Pakeman Primary School

Maths Curriculum
EYFS, KS1 and KS2

Pakeman Primary School

Maths curriculum
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At Pakeman, we are a one and a half form entry school, but we group children in year groups when delivering the maths curriculum. We use intervention teachers across each phase to make this possible. We follow the White Rose scheme of work from EYFS to KS2, adapting lessons to suit the needs of individuals in each class. For each maths unit of work, all **White Rose Small Steps** should be taught. Please ensure that this information is fully covered in the series of lessons that you plan. As children move through the school, they will build on prior knowledge, skills and vocabulary.

Contents

Maths Map EYFS, KS1 and KS2

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
2-Plus	Continuous provision in 2-Plus will reflect the Development Matters for this stage.					
Nursery	More than, fewer than, same Explore and build with shapes and objects Explore repeats	Hear and say number names Begin to order number names I see 1,2, 3	Join in with repeats Explore position and shapes Show me 1,2,3, Move and label 1,2,3	Explores positions and routes Explore own first patters	Take and give 1,2,3 Match, talk, push and pull Talk about dots Compare and sort collections Lead on own repeats Start to puzzle	Making patterns together Make games and actions Show me 5 My own patter Stop at 1,2,3,4,5
Reception	Getting to know you Match, sort and compare Talk about measure and patterns	Representing 1,2,3 Circles and triangles Representing 1,2,3,4,5 Shapes with 4 sides	Making 5 Mass and capacity Growing 6,7,8	Length, height and time Building 9 and 10 Explore 3D shapes	To 20 and beyond How many now? Manipulate, compose and decompose	Sharing and grouping Visualise, build and map Make connections Consolidation
Year 1	Place Value (10) Addition and Subtraction (within 10)	Addition and Subtraction (within 10) Shape Consolidation	Place Value (20) Addition and Subtraction (within 20)	Place Value (50) Length and Height Mass and Volume	Multiplication and Division Fractions Position and Direction	Place Value (100) Money Time
Year 2	Place Value Addition and Subtraction	Addition and Subtraction Shapes	Money Multiplication and Division	Length and Height Mass, Capacity and Temperature	Fractions Time	Statistics Position and Direction Consolidation
Year 3	Place Value Addition and Subtraction	Addition and Subtraction (cont.) Multiplication and Division A	Multiplication and Division B Length and Perimeter	Fractions A Mass and Capacity	Fractions B Money Time	Time Shape Statistics
Year 4	Place Value Addition and Subtraction	Area Multiplication and Division A Consolidation	Multiplication and Division B Length and Perimeter	Fractions Decimals A	Decimals B Money Time Consolidation	Shape Statistics Position and Direction
Year 5	Place Value Addition and Subtraction Multiplication and Division A	Multiplication and Division A (cont.) Fractions A Consolidation	Multiplication and Division B Fractions B Decimals and Percentages	Decimals and Percentages (cont.) Perimeter and area Statistics	Shape Position and Direction Decimals	Decimals (cont.) Negative Numbers Converting Units Volume
Year 6	Place Value Addition, Subtraction, Multiplication and Division	Fractions A Fractions B Converting Units	Ratio Algebra Decimals	Fractions, Percentages and Decimals Area, Perimeter and Volume Statistics	Shape Position and Direction Themed projects, consolidation & problem-solving	Themed projects, consolidation & problem-solving

Pakeman Primary School
Maths curriculum – 2-Plus

	Autumn		Spring		Summer	
Topic	**All About Me**	**Nursery Rhymes**	**Favourite Stories**	**Transport**	**Down at the Farm**	**Under the Sea**
Maths-related mini themes	Birthdays Facial features Body parts Height	Counting rhymes and props	Hunts and trails *(We're Going on a Bear Hunt, Where's Spot?)* Size *(Owl Babies)*	Transport construction Matching transport	Animal prints Animal size Counting *(Farm 1,2,3)*	Counting Size *(Big Fish, Little Fish)*
EYFS Framework Objectives	*At this stage, maths is taught through high quality continuous provision and mini themes linked to the current topic.* *Learning will reflect the Birth-3 Development Matters:* • Combine objects like stacking blocks and cups. Put objects inside others and take them out again. • Take part in finger rhymes with numbers. • React to changes of amount in a group of up to three items. • Compare amounts, saying 'lots', 'more' or 'same'. • Develop counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence. • Count in everyday contexts, sometimes skipping numbers - '1-2-3-5.' • Climb and squeeze themselves into different types of spaces. • Build with a range of resources. • Complete inset puzzles. • Compare sizes, weights etc. using gesture and language - 'bigger/little/smaller', 'high/low', 'tall', 'heavy'. • Notice patterns and arrange things in patterns					

Pakeman Primary School
Maths curriculum – Nursery

	Autumn 1				Autumn 2			
White Rose Unit Blocks	**More than, fewer than, same**	**Explore and build with shapes and objects**	**Explore repeats**	**Hear and say number names**	**Begin to order number names**	**I see 1, 2, 3**	**Join in with repeats**	**Explore position and space**
White Rose Small Steps	1. To collect objects to compare amounts 2. To look for collections of large and small amounts 3. To look for collections of large and small amounts 4. To make large and small collections 5. To make simple comparisons of amounts 6. To compare and talk about large and small amounts	1. To explore and play with shapes 2. To put shapes and blocks into position 3. To look for collections of large and small amounts 4. To begin to explore and describe natural shapes and objects 5. To show interest in simple differences between shapes 6. To select shapes for a reason	1. To listen to repeats in songs and stories 2. To start to join in with repeats from stories 3. To look for collections of large and small amounts 4. To make line patterns with own sequences 5. To start to join in songs with repeats 6. To clap along to songs	1. To hear some number names 2. To model saying number names in order 3. To look for collections of large and small amounts 4. To join in stable order counting forwards 5. To join in saying some number names 6. To practise saying number names in order	1. To model saying 1, 2 and 3 in play 2. To copy fingers to represent 1, 2 and 3 3. To look for collections of large and small amounts 4. To say number names in order 5. To copy the sequence of 1, 2 and 3 6. To begin to count actions 7. To begin to recognise that anything can be counted	1. To notice images in books 2. To recognise "I see 1, 2, 3" 3. To look for collections of large and small amounts 4. To point to 1, 2, 3 5. To respond to "I see 1, 2, 3" 6. To copy "I see 1, 2, 3"	1. To join in with repeated actions in songs 2. To sing some refrains independently 3. To look for collections of large and small amounts 4. To say what happens next 5. To join in with repeats in songs and stories 6. To have a sense of daily routines	1. To respond to simple language of position 2. To select shapes for a space 3. To look for collections of large and small amounts 4. To explore and describe shapes and objects 5. To arrange blocks in a chosen position 6. To recognise when 2 objects are the same shape
Keywords	more than, less than, fewer, many, same, match, different	bigger, smaller, long, short, tall, heavy, light	sing, repeat, again, big, small, line, draw, pattern, clap, hands	number, zero, one, count, two, three, four, five	digit, more, amount, together, explain say, how many? pattern, match 0,1,2,3 numeral	more, less, fewest, amount, count, total, sequence, subitise	morning, afternoon, evening, nighttime first, next, then, after, today, tomorrow, yesterday,	over, under, into, pattern
EYFS Framework Objectives	• Compare quantities using language: 'more than', 'fewer than'. • Talk about and explore 2D and 3D shapes. • Notice patterns and arrange things in patterns. • Recite numbers past 5. • Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). • Understand position through words alone – for example, "The bag is under the table," – with no pointing.							

	Spring 1				Spring 2			
White Rose Unit Blocks	**Show me 1, 2, 3**	**Move and label 1, 2, 3**	**Explore position and routes**	**Explore own first patterns**	**Take and give 1, 2, 3**	**Match, talk, push and pull**	**Talk about dots**	**Compare and sort collections**
White Rose Small Steps	1. To copy fingers to show 1 2. To copy fingers to show 3 3. To look for collections of large and small amounts 4. To show 2 or 3 fingers when seeing 2 or 3 in stories 5. To copy fingers to show 2 **6.** To show 1 finger when seeing 1 item in stories	1. To make actions when saying counting words 2. To count out up to 3 objects from rhymes 3. To look for collections of large and small amounts 4. To label amounts as 1 and not 1 5. To move fingers when saying counting words 6. To notice number symbols as labels	1. To explore shape resources 2. To talk about simple positions 3. To look for collections of large and small amounts 4. To move through positions 5. To explore more complex inset jigsaws **6.** To move into simple positions	1. To explain simple pattern arrangements 2. To choose blocks to copy simple creations 3. To look for collections of large and small amounts 4. To make simple pattern arrangements 5. To make roads and bridges with intent 6. To make simple line patterns with objects	1. To choose a group to count 2. To take out 3 from a group 3. To look for collections of large and small amounts 4. Give others 3 items 5. Take out 2 from a group 6. To give others 2 items 7. To count 3 objects with one-to-one correspondence	1. To match simple shapes 2. To make simple arrangements 3. To look for collections of large and small amounts 4. To follow simple routes outside 5. To push some shapes and blocks together 6. To talk about arrangements	1. To become familiar with dot patterns 2. To say when there are 2 dots 3. To look for collections of large and small amounts 4. To say when there are 3 dots 5. To say when there is 1 dot 6. To recognise 1 and 2 in different arrangements	1. To notice when two collections are the same 2. To make collections of large objects the same 3. To look for collections of large and small amounts 4. To make collections the same using large and small objects 5. To make collections of small objects the same 6. To recognise two collections are the same using large and small objects
Keywords	show me, one, two, three, big, small, copy, same, look	Action, object, counting, rhyming, label, word, number	on, under, next to, in, over, behind position	pattern, repeat, again, same, abab aabb abba shape, colour, size	how many? amount, more, after, add, more, higher, count on	shape, start, up, round, over, down, across	Dot, more, less, same, different	sort, look, compare, same, different colour, red, yellow, blue, orange, green, white, black, similar, different
EYFS Framework Objectives	• Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). • Show 'finger numbers' up to 5. • Say one number for each item in order: 1, 2, 3, 4, 5. • Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. • Discuss routes and locations, using words like 'in front of' and 'behind'. • Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc. • Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). • Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc. • Combine shapes to make new ones – an arch, a bigger triangle, etc. • Describe a familiar route. • Compare quantities using language: 'more than', 'fewer than'.							

	Summer 1				Summer 2			
White Rose Unit Blocks	**Lead on own repeats**	**Start to puzzle**	**Making patterns together**	**Make games and actions**	**Show me 5**	**My own pattern**	**Stop at 1, 2, 3, 4, 5**	**Match, sort, compare**
White Rose Small Steps	**1.** To join in fully with sequences and songs 2. To sing rhymes independently 3. To lead sequences and songs 4. To read on in familiar repeating stories 5. To copy art-based simple patterns To explore own line and repeating patterns in art	1. To complete shape-match puzzles 2. To complete simple jigsaws 3. To match objects to pictures 4. To match objects to shadows 5.To explore objects and small world from different positions 6. To make simple routes in small world with lines and curves	1. To sing their own songs independently 2. To clap in time to a beat 3. To make and talk about movement patterns 4. To talk about objects in patterns and arrangements 5. To copy AB patterns with support 6. To continue AB patterns with support	1. To match dot patterns 2. To be introduced to subitising games 3. To play subitising games 4. To copy sets of sounds 5. To listen to and represent sounds with fingers 6. To listen to and represent sounds with resources	1. To sing rhymes to 5 and join in with movements 2. to move props to 5 3. To move props back from 5 4. To show fingers to 5 5. To begin to count 5 objects with one-to-one correspondence 6. To match numerals to quantities when acting out songs	1. To continue AB patterns 2. To create their own AB patterns 3. To notice an error in a pattern 4. To build constructions with simple enclosures 5. To copy simple repeated constructions 6. To begin to sequence some events	1. To count out up to 5 objects from a larger group 2. To explore counting to 5 in different ways 3. To verbally count to a given number 4. To label objects with numerals 5. To independently show fingers to 5 6. To begin to make marks to represent quantities	1. To compare up to 5 different objects 2. to compare by matching 3. To make the same set by matching 4. To match by type 5. To recognise attributes of objects 6. To begin to sort some objects to a type
Keywords	pointy, spotty, blobs, songs, story, rhymes, pattern	sides, corners, straight, flat, round, in front of, behind	pointy, spotty, blobs, patterns, repeat, next, see, hear, sing, song	how many, dots, show me, see, hear, sounds, finger numbers, one, two, three	there are, count, one, two, three, four, five, finger numbers,	first, next, then, object, pattern, time of the day	how many, finger numbers, stop, count,	more than, fewer than, lots, same, more, different, match, object
EYFS Framework Objectives	• Say one number for each item in order: 1, 2, 3, 4, 5. • Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. • Discuss routes and locations, using words like 'in front of' and 'behind'. • Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc. • Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). • Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc. • Combine shapes to make new ones – an arch, a bigger triangle, etc. • Describe a familiar route. • Compare quantities using language: 'more than', 'fewer than'.							

Pakeman Primary School
Maths curriculum – Reception

	Autumn 1			Autumn 2			
White Rose Unit Blocks	**Getting to know you**	**Match, sort and compare**	**Talk about measure and patterns**	**It's me 1,2,3**	**Circles and triangles**	**1,2,3,4,5**	**Shapes with 4 sides**
White Rose Small Steps	N/A	1. To match objects 2. To match pictures and objects 3. To identify a set 4. To sort objects to a type 5. To explore sorting techniques 6. To create sorting rules	1. To compare amounts 2. To compare size 3. To compare mass 4. To compare capacity 5. To explore simple patterns 6. To copy and continue simple patterns 7. To create simple patterns	1. To identify 1, 2 and 3 2. To subitise 1, 2 and 3 3. To represent 1, 2 and 3 4. To find 1 more (within 3) 5. To find 1 less (within 3) 6. To explore the composition of 1, 2 and 3	1. To identify and name circles and triangles 2. To compare circles and triangles 3. To identify shapes in the environment 4. To describe position	1. To identify 4 and 5 2. To subitise 4 and 5 3. To represent 4 and 5 4. To find 1 more (within 5) 5. To find 1 less (within 5) 6. To explore the composition of 4 and 5 7. To explore the composition of 1–5	1. To identify and name shapes with 4 sides 2. To combine shapes with 4 sides 3. To identify shapes in the environment 4. To understand day and night – daily routine
Keywords	N/A	match, same, different, set, sorting, rules, different ways	star, next, continue, balance scale, what fits inside, holds the most, compare, size, big	one, count, match, sort, pattern, ten frame, 1 more	round, straight, sides, 2d shapes, triangle, circle, besides, in front of, around	four, make 5, part, whole, how many, represent	2d shape, square, rectangle, big, small, shorter, straight sides, corners, size
EYFS Framework Objectives	• Count objects, actions and sounds. • Continue, copy and create repeating patterns. • Understand the 'one more than/one less than' relationship between consecutive numbers. • Compare numbers Subitise. • Link the number symbol (numeral) with its cardinal number value. • Explore the composition of numbers to 10. • Automatically recall number bonds for numbers 0-5 and some to 10. • Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.						

	Spring 1			Spring 2		
White Rose Unit Blocks	**Making 5**	**Mass and capacity**	**Growing 6,7,8**	**Length, height and time**	**Building 9 and 10**	**Exploring 3D shapes**
White Rose Small Steps	1. To introduce zero 2. To identify key representations of 0 to 5 3. To subitise 0 to 5 4. To represent 0 to 5 5. To find 1 more (within 5) 6. To find 1 less (within 5) 7. To explore the composition of 5 8. To recognise conceptual subitising to 5	1. To compare mass 2. To find a balance 3. To explore capacity 4. To compare capacity	1. To identify 6, 7 and 8 2. To represent 6, 7 and 8 3. To find 1 more (within 8) 4. To find 1 less (within 8) 5. To explore the composition of 6, 7 and 8 6. To make pairs – odd and even 7. To make double to 8 (find a double) 8. To combine two groups (within 8) 9. To recognise conceptual subitising to 8	1. To explore length 2. To compare length 3. To explore height 4. To compare height 5. To talk about time 6. To order and sequence time	1. To identify 9 and 10 2. To compare numbers to 10 3. To represent 9 and 10 4. To recognise conceptual subitising to 10 5. To find 1 more (within 10) 6. To find 1 less (within 10) 7. To explore the composition to 10 8. To learn bonds to 10 (2 parts) 9. To make arrangements of 10 10. To make bonds to 10 (3 parts) 11. To make doubles to 10 (find a double) 12. To make doubles to 10 (make a double) 13. To explore even and odd	1. To recognise and name 3D shapes 2. To find 2D shapes within 3D shapes 3. To use 3D shapes for tasks 4. To identify 3D shapes in the environment 5. To identify more complex patterns 6. To copy and continue patterns 7. To identify patterns in the environment
Keywords	one less, one more, zero, making 5, altogether, making numbers, represent,	compare, mass, heavier, lighter, capacity, container, fill, full, empty, same, more, less, half, half full,	six, seven, eight, different ways, pair, altogether, one more, one less, represent, double, groups, subitise	length, height, long, short, tall, longer shorter, taller, time, day, week, morning, afternoon, evening, hour, minutes	nine, ten, counting to 9, different ways, number bonds, compare, represent, one more, one less,	3d shape, cone, cylinder, pyramid, cuboid, cubes, sphere, faces, curved, straight, sort, surface, flat
EYFS Framework Objectives	• Count objects, actions and sounds. • Compare numbers. • Subitise • Link the number symbol (numeral) with its cardinal number value. • Understand the 'one more than/one less than' relationship between consecutive numbers. • Explore the composition of numbers to 10. • Automatically recall number bonds for numbers 0-5 and some to 10. • Compare length, weight and capacity. • Select, rotate and manipulate shapes in order to develop spatial reasoning skills. • Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. • Continue, copy and create repeating patterns					

	Summer 1			Summer 2			
White Rose Unit Blocks	**To 20 and beyond**	**How many now?**	**Manipulate, compose and decompose**	**Sharing and grouping**	**Visualise, build and map**	**Make connections**	**Consolidation**
White Rose Small Steps	1. To build numbers beyond 10 (10–13) 2. To continue patterns beyond 10 (10–13) 3. To build numbers beyond 10 (14–20) 4. To continue patterns beyond 10 (14–20) 5. To verbal count beyond 20 6. To verbal count patterns	1. To add more 2. To find how many did i add? 3. To take away 4. To find how many did i take away?	1. To select shapes for a purpose 2. To rotate shapes 3. To manipulate shapes 4. To explain shape arrangements 5. To compose shapes 6. To decompose shapes 7. To copy 2D shape pictures 8. To find 2D shapes within 3D shapes	1. To explore sharing 2. To practise sharing 3. To explore grouping 4. To practise grouping 5. To recognise even and odd sharing 6. To play with and build doubles	1. To identify units of repeating patterns 2. To create own pattern rules 3. To explore own pattern rules 4. To replicate and build scenes and constructions 5. To visualise from different positions 6. To describe positions 7. To give instructions to build 8. To explore mapping 9. To represent maps with models 10. To create own maps from familiar places 11. To create own maps and plans from story situations	1. To deepen understanding 2. To understand patterns and relationships	All
Keywords	Estimating, more than, fewer than, subtraction, ordering numerals, shapes, rotate, tangram	Altogether, first, then, now, take away, subtract, add, more, how many, difference	Small, rotate, complete, triangle, rectangle, large, between, below, diagonal	Fair, unfair, how many, groups, groups of, same, odd, even, double	Patterns, repeat, unit of repeat, through, first, next, behind, in front, same	Patterns, relationships, number rods, compare, same, measure, float, sink, sunk	
EYFS Framework Objectives	• Count objects, actions and sounds. • Compare numbers. • Count beyond ten. • Subitise. • Link the number symbol (numeral) with its cardinal number value. • Understand the 'one more than/one less than' relationship between consecutive numbers. • Explore the composition of numbers to 10. • Automatically recall number bonds for numbers 0-5 and some to 10. • Select, rotate and manipulate shapes in order to develop spatial reasoning skills. • Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. • Continue, copy and create repeating patterns. • Compare length, weight and capacity.						

Pakeman Primary School
Maths curriculum – Year 1

	Autumn 1		Autumn 2	
White Rose Unit Blocks	**Place value within 10**	**Addition and subtraction within 10**	**Shape**	**Consolidation**
White Rose Small Steps	1. To sort objects. 2. To count objects. 3. To count objects from a larger group. 4. To represent objects. 5. To recognise numbers as words. 6. To count on from any number within 10. 7. To count one more. 8. To count backwards within 10. 9. To count one less. 10. To compare groups by matching. 11. To identify fewer, more, same. 12. To understand less than, greater than, equal to. 13. To compare numbers. 14. To order objects and numbers. 15. To identify numbers on the number line.	1. To introduce parts and wholes. 2. To use the part-whole model. 3. To write number sentences. 4. To make fact families – addition facts. 5. To learn number bonds within 10. 6. To use systematic methods for number bonds within 10. 7. To make number bonds to 10. 8. To add numbers together. 9. To add more. 10. To solve addition problems. 11. To identify a part. 12. To find a part. 13. To make fact families – 8 facts. 14. To take away/cross out (how many are left?). 15. To take away (how many are left?). 16. To subtract on a number line. 17. To add or subtract 1 or 2.	1. To recognise and name 3D shapes. 2. To sort 3D shapes. 3. To recognise and name 2D shapes. 4. To sort 2D shapes. 5. To make patterns with 3D and 2D shapes.	**Consolidation**
Keywords	Digit, place value, sort, numeral, number track, less/fewer, more/greater, compare	Addition, subtraction, equal, part whole model, partition, comparing, less than, greater than, equal to, total	2D shape, 3D shapes, sides, corners, edges, faces, orientation, sorting, patterns	**Consolidation**
National curriculum objectives	• Count to ten, forwards and backwards, beginning with 0 or 1, or from any given number. • Count, read and write numbers to 10 in numerals and words. • Given a number, identify one more or one less. • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of equal to, more than, less than (fewer), most, least.	• Represent and use number bonds and related subtraction facts within 10. • Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. • Add and subtract one-digit numbers to 10, including zero. • Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems.	• Recognise and name common 2-D shapes, including: (e.g. rectangles (including squares), circles and triangles). • Recognise and name common 3-D shapes, including: (e.g. cuboids (including cubes), pyramids and spheres).	**Consolidation**

	Spring 1		Spring 2		
White Rose Unit Blocks	**Place value within 20**	**Addition and subtraction to 20**	**Place value within 50**	**Length and height**	**Mass and volume**
White Rose Small Steps	1. To count within 20 2. To understand 10 3. To understand 11, 12 and 13 4. To understand 14, 15, 16 5. To understand 17, 18, 19 6. To understand 20 7. To find 1 more and 1 less 8. To identify the number line to 20 9. To use a number line to 20 10. To estimate on a number line to 20 11. To compare numbers to 20 12. To order numbers to 20	1. To add by counting on within 20 2. To add ones using number bonds 3. To find and make number bonds to 20 4. To make doubles 5. To make near doubles 6. To subtract ones using number bonds 7. To subtract – counting back 8. To subtract – finding the difference 9. To use related facts 10. To solve missing number problems	1. To count from 20 to 50 2. To count to 20, 30, 40 and 50 3. To count by making groups of tens 4. To make groups of tens and ones 5. To partition into tens and ones 6. To use the number line to 50 7. To estimate on a number line to 50 8. To find 1 more, 1 less	1. To compare lengths and heights 2. To measure length using objects 3. To measure length in centimetres	1. To understand heavier and lighter 2. To measure mass 3. To compare mass 4. To understand full and empty 5. To compare volume 6. To measure capacity 7. To compare capacity
Keywords	Greater than, less than, forwards, backwards, before, after, ten frames, part whole model, base 10, tens, ones	Number sentence, related facts, systematic, comparing, inequality symbols, strategy, commutativity, making 10	One less, one more, forwards, backwards order, bigger, smaller, counting in 2s, counting in 5s, counting in 10s	Cm, centimetre, ruler, metre, Length, height, measurement, unit of measurement, non-standard unit of measurement, standard units, long, short, longer, shorter, tall, taller	Measure, mass, volume, capacity, balance scale, heavy, light, equal, more, less, full, empty, nearly full, early empty
National curriculum objectives	• Count to twenty, forwards and backwards, beginning with 0 or 1, from any given number. • Count, read and write numbers to 20 in numerals and words. • Given a number, identify one more or one less. • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.	• Represent and use number bonds and related subtraction facts within 20. • Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. • Add and subtract one-digit and two-digit numbers to 20, including zero. • Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7= ☐ –9.	• Count to 50 forwards and backwards, beginning with 0 or 1, or from any number. • Count, read and write numbers to 50 in numerals. • Given a number, identify one more or one less. • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. • Count in multiples of twos, fives and tens.	• Measurement: Length and Height Measure and begin to record lengths and heights. • Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, double/half).	• Measurement: Weight and Volume Measure and begin to record mass/weight, capacity and volume. • Compare, describe and solve practical problems for mass/weight:[for example, heavy/light, heavier than, lighter than]; capacity and volume [for example, full/empty, more than, less than, half, half full, quarter].

	Summer 1			Summer 2		
White Rose Unit Blocks	**Multiplication and division**	**Fractions**	**Position and direction**	**Place value within 100**	**Money**	**Time**
White Rose Small Steps	1. To count in 2s. 2. To count in 10s. 3. To count in 5s. 4. To recognise equal groups. 5. To add equal groups. 6. To make arrays. 7. To make doubles. 8. To make equal groups – grouping. 9. To make equal groups – sharing.	1. To recognise a half of a shape or object. 2. To find a half of a shape of object. 3. To recognise half of a quantity. 4. To find a half of a quantity. 5. To recognise a quarter of a shape or object. 6. To find a quarter of a shape or object. 7. To recognise a quarter of a quantity. 8. To find a quarter of a quantity.	1. To describe turns. 2. To describe position – left and right. 3. To describe position – forwards and backwards. 4. To describe position – above and below. 5. To ordinal numbers.	1. To count from 50 to 100. 2. To count in tens to 100. 3. To partition into tens and ones. 4. To identify the number line to 100. 5. To find 1 more, 1 less. 6. To compare numbers with the same number of tens. 7. To compare any two numbers.	1. To explore unitising. 2. To recognise coins. 3. To recognise notes. 4. To count in coins.	1. To know before and after. 2. To learn the days of the week. 3. To learn the months of the year. 4. To identify hours, minutes and seconds. 5. To recognise time to the hour. 6. To recognise time to the half hour.
Keywords	Multiply, multiplication symbol, repeated addition, equal, equal groups, divide, division symbol, sharing, grouping	Fraction, whole, half, complete, split, quantity, total amount, equal parts, non-equal parts	Position, direction, up, down, inside, outside, in front of, behind, left, right, turn, rotate	Ten frames, numicon, groups, counting, forwards, backwards, greater than, less than, equal to	Money, coins, notes, pounds, pence, silver coins, copper coins, value, worth	Time, second, minute, hour, day, month, year, date, first
National curriculum Objectives	• Count in multiples of twos, fives and tens. • Solve one step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	• Recognise, find and name a half as one of two equal parts of an object, shape or quantity. • Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. • Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, double/half) • Compare, describe and solve practical problems for: mass/weight [for example, heavy/light, heavier than, lighter than]; capacity and volume [for example, full/empty, more than, less than, half, half full, quarter].	• Describe position, direction and movement, including whole, half, quarter and three-quarter turns	• Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. • Count, read and write numbers to 100 in numerals. • Given a number, identify one more and one less. • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than, most, least.	• Recognise and know the value of different denominations of coins and notes.	• Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. • Recognise and use language relating to dates, including days of the week, weeks, months and years. • Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. • Compare, describe and solve practical problems for time [for example, quicker, slower, earlier, later]. • Measure and begin to record time (hours, minutes, seconds).

Pakeman Primary School
Maths curriculum – Year 2

	Autumn 1		Autumn 2
White Rose Unit Blocks	Place value within 100	Addition and subtraction within 100	Properties of shape
White Rose Small Steps	1. To count numbers to 20. 2. To count objects to 100 by making 10s. 3. To recognise tens and ones. 4. To use a place value chart. 5. To partition numbers to 100. 6. To write numbers to 100 in words. 7. To flexibly partition to 100. 8. To write numbers to 100 in expanded form. 9. To count 10s on the number line to 100. 10. To count 10s and 1s on the number line to 100. 11. To estimate numbers on a number line. 12. To compare objects. 13. To compare numbers. 14. To order objects and numbers. 15. To count in 2s, 5s & 10s. 16. To count in 3s.	1. To make number bonds to 10. 2. To make fact families – addition and subtraction bonds to 20. 3. To use related facts. 4. To make number bonds to 100 (tens). 5. To add and subtract 1s. 6. To add by making 10. 7. To add three 1-digit numbers. 8. To add to the next 10. 9. To add across a 10. 10. To subtract across 10. 11. To subtract from a 10. 12. To subtract a 1-digit number from a 2-digit number – across a 10. 13. To find 10 more and 10 less. 14. To add and subtract 10s. 15. To add two 2-digit numbers – not across a 10. 16. To add two 2-digit numbers – across a 10. 17. To subtract two 2-digit numbers – not across a 10. 18. To subtract two 2-digit numbers – across a 10. 19. To solve mixed addition and subtraction problems. 20. To compare number sentences. 21. To solve missing number problems.	1. To recognise 2D and 3D shapes. 2. To count sides on 2D shapes. 3. To count vertices on 2D shapes. 4. To draw 2D shapes. 5. To identify lines of symmetry. 6. To use lines of symmetry to complete shapes. 7. To sort 2D shapes. 8. To count faces on 3D shapes. 9. To count edges on 3D shapes. 10. To count vertices on 3D shapes. 11. To sort 3D shapes. 12. Make patterns with 2D & 3D shapes.
Keywords	More than, greater than, compare, representation, digit, tens, ones, part, whole, numerals, estimate, place value	Addition symbol, subtraction symbol, equal symbol, comparing, inequality symbols total, ten frames, column method, pattern, number track, more, less, carrying, crossing 10	Sides, vertices, curved, surface, edges, symmetry, vertical, diagonal faces, corners, 2D shapes, 3D shapes
National curriculum objectives	• Read and write numbers to at least 100 in numerals and in words. • Recognise the place value of each digit in a two-digit number (tens, ones) Identify, represent and estimate numbers using different representations including the number line. • Compare and order numbers from 0 up to 100; use <, > and = signs. • Use place value and number facts to solve problems. • Count in steps of 2, 3 and 5 from 0, and in tens from any number, forward and backward.	• Recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100. • Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers. • Show that the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. • Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods. • Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	• Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. • Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. • Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]. • Compare and sort common 2-D and 3-D shapes and everyday objects.

	Spring 1		Spring 2	
White Rose Unit Blocks	Money	Multiplication and division	Length and height	Mass, capacity and temperature
White Rose Small Steps	1. To count money - pence 2. To count money - pounds (notes and coins) 3. To count money - pounds and pence 4. To choose notes and coins 5. To make the same amount 6. To compare amounts of money 7. To calculate with money 8. To make a pound 9. To find change 10. To solve two-step problems	1. To recognise equal groups 2. To make equal groups 3. To add equal groups 4. To introduce the multiplication symbol 5. To write multiplication sentences 6. To use arrays 7. To make equal groups – grouping 8. To make equal groups – sharing 9. To practise the 2 times-table 10. To divide by 2 11. To practise doubling and halving 12. To use odd and even numbers 13. To practise the 10 times-table 14. To divide by 10 15. To practise the 5 times-table 16. To divide by 5 17. To use the 5 and 10 times-tables	1. To measure in centimetres 2. To measure in metres 3. To compare lengths and heights 4. To order lengths and heights 5. To use the four operations with lengths & heights	1. To compare mass 2. To measure in grams 3. To measure in kilograms 4. To use the four operations with mass 5. To compare volume and capacity 6. To measure in millilitres 7. To measure in litres 8. To use four operations with volume & capacity 9. To understand temperature
Keywords	Money, currency, pence, pounds, decimal point, partitioned, difference, value, change, coins, notes	Lots of, arrays, commutative law, equal groups, repeated addition, twos, fives, tens	Cm, centimetres, equal, longest, shortest, tallest, unit of measurement, standard unit of measurement, standard units	Heavier, lighter, grams/g, kilograms/kg, mass, weigh, balance scales, scales, half empty, full, empty, temperature, thermometer, degrees, centigrade/c
National curriculum objectives	• Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. • Find different combinations of coins that equal the same amounts of money. • Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.	• Recall and use multiplication and division facts for the 2, 5 and 10 times tables, including recognising odd and even numbers. • Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs. • Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts. • Show that the multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.	• Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. • Compare and order lengths, mass, volume/capacity and record the results using >, < and =.	• Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. • Compare and order lengths, mass, volume/capacity and record the results using >, < and =.

	Summer 1		Summer 2		
White Rose Unit Blocks	Fractions	Time	Statistics	Position and direction	Consolidation
White Rose Small Steps	1. To identify parts and wholes. 2. To identify equal and unequal parts. 3. To recognise a half. 4. To find a half. 5. To recognise a quarter. 6. To find a quarter. 7. To recognise a third. 8. To find a third. 9. To find the whole. 10. To recognise unit fractions. 11. To recognise non-unit fractions. 12. To recognise the equivalence of 1⁄2 and 2/4. 13. To recognise three-quarters. 14. To find three-quarters. 15. To count in fractions up to a whole.	1. To identify o'clock and half past. 2. To identify quarter past and quarter to. 3. To tell the time past the hour. 4. To tell the time to the hour. 5. To tell time to 5 minutes. 6. To identify minutes in an hour 7. To identify hours in a day.	1. To make tally charts. 2. To use tables. 3. To use block diagrams. 4. To draw pictograms (1-1). 5. To interpret pictograms (1-1). 6. To draw pictograms (2, 5 and 10). 7. To interpret pictograms (2, 5 and 10).	1. To use language of position. 2. To describe movement. 3. To describe turns. 4. To describe movement and turns. 5. To shape patterns with turns.	Consolidation
Keywords	Halves, quarters, three quarters, whole, thirds, equivalence, equal, unit fractions, non-unit fractions, amount, represent, divide, numerator, denominator	Time, second, minute, hour, tomorrow, morning, evening, year, date, first	Block diagram, result, questions, difference, pictogram, horizontal pictogram, altogether, more, less	Position, direction, up, down, forwards, backwards, left, right, turn, rotate	Consolidation
National curriculum objectives	• Recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity. • Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2.	• Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. • Know the number of minutes in an hour and the number of hours in a day. • Compare and sequence intervals of time.	• Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. • Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. • Ask and answer questions about totalling and comparing categorical data.	• Use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise). • Order and arrange combinations of mathematical objects in patterns and sequences.	Consolidation

Pakeman Primary School
Maths curriculum – Year 3

	Autumn 1		Autumn 2
White Rose Unit Blocks	**Place Value**	**Addition and Subtraction**	**Multiplication and Division A**
White Rose Small Steps	1. Represent numbers to 100 2. Partition numbers to 100 3. Number line to 100 4. Hundreds 5. Represent numbers to 1000 6. Partition numbers to 1000 7. Flexible partitioning of numbers to 1000 8. Hundreds, tens, ones 9. Find 1, 10 or 100 more or less 10. Number line to 1000 11. Estimate on a number line to 1000 12. Compare numbers to 1000 13. Order numbers to 1000 14. Count in 50s	1. Apply numbers bonds within 10 2. Add and subtract 1s 3. Add and subtract 10s 4. Add and subtract 100s 5. Spot the pattern 6. Add 1s across 10 7. Add 10s across a 100 8. Subtract 1s across a 10 9. Subtract 10s across a 100 10. Make connections 11. Add two numbers (no exchange) 12. Subtract two numbers (no exchange) 13. Add two numbers (across a 10) 14. Add two numbers (across a 100) 15. Subtract two numbers (across a 10) 16. Subtract two numbers (across a 100) 17. Add 2-digit and 3-digit numbers 18. Subtract a 2-digit number from a 3-digit number 19. Complements to 100 20. Estimate answers 21. Inverse operations 22. Made decisions Consolidation lessons throughout/at end of block	1. Equal groups 2. Use arrays 3. Multiples of 2 4. Multiples of 5 and 10 5. Sharing and grouping 6. Multiply by 3 7. Divide by 3 8. The 3 times-table 9. Multiply by 4 10. Divide by 4 11. The 4 times-table 12. Multiply by 8 13. Divide by 8 14. The 8 times-table 15. The 2,4 and 8 times-tables
Keywords	ascending, descending, 10 or 100 more, 10 or 100 less, representations, ten frame, order, compare, count forwards, count backwards	number bonds, addition, subtraction, connections, complements, hundreds, column addition, column subtraction, exchange, estimate, inverse	mathematical statements, missing number problems, integer, scaling, derived facts, multiply, divide, equal groups, sharing
National curriculum objectives	• Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number • Identify, represent and estimate numbers using different representations • Read and write numbers up to 1000 in numerals and in words • Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) • Compare and order numbers up to 1000	• Solve number problems and practical problems involving these ideas • Estimate the answer to a calculation and use inverse operations to check answers • Add and subtract numbers mentally, including; a three-digit number and ones, a three-digit number and tens, a three-digit number and hundreds • Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction • Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction	• Recall multiplication and division facts for the 3, 4 and 8 multiplication tables • Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers, using mental and progressing to formal written methods

	Spring 1		Spring 2	
White Rose Unit Blocks	**Multiplication and Division**	**Length and Perimeter**	**Fractions**	**Mass and Capacity**
White Rose Small Steps	1. Multiples of 10 2. Related calculations 3. Reasoning 4. Multiply a 2-digt by a 1-digit (no exchange) 5. Multiply a 2-digit by a 1-digt (with exchange) 6. Link multip. and div. 7. Divide a 2-digit number by a 1-digit number (no exchange) 8. Divide a 2-digit number by a 1-digit number – flexible partitioning 9. Divide a 2-digit number by a 1-digit number with remainders 10. Scaling 11. How many ways?	1. Measure in m and cm 2. Measure in mm 3. Measure in cm and mm 4. Equivalent lengths (m and cm) 5. Equivalent lengths (cm and mm) 6. Compare lengths 7. Add lengths 8. Subtract lengths 9. What is perimeter? 10. Measure a perimeter 11. Calculate a perimeter	1. Understand denom. of unit fractions 2. Compare and order unit fractions 3. Understand the numerators of non-unit fractions 4. Understand the whole 5. Compare and order non-unit fractions 6. Fractions and scales 7. Fractions on a number line 8. Count in fractions on a number line 9. Equivalent fractions on a number line 10. Equivalent fractions as bar models Consolidation lessons throughout/at end of block	1. Use scales 2. Measure mass in grams 3. Equivalent masses (kg and g) 4. Compare mass 5. Add and subtract mass 6. Measure capacity and volume in ml 7. Measure capacity and volume in l and ml 8. Equivalent fractions (l and ml) 9. Compare capacity and volume 10. Add and subtract capacity and volume
Keywords	mathematical statements, missing number problems, integer, scaling, derived facts, multiply, divide, equal groups, sharing, exchange, ones, tens, partitioning, divisor, dividend, arrays, commutative law, distributive law	centimetre (cm), millimetre (mm), length, width, perimeter, addition, subtraction, measurement, convert, conversion, compare	unit fraction, non-unit fraction, tenths, numerator, denominator, vinculum, equivalent, equal to, halves, quarters	mass, weigh, scales, intervals, capacity, volume, heavier, lighter, grams, kilograms, increments
National curriculum objectives	• Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers, using mental and progressing to formal written methods • Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to objects	• Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • Measure the perimeter of simple 2-D shapes	• Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 • Recognise, find and write fractions of a discrete set of objects: unit fractions with small denominators • Recognise and use fractions as number; unit fractions and non-unit fractions with small denominators	• Measure, compare, add and subtract lengths (m / cm / mm); mass (kg / g); volume / capacity (l / ml)

	Summer 1		Summer 2		
White Rose Unit Blocks	**Fractions**	**Money**	**Time**	**Properties of Shape**	**Statistics**
White Rose Small Steps	1. Add fractions 2. Subtract fractions 3. Partition the whole 4. Unit fractions of a set of objects 5. Reasoning with fractions of an amount	1. Pounds and pence 2. Convert pounds and pence 3. Add money 4. Subtract money 5. Find change	1. Roman numerals to 12 2. Tell the time to 5 minutes 3. Tell the time to the minute 4. Read time on a digital clock 5. Use am and pm 6. Years, months and days 7. Days and hours 8. Hours and minutes (start and end) 9. Hours and minutes (duration) 10. Minutes and seconds 11. Units of time 12. Solve problems with time	1. Turns and angles 2. Right angles 3. Compare angles 4. Measure and draw accurately 5. Horizontal and vertical 6. Parallel and perpendicular 7. Recognise and describe 2D shapes 8. Draw polygons Recognise and describe 3D shapes 9. Make 3D shapes	1. Interpret pictograms 2. Draw pictograms 3. Interpret bar charts 4. Draw bar charts 5. Collect and represent data 6. Two-way tables
Keywords	unit fraction, non-unit fraction, tenths, numerator, denominator, vinculum, equivalent, equal to	money, currency, pence, pounds, ascending, descending, change, partitioned	analogue clock, roman numerals, 12/hour clock, 24-hour clock a.m./pm, noon, midnight, leap year, digital, day, month, year, estimate	right-angle, triangle, heptagon, octagon, polygon, properties, prism, orientations, angles, acute, obtuse, turn, right angles, half turn, ¾ of a turn, greater than, less than, horizontal lines, vertical lines, perpendicular lines, parallel lines	table, bar chart, one-step problem, two-step problem
National curriculum objectives	• Recognise and show, using diagrams, equivalent fractions with small denominators • Compare and order unit fractions and fractions with the same denominators • Add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7] • Solve problems that involve all of the above	• Add and subtract amounts of money to give change, using both £ and p in practical contexts	• Tell and write the time from an analogue clock, including Roman numerals from I to XII, and 12-hour and 24-hour clocks • Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight • Know the number of seconds in a minute and the number of days in each month, year and leap year • Compare durations of events [for example to calculate the time taken by particular events of tasks]	• Draw 2-D shapes • Make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them • Recognise angles as a property of shape or a description of a turn • Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle • Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	• Interpret and present data using bar charts, pictograms and tables • Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables

Pakeman Primary School
Maths curriculum – Year 4

	Autumn 1		Autumn 2	
White Rose Unit Blocks	**Place Value**	**Addition and Subtraction**	**Area**	**Multiplication and Division A**
White Rose Small Steps	1. Represent numbers to 1000 2. Partition numbers to 1000 3. Number line to 1000 4. Thousands 5. Represent numbers to 10,000 6. Partition numbers to 10,000 7. Flexible partitioning 8. Find 1, 10, 100 or 1000 more or less 9. Number line to 10,000 10. Estimate on a number line to 10,000 11. Compare numbers to 10,000 12. Order numbers to 10,000 13. Roman numerals 14. Round to the nearest 10 15. Round to the nearest 100 16. Round to the nearest 1000 17. Round to the nearest 10, 100 or 1000	1. Add and subtract 1s, 10s, 100s & 1000s 2. Add up to two 4-digit numbers (no exchange) 3. Add two 4-digit numbers – one exchange 4. Add two 4-digit numbers – more than one exchange 5. Subtract up to two 4-digit numbers (no exchange) 6. Subtract two 4-digit numbers – one exchange 7. Subtract two 4-digit numbers – more than one exchange 8. Efficient subtraction 9. Estimate answers 10. Checking strategies Consolidation lessons throughout/at end of block	1. What is area? 2. Count squares 3. Make shapes 4. Compare areas	1. Multiples of 3 2. Multiply and divide by 6 3. 6 times-table and division facts 4. Multiply and divide by 9 5. 9 times-table and division facts 6. The 3, 6 & 9 times tables 7. Multiply and divide by 7 8. 7 times-table and division facts 9. 11 times-table and division facts 10. 12 times-table and division facts 11. Multiply by 1 and 0 12. Divide a number by 1 and itself 13. Multiply 3 numbers Consolidation lessons throughout/at end of block
Keywords	ascending, descending, 10 100 or 1000 more, 10 100 or 1000 less, representations, ten frame, partition, rounding, ones, tens, hundreds, thousands	hundreds, column addition, column subtraction, exchange, estimate, regroup, inverse, efficient	area, count, squares inside, rectilinear shape, compare, centimetres squared, metres squared	integer, factor, multiplicand, product, derived facts, multiply, divide, equal groups, sharing
National curriculum objectives	• Count backwards through zero to include negative numbers • Identify, represent and estimate numbers using different representations • Read Roman numerals 10o (I to C) and know that over time, the numeral system changed to include the concept of zero and place value • Find 1000 more or less than a given number • Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones) • Order and compare numbers beyond 1000 • Round any number to the nearest 10, 100 or 1000 • Solve number and practical problems that involve all of the above and with increasingly large positive numbers	• Estimate and use inverse operations to check answers to a calculation • Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	• Estimate, compare and calculate different measures • Find the area of rectilinear shapes by counting squares	• Recall multiplication and division facts for multiplication tables up to 12x12 • Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers • Recognise and use factor pairs and commutativity in mental calculations

	Spring 1		Spring 2	
White Rose Unit Blocks	**Multiplication and Division B**	**Length and Perimeter**	**Fractions**	**Decimals**
White Rose Small Steps	1. Factor pairs 2. Use factor pairs 3. Multiply by 10 4. Multiply by 100 5. Divide by 10 6. Divide by 100 7. Related facts – multip. & div. 8. Informal written methods for multipl. 9. Multiply a 2-digit number by a 1-digit number 10. Multiply by a 3-digit number by a 1-digit number 11. Divide a 2-digit number by a 1-digit number (1) 12. Divide a 2-digit number by a 1-digit number (2) 13. Divide a 3-digit number by a 1-digit number 14. Correspondence problems 15. Efficient multiplication Consolidation lessons throughout/at end of block	1. Measure in km and m 2. Equivalent lengths (km & m) 3. Perimeter on a grid 4. Perimeter of a rectangle 5. Perimeter of rectilinear shapes 6. Find missing lengths in rectilinear shapes 7. Calculate perimeter of rectilinear shapes 8. Perimeter of regular polygons 9. Perimeter of polygons	1. Understand the whole 2. Count beyond 1 3. Partition a mixed number 4. Number lines with mixed numbers 5. Compare and order mixed numbers 6. Understand improper fractions 7. Convert mixed numbers to improper fractions 8. Convert improper fractions to mixed numbers 9. Equivalent fractions on a number line 10. Equivalent fraction families 11. Add two or more fractions 12. Add fractions and mixed numbers 13. Subtract from whole amounts 14. Subtract from mixed numbers	1. Tenths as fractions 2. Tenths as decimals 3. Tenths on a place value chart 4. Tenths on a number line 5. Divide a 1-digit number by 10 6. Divide a 2-digit number by 10 7. Hundredths as fractions 8. Hundredths as decimals 9. Hundredths on a place value chart 10. Divide a 1- or 2-digit number by 100 Consolidation lessons throughout/at end of block
Keywords	mathematical statements, missing number problems, integer, factor, multiplicand, product, derived facts, multiply, divide, equal groups, sharing, exchange, ones, tens, partitioning, divisor, dividend, arrays, commutative law, distributive law, remainders	length, kilometres, metres, centimetres, millimetres, perimeter, rectangle, properties, square, missing lengths, rectilinear, polygons	unit fraction, non-unit fraction, tenths, numerator, denominator, vinculum, equivalent, equal to, halves, quarters, mixed number, improper fraction, addition, subtraction, wholes, fraction	tenths, hundredths, decimal point, divide, place value, fractions, compare, equivalent, ascending, descending
National curriculum objectives	• Recall multiplication and division facts for multiplication tables up to 12x12 • Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers • Recognise and use factor pairs and commutativity in mental calculations • Multiply two-digit and three-digit numbers by a one-digit number using formal written layout	• Convert between different units of measure [for example, kilometre to metre; hour to minute] • Estimate, compare and calculate different measures • Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	• Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten • Recognise and show, using diagrams, families of common equivalent fractions • Add and subtract fractions with the same denominator • Solve problems involving increasingly harder fractions to calculate quantities, including non-	• Recognise and write decimals equivalents of any number of tenths or hundredths • Recognise and write decimal equivalents to ¼, ½, ¾ • Find the effect of dividing a one or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths • Solve simple measure and money problems involving fractions and decimals to two decimal places

	• Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects		unit fractions where the answer is a whole number	

	Summer 1			Summer 2		
White Rose Unit Blocks	**Decimals**	**Money**	**Time**	**Properties of Shape**	**Statistics**	**Position and Directions**
White Rose Small Steps	1. Make a whole with tenths 2. Make a whole with hundredths 3. Partition decimals 4. Flexibly partition decimals 5. Compare decimals 6. Order decimals 7. Round to the nearest whole number 8. Halves and quarters as decimals	1. Write money using decimals 2. Convert between pounds and pence 3. Compare amounts of money 4. Estimate with money 5. Calculate with money 6. Solve problems with money	1. Years, months, weeks and days 2. Hours, minutes and seconds 3. Convert between analogue and digital times 4. Convert to the 24-hour clock 5. Convert from the 24-hour clock	1. Understand angles as turns 2. Identify angles 3. Compare and order angles 4. Triangles 5. Quadrilaterals 6. Polygons 7. Lines of Symmetry 8. Complete a symmetric figure	1. Interpret charts 2. Comparison, sum and difference 3. Interpret line graphs 4. Draw line graphs	1. Describe position using coordinates 2. Plot coordinates 3. Draw 2D shapes on a grid 4. Translate on a grid 5. Describe translation on a grid
Keywords	tenths, hundredths, decimal point, partition, order, ascending, descending, equivalent, halves, quarters, three quarters, compare, hundred square	money, currency, pounds, pence, decimal point, convert, equivalent, order, partitioned	analogue clock, roman numerals, 12/hour clock, 24-hour clock a.m./pm, noon, midnight, leap year, digital, day, week, month, year, estimate, hours, minutes, seconds	isosceles, equilateral, scalene, trapezium, rhombus, parallelogram, kite, geometric shape, quadrilaterals	axis, time graph, discrete data, continuous data, line graph, comparison problem, sum problem, difference problem, calculate, interpret, pictogram, scale	co-ordinates, first quadrant, grid, translation, plot, polygon
National curriculum objectives	• Recognise and write decimals equivalents of any number of tenths or hundredths • Recognise and write decimal equivalents to ¼, ½, ¾ • Round decimals with one decimal place to the nearest whole number • Compare numbers with the same number of decimal places up to two decimal places • Solve simple measure and money problems involving fractions and decimals to two decimal places	• Estimate, compare and calculate different measures, including money in pounds and pence	• Read, write and convert time between analogue and digital 12- and 24-hour clocks • Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	• Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes • Identify lines of symmetry in 2-D shapes presented in different orientations • Identify acute and obtuse angles and compare and order angles up to two right angles by size • Identify lines of symmetry in 2-D shapes presented in different orientations • Complete a simple symmetric figure with respect to a specific line of symmetry • Describe positions on a 2-D grid as coordinates in the first quadrant	• Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs • Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	• Describe positions on a 2-D grid as coordinates in the first quadrant • Describe movements between positions as translations of a given unit to the left / right and up / down • Plot specified points and draw sides to complete a given polygon

Pakeman Primary School
Maths curriculum – Year 5

	Autumn 1		Autumn 2	
White Rose Unit Blocks	**Place Value**	**Addition and Subtraction**	**Multiplication and Division**	**Fractions**
White Rose Small Steps	1. Roman numerals to 1000 2. Numbers to 10,000 3. Numbers to 100,000 4. Numbers to 1,000,000 5. Read and write numbers to 1,000,000 6. Powers of 10 7. 10/100/ 8. 1000/10,000/100,000 more or less 9. Partition numbers 10. Number line to a million 11. Compare and order to 100,000 12. Compare and order to a million 13. Round to the nearest 10, 100 or 1000 14. Round within 100,000 15. Round within a million	1. Mental strategies 2. Add whole numbers with 4-digits or more 3. Subtract whole numbers 4-digits or more 4. Round to check answers 5. Inverse operations 6. Multi-step addition and subtraction 7. Compare calculations 8. Find missing numbers	1. Multiples 2. Common multiples 3. Factors 4. Common factors 5. Prime numbers 6. Square numbers 7. Cube numbers 8. Multiply by 10, 100 or 1000 9. Divide by 10, 100 or 1000 10. Multiples if 10, 100 or 1000	1. Find fractions equivalent to a unit fractions 2. Find fractions equivalent to a non-unit fractions 3. Recognise equivalent fractions 4. Convert improper to mixed 5. Convert mixed to improper 6. Compare fractions less than 1 7. Order fractions less than 1 8. Compare and order fractions greater than 1 9. Add and subtract fractions (same denom.) 10. Add fractions within 1 11. Add fractions with a total greater than 1 12. Add to a mixed number 13. Add two mixed numbers 14. Subtract fractions 15. Subtract from a mixed number 16. Subtract from a mixed number – breaking the whole 17. Subtract 2 mixed numbers Consolidation lessons throughout/at end of block
Keywords	ascending, descending, 10 100 1000 or 10000 more, 10 10 1000 or 10000 less, representations, ten frame, partition, rounding, ones, tens, hundreds, thousands, ten-thousands, hundred-thousands, millions, compare, order, largest, smallest, greater than less than	addition, subtraction, 4-digits, rounding, estimate, inverse, column methods, exchange, compare, missing number	powers of, integer, multiples, factors, prime numbers, square numbers, cube numbers, short division, product, dividend, divisor, quotient, operations	fifth, thousandths, mixed numbers, improper fractions, convert, equivalence, non-unit fraction, unit fraction, whole, numerator, denominator, vinculum, divide, addition, subtraction, breaking the whole
National curriculum objectives	• Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 • Count forwards and backwards with positive and negative whole numbers, including through zero	• Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction • Add and subtract numbers mentally with increasingly large numbers	• Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers	• Compare and order fractions whose denominators are all multiples of the same number • Identify, name and write equivalent fractions of a given fraction, represented

	• Read, write (order and compare) numbers to at least 1 000 000 and determine the value of each digit • Read Roman numerals to 1000 (M) and recognise years written in Roman numerals • (Read, write) order and compare numbers to at least 1 000 000 and determine the value of each digit • Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 • Solve number problems and practical problems that involve all of the above • Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	• Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	• Establish whether a number up to 100 is prime and recall prime numbers up to 19 • Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}) • Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers • Multiply and divide numbers mentally drawing upon known facts • Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 • Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes	visually, including tenths and hundredths • Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$] • Add and subtract fractions with the same denominator, and denominators that are multiples of the same number

	Spring 1		Spring 2		
White Rose Unit Blocks	**Multiplication and Division**	**Fractions**	**Decimals and Percentages**	**Area and Perimeter**	**Statistics**
White Rose Small Steps	1. Multiply a 4-digit number by 1-digit 2. Multiply 2-digit by 2-digit 3. Multiply 3-digit by a 2-digit 4. Multiply a 4-digit by a 2-digit 5. Solve problems 6. Short division 7. Divide a 4-digit number by a 1-digit number 8. Divide with remainders 9. Efficient division 10. Solve problems with multi. and div. Consolidation lessons throughout/at end of block	1. Multiply a unit fraction by an integer 2. Multiply a non-unit fraction by an integer 3. Multiply a mixed number by an integer 4. Calculate a fraction of a quantity 5. Fraction of an amount 6. Find the whole 7. Use fractions as operators Consolidation lessons throughout/at end of block	1. Decimals up to 2 d.p. 2. Equivalent fractions and decimals (tenths) 3. Equivalent fractions and decimals (hundredths) 4. Equivalent fractions and decimals 5. Thousandths as fractions 6. Thousandths as decimals 7. Thousandths on a place value chart 8. Order and compare decimals (same number of d.p.) 9. Order and compare any decimals up to 3 d.p. 10. Round to the nearest whole number 11. Round to 1 d.p. 12. Understand % 13. % as fractions 14. % as decimals 15. Equivalent fractions, decimals and % Consolidation lessons throughout/at end of block	1. Perimeter of rectangles 2. Perimeter of rectilinear shapes 3. Perimeter of polygons 4. Area of rectangles 5. Area of compound shapes 6. Estimate area	1. Draw line graphs 2. Read and interpret line graphs 3. Read and interpret tables 4. Two-way tables 5. Read and interpret timetables
Keywords	short division, remainder, product, dividend, divisor, remainders, quotient, operations, distributive law, long multiplication, bus stop method, factors, groups of	mixed numbers, improper fractions, convert, equivalence, non-unit fraction, unit fraction, whole, numerator, denominator, vinculum, divide, multiply	percent, decimal, decimal point, decimal number, Gattegno chart, equivalence, place value, tenths, hundredths, thousandths, order, compare, rounding	perimeter, length, width, rectilinear, area, polygons, rectangles, compound shapes, estimate	axis, scale, intervals, line graph, interpret, tables, timetables, two-way tables, comparison
National curriculum objectives	• Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers • Multiply and divide numbers mentally drawing upon known facts • Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 • Solve problems involving multiplication and division including	• Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	• Read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$] • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place • Read, write, order and compare numbers with up to 3 decimal places • Solve problems involving number up to 3 decimal places • Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100', and write	• Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • Calculate and compare the area of rectangles (including squares), and including using standards units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes	• Complete, read and interpret information in tables, including timetables • Solve comparison, sum and difference problems using information presented in a line graph

	using their knowledge of factors and multiples, squares and cubes • Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates		percentages as a fraction with denominator 100, and as a decimal fraction • Solve problems which require knowingpercentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25		

	Summer 1			Summer 2		
White Rose Unit Blocks	**Properties of Shape**	**Position and Directions**	**Decimals**	**Negative Numbers**	**Converting Units**	**Volume**
White Rose Small Steps	1. Understand and use degrees 2. Classify angles 3. Estimate angles 4. Measure angles up to 180 5. Draw lines and angles accurately 6. Calculate angles around a point 7. Calculate angles on a straight line 8. Lengths and angles in shapes 9. Regular and irregular polygons 10. 3D shapes	1. Read and plot coordinates 2. Problem solving with coordinates 3. Translation 4. Translation with coordinates 5. Lines of symmetry 6. Reflection in horizontal and vertical lines	1. Use known facts to + and – decimals within 1 2. Add and subtract across 1 3. Add decimals with the same number of d.p. 4. Subtract decimals with the same number of d.p. 5. Add decimals with different number of d.p. 6. Subtract decimals with different numbers of d.p. 7. Efficient strategies for adding/subtraction decimals 8. Decimal sequences 9. Multiply by 10, 100 or 1000 10. Divide by 10, 100 or 1000 11. Multiply and divide decimals – missing values Consolidation lessons throughout/at end of block	1. Understand negative numbers 2. Count through zero in 1s 3. Count through zero in multiples 4. Compare and order negative numbers 5. Find the difference	1. Kg and km 2. Mm and ml 3. Convert units of length 4. Convert between metric and imperial units 5. Convert units of time 6. Calculate with timetables	1. Cubic centimetres 2. Compare Volume 3. Estimate volume 4. Estimate capacity
Keywords	acute, obtuse, reflex angles, degrees, one whole turn, angles on straight line, angles around a point, vertically, opposite, missing angles, regular, irregular, polygon, 3D shapes	coordinates, quadrant, translation, along, up, count, symmetry, reflection	decimal, decimal point, decimal number, addition, subtraction, Gattegno chart, equivalence, place value, tenths, hundredths, thousandths, multiply, divide, place value, value	negative, count back, count forwards, below zero, compare, order, greater than, less than, difference, temperature	kilograms, kilometres, millimetres, centimetres, millilitres, litres, scaling, metric units, imperial units, inches, seconds, minutes, hours, timetables	cube, cubic, centimetres, volume, width, length, depth, estimate, capacity
National curriculum objectives	• Distinguish between regular and irregular polygons based on reasoning about equal sides and angles • Use properties of rectangles to deduce related facts and find missing lengths and angles • Identify 3-D shapes, including cubes and	• Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	• Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 • • Solve problems involving number up to three decimal places	• Count forwards and backwards with positive and negative whole numbers, including through zero • Interpret negative numbers in context	• Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre0 • Understand and use approximate equivalences between metric units and	• Estimate volume [for example, using 1 cm^3 blacks to build cuboids (including cubes)] and capacity [for example, using water]

	other cuboids, from 2-D representations ● Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles ● Draw given angles, and measure them in degrees ● Identify: angles at a point and one whole turn (total 360°), angles at a point on a straight line and ½ a turn (180°), other multiples of 90°				common imperial units such as inches, pounds and pints ● Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling ● Use all four operations to solve problems involving measure [for example, money] ● Solve problems involving converting between units of time	

Pakeman Primary School
Maths curriculum – Year 6

	Autumn 1		Autumn 2	
White Rose Unit Blocks	**Place Value**	**Addition, Subtraction, Multiplication and Division**	**Fractions**	**Converting Units**
White Rose Small Steps	1. Numbers to 1,000,000 2. Numbers to 10,000,000 3. Read and write numbers to 10,000,000 4. Powers of 10 5. Number line to 10,000,000 6. Compare and order any integers 7. Round any integer 8. Negative number	1. Add and subtract integers 2. Common factors 3. Common multiples 4. Rules of divisibility 5. Primes to 100 6. Square and cube numbers 7. Multiply up to a 4-digit number by a 2-digit number 8. Solve problems 9. Short division 10. Division using factors 11. Long division 12. Long division with remainders 13. Solve problems 14. Solve multi-step problems 15. Order of operations 16. Mental calculations and estimations 17. Reason from known facts Consolidation lessons throughout/at end of block	1. Equivalent fractions and simplifying 2. Equivalent fractions on a number line 3. Compare and order (denominator) 4. Compare and order (numerator) 5. Add and subtract simple fractions 6. Add and subtract any two fractions 7. Add mixed numbers 8. Subtract mixed numbers 9. Multi-step problems 10. Multiply fractions by integers 11. Multiply fractions by fractions 12. Divide a fraction by an integer 13. Mixed questions 14. Fraction of an amount 15. Fraction of an amount – find the whole Consolidation lessons throughout/at end of block	1. Metric measures 2. Convert metric 3. Calculate with metric 4. Miles and kilometres 5. Imperial measures
Keywords	ascending, descending, representations, ten frame, partition, rounding, ones, tens, hundreds, thousands, ten-thousands, hundred-thousands, millions, ten-million, compare, order, largest, smallest, greater than, less than, negative numbers	addition, subtraction, 4-digits, rounding, factors, multiplies, prime number, square numbers, cube numbers, estimate, inverse, column methods, exchange, compare, missing number, long division, written method for multiplication, place holder, remainder, product, dividend, divisor, distributive law, commutative law	equivalent, fraction, unit fraction, non-unit fraction, simplifying, multiply, divide, denominator, numerator, addition, subtraction, common denominator, mixed number, improper fractions, integer, whole, amount, x = of	kilograms, kilometres, millimetres, centimetres, millilitres, litres, scaling, metric units, imperial units, inches, miles
National curriculum objectives	• Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit • Round any whole number to a required degree of accuracy • Use negative numbers in context and calculate intervals across zero • Solve number and practical problems that involve all of the above	• Perform mental calculations including with mixed operations and large numbers • Use their knowledge of the order of operations to carry out calculations involving the four operations • Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why • Identify common factors, common multiples and prime numbers	• Use common factors to simplify fractions; use common multiples to express fractions in the same denomination • Compare and order fractions including fractions > 1 • Add and subtract fractions with different denominators and mixed numbers using the concept of equivalent fractions	• Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places

		• Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy • Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions or by rounding as appropriate for the context • Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders accordion to the context • Perform mental calculations, including with mixed operations and large numbers • Solve problems involving addition, subtraction, multiplication and division • Use their knowledge of the order of operations to carry out calculations involving the four operations	• Multiply simple pairs of fractions, writing down the answer in its simplest form [for example, ¼ x ½ = ⅛] • Divide proper fractions by whole numbers [for example ⅓ ÷ 2 = ⅙]	• Convert between miles and kilometres • Solve problems involving the calculation and conversion of units of measure using decimal notation up to three decimal places where appropriate

	Spring 1			Spring 2		
White Rose Unit Blocks	**Number: Ratio**	**Number: Algebra**	**Number: Decimals**	**Number: Decimals & Percentages**	**Measurement: Area and Perimeter**	**Statistics**
White Rose Small Steps	1. Add or multiply? 2. Ratio language 3. Introduction to ratio symbol 4. Ratio and fractions 5. Scale drawing 6. Scale factors 7. Similar shapes 8. Ratio problems 9. Proportion problems 10. Recipes	1. 1-step function machines 2. 2-step function machines 3. Form expressions 4. Substitution 5. Formulae 6. Form equations 7. Solve 1-step equations 8. Solve 2-step equations 9. Find pairs of values 10. Solve problems with two unknowns 11. Place value within 1 12. Place value – integers and decimals	1. Round decimals 2. Add and subtract decimals 3. Multiply by 10, 100, 1000 4. Divide by 10, 100, 1000 5. Multiply decimals by integers 6. Divide decimals by integers 7. Multiply and divide decimals in context	1. Decimal and fraction equivalents 2. Fractions as division 3. Understand percentages 4. Fractions to percentages 5. Equivalent fractions, decimals and % 6. Order fractions, decimals and % 7. % of an amount – one step 8. % of an amount – multi-step 9. Percentages – missing values Consolidation lessons throughout/at end of block	1. Shapes – same area 2. Area and perimeter 3. Area of a triangle 4. Area of a right-angled triangle 5. Area of any triangle 6. Area of parallelogram 7. Volume 8. Volume of a cuboid	1. Line graphs 2. Dual bar charts 3. Pie charts 4. Pie charts with % 5. Draw pie charts 6. Mean
Keywords	ratio, addition, multiplication, for every, fraction, bar model, scale, scale factors	algebra, one-step, two-step functions, expression, formulae, equations, number sequence, operations, missing value, integers	decimal point, decimal number, tenths, hundredths, thousandths, addition, subtraction, powers of 10, multiply, divide, integers	percent, percentage, hundred square, decimal, decimal point, decimal number, Gattegno chart, equivalence, place value, tenths, hundredths, thousandths, order, compare, amount, one-step word problem, multi-step	perimeter, length, width, rectilinear, area, polygons, rectangles, compound shapes, estimate, triangle, scalene, isosceles, right-angle, parallelogram, volume, depth, cuboid	line graph, axis, scale, intervals, dual bar charts, pie charts, percentages, average, mean
National curriculum objectives	• Solve problems involving similar shapes where the scale factor is known or can be found	• 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	• Identify the value of each digit in numbers given to three decimal places • Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places • Multiply one-digit numbers with up to two decimal places by whole numbers • Use written division methods in cases where the answer has up to two decimal places	• Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts • Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts • Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison • Solve problems involving similar shapes where the	• 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, estimate and compare volume of cubes and cuboids, using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3]	• Interpret and construct pie charts and line graphs and use there to solve problems • Calculate and interpret the mean as an average

			• Solve problems which require answers to be rounded to specified degrees of accuracy • Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example ⅜]	scale actor is known or can be found		

	Summer 1			Summer 2
White Rose Unit Blocks	**Geometry: Properties of Shape**	**Geometry: Position and Directions**	**Consolidation**	**Consolidation** **Investigations & Preparations for KS3**
White Rose Small Steps	1. Measure and classify angles 2. Calculate angles 3. Vertically opposite angles 4. Angles in a triangle 5. Angles in a triangle – special cases 6. Angles in a triangle – missing 7. Angles in a quadrilateral 8. Angles in polygons 9. Circles 10. Draw shapes accurately 11. Nets of 3D shapes	1. The first quadrant 2. Read and plot points on 4 quadrants 3. Solve problems with coordinates 4. Translations 5. Reflections	**Consolidation**	
Keywords	acute, obtuse, reflex angles, degrees,90, 180, 360, one whole turn, angles on straight line, angles around a point, vertically, opposite, missing angles, regular, irregular, polygon, triangles, quadrilaterals, circles, 3D shapes	quadrant, coordinates, along, up, down, four quadrant, negative numbers, translation, reflections	**Consolidation**	
National curriculum objectives	• Draw 2-D shapes using given dimensions and angles • Compare and classify geometric shapes based on their properties and sizes • Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius • Recognise, describe and build simple 3-D shapes, including making nets • Find unknown angles in any triangles,	• Describe positions on the full coordinate grid (all four quadrants) • Draw and translate simple shapes on the coordinate plane, and reflect them in the axes	**Consolidation**	

	quadrilaterals, and regular polygons • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles			