Maths Curriculum Year 4

	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
Term 1/2	**Unit 1 Review of column addition and subtraction**			**Unit 2 Numbers to 10,000**					**Unit 3 Perimeter**		**Unit 4 3,6,9 times tables**	Assessment **Unit 4 cont**	Revise, reflect, review
Term 3/4	**Unit 4 cont 3,6,9 times tables**		**Unit 5 7 times table and patterns**	**Unit 6 understanding and manipulating multiplicative relationships**						**Unit 7 coordinates**		Assessment **Unit 8 review of fractions**	Revise, reflect, review
Term 5/6	**Unit 8 cont**	**Unit 9 Fractions greater than 1**					***MTC week***	**Unit 10 Symmetry in 2D shapes**		**Unit 11 Time**	**Unit 12 Division with remainders**	Assessment **Unit 12 cont**	Revise, reflect, review

Unit	Block	Number of lessons
1	Review of column addition and subtraction	15 (3 weeks)
2	Numbers to 10,000	20 (5 weeks)
3	Perimeter	10 (2 weeks)
4	3,6,9 times table	20 (4 weeks)
5	7 times table and patterns	10 (2 weeks)
6	Understanding and manipulating multiplicative relationships	25 (5 weeks)
7	Coordinates	10 (2 weeks)
8	Review of fractions	5 (1 week)
9	Fractions greater than 1	25 (5 weeks)
10	Symmetry in 2D shapes	7 (1.5 weeks)
11	Time	8 (1.5 weeks)
12	Division with remainders	10 (2 weeks)

Unit 1 – Review of column addition and subtraction

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Review of column addition and subtraction	Algorithms: column addition	Ready to progress
1	Learning Outcomes 1 & 2 Pupils identify the addends and the sum in column addition Pupils use their knowledge of place value to correctly lay out column addition **WALT identify and represent**	Teaching Points 1 & 2 Steps 1:1 – 2:4 (pgs. 4- 9)	
2	Learning Outcome 3 Pupils add a pair of 2-digit numbers using column addition **WALT add**	Teaching Point 3 Steps 3:1 – 3:3 (pgs. 10-12) *Don't be tempted to rush this outcome – use different examples from measures as well as abstract 2 digit numbers until children are very secure procedurally.*	
3	Learning Outcome 4 Pupils add using column addition **WALT add**	Teaching Point 3 Step 3:4 (pg. 12) *Again, don't be tempted to rush – give lots of procedural practice using guidance from step 3:4*	
4	Learning Outcome 5 Pupils use their knowledge of column addition to solve problems **WALT apply**	Teaching Point 3 Step 3:5 (pgs. 12-13) *Opportunities here to explore regrouping and missing number problems*	Teaching for Mastery P14 I See Reasoning P30-32
5	Learning Outcome 6 Pupils add a pair of 2-digit numbers using column addition with regrouping in the ones column **WALT regroup**	Teaching Point 4 Steps 4:1-4:3 (pgs. 14-15)	
6	Learning Outcome 7 Pupils add a pair of 2-digit numbers using column addition with regrouping in the tens column **WALT regroup**	Teaching Point 4 Step 4:4 (pg. 16) *NB there are no representations for this – repeating using teacher modelling the*	

		previous lesson slides but with regrouping in the tens column is needed	
7	Learning Outcome 8 Pupils add using column addition with regrouping **WALT add**	Teaching Point 4 Steps 4:5-4:7 (pgs. 16-17)	To complete step 4:7, book work may be appropriate.
8	Learning Outcome 9 Pupils use known facts and strategies to accurately and efficiently calculate and check column addition **WALT calculate**	Teaching Point 5 Steps 5:1 – 5:4 (pgs. 18-19)	I See Reasoning P28
9	Learning Outcome 10 Pupils use their knowledge of column addition to solve problems **WALT apply**	Teaching Point 5 Step 5:5 (pg. 20)	
10	*Opportunity to consolidate conceptual understanding and/or assessment opportunities.*	Review teaching points if needed.	RTP 3AS -2 Perhaps pick out only the addition calculations p39
		Algorithms: column subtraction	
11	Leaning Outcomes 11 & 12 Pupils identify the minuend and the subtrahend in column subtraction Pupils subtract using column subtraction **WALT identify and represent**	Teaching Point 1 Steps 1:1-1:6 (pgs. 4-8)	
12	Learning Outcome 13 Pupils subtract from a 2-digit number using column subtraction with exchanging from tens to ones **WALT subtract**	Teaching Point 2 Steps 2:1-2:3 (pgs. 9-11)	
13	Learning Outcome 14 Pupils subtract from a 3-digit number using column subtraction with exchanging from hundreds to tens **WALT subtract**	Teaching Point 2 Steps 2:4-2:6 (pgs. 11-13)	
14	Learning Outcome 15 Pupils subtract from a 3-digit number using column subtraction with exchanging from hundreds to tens **WALT subtract**	Teaching Point 2 Steps 2:7-2:8 (pgs. 13-14)	
15	Learning Outcome 16 Pupils evaluate the efficiency of strategies for subtraction. **WALT evaluate**	Teaching point 2 Steps 2:9-2:10 (pgs. 14-16)	RTP 3AS -2 Remaining subtraction calculations p39

Unit 2 – Numbers to 10,000

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Numbers to 10,000	Composition and calculation: 1,000 and four digit numbers	Ready to progress
1	Learning Outcome 1 Pupils explain how many tens, hundreds and ones 1,000 is composed of **WALT represent**	Teaching Point 1 Steps 1:1 – 1:4 (pgs. 4- 8) *NB step 1:4 is not included in the ppt but worth covering if possible.*	
2	Learning Outcome 2 Pupils use knowledge of 1,000 to explain common measure conversions **WALT identify**	Teaching Point 1 Steps 1:5-1:7 (pgs. 8-10)	
3	Learning Outcome 3 Pupils use knowledge of 1,000 to solve problems **WALT apply**	Teaching Point 1 Step 1:8 (pg. 11) *NB this is a short point but plenty of opportunity for extended practice.*	I See Reasoning P8 second 'How many ways?' Teaching for Mastery P11 mastery with greater depth
4	Learning Outcome 4 Pupils use different strategies to add multiples of 100 **WALT add**	Teaching Point 2 Steps 2:1-2:4 (pgs. 12-15)	
5	Learning Outcome 5 Pupils use different strategies to subtract multiples of 100 **WALT subtract**	Teaching Point 2 Steps 2:5-2:7 (pgs. 15-19) *Split across two lessons – NB this doesn't mean there have to be separate challenges, just that covering all the teaching points spans across two lessons.*	RTP 4-NVP 1
6			
7	Learning Outcome 6 Pupils use knowledge of calculation and common measure conversions to solve problems **WALT apply**	Teaching Point 2 Steps 2:8-2:9 (pgs. 19-22)	
8	Learning Outcome 7 Pupils compose and decompose four-digit numbers in different ways **WALT compose and decompose**	Teaching Point 3 Steps 3:1-3:3 (pgs. 21-25)	
9	Learning Outcome 8 Pupils use strategies to make solving calculations more efficient	Teaching Point 3 Steps 3:4-3:6 (pgs. 25-27)	

	WALT select strategies		
10	*Free lesson – assessment opportunity to consolidate, assess or extend.*		RTP 4-NVP 2 RTP 4-NVP 4
11	Learning Outcome 9 Pupils compare and order four-digit numbers **WALT compare and order**	Teaching Point 3 Step 3:7 (pgs. 28-29)	*NB both of these learning outcomes are not well-resourced in the ppt and spine materials and will need to be supplemented with book work or additional tasks.* I See Reasoning P9-14
12	Learning Outcome 10 Pupils calculate efficiently by using knowledge of place value, addition and subtraction **WALT calculate**	Teaching Point 3 Step 3:8 (pg. 29)	
13	Learning Outcome 11 Pupils explain what rounding is **WALT round**	Teaching Point 4 Steps 4:1-4:3 (pgs. 30-31)	
14	Learning Outcome 12 Pupils round a four-digit number to the nearest thousand **WALT round to the nearest multiple of thousand**	Teaching Point 4 Steps 4:4-4:6 (pgs. 31-32)	
15	Extra lesson to explore rounding in more detail and secure the concept	*Repeat slides from previous lesson if needed*	
16	Learning Outcome 13 Pupils round a four-digit number to the nearest hundred **WALT round to the nearest multiple of hundred**	Teaching Point 4 Steps 4:7-4:9 (pgs. 33)	*NB these lessons have been split to secure each small step properly. Book work (TYM) may be appropriate to provide independent practice. Ensure only ONE step is explored per lesson (eg only rounding to nearest ten).*
17	Learning Outcome 13 (continued – this outcome has been split) Pupils round a four-digit number to the nearest ten **WALT round to the nearest multiple of ten**	Teaching Point 4 Step 4:10 (pg. 34) *NB refer to steps 4:7-4:9 for guidance and change for nearest ten*	
18	Learning Outcome 14 Pupils round a four-digit number to the nearest thousand, hundred and ten **WALT round to the nearest multiple**	Teaching Point4 Steps 4:11-4:13 (pgs. 34-35)	
19 20	Two further sessions free to ensure children are able to secure the concept of rounding. Lots of practice may be needed here with small groups and teacher modelling or LSA intervention).	I See Reasoning P20-23 rounding N Rich Round the Dice – rounding 4 digits to the nearest 1,000	
21	Learning Outcome 15 Pupils add up to 3 four-digit numbers using a column addition	Teaching Point 5 Step 5:1 (pg. 36) and 5:6 (pg. 38/9)	

	WALT add		
22	Learning Outcome 16 Pupils subtract four-digit numbers using a column subtraction **WALT subtract**	Teaching Point 5 Step 5:2 (pg. 36/7) and 5:6 (pg. 38/9)	
23	Learning Outcome 17 Pupils use strategies to make solving calculations more efficient **WALT apply**	Teaching Point 5 Steps 5:3 -5:6 (pgs. 37-39)	
24	Learning Outcome 18 Pupils explain how many '100s' and '200s', 1,000 is composed of **WALT compose**	Teaching Point 6 Steps 6:1-6:2 and 6:4-6:5 (pgs. 40-46)	
25	Learning Outcome 19 Pupils explain how many '500s' and '250s', 1,000 is composed of **WALT compose**	Teaching Point 6 Steps 6:1,6:3 and 6:4-6:5 (pgs. 40-46)	RTP 4 NVP 3

Unit 3 - Perimeter

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Perimeter	Non-statutory guidance for KS1 and 2	Ready to progress
1	Learning Outcome 1 A regular polygon has sides that are all the same length and interior angles that are all equal in size **WALT identify regular polygons**	Ready to Progress 4G-2 (pgs. 197-201) *NB there is no spine document for this outcome.*	
		Multiplicative contexts: area and perimeter 1	
2	Learning Outcome 2 Perimeter is the distance around the edge of a two-dimensional shape **WALT explain**	Teaching Point 1 Steps 1:1-1:2 (pgs. 4-6)	To really secure understanding of the concept, include practical work: tracing the perimeter of shapes, walking the perimeter of the playground (or classroom) – doesn't need to be calculated. I See Reasoning p105
3	Learning Outcome 3 Different shapes can have the same perimeter **WALT explain**	Teaching Point 1 Steps 1:3-1:4 (pgs. 6-7)	N Rich: shapes on the playground
4	Learning Outcome 4 Perimeter is measured in units of length and can be found by counting units **WALT count**	Teaching Point 2 Steps 2:1-2:2 (pgs. 8-10)	
5	Learning Outcome 5 Perimeter can be calculated by adding together the side lengths of a 2D shape **WALT calculate**	Teaching Point 2 Steps 2:3 – 2:4 (pgs. 11-13)	
6	Learning Outcome 6 The perimeter of a rectangle can be calculated by addition and multiplication **WALT calculate**	Teaching Point 3 Steps 3:1-3:3 (pgs. 14-16)	

7	Learning Outcome 7 Unknown side lengths can be calculated from perimeter and known side lengths **WALT calculate**	Teaching Point 3 Steps 3:4-3:5 (pgs. 17-18)	Book work (TYM) may be appropriate here in order to practice skills learned.
8	Learning Outcome 8 The perimeter of a regular polygon can be calculated by multiplication **WALT multiply**	Teaching Point 3 Steps 3:6-3:7 (pgs. 19-20)	
9	Learning Outcome 9 The side length of a regular polygon can be calculated by division where the perimeter is known **WALT divide**	Teaching Point 3 Steps 3:8-3:9 (pg. 21)	I See Reasoning p106 AND 109
10	*Assessment opportunities or free lesson to consolidate and secure concept.*	Investigative opportunities What is the perimeter of… one of our desks? Our classroom? Our playground?	RTP 4-G 2 perimeter N Rich Smaller and smaller – investigation into fractals Teaching for Mastery p22

Unit 4 – 3,6,9 times tables

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	3,6,9 times tables	Times tables: 3,6,9 and the relationship between them	Ready to progress
1 and 2	Learning Outcome 1 (two lessons) Pupils represent counting in threes as the three times table **WALT count**	Teaching Point 1 Steps 1:1-1:7 (pgs. 4-12)	
3	Learning Outcome 2 Pupils explain the relationship between adjacent multiples of three **WALT explain**	Teaching Point 1 Steps 1:8-1:9 (pgs. 13-15)	
4	Learning Outcome 3 Pupils use knowledge of the three times table to solve problems **WALT apply**	Teaching Point 1 Step 1:10 (pgs. 16-17)	Include word problems – book work
5 and 6	Learning Outcome 4 (two lessons) Pupils represent counting in sixes as the six times table **WALT represent**	Teaching Point 2 Steps 2:1-2:7 (pgs. 18-25)	I See Reasoning P49 Read the dots
7	Learning Outcome 5 Pupils explain the relationship between adjacent multiples of six **WALT explain**	Teaching Point 2 Steps 2:8-2:9 (pgs. 26-28)	
8	Learning Outcome 6 Pupils use knowledge of the six times table to solve problems **WALT apply**	Teaching Point 2 Step 2:10 (pgs. 29-30)	I See Reasoning p47 I know so…
9	Learning Outcome 7 Pupils use known facts from the five times table to solve problems involving the six times table **WALT apply**	Teaching Point 2 Step 2:11 (pg. 30)	Include word problems – book work
10	Learning Outcome 8 Pupils explain the relationship between multiples of three and multiples of six **WALT make links**	Teaching Point 3 Steps 3:1-3:5 (pgs.31-36)	
11	Learning Outcome 9 Pupils use knowledge of the relationships between the three and six times tables to solve problems **WALT apply**	Teaching Point 3 Steps 3:6-3:8 (pgs. 36-38)	

12 and 13	Learning Outcome 10 (two lessons) Pupils represent counting in nines as the nine times table **WALT represent**	Teaching Point 4 Steps 4:1-4:7 (pgs. 39-44)	
14	Learning Outcomes 11 & 12 Pupils explain the relationship between adjacent multiples of nine **WALT explain**	Teaching Point 4 Steps 4:8-4:9 (pgs. 45-48)	
15	Learning Outcome 13 Pupils use known facts from the ten times table to solve problems involving the nine times table **WALT apply**	Teaching Point 4 Step 4:10 (pgs. 49-50)	
16	Learning Outcome 14 Pupils explain the relationship between multiples of three and multiples of nine **WALT make links**	Teaching Point 4 Step 4:11 (pg. 51)	Teaching for Mastery p16 bottom left activity P17 bottom two activities
17	Learning Outcome 15 & 16 Pupils explain the relationship between pairs of three and nine times table facts that have the same product **WALT make links**	Teaching Point 5 Steps 5:1-5:3 (pgs. 52-55)	I See Reasoning P46-56 (multiplication)
18	Learning Outcome 17 Pupils use the divisibility rules for divisors of three **WALT divide**	Teaching Point 5 Steps 5:4-5:6 (pgs. 56-59)	
19	Learning Outcomes 18 & 19 Pupils use the divisibility rules for divisors of six **WALT divide**	Teaching Point 5 Steps 5:7 – 5:8 (pgs. 59-62)	
20	Consolidation and assessment opportunities **WALT apply**	Teaching Point 6 Steps 6:1-6:3 (pgs. 63-68) Guidance refers to above steps but feel free to extend and continue to end of step 6:7	4 MD – 2 (referred to again in unit 6)

Unit 5– 7 times table and patterns

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	7 times table and patterns	Times tables: 7 and patterns within/across times tables	Ready to progress
1 & 2	Learning Outcome 1 (two lessons) Pupils represent counting in sevens as the 7 times table **WALT represent**	Teaching Point 1 Seps 1:1-1:7 (pgs. 5-13)	
3	Learning Outcome 2 Pupils explain the relationship between adjacent multiples of seven **WALT make links**	Teaching Pint 1 Steps 1:8-1:9 (pgs. 14-17)	
4	Learning Outcome 3 Pupils use their knowledge of the 7 times table to solve problems **WALT apply**	Teaching Point 1 Steps 1:10-1:11 (pgs. 18-19)	
5	Learning Outcome 4 Pupils identify patterns of odd and even numbers in the times tables **WALT identify**	Teaching Point 2 Steps 2:1-2:4 (pgs. 20-24)	
6	Learning Outcome 5 Pupils represent a square number **WALT identify**	Teaching Point 3 Steps 3:1-3:4 (pgs. 25-29)	
7	Learning Outcome 6 Pupils use knowledge of divisibility rules to solve problems **WALT apply**	Teaching Point 4 Steps 4:1-4:3 (pgs. 30-33)	I See Reasoning P46-56 (multiplication)
8 9 10	NB learning outcomes 5 and 6 could take two lessons each. These lessons have been left free to accommodate this. Alternatively, this time could be used to consolidate use of TT Rockstars – heat mapping to ensure children are working on what they need and use of battles across classes to increase engagement.		N Rich – table patterns go wild RTP 4 MD-3

Unit 6 – Understanding and manipulating multiplicative relationships

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Understanding and manipulating multiplicative relationships	Connecting multiplication and division and the distributive law	Ready to progress
1 and 2	Learning Outcome 1 (across two lessons) Pupils explain what each factor represents in a multiplication equation Learning Outcome 2 Pupils explain how each part of a multiplication and division equation relates to a story **WALT explain**	Teaching Point 1 Step 1:1 (pgs. 4-6) Steps 1:2-1:5 (pgs. 6-9)	
3	Learning Outcome 3 Pupils explain where zero can be part of a multiplication or division expression and the impact it has **WALT explain**	Teaching Point 1 Steps 1:6-1:8 (pgs. 9-11)	*NB although a short lesson, could use this to revise all multiplication tables including those containing zero*
4	Learning Outcome 4 Pupils partition one of the factors in a multiplication equation in different ways using representations **WALT partition**	Teaching Point 2 Steps 2:1-2:3 (pgs. 12-15)	
5	Learning Outcome 5 Pupils partition one of the factors in a multiplication equation in different ways using representations **WALT partition**	Teaching Point 2 Steps 2:4-2:5 (pgs. 16-19)	
6	Learning Outcome 6 Pupils explain which is the most efficient factor to partition to solve a multiplication problem **WALT identify**	Teaching Point 2 Steps 2:6-2:8 (pgs. 19-23)	
7	Learning Outcome 7 Pupils use knowledge of distributive law to solve two part addition and subtraction problems, efficiently **WALT apply**	Teaching Point 2 Steps 2:9-2:10 (pgs. 23-24)	*No ppt slides for this outcome but word problems, book work would be suitable here.*
8	Learning Outcome 8 Pupils use knowledge of distributive law to calculate products beyond known times tables facts **WALT calculate**	Teaching Point 3 Steps 3:1-3:3 (pgs. 25-27)	

		Calculation: multiplying and dividing by 10 or 100	
9	Learning Outcome 9 Pupils explain the relationship between multiplying a number by 10 and multiples of 10 **WALT explain**	Teaching Point 1 1:1-1:3 (pgs. 4-8)	
10	Learning Outcome 10 Pupils explain why a zero can be placed after the final digit of a single-digit number when we multiply it by 10 **WALT explain**	Teaching Point 1 Steps 1:4 – 1:5 (pgs. 8-10)	
11	Learning Outcome 11 Pupils explain why a zero can be placed after the final digit of a two-digit number when we multiply it by 10 **WALT explain**	Teaching Point 1 Steps 1:6-1:9 (pgs. 11-14)	
12	Learning Outcome 12 Pupils explain why the final digit zero can be removed from a two-digit multiple of 10, when we divide by 10 **WALT explain**	Teaching Point 2 Steps 2:1-2:5 (pgs. 15-19)	
13	Learning Outcome 13 Pupils explain why the final digit zero can be removed from a three-digit multiple of 10, when we divide by 10 **WALT explain**	Teaching Point 2 Steps 2:6-2:8 (pgs. 19-22)	
14	Learning Outcome 14 Pupils explain the relationship between multiplying a number by 100 and multiples of 100 **WALT make links**	Teaching Point 3 Steps 3:1 – 3:3 (pgs. 23-26)	
15	Learning Outcome 15 Pupils explain why two zeros can be placed after the final digit of a single-digit number when we multiply it by 100 **WALT explain**	Teaching Point 3 Steps 3:4-3:5 (pgs. 26-27)	
16	Learning Outcome 16 Pupils explain why two zeros can be placed after the final digit of a two-digit number when we multiply it by 100 **WALT explain**	Teaching Point 3 Steps 3:6-3:8 (pgs. 27-29)	

17	Learning Outcome 17 Pupils explain why the last two zeros can be removed from a three-digit multiple of 100 when we divide it by 100 **WALT explain**	Teaching Point 4 Steps 4:1-4:4 (pgs. 30-33)	
18	Learning Outcome 18 Pupils explain why the last two zeros can be removed from a four-digit multiple of 100 when we divide it by 100 **WALT explain**	Teaching Point 4 Steps 4:5 – 4:7 (pgs. 33-35)	
19	Learning Outcome 19 Pupils use knowledge of the composition of 100 to multiply by 100 in different ways **WALT multiply**	Teaching Point 5 Steps 5:1 – 5:3 (pgs. 36-39)	
20	Learning Outcome 20 Pupils use knowledge of the composition of 100 to divide by 100 in different ways **WALT divide**	Teaching Point 5 Steps 5:4-5:7 (pgs. 39-42)	RTP 4MD-1
21	Learning Outcome 21 Pupils explain how making a factor 10 times the size affects the product Learning Outcome 23 Pupils explain how making a factor 100 times the size affects the product **WALT make links**	Teaching Point 6 Steps 6:1 -6:4 (pgs. 43 – 46) Teaching Point 7 Steps 7:1-7:4 (pgs. 50-52)	
22	Learning Outcome 22 Pupils explain how making the dividend 10 times the size affects the quotient Learning Outcome 24 Pupils explain how making the dividend 100 times the size affects the quotient **WALT make links**	Teaching Point 6 6:5-6:7 (pgs. 46-49) Teaching Point 7 Steps 7:5-7:8 (pgs. 53-56)	I See Reasoning P69
		Ready to Progress Y4	
23	Learning Outcome 25 Pupils scale known multiplication facts by 100 **WALT scale**	4NF-3 P32-35	
24	Learning Outcome 26 Pupils scale known multiplication facts by 100 **WALT scale**		
25	Consolidation and assessment opportunities		RTP 4MD-2

Unit 7– Coordinates

Lesson	Curriculum Prioritisation Learning Outcomes		Supporting materials
Key links	Coordinates	Coordinates ppt CP Unit 7	Ready to progress
1	Recap on previous learning: polygons **WALT describe**		
2	Learning Outcome 1 Pupils give directions from one position to another on a grid **WALT direct**	Slide 5 Practical paired work – outside learning opportunities (robot pairs)	
3	Learning Outcome 2 Pupils move objects including polygons on a grid according to directions, and mark the new position **WALT transform**	Slide 7	
4	Learning Outcome 3 Pupils describe translations of polygons drawn on a square grid **WALT describe**	Slides 10-11 Ready to progress Y4 P58-60	
5	Learning Outcome 4 Pupils draw polygons specified by translations **WALT draw**	Slide 14 NB they should not move on to using the coordinates grid (learning outcome 5) until they are secure with translating shapes on squared paper in a variety of orientations.	
6	Learning Outcome 5 Pupils mark points specified as a translation from the origin **WALT identify**	Slide 17	I See Reasoning P119-120
7	Learning Outcome 6 Pupils mark the position of points specified by coordinates in the first quadrant of a coordinate grid, and write coordinates for already-marked points **WALT identify**	Slide 20	
8	Learning Outcome 7 Pupils draw polygons specified by coordinates in the first quadrant **WALT draw**	Slide 23	

9	Learning Outcome 8 Pupils translate polygons in the first quadrant **WALT translate**	Slides 26-28	4G-1 assessment questions
10	Assessment opportunities		4G-1 assessment questions Greater depth: this also links to symmetry in unit 10 N Rich – A cartesian puzzle

Unit 8 – Review of fractions

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Review of fractions	Preparing for fractions: the part - whole relationship	Ready to progress
1	Learning Outcome 1 Pupils identify a whole and the parts that make it up Learning Outcome 2 Pupils explain why a part can only be defined when in relation to a whole **WALT identify and explain**	Teaching Point 1 Steps 1:1-1:7 (pgs. 4-10)	I See Reasoning P75/76
2	Learning Outcome 3 Pupils identify the number of equal or unequal parts in a whole **WALT identify**	Teaching Point 2 Steps 2:1-2:4)pgs. 11-14)	
3	Learning Outcome 4 Pupils identify equal parts when they do not look the same **WALT identify**	Teaching Point 2 Steps 2:5-2:7 (pgs. 14- 19)	N Rich Fraction Bars This could be used as a GD challenge
4	Learning Outcome 5 Pupils explain the size of the part in relation to the whole **WALT explain**	Teaching Point 3 Steps 3:1-3:6 (pgs. 20-25)	Teaching for Mastery Y4 P19 top activities for M and M with GD
5	Learning Outcome 6 Pupils construct a whole when given a part and the number of parts **WALT construct**	Teaching Point 4 Steps 4:1-4:5 (pgs. 26-29)	*NB the RTP assessment questions are better being saved for the next unit.*

Unit 9 – Fractions greater than 1

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Fractions greater than 1	Working across one whole: improper fractions and mixed numbers	Ready to progress
1	Learning Outcome 1 Pupils explain how to express quantities made up of both whole numbers and a fractional part **WALT identify**	Teaching Point 1 Steps 1:1-1:3 (pgs. 4-7)	
2	Learning Outcomes 2 and 3 Pupils explain how a quantity made up of whole numbers and a fractional part is composed Pupils compose and decompose quantities made of whole numbers and fractional parts **WALT compose**	Teaching Point 1 Steps 1:4-1:5 (pg. 7)	There are 'dong nao jing' tasks on the spine document for this lesson.
3	Learning Outcome 4 Pupils accurately label a range of number lines and explain the meaning of each part **WALT identify**	Teaching Point 2 Steps 2:1-2:5 (pgs. 8-11)	
4	Learning Outcome 5 Pupils identify numbers on marked but unlabelled number lines **WALT identify**	Teaching Point 2 Steps 2:6-2:8 (pgs. 11-14)	I See Reasoning P79 & 81
5	Learning Outcome 6 Pupils estimate the position of numbers on a number line using fraction sense **WALT estimate**	Teaching Point 2 Steps 2:9-2:11 (pgs. 15-17)	RTP 4F-1 Questions 1-3
6	Learning Outcome 7 Pupils compare and order mixed numbers using fraction sense **WALT compare and order**	Teaching Point 3 Steps 3:1-3:2 (pgs. 18-19)	
7	Learning Outcome 8 Pupils compare and order mixed numbers when the whole number is the same **WALT compare and order**	Teaching Point 3 Steps 3:3-3:4 (pgs. 19-21)	Teaching for Mastery P18

8	Learning Outcome 9 Pupils compare and order mixed numbers when the whole number and the numerator of the fractional part is the same **WALT compare and order**	Teaching Point 3 Steps 3:5-3:7 (pgs. 21-23)	
9	Free lesson to consolidate ordering and comparison of fractions **WALT order and compare**	Book work or partial manipulatives (such as Cuisenaire rods) could be used to support this understanding.	
10	Learning Outcome 10 Pupils make efficient choices about the order they solve an addition problem in **WALT apply**	Teaching Point 4 Steps 4:1 – 4:4 (pgs. 24-28)	
11	Learning Outcome 11 Pupils make efficient choices about the order they solve a subtraction problem in **WALT solve**	Teaching Point 4 Steps 4:5-4:8 (pgs. 28-30)	
12	Learning Outcome 12 Pupils express a quantity as a mixed number and an improper fraction (quarters) **WALT express**	Teaching Point 5 Steps 5:1-5:6 (pgs. 31-36)	
13	Learning Outcome 13 Pupils convert a quantity from an improper fraction to a mixed number (quarters) **WALT convert**	Teaching Point 5 Steps 5:7-5:8 (pgs. 36-38)	
14	Learning Outcome 14 Pupils express and convert a quantity from an improper fraction to a mixed number (fifths) **WALT convert**	Teaching Point 5 Steps 5:9-5:10 (pgs. 38-39)	
15	Learning Outcome 15 Pupils explain how an improper fraction is converted into a mixed number (any unit) **WALT convert**	Teaching Point 5 Steps 5:11- 5:15 (pgs. 39-43)	
16	Learning Outcome 16 Pupils explain how a mixed number is converted into an improper fraction **WALT convert**	Teaching Point 5 Steps 5:16- 5:17 (pgs. 43-47)	
17	Assessment opportunity or further time may be needed to complete the above teaching points.		RTP 4F1 – questions 4 and 5 RTP 4F-2

18 and 19	Learning Outcome 17 Pupils add mixed numbers **WALT add**	Teaching Point 6 Steps 6:1-6:4 (pgs. 48-51)	
20	Learning Outcome 18 Pupils subtract a proper fraction from a mixed number (converting to an improper fraction first) **WALT subtract**	Teaching Point 6 Steps 6:5-6:9 (pgs. 51-54)	
21	Learning Outcome 19 Pupils subtract a mixed number from a mixed number and explain which strategy is most efficient **WALT subtract**	Teaching Point 6 Step 6:10 (pgs. 55-56)	
22 and 23	Learning Outcome 20 Pupils use knowledge of subtraction to choose correct and efficient approaches when subtracting mixed numbers **WALT subtract**	Teaching Point 6 Steps 6:11-6:12 (pgs. 57-59)	I See Reasoning P86-88
24 and 25	Free lesson for an opportunity to reflect, review and revise. Assessment opportunity		RTP 4F-3

Unit 10 – Symmetry in 2D shapes

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Symmetry in 2D shapes	Ready to progress Y4	Ready to progress
1	Pupils understand and explain symmetry **WALT explain**	Guidance: provide lots of images of symmetry (what is it, what is it not?)	I See Reasoning P111 Explore – these could be used in the context of symmetry
2	Learning Outcome 1 Pupils complete a symmetrical pattern **WALT reflect**	Provide variation in tasks: complete symmetrical dot patterns on isometric paper, coloured square patterns on squared paper, moving to line patterns on squared paper. Teacher modelling.	N Rich – symmetry challenge
3	Learning Outcome 2 Pupils compose symmetrical shapes from two congruent shapes **WALT reflect**	Give children opportunity to create symmetrical patterns.	
4	Learning Outcome 3 Pupils investigate lines of symmetry in 2D shapes by folding paper shape cut-outs **WALT identify**	P67-70 Practical learning	I See Reasoning P114 Is it correct?
5	Learning Outcome 4 Pupils find lines of symmetry in 2D shapes using a mirror **WALT identify**	Provide variation in examples – use mirrors on images not on squared paper and on squared paper. Vary the orientation of the shape in order to find symmetry – eg a square shown on its side.	Greater depth: N Rich Always, sometimes, never statements (choose the symmetry ones)
6	Learning Outcome 5 Pupils reflect polygons in a line of symmetry **WALT reflect**		
7	Learning Outcome 6 Pupils reflect polygons that are dissected by a line of symmetry **WALT reflect**	Assessment questions on p68-70	4G-3 Teaching for Mastery Y4 p26

Unit 11 – Time

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Time		Ready to progress
1	Revision from previous Y3 learning: Pupils read and write the time from an analogue clock in 12 hour **WALT read and record time**		I See Reasoning P103 Estimate
2	Revision from previous Y3 learning: Pupils know the number of seconds in a minute, and the number of days in each month, year and leap year **WALT recall**	Greater depth (who are confident in the outcome already) N Rich – Two Clocks	
3	Learning Outcome 1 Pupils read and write analogue and digital time **WALT read and record**		
4	Learning Outcome 2 Pupils convert between analogue and digital time **WALT convert**	N Rich – 5 on the clock	
5	Learning Outcome 3 Pupils convert between 12 hour and 24 hour time **WALT convert**		
6	Learning Outcome 4 Convert from minutes to seconds and hours to minutes **WALT convert**		I See Reasoning P102/103 Order
7	Learning Outcome 5 Convert between days, weeks, months and years **WALT convers**		
8	Learning Outcome 6 Solve problems involving converting between units of time **WALT convert**	N Rich – Wonky Watches	I See Reasoning P102 I know so…, which answer? P104 Estimate

Unit 12 – Division with remainders

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Division with remainders	Division with remainders	Ready to progress
1	Learning Outcome 1 Pupils interpret a division story when there is a remainder and represent it with an equation **WALT represent**	Teaching Point 1 Steps 1:1-1:4 (pgs. 4-7)	
2	Learning Outcome 2 Pupils interpret a division story when there is a remainder and represent it with an equation **WALT represent**	Teaching Point 1 Steps 1:5-1:6 (pgs. 7-11)	
3	Learning Outcome 3 Pupils interpret a division story when there is a remainder and represent it with an equation **WALT represent**	Teaching Point 1 Steps 1:7-1.8 (pgs. 11-13)	I See Reasoning p57-63
4	Learning Outcome 4 Pupils explain how the remainder relates to the divisor in a division equation **WALT explain**	Teaching Point 2 Steps 2:1 – 2:3 (pgs. 14-17)	
5	Learning Outcome 5 Pupils explain when there will and will not be a remainder in a division equation **WALT explain**	Teaching Point 2 Step 2:4 (pgs. 18-19)	Greater depth: N Rich- remainders
6	Learning Outcome 6 Pupils use knowledge of division equations and remainders to solve problems **WALT apply**	Teaching Point 2 Steps 2:5-2:6 (pgs. 20-24)	
7	Learning Outcome 7 Pupils interpret the answer to a division calculation to solve a problem **WALT interpret**	Teaching Point 3 Steps 3:1-3:2 (pgs. 25-27)	
8	Learning Outcome 8 Pupils interpret the answer to a division calculation to solve a problem **WALT interpret**	Teaching Point 3 Steps 3:3-3:5 (pgs. 27-28)	
9	Two lessons free for consolidation purposes: reflect, review, revise. Assessment opportunities		I See Reasoning p64-67 (formal methods)
10			