark or division on the scale represents. The unit of measure must be identified before measuring. Selecting a unit will depend on the size and nature of the item to be measured and the degree of accuracy required.

Spring Term

	Block 1 Weeks 1-2 Ration	Block 2 Weeks 3-4 Algebra	Block 3 Week 5-6 Decimals	Block 4 Weeks 7-8 Fractions, Decimals and Percentages	Block 5 Week 9-10 Area and Perimeter	Block 6 Weeks 11-12 Statistics
White Rose	Use ratio language. Ratio and fractions. Introducing the ratio symbol. Calculating ratio. Using scale factors. Calculating scale factors. Ratio and proportion problems.	Find a rule – one step. Find a rule – two step. Use an algebraic rule. Solve two step substitution. Formulae. Word problems. Solve simple one step equations. Find pairs of values. Enumerate possibilities.	Three decimal places. Multiply by 10, 100 and 1,000. Divide by 10, 100 and 1,000. Multiply decimals by Fractions to decimals (1). integers. Divide decimals by integers. Division to solve problems. Decimals as fractions. Fractions to decimals (2).	Fractions to percentages. Equivalent FDP. Percentage of an amount Percentage of a decrease. amount (2). Percentages – missing values. Percentage increase and order FDP.	Shapes – same area. Area and perimeter. Area of a triangle (1). Area of a triangle (2). Area of a triangle (3). Area of a parallelogram. Volume – counting cubes. Volume of a cuboid.	Read and interpret line graphs. Draw line graphs. Use line graphs to solve problems. Circles. Read and interpret pie charts. Pie charts with percentages. Draw pie charts. The mean.
NCTEM	The Big Ideas: A linear sequence of numbers is where the difference between the values of neighbouring terms is constant. The relationship can be generated in two ways: the sequence-generating rule can be recursive, i.e. one number in the sequence is generated from the preceding number (e.g. by adding 3 to the preceding number), or ordinal, i.e. the position of the number in the sequence generates the number (e.g. by multiplying the position by 3, and then subtracting 2). Sometimes sequence generating rules that seem different can generate the same sequence: the ordinal rule 'one more than each of the even numbers, starting with 2' generates the same sequence as the recursive rule 'start at 1 and add on 2, then another 2, then another 2, and so on'.	The Big Ideas: A value is said to solve a symbol sentence (or an equation) if substituting the value into the sentence (equation) satisfies it, i.e. results in a true statement. For example, we can say that 4 solves the symbol sentence (equation) 9 – = + 1 (or 9 – x = x + 1) because it is a true statement that 9 – 4 = 4 + 1. We say that 4 satisfies the symbol sentence (equation) 9 – = + 1 (or 9 – x = x + 1).	The Big Ideas: It is important to distinguish between situations with an additive change or a multiplicative change (which involves ratio). For example, if four children have six sandwiches to share and two more children join them, although two more children have been added, the number of sandwiches then needed for everyone to still get the same amount is calculated multiplicatively.	The Big Ideas: Sequences can arise from naturally occurring patterns in mathematics and it is exciting for pupils to discover and generalise these. For example adding successive odd numbers will generate a sequence of square numbers. Letters or symbols are used to represent unknown numbers in a symbol sentence (i.e. an equation) or instruction. Usually, but not necessarily, in any one symbol sentence (equation) or instruction, different letters or different symbols represent different unknown numbers.	The Big Ideas: It is important to distinguish between situations with an additive change or a multiplicative change (which involves ratio). For example, if four children have six sandwiches to share and two more children join them, although two more children have been added, the number of sandwiches then needed for everyone to still get the same amount is calculated multiplicatively.	The Big Ideas: The questions 'What's the same?' and 'What's different?' can draw pupils' attention to variance and invariance. Shapes can be alike in essentially two different ways: congruent and similar. Congruent shapes are alike in all ways: they could occupy exactly the same space. Similar shapes share identical geometrical properties but can differ in size. All equilateral triangles are similar, but only identically sized ones are congruent. Not all isosceles triangles are similar. Angle properties are a mix of necessary conditions and conventions. It is a necessary condition that angles on a straight line combine to a complete half turn. That we measure the half turn as 180 is conventional.

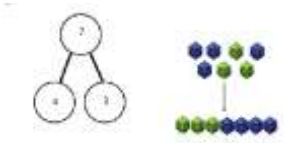
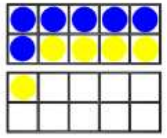
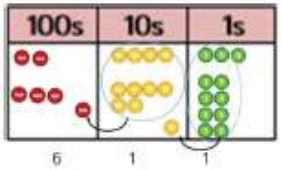
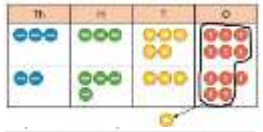
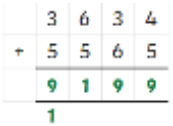
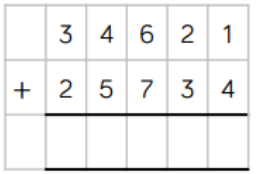
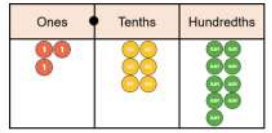
Summer Term

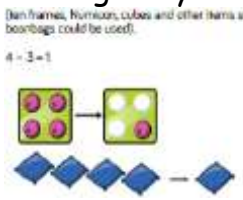
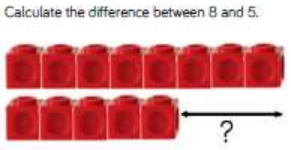
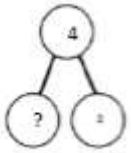
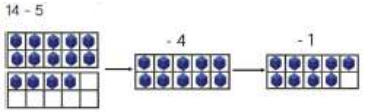
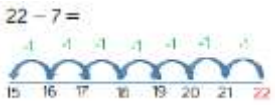
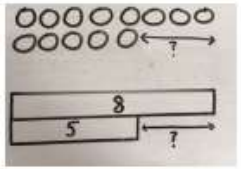
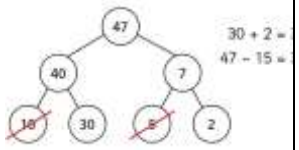
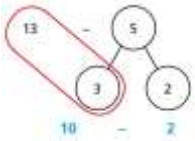
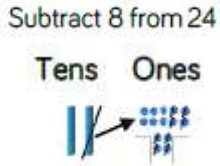
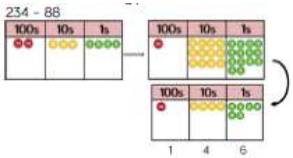
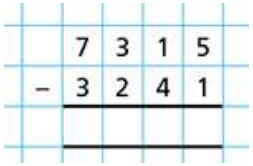
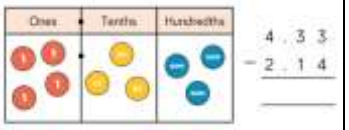
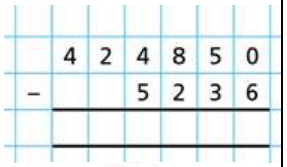
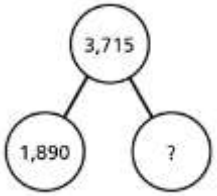
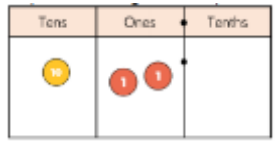
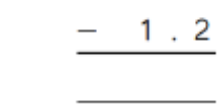
	Block 1 Weeks 1-3 Shape	Block 2 Week 4 Position and Direction	Week 5-12 Themed Projects, Consolidation and Problem Solving
White Rose	Measure with a protractor. Introduce angles. Calculate angles. Vertically opposite angles. Angles in a triangle. Angles in a triangle – special cases. Angles in a triangle – missing angles. Angles in special quadrilaterals. Angles in regular polygons. Draw shapes accurately. Nets of 3D shapes.	Coordinates in the first quadrant. Coordinate in four quadrants. Translations. Reflections.	
NCTEM	The Big Ideas: Variance and invariance are important ideas in mathematics, particularly in geometry. A set of quadrilaterals for example may vary in many ways in terms of area, length of sides and the size of individual angles. However there are a set of invariant properties which remain common to all quadrilaterals, namely they have four sides and their internal angles sum to 360o. Some of these properties emerge from naturally occurring constraints, for example the sum of the internal angles will always sum to 360 and they can do nothing else!	The Big Ideas: The questions 'What's the same?' and 'What's different?' can draw pupils' attention to variance and invariance. Shapes can be alike in essentially two different ways: congruent and similar. Congruent shapes are alike in all ways: they could occupy exactly the same space. Similar shapes share identical geometrical properties but can differ in size. All equilateral triangles are similar, but only identically sized ones are congruent. Not all isosceles triangles are similar. Angle properties are a mix of necessary conditions and conventions. It is a necessary condition that angles on a straight line combine to a complete half turn. That we measure the half turn as 180 is conventional.	

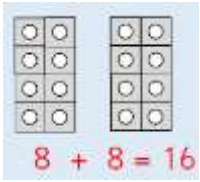
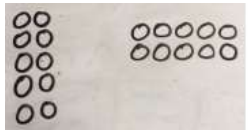
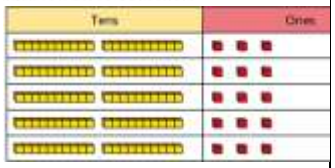
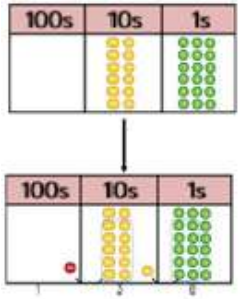
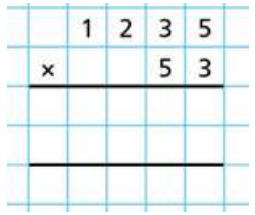
MATHEMATCIS CURRICULUM IMPLEMENTATION: PROGRESSION

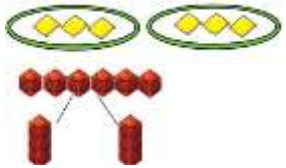
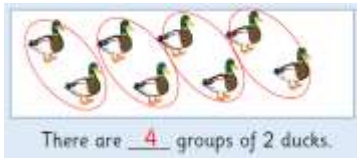
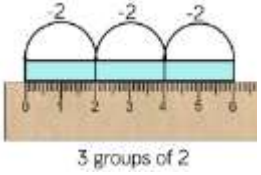
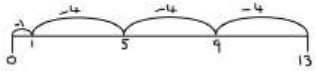
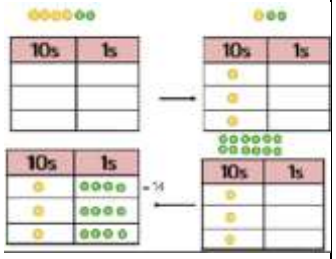
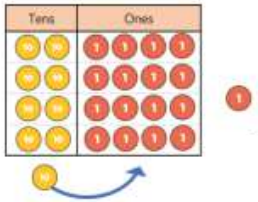
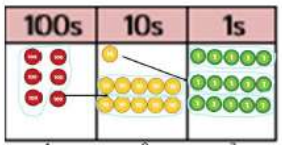
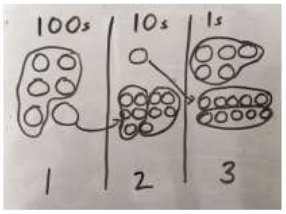
We have a clear understanding of the progression we aspire for all of our children to make in all areas of mathematics. We are following the White Rose Maths scheme of work across the whole school.

Corpus Christi Calculation Policy

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition	Combining two parts to make a whole: part whole model.  Starting at the bigger number and counting on- using cubes.  Regrouping to make 10 using ten frame. 	Adding three single digits.  Use of base 10 to combine two numbers. 41 + 8 = 	Column method- regrouping. 243 +368 611 1 1 Using place value counters (up to 3 digits).  6 1 1	Column method- regrouping. (up to 4 digits)  Th H T O 3 3 5 6 + 2 4 3 5 5 7 9 1 1	Column method- regrouping.  3 6 3 4 + 5 5 6 5 9 1 9 9 1 Use of place value counters for adding decimals.  Ones Tenths Hundredths 0 1 2	Column method- regrouping. Abstract methods.  3 4 6 2 1 + 2 5 7 3 4 Place value counters to be used for adding decimal numbers.  Ones Tenths Hundredths

Subtraction	Taking away ones.  Counting back.  Find the difference.  Part whole model.  Make 10 using ten frame. 	Counting back.  Find the difference.  Part whole model.  Make 10.  Use of base 10. 	Column method with regrouping. (Up to 3 digits using place value counters) 	Column method with regrouping. (Up to 4 digits) 	Column method with regrouping. Abstract for whole numbers.  Start with place value counters for decimals- with the same amount of decimal places. 	Column method with regrouping. Abstract methods.   Place value counters for decimals- with different amounts of decimal places.  

Multiplication	Recognising and making equal groups.  Doubling.  Counting in multiples: Use cubes, Numicon and other objects in the classroom.  3 × 4 = 12 4 + 4 + 4 = 12	Arrays- showing commutative multiplication.   10 = 2 × 5 5 × 2 = 10 2 + 2 + 2 + 2 + 2 = 10 10 = 5 + 5	Arrays  5 equal groups of 3 2d x 1d using base 10 There are 23 marbles in a ja There are 5 jars.  	Column multiplication- introduced with place value counters. (2 and 3 digit multiplied by 1 digit) 3 x 23  6 x 23  	Column multiplication Abstract only but might need a repeat of year 4 first (up to 4 digit numbers by 1 or 2 digits) 6 x 23 = 23 × 6 138 1 1 and 1 2 4 × 2 6 7 4 4 1 2 2 4 8 0 3 2 2 4 1 1 Answer: 3224	Column multiplication Abstract methods (multi-digit up to 4 digits by a 2 digit number) 

Division	Sharing objects into groups  Division as grouping  Use cubes and draw round 3 cubes at a time	Division as grouping  Division within arrays- linking to multiplication  2 x 5 and 5 x 2 Repeated subtraction  3 groups of 2	Division with a remainder- using sticks, times tables facts and repeated subtraction.  There are 3 whole squares, with 1 left over. '3 groups of 4, with 1 left over'  2d divided by 1d using base 10 or place value counters.  	Division with a remainder 97÷ 4 = 24 r 1  Short division (up to 3 digits by 1 digit- concrete and pictorial) 615 ÷ 5   	See below	See below

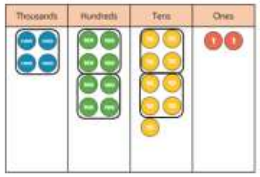
Division

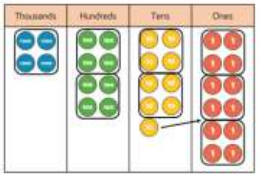
Short division

		1	2	2	3
4	4	8	9	^{1}2	

(up to 4 digits by 1 digit number including remainders)

Using place value counters and short division:





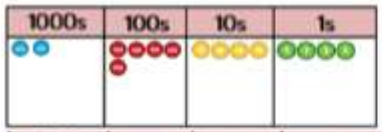
		1	2	2	3
4	4	8	9	^{1}2	

Short division

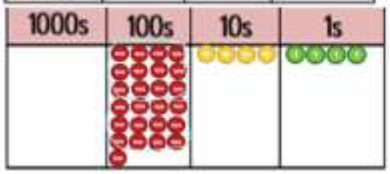
		1	2	2	3	
4	4	8	9	^{1}4		r2

Long division with place value counters (up to 4 digits by a 2 digit number)

2544 ÷ 12 = 212

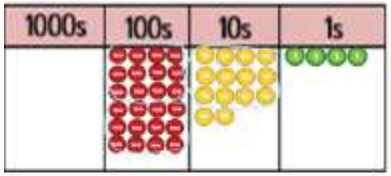


We can't group 2 thousands into groups of 12 so will exchange them.



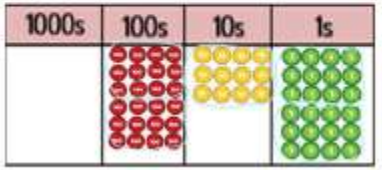
We can group 24 hundreds into groups of 12 which leaves with 1 hundred.

$$\begin{array}{r|l} & 02 \\ \hline 12 & 2544 \\ & 24 \\ \hline & 1 \end{array}$$



After exchanging the hundred, we have 14 tens. We can group 12 tens into a group of 12, which leaves 2 tens.

$$\begin{array}{r|l} & 021 \\ \hline 12 & 2544 \\ & 24 \\ \hline & 14 \\ & 12 \\ \hline & 2 \end{array}$$



After exchanging the 2 tens, we have 24 ones. We can group 24 ones into 2 group of 12, which leaves no remainder.

$$\begin{array}{r|l} & 0212 \\ \hline 12 & 2544 \\ & 24 \\ \hline & 14 \\ & 12 \\ \hline & 24 \\ & 24 \\ \hline & 0 \end{array}$$

Children should exchange into tenths and hundredths column too

MATHEMATICS CURRICULUM IMPLEMENTATION: ASSESSMENT

EYFS	End of KS1	End of KS2
Early learning goal – numbers Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing. • Recognise some numerals of personal significance. • Recognises numerals 1 to 5. • Counts up to three or four objects by saying one number name for each item. • Counts actions or objects which cannot be moved. • Counts objects to 10, and beginning to count beyond 10. • Counts out up to six objects from a larger group. • Selects the correct numeral to represent 1 to 5, then 1 to 10 objects. • Counts an irregular arrangement of up to ten objects. • Estimates how many objects they can see and checks by counting them. • Uses the language of 'more' and 'fewer' to compare two sets of objects. • Finds the total number of items in two groups by counting all of them. • Says the number that is one more than a given number. • Finds one more or one less from a group of up to five objects, then ten objects. • In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting. • Records, using marks that they can interpret and explain. • Begins to identify own mathematical problems based on own interests and fascinations **Early learning goal – shape, space and measures** Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them. • Beginning to use mathematical names for 'solid' 3D shapes and 'flat' 2-D shapes, and mathematical terms to describe shapes. • Selects a particular named shape.	**Working towards the expected standard** The pupil can: • read and write numbers in numerals up to 100 • partition a two-digit number into tens and ones to demonstrate an understanding of place value, though they may use structured resources to support them • add and subtract two-digit numbers and ones, and two-digit numbers and tens, where no regrouping is required, explaining their method verbally, in pictures or using apparatus (e.g. 23 + 5; 46 + 20; 16 – 5; 88 – 30) • recall at least four of the six number bonds for 10 and reason about associated facts (e.g. 6 + 4 = 10, therefore 4 + 6 = 10 and 10 – 6 = 4) • count in twos, fives and tens from 0 and use this to solve problems • know the value of different coins • name some common 2-D and 3-D shapes from a group of shapes or from pictures of the shapes and describe some of their properties (e.g. triangles, rectangles, squares, circles, cuboids, cubes, pyramids and spheres). **Working at the expected standard** The pupil can: • read scales in divisions of ones, twos, fives and tens • partition any two-digit number into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus • add and subtract any 2 two-digit numbers using an efficient strategy, explaining their method verbally, in pictures or using apparatus (e.g. 48 + 35; 72 – 17) • recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If 7 + 3 = 10 then 17 + 3 = 20; if 7 – 3 = 4 then 17 – 3 = 14; leading to if 14 + 3 = 17, then 3 + 14 = 17, 17 – 14 = 3 and 17 – 3 = 14) • recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary • identify quarter, half, third, half, three quarters and two quarters of a number or shape, and know that all parts must be equal parts of the whole • use different coins to make the same amount • read the time on a clock to the nearest 15 minutes • name and describe properties of 2-D and 3-D shapes, including number of sides, vertices, edges, faces and lines of symmetry.	**Working at the expected standard** The pupil can: **Number and place value** • Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit. • Round any whole number accurately. • Use negative numbers in context, and calculate intervals across zero. **Addition, subtraction, multiplication and division** • Solve number and practical problems that involve all of the above. • Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. • Compare and order fractions. • Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. • Multiply simple pairs of proper fractions. • Divide proper fractions by whole numbers. • Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction. • Identify the value of each digit in numbers given to three decimal places, and multiply and divide numbers by 10, 100 and 1000. • 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. • 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** • Use simple formulae. • Generate and describe linear number sequences. • Express missing number problems algebraically. • Find pairs of numbers that satisfy an equation with two unknowns. • Enumerate possibilities of combinations of two variables. **Measurement** • Solve problems involving the calculation and conversion of units of measure, up to three decimal places. • 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. • Convert between miles and kilometres. • 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.

• Can describe their relative position such as 'behind' or 'next to'. • Orders two or three items by length or height. • Orders two items by weight or capacity. • Uses familiar objects and common shapes to create and recreate patterns and build models. • Uses everyday language related to time. • Beginning to use everyday language related to money. • Orders and sequences familiar events. • Measures short periods of time in simple ways.	**<u>Working at greater depth</u>** The pupil can: • read scales* where not all numbers on the scale are given and estimate points in between • recall and use multiplication and division facts for 2, 5 and 10 and make deductions outside known multiplication facts • use reasoning about numbers and relationships to solve more complex problems and explain their thinking (e.g. 29 + 17 = 15 + 4 + ¨ ; 'together Jack and Sam have £14. Jack has £2 more than Sam. How much money does Sam have?' etc) • solve unfamiliar word problems that involve more than one step (e.g. 'which has the most biscuits, 4 packets of biscuits with 5 in each packet or 3 packets of biscuits with 10 in each packet?') • read the time on a clock to the nearest 5 minutes • describe similarities and differences of 2-D and 3-D shapes, using their properties (e.g. that two different 2-D shapes both have only one line of symmetry; that a cube and a cuboid have the same number of edges, faces and vertices, but different dimensions).	• Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres and cubic metres. **Geometry** • Draw 2D shapes using given dimensions and angles. • Recognise, describe and build simple 3D shapes, including making nets. • 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. • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. • 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. **Statistics** • Interpret and construct pie charts and line graphs and use these to solve problems. • Calculate and interpret the mean as an average.

MATHEMATICS CURRICULUM IMPLEMENTATION: SPIRITUAL MORAL SOCIAL AND CULTURAL DEVELOPMENT

Our mathematics Curriculum contributes to the spiritual, moral, social and cultural development of our children and embeds our School ethos and mission statement of, Together we DREAM, together we learn.

Spiritual Development	Moral Development	Social Development	Cultural Development
• Respect for self and others • Increasing ability to reflect • Empathy, Concern & Compassion • Expressive & creative development • Awareness and understanding of their own and others beliefs • Ability to think in terms of the whole • Readiness to challenge all that would constrain the human spirit: poverty of aspiration, lack of self-confidence and belief, indifference, force, aggression, injustice, self-interest, sexism and racism • Courage and persistence in the defence of their aims, values, principles and beliefs • Appreciation of the intangible • Understanding of feelings and emotions and their likely impact • Respect for insight as well as knowledge and reason	• Ability to distinguish right from wrong • Confidence to act consistently in accordance with their own principles • Respect for others' needs, interests and feelings as well as their own • Desire to explore their own and others' views • A commitment to personal values in areas which are considered right by some and wrong by others • Ability to make responsible and reasoned judgements on moral dilemmas • Ability to think through consequences of their own and others' actions • Considerate style of life • Understanding of the need to review and reassess their values, codes and principles in the light of experience	• Works successfully as a member of a group or team • Appreciates the right and responsibilities of individuals within the wider social setting • Takes advice offered by those in authority or counselling roles • Participates in activities relevant to the community • Exercises responsibility • Resolves conflict • Adjusts to a range of social contexts by appropriate and sensitive behaviour • Challenges, when necessary and in appropriate ways, the values of a group or wider community • Understands how societies function and are organised in structures such as the family, the school and local and wider communities • Shares values and opinions with others and works towards consensus	• Appreciation of the diversity and interdependence of cultures • Ability to appreciate cultural diversity and accord dignity and respect to other people's values and beliefs, thereby challenging racism and valuing race equality • Ability to recognise and understand their own cultural assumptions and values • Understanding of the influences which have shaped their own cultural heritage • Understanding of the dynamic, evolutionary nature of cultures • Sense of personal enrichment through encounter with cultural media and tradition from a range of cultures • Regard for the rights of human achievement in all cultures and societies • Openness to new ideas and a willingness to modify cultural values in the light of experience

		• Reflects on their own contribution to society • Relates well to other peoples' social skills and personal qualities • Understands the notion of interdependence in an increasingly complex society	

MATHEMATICS CURRICULUM IMPLEMENTATION: EXTRA-CURRICULAR CLUBS

Being able to offer our children a wide range of diverse extra-curricular activities is very important as it encourages them to become independent, confident and successful members of the community. Clubs are available for both KS1 and KS2 children.

The list of clubs is ever changing but generally includes:

- Eco-Council
- Choir
- Craft Club
- Mindfulness
- Sports Clubs
- SATs Booster Sessions for Year 2 and 6 (run at lunchtime and after school)

MATHEMATICS CURRICULUM IMPLEMENTATION: HEALTH & SAFETY AND SAFEGUARDING

Risk Assessments are completed for all off site activities.

Appropriate staff supervision ratios are ensured.

Approved venues and transport are used.

MATHEMATICS CURRICULUM IMPLEMENTATION: STAFF DEVELOPMENT

Key staff undertake ongoing professional development as identified through consistent, embedded monitoring and regular informal professional conversations. Mathematics lead attends a Maths Hub training session every term to ensure that all training across school is up to date. We are also part of the NW3 Teacher Research Group (TRG)- developed to ensure that the mastery mathematics approach is embedded across school.

MATHEMATICS CURRICULUM IMPACT

MATHEMATICS LESSONS
All children have consistent access to high quality, safe and broad mathematics lessons which: • Benefit health and well being • Develop their knowledge, skills and experiences of mathematics • Build the knowledge, skills, values and confidence necessary for them to make positive, healthy decisions throughout their lives • Develop their social, moral, spiritual and cultural understanding by linking their understating and learning to their lives.
MATHEMATICS EXTRA CURRICULAR CLUBS
All children have access to: • Extra–curricular opportunities such as Eco-Council, Gardening Club, Spanish Club, Mindfulness, Sports Clubs and Y2/6 Booster Club • Opportunities to socialise with different peer groups • Opportunities to make a positive contribution to our school and community – walking to school, recycling, litter picking and supporting charities
PROFESSIONAL DEVELOPMENT & RESEARCH
• Continuous Staff development is planned annually • Book Reflections enable staff to develop and extend their knowledge of the mastery approach • Termly meetings with the other TRG leads allows for resources to be shared and questions to be asked