Maths Curriculum Year 5

	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	**Decimal fractions Unit 1**				**Money Unit 2**		**Negative numbers Unit 3** ***(include place value not covered by NCETM)***			**Short multiplication and division Unit 4**		Assessment **Unit 4 cont.**	Revise, reflect, review
Term 3/4	**Short multiplication and division Unit 4 cont.**		**Area and scaling Unit 5*(include estimating volume not covered by NCETM)***				**Calculating with decimal fractions Unit 6**			**Factors, multiples and primes Unit 7**		Assessment **Unit 7 cont.**	Revise, reflect, review
Term 5/6	**Factors, multiples and primes Unit 7**	**Fractions Unit 8**							**Converting units Unit 9**		**Angles Unit 10**	Assessment **Unit 10 cont.**	Revise, reflect, review

Unit	Block	Number of lessons
1	Decimal fractions	20 (4 weeks) instead of 5
2	Money	10 (2 weeks)
3	Negative numbers	15 (3 weeks) to include x6 lessons of place value from NC
4	Short multiplication and short division	25 (5 weeks) instead of 6
5	Area and scaling	20 (4 weeks)
6	Calculating with decimal fractions	15 (3 weeks)
7	Factors, multiples and primes	20 (4 weeks)
8	Fractions	35 (7 weeks)
9	Converting units	10 (2 weeks)
10	Angles	9 (2 weeks) instead of 3

Decimal Fractions – Unit 1

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Decimal Fractions	Composition and Calculation: tenths	Year 5 Maths Guidance
1	Learning Outcome 1 Pupils identify tenths as part of a whole **WALT identify**	Teaching Point 1 Steps 1.1-1.3 (pgs. 4-6)	I See Reasoning p11/12
2	Learning Outcome 2 Pupils describe and represent tenths as a decimal fraction **WALT represent**	Teaching Point 2 Steps 2.1-2.4 (pgs. 7-10)	
3	Learning Outcome 3 Pupils count tenths in different ways Learning Outcome 4 Pupils describe and write decimal numbers with tenths in different ways **WALT count and describe**	Teaching Point 3 Steps 3.1-3.9 (pgs. 11-16)	
4	Learning Outcome 5 Pupils compare and order decimal numbers with tenths **WALT compare and order**	Teaching Point 3 Steps 3.10 – 3.13 (pgs. 16-18)	
5	Learning Outcome 6 Pupils explain that decimal numbers with tenths can be composed additively Learning Outcome 7 Pupils explain that decimal numbers with tenths can be composed multiplicatively **WALT explain and compose**	Teaching Point 4 Steps 4.1-4.5 (pgs. 19-21)	Teaching for Mastery P12 top activity (additive)
6	Learning Outcome 8 Pupils use their knowledge to calculate with decimal numbers within and across one whole Learning Outcome 9 Pupils use their knowledge to calculate with decimal numbers using mental methods **WALT calculate**	Teaching Point 5 Steps 5.1- 5.4 (pgs. 22-26)	

7	Learning Outcome 10 Pupils use their knowledge to calculate with decimal numbers using column addition and subtraction **WALT calculate**	Teaching Point 5 Steps 5.5-5.7 (pgs. 26-28) NB there are no PPt slides for this outcome but lots of problem solving opportunities within the above spine materials – a practice session.	
8	Learning Outcome 11 Pupils use representations to round a decimal number with tenths to the nearest whole number **WALT round**	Teaching Point 6 Steps 6.1-6.6 (pgs. 29-32)	
		Composition and Calculation: hundredths and thousandths	
9	Learning Outcome 12 Pupils identify hundredths as part of a whole Learning Outcome 13 Pupils describe and represent hundredths as a decimal fractions **WALT identify and describe**	Teaching Point 1 Steps 1.1-1.4 (pgs. 4-6) Teaching Point 2 Steps 2.1-2.5 (pgs. 7-11) NB there are a lot of images on the ppts but many represent the same thing – these do not all have to be used or could be whizzed through for variation purposes.	
10	Learning Outcome 14 Pupils describe and write decimal numbers with hundredths in different ways **WALT describe**	Teaching Point 3 Steps 3.1-3.4 (pgs. 12-14)	
11	Learning Outcome 15 Pupils compare and order decimal numbers with hundredths **WALT compare and order**	Teaching Point 3 Steps 3.5-3.8 (pgs. 14-16)	
12	Learning Outcome 16 Pupils explain that decimal numbers with hundredths can be partitioned in different ways **WALT partition**	Teaching Point 4 Steps 4.1-4.4 (pgs. 17-21)	

13	Learning Outcome 17 Pupils use their knowledge of decimal place value to convert between and compare metres and centimetres **WALT convert and calculate**	Teaching Point 5 Steps 5.1 – 5.3 (pgs. 22-23)	Book work may be useful here – Abacus or TYM
14	Learning Outcome 18 Pupils explain that different lengths can be composed additively and multiplicatively **WALT compose**	Teaching Point 5 Steps 5.4-5.7 (pgs. 23-26)	
15	Learning Outcome 19 Pupils use their knowledge of decimal place value to solve problems in different contexts **WALT apply**	Teaching Point 5 Steps 5.8 –5.9 (pgs. 27-28)	Book work may be useful here – Abacus or TYM
16	Learning Outcome 20 Pupils use their knowledge to calculate with decimal numbers up to and bridging one tenth **WALT calculate**	Teaching Point 6 Steps 6.1-6.4 (pgs. 29-33)	
17	Learning Outcome 21 Pupils use their knowledge to calculate with decimal numbers using column addition and subtraction **WALT calculate**	Teaching Point 6 Steps 6.5 – 6.7 (pgs. 33-36)	
18	Learning Outcome 22 Pupils round a decimal number with hundredths to the nearest tenths **WALT round**	Teaching Point 7 Step 7.1 (pgs. 37-38)	Teaching for Mastery P9
19	Learning Outcome 23 Pupils round a decimal number with hundredths to the nearest whole number **WALT round**	Teaching Point 7 Steps 7.2-7.3 (pgs. 38-39)	Book work may be useful here – Abacus or TYM
20	Learning Outcome 24 Pupils read and write numbers with up to 3 decimal places Learning Outcome 25 Pupils compare and order numbers with up to 3 decimal places **WALT read, write, compare**	NB there are no teaching ppt slides for these outcomes nor spine materials. NC tool Using the above link, scroll down to LINKS and RESOURCES and choose activities.	Assessment opportunities: RTP 5NVP-1 RTP 5NVP -2 RTP 5NVP-3 RTP 5NVP-4 RTP 5NF-2 Link (Download link at end of page)

Money– Unit 2

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Money	Addition and subtraction: money	Year 5 Maths Guidance
1 & 2	Learning Outcome 1 Pupils explain and represent whole pounds as a quantity of money **WALT represent pounds** Learning Outcome 2 Pupils explain and represent whole pounds and pence as a quantity of money **WALT represent pounds and pence**	Teaching Point 1 Steps 1:1-1:6 (pgs. 5-9)	
3	Learning Outcome 3 Pupils explain how to compare amounts of money Learning Outcome 4 Pupils convert quantities of money between pounds and pence **WALT compare and convert**	Teaching Point 1 Steps 1:7 -1:8 (pgs. 9-11)	NCETM guidance on measures
4 & 5	Learning Outcome 5 Pupils use their knowledge of addition to efficiently add commonly used prices **WALT add**	Teaching Point 2 Steps 2:1-2:5 (pgs. 12 – 15)	
6	Learning Outcome 6 Pupils use their knowledge of subtraction to calculate the change due when paying whole pounds or notes **WALT subtract**	Teaching Point 3 Steps 3:1-3:3 (pgs. 16-18)	
7	Learning Outcome 7 Pupils use and explain the most efficient strategies when adding quantities of money **WALT apply efficient strategies**	Teaching Point 4 Steps 4:1-4:3 (pgs. 19-21)	
8	Learning Outcome 8 Pupils use and explain the most efficient strategies when subtracting quantities of money **WALT apply efficient strategies**	Teaching Point 4 Steps 4:4-4:6 (pgs. 21-23)	

9	Learning Outcome 9 Pupils find the change when purchasing several items Learning Outcome 10 Pupils use the most efficient and reliable strategy to find the change when purchasing several items **WALT select strategies**	Teaching Point 5 Steps 5:1-5:3 (pgs. 24-27)	N Rich – the puzzling sweet shop
10	Assessment or consolidation of calculating with money (addition and subtraction).	Use of word problems or Target Your Maths fluency. The Puzzling Sweet Shop – N Rich investigation/ problem solve	Teaching for Mastery – p13 I See Reasoning – p23 first set of 'mistakes'

Negative numbers – Unit 3

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	These 6 lessons are not part of the CP units for Y5 – see the guidance for Y4 (previously covered by CP) and Y5 (now to be covered in Y6 by CP) Depending on where the class are, this could be revision from Y4. Teachers can use the Y5 guidance where appropriate but this will be covered in the Y6 curriculum.	Composition and calculation: 1,000 and four digit numbers (Y4) Composition and calculation: multiples of 1,000 up to 1,000,000 (Y5)	Year 5 Maths Guidance Above is the link to the RTP overview. Individual assessment questions can be found via the link provided in this column.
1	Pupils count forwards or backwards in steps of powers of 10 from any given number up to 1,000,000 **WALT count**	Teaching point 1 Steps 1:1 – 1:8 (pgs. 4- 11)	
2	Pupils read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit **WALT read, write, order and compare numbers**	Teaching point 3 Steps 3:1-3:3 (pgs. 23 – 25) and step 3:7 (pg 28)	
3	Pupils round any number up to 1,000,000 to the nearest 10,100 and 1,000 **WALT round**	Teaching point 4 Steps 4:1-4:13 (pgs. 30-35)	
4	Pupils round any number up to 1,000,000 to the nearest 10,100, 1,000, 10,000 and 100,000 **WALT round**		
5	Pupils round any number up to 1,000,000 to the nearest 10,100, 1,000, 10,000 and 100,000 **WALT round**		
6	Pupils solve number problems and practical problems that involve all three of the above (read/write/order, count, round) **WALT solve problems**	Teaching point 6 (pgs. 40-46) could be used here to draw out measures- related problems	RTP: 5 NVP -3 RTP: 5NVP -4 Link (Download link at end of page)
Key links	Negative numbers	Negative numbers: counting, comparing and calculating	Year 5 Maths Guidance
7	Learning Outcome 1 Pupils represent a change story using addition and subtraction symbols **WALT represent**	Teaching Point 1 Steps 1:1-1:4 (pgs. 4-6)	
8	Learning Outcome 2 Pupils interpret numbers greater than and less than zero in different contexts **WALT interpret**	Teaching Point 2 Steps 2:1-2:3 (pgs. 7-9)	

9	Learning Outcome 3 Pupils read and write negative numbers **WALT read and write**	Teaching Point 3 Steps 3:1-3:3 (pgs. 10-13)	
10	Learning Outcome 4 Pupils explain how the value of a number relates to its position from zero **WALT explain**	Teaching Point 4 Steps 4:1-4:3 (pgs. 14-16)	
11	Learning Outcome 5 Pupils identify and place negative numbers on a number line **WALT identify**	Teaching Point 4 Steps 4:4-4:6 (pgs. 17-18)	I See Reasoning p13-16
12	Learning Outcome 6 Pupils interpret sets of negative and positive numbers in a range of contexts **WALT interpret**	Teaching Point 4 Steps 4:7-4:8 (pgs. 19-21)	N Rich – sea level
13	Learning Outcome 7 Pupils use their knowledge of positive and negative numbers to calculate intervals **WALT calculate**	Teaching Point 5 Steps 5:1-5:3 (pgs. 22-25)	Teaching for Mastery P10 (second activity)
14	Learning Outcome 8 Pupils explain how negative numbers are used on a coordinate grid **WALT explain and identify**	Teaching Point 6 Steps 6:1-6:2 (pgs. 26-28)	
15	Learning Outcome 9 Pupils use their knowledge of positive and negative numbers to interpret graphs **WALT interpret**	Teaching Point 6 Step 6:4 (pgs. 29-31)	

Short multiplication and division – Unit 4

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Short multiplication and division	Multiplication: partitioning leading to short multiplication	Year 5 Maths Guidance
1	Learning Outcome 1 Pupils multiply a two-digit number by a single-digit number using partitioning and representations (no regroups) **WALT multiply a 2-digit number**	Teaching point 1 Steps 1:1- 1:2 (pgs. 4-6)	I See Reasoning – see section on multiplication for starters or shared reasoning
2	Learning Outcome 2 Pupils multiply a two-digit number by a single-digit number using partitioning and representations (one regroup) **WALT multiply and regroup**	Teaching point 1 Steps 1:3-1:4 (pgs. 7-10)	
3	Learning Outcome 3 Pupils multiply a two-digit number by a single-digit number using partitioning and representations (two regroups) **WALT multiply and regroup**	Teaching point 1 Step 1:5 (pgs. 11-12)	
4	Learning Outcome 4 Pupils multiply a two-digit number by a single-digit number using partitioning **WALT partition and multiply**	Teaching point 1 Steps 1:6-1:7 (pgs. 13-15)	
5	Learning Outcomes 5 & 6 Pupils multiply a two-digit number by a single-digit number using expanded multiplication and short multiplication **WALT multiply using written methods**	Teaching point 2 Steps 2:1-2:5 (pgs. 16-19)	
6	Learning Outcomes 7 & 8 Pupils multiply a two-digit number by a single-digit number (regrouping ones to tens) **WALT multiply and regroup**	Teaching point 2 Steps 2:6 -2:8 (pgs. 20-22)	
7	Learning Outcome 9 & 10 Pupils multiply a two-digit number by a single-digit number (regrouping tens to hundreds) **WALT multiply and regroup**	Teaching point 2 Steps 2:9-2:11 (pgs. 23-25)	
8	Learning Outcome 11 Pupils multiply a two-digit number by a single-digit number (with two regroups) **WALT multiply and regroup**	Teaching point 2 Steps 2:12-2:13 (pgs. 25-27)	

9	Learning Outcome 12 Pupils use estimation to support accurate calculation **WALT estimate and multiply**	Teaching Point 2 Steps 2:14-2:15 (pgs. 27-30)	
10	Learning Outcomes 13 & 14 Pupils multiply a three-digit number by a single-digit number using partitioning and representations **WALT partition and multiply**	Teaching point 3 Steps 3:1 –3:4 (pgs. 31- 34)	
11	Learning Outcome 15 & 16 Pupils multiply a three-digit number by a single-digit number using expanded and short multiplication (no regroups/ one regroup) **WALT multiply using written methods**	Teaching point 4 Steps 4:1-4:3 (pgs. 35-37)	
12	Learning Outcomes 17 & 18 Pupils multiply a three-digit number with multiple regroups and use estimation to support accurate calculation **WALT estimate and multiply**	Teaching point 4 Steps 4:4 – 4:7 (pgs. 37-42)	Teaching for Mastery – see multiplication and division section
		Division: partitioning leading to short division	
13	Learning Outcome 19 Pupils divide a two-digit number by a single-digit number using partitioning and representations (no remainders, no exchanging) **WALT partition and divide**	Teaching Point 1 Steps 1:1-1:2 (pgs. 3-6)	I See Reasoning – see section on division for starters or shared reasoning
14	Learning Outcome 20 Pupils divide a two-digit number by a single-digit number using partitioning and representations (with exchanging) **WALT partition and exchange**	Teaching Point 1 Steps 1:3-1:4 (pgs. 7-10)	
15	Learning Outcome 21 Pupils divide a two-digit number by a single-digit number using partitioning and representations (with exchanging and remainders) **WALT partition, divide and exchange**	Teaching Point 1 Steps 1:5 and 1:7 (pgs. 11 and 13-14)	
16	Learning Outcome 22 Pupils divide a two-digit number by a single-digit number using short division (no exchanging, no remainders) **WALT divide a 2-digit number**	Teaching Point 2 Steps 2:1-2:4 (pgs. 15 – 17)	

17	Learning Outcome 23 Pupils divide a two-digit number by a single-digit number using short division (with exchanging) **WALT divide using written methods**	Teaching Point 2 Steps 2:5-2:6 (pgs. 18-20)	
18	Learning Outcome 24 Pupils divide a two-digit number by a single-digit number using short division (with exchanging and remainders) **WALT divide using short division**	Teaching Point 2 Steps 2:7-2:10 (pgs. 20-23)	
19	Learning Outcomes 25 & 26 Pupils divide a three-digit number by a single-digit number using partitioning and representations (no remainders) **WALT divide and exchange**	Teaching Point 3 Steps 3:1-3:2 (pgs. 24-27)	
20	Learning Outcome 27 Pupils divide a three-digit number by a single-digit number using partitioning and representations (with exchanging and remainders) **WALT represent remainders**	Teaching Point 3 Steps 3:3-3:4 (pgs. 27-28)	
21	Learning Outcome 28 Pupils divide a three-digit number by a single-digit number using short division **WALT use formal methods**	Teaching Point 4 Steps 4:1-4:4 (pgs. 29-32)	
22	Learning Outcome 29 Pupils divide a three-digit number by a single-digit number using short division (with exchanging and remainders) **WALT divide**	Teaching Point 4 Steps 4:5-4:6 (pgs. 32-34)	
23	Learning Outcome 30 Pupils solve short division problems accurately when the hundreds digit is smaller than the divisor **WALT solve problems**	Teaching Point 4 Steps 4:7-4:10 (pgs. 35-37)	Teaching for Mastery – see multiplication and division section
24	Learning Outcome 31 Pupils will use efficient strategies of division to solve problems **WALT solve problems**	Teaching Point 4 Step 4:11 (pg. 38)	https://nrich.maths.org/8956
25	**Assessment opportunities** https://www.ncetm.org.uk/classroom-resources/cp-year-5-curriculum-map/ Scroll to bottom of page to download assessment questions, organised by RTP criteria.		RTP: 5MD 3 (multiplication) RTP: 5MD 4 (division) Link (Download link at end of page)

Area and scaling – Unit 5

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Area and scaling	Multiplicative contexts: area and perimeter 1	Year 5 Maths Guidance
1 and 2	Learning Outcomes 1&2 Pupils explain what area is and can measure using counting as a strategy **WALT count**	Teaching point 4 Steps 4:1-4:7 (pgs. 22-25)	I See Reasoning – see section on multiplication for starters or shared reasoning
3 and 4	Learning Outcome 3 Pupils explain how to make different shapes with the same area **WALT explain**	*No spine materials are available to support these learning outcomes – see supporting materials*	https://nrich.maths.org/9028 Investigations: Area and perimeter Through the window Teaching for Mastery – p23 measures (investigation into area)
5	Learning Outcome 4 Pupils explain how to compare the area of different shapes **WALT compare**		
6	Learning Outcome 5 Pupils measure the area of flat shapes area using square centimetres **WALT calculate to measure**	Teaching point 5 Steps 5:1-5:4 (pgs. 26-27)	
7	Learning Outcome 6 Pupils measure the area of flat shapes area using square metres **WALT measure**	Teaching point 5 Steps 5:5 (pgs. 26-27)	
8	Learning Outcome 7 Pupils calculate the area of a rectangle using multiplication **WALT calculate using multiplication**	Teaching point 6 Steps 6:1-6:6 (pgs. 28-30)	
9	Learning Outcome 8 Pupils calculate the area of rectilinear shapes **WALT calculate**	Teaching point 6 Steps 6:7-6:8 (pgs. 31-32)	
10	Learning Outcome 9 Pupils use their knowledge of area to solve problems **WALT solve problems**	Teaching point 6 Step 6:9 (pgs. 32-34)	Teaching for Mastery p23
		Structures: using measure and comparison to understand scaling Download the Teacher Guide at bottom of page	
11 and 12	Learning Outcome 10 Pupils compare and describe lengths by using their knowledge of multiplication **WALT compare and describe**	Teaching point 1 Steps 1:1-1:3 (pgs. 2-6)	

13 and 14	Learning Outcome 11 Pupils use their knowledge of multiplication to solve comparison and change problems **WALT solve comparison and change problems**	Teaching point 1 Steps 1:4-1:7 (pgs. 6-9)	
15	Learning Outcome 12 Pupils compare and describe lengths by using their knowledge of division **WALT compare and describe**	Teaching point 2 Steps 2:1-2:3 (pgs. 10-13)	
16	Learning Outcome 13 Pupils use their knowledge of division to solve comparison and change problems **WALT solve comparison and change problems**	Teaching point 2 Steps 2:4-2:6 (pgs. 14-16)	
17	Learning Outcome 14 & 15 Pupils compare and describe measurements by using their knowledge of multiplication and division **WALT compare and describe measurements**	Teaching point 3 Step 3:1 (pg. 16-18)	
18	Learning Outcome 16 Pupils describe the changes in measurements using their knowledge of multiplication and division **WALT describe changes**	Teaching point 3 Step 3:2 (pg. 18-20)	
19	Learning Outcome 17 Pupils use their knowledge of multiplication and division to solve comparison and change problems **WALT solve comparison and change problems**	Teaching point 3 Step 3:3 (pg. 20-21)	
20	**Assessment opportunities** https://www.ncetm.org.uk/classroom-resources/cp-year-5-curriculum-map/ Scroll to bottom of page to download assessment questions, organised by RTP criteria.		RTP: 5G 2 (Geometry area) Link (Download link at end of page)

Calculating with decimal fractions – Unit 6

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Calculating with decimal fractions	Decimal place value knowledge, multiplication and division	Year 5 Maths Guidance
1	Learning Outcome 1 Pupils explain the effect of multiplying and dividing a number by 10,100 and 1,000 **WALT explain**	Teaching Point 1 Steps 1:1-1:2 (pgs. 4-8)	
2	Learning Outcome 2 Pupils explain the effect of multiplying and dividing a number by 10,100 and 1,000 **WALT explain**	Teaching Point 1 Steps 1:3-1:14 (pgs. 8-11)	
3	Learning Outcome 3 Pupils explain how to multiply and divide a number by 10, 100 and 1,000 (first 'number' two or more non-zero digits) **WALT multiply and divide**	Teaching Point 1 Steps 1:5-1:6 (pgs. 11-15)	
4	Learning Outcome 4 Pupils use their knowledge of multiplication and division by 10/100/1,000 to convert between units of measure (length) **WALT multiply and divide**	Teaching Point 2 Steps 2:1-2:2 (pgs. 16-18) *See pg 22 for challenges/ tasks*	
5	Learning Outcome 5 Pupils use their knowledge of multiplication and division by 10/100/1,000 to convert between units of measure (mass and capacity) **WALT multiply and divide**	Teaching Point 2 Steps 2:3-2:5 (pgs. 19-22)	
		Calculation: x/ decimal fractions by whole numbers	
6	Learning Outcome 6 Pupils explain how to use known multiplication facts and unitising to multiply decimal fractions by whole numbers (tenths) **WALT apply knowledge of multiplication**	Teaching Point 1 Steps 1:1-1:6 (pgs. 5-10)	
7	Learning Outcome 7 Pupils explain how to use known multiplication facts and unitising to multiply decimal fractions by whole numbers (hundredths) **WALT apply knowledge of multiplication**	Teaching Point 1 Steps 1:7-1:12 (pgs. 11-14)	

8	Learning Outcome 8 Pupils use their knowledge of multiplying decimal fractions by whole numbers to solve measures problems **WALT apply knowledge of decimal fractions**	Teaching Point 1 Step 1:13 (pgs. 14-15)	
9	Learning Outcome 9 Pupils explain the relationship between multiplying by 0.1 dividing by 10 **WALT make connections**	Teaching Point 2 Steps 2:1-2:3 (pgs. 16-19) *See pg 21 for challenges/ tasks*	
10	Learning Outcome 10 Pupils explain the relationship between multiplying by 0.01 dividing by 100 **WALT make connections**	Teaching Point 2 Steps 2:4-2:5 (pgs. 19-21)	
11	Learning Outcome 11 Pupils explain how to use multiplying by 10 or 100 to multiply one-digit numbers by decimal fractions **WALT multiply**	Teaching Point 3 Steps 3:1-3:4 (pgs. 22-25)	
12	Learning Outcome 12 Pupils explain how to use multiplying by 10 or 100 to multiply one-digit numbers by decimal fractions **WALT multiply**	Teaching Point 3 Steps 3:5-3:10 (pgs. 26-32)	
13	Learning Outcome 13 Pupils explain how to use the size of the multiplier to predict the size of the product compared to the multiplicand **WALT make predictions**	Teaching Point 4 Steps 4:1-4:4 (pgs. 33-35)	
14	Learning Outcome 14 Pupils explain how to use multiplying by 10 or 100 to divide decimal fractions by one-digit numbers **WALT divide**	Teaching Point 5 Steps 5:1-5:4 (pgs. 36-38)	
15	Learning Outcome 15 Pupils explain how to use multiplying by 10 or 100 to divide decimal fractions by one-digit numbers **WALT divide**	Teaching Point 5 Steps 5:5-5:10 (pgs. 39-43)	RTP: MD 1 (multiplication) Link (Download link at end of page)

Factors, multiples and primes – Unit 7

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Factors, multiples and primes	Multiplication with three factors and volume	Year 5 Maths Guidance
1	Learning Outcome 1 Pupils explain what 'volume' is using a range of contexts **WALT identify**	Teaching Point 1 Steps 1:1-1:5 (pgs. 4-6)	
2	Learning Outcome 2 Pupils describe the units used to measure volume **WALT count**	Teaching Point 2 Steps 2:1-2:8 (pgs. 7-12)	
3	Learning Outcome 3 Pupils explain how to calculate the volume of a cuboid **WALT calculate**	Teaching Point 3 Steps 3:1-3:5 (pgs. 13-16)	
4	Learning Outcome 4 Pupils explain what a cube number is **WALT identify and explain**	Teaching Point 3 Step 3:6 (pgs. 16-17)	
5	Learning Outcome 5 Pupils use their knowledge of calculating volume to solve problems in a range of contexts **WALT calculate**	Teaching Point 3 Steps 3:7-3:9 (pgs. 17-21)	
6&7	Learning Outcome 6 Pupils explain how to calculate the volume of compound shapes **WALT calculate**	Teaching Point 3 Steps 3:10-3:11 (pgs. 22-25)	
8	Learning Outcome 7 Pupils explain the use of the commutative and distributive laws when multiplying three or more numbers **WALT explain and apply**	Teaching Point 4 Steps 4:1-4:4 (pgs. 26-30)	
9	Learning Outcome 8 Pupils explain the reasons for changing two-factor multiplication calculations to three-factor multiplications **WALT explain and apply**	Teaching Point 5 Steps 5:1-5:4 (pgs. 31-33)	
10	Consolidation of understanding of volume and cubed numbers **WALT apply**	N Rich investigations for 7-11 Cubes N Rich investigations for 7-11 Volume I See Reasoning p70/71	

		Factors, multiples, prime numbers and composite numbers	
11 & 12	Learning Outcome 9 Pupils explain what a factor is and how to use arrays and multiplication/division facts to find them **WALT explain**	Teaching Point 1 Steps 1:1-1:7 (pgs. 4-8)	
13	Learning Outcome 10 Pupils explain how to systematically find all factors of a number and how they know when they have found them all **WALT work systematically**	Teaching Point 2 Steps 2:1-2:4 – (pgs. 9-13)	
14	Learning Outcome 11 Pupils use a complete list of factors to explain when a number is a square number **WALT identify factors**	Teaching Point 2 Steps 2:5-2:6 (pg. 13-14)	
15	Learning Outcome 12 Pupils explain how to identify a prime number or a composite number **WALT identify primes and composites**	Teaching Point 3 Steps 3:1-3:3 (pgs. 14-16)	
16	Learning Outcome 13 Pupils explain how to identify a common factor or a prime factor of a number **WALT identify common or prime factors**	Teaching Point 4 Steps 4:1-4:3 (pgs. 17-18)	
17	Learning Outcome 14 Pupils explain how to identify a multiple of common multiple of a number **WALT identify multiples**	Teaching Point 5 Steps 5:1-5:4 (pgs. 19-21)	
18	Learning Outcome 15 Pupils use knowledge of properties of number to solve number problems in a range of contexts **WALT apply knowledge**	Teaching Point 5 Steps 5:5-5:6 (pgs. 22-23)	Teaching for Mastery p15 top activity
19	Learning Outcome 16 Pupils explain how to use the factor pairs of '100' to solve calculations effectively **WALT apply and solve**	Teaching Point 6 Steps 6:1-6:3 (pgs. 24-26)	
20	Consolidation of understanding of factors, multiples, primes and composite numbers **WALT apply**	RTP: 5MD – 2 Use of the 100 square on the playgrounds to play factors/ multiples/ primes/ composite number games or challenges Link (Download link at end of page) I See Reasoning p35/36 multiples and factors N Rich investigations- the factors and multiples game is good, as is two primes make one square and satisfying four statements.	

Fractions – Unit 8

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Fractions	Multiplying whole numbers and fractions	Year 5 Maths Guidance
1	Learning Outcomes 1 & 2 Pupils explain the relationship between repeated addition of a proper fraction and multiplication of fractions (unit fractions) Pupils explain the relationship between repeated addition of a proper fraction and multiplication of fractions (non-unit fractions) **WALT add and multiply**	Teaching Point 1 Steps 1.1-1.7 (pgs. 5-9)	I See Reasoning P44-61 (NB some of this is Y6 content)
2	Learning Outcome 3 Pupils multiply a proper fraction by a whole number (within a whole) **WALT multiply**	Teaching Point 1 Steps 1.8-1.13 (pgs. 9-13)	
3	Learning Outcome 4 Pupils multiply a proper fraction by a whole number (greater than a whole) **WALT multiply**	Teaching Point 1 Steps 1.14 – 1.16 (pgs. 13-16)	
4	Learning Outcome 5 Pupils multiply an improper fraction by a whole number **WALT multiply**	Teaching Point 1 Steps 1.17-1.18 (pgs. 16-17)	
5	Learning Outcomes 6 & 7 Pupils multiply a mixed number by a whole number (product is within a whole) Pupils multiply a mixed number by a whole number (product is greater than a whole) **WALT multiply**	Teaching Point 2 Steps 2.1- 2.6 (pgs. 18-22)	
6	Learning Outcome 8 Pupils find a unit fraction of a quantity **WALT calculate**	Teaching Point 3 Steps 3.1-3.5 (pgs. 23-29)	
7	Learning Outcomes 9 & 10 Pupils explain the relationship between finding a fraction of a quantity and multiplying a whole number by a unit fraction Pupils explain the relationship between dividing by a whole number and multiplying a whole number by a unit fraction **WALT explain**	Teaching Point 3 Steps 3.6 –3.10 (pgs. 29-33)	

8	Learning Outcome 11 Pupils use their knowledge of multiplying a whole number by a unit fraction to solve problems **WALT apply**	Teaching Point 3 Steps 3.11 – 3.12 (pg. 34)	
9	Learning Outcomes 12 & 13 Pupils find a non-unit fraction of a quantity (mental calculation) Pupils find a non-unit fraction of a quantity (written calculation) **WALT calculate**	Teaching Point 4 Steps 4.1-4.5)pgs. 35-39)	
10	Learning Outcome 14 Pupils multiply a whole number by a proper fraction **WALT multiply**	Teaching Point 4 Step 4.6 (pgs. 39-40)	
11	Learning Outcome 15 Pupils explain when a calculation represents scaling down and when it represents repeated addition **WALT explain**	Teaching Point 4 Steps 4.7-4.8 (pgs. 40-42)	
12	Learning Outcomes 16 & 17 Pupils find the whole when the size of a unit fraction is known Pupils find a unit fraction when the size of a non-unit fraction is known **WALT calculate**	Teaching Point 5 Steps 5.1 – 5.5 (pgs. 43-45)	
13	Learning Outcome 18 Pupils find the whole when the size of a non-unit fraction is known **WALT calculate**	Teaching Point 5 Steps 5.6-5.9 (pgs. 46-48)	
14	Learning Outcome 19 Pupils find the unit fraction when the size of a non-unit fraction is known **WALT calculate**	Teaching Point 5 Steps 5.9-5.12 (pgs. 48-51)	
15	Consolidation session or assessment opportunity		RTP 5F – 1 Link (Download link at end of page)
		Finding equivalent fractions and simplifying fractions	
16	Learning Outcome 20 Pupils use representations to describe and compare two fractions (1/4 and 3/12) **WALT compare**	Teaching Point 1 Steps 1.1-1.5 (pgs. 6-11)	Teaching for Mastery p17

17	Learning Outcomes 21 & 22 Pupils use representations to describe and compare two fractions (1/5 and 5/10) Pupils use representations to describe and compare two fractions (pouring context) **WALT compare**	Teaching Point 1 Steps 1.6 –1.8 (pg. 12-14)	Teaching for Mastery p 18
18	Learning Outcome 23 Pupils correctly use the language of equivalent fractions **WALT apply**	Teaching Point 1 Steps 1.9 – (pgs. 14-15) *Short teaching session but room for investigative work to consolidate understanding.*	N Rich Fraction Wall N Rich Fraction bars
19	Learning Outcome 24 *(this may take two lessons)* Pupils explain the vertical relationship between numerators and denominators within equivalent fractions (1/5, 1/3 and equivalent)	Teaching Point 2 Steps 2.1-2.9 (pgs. 16-22)	
20	**WALT explain**		
21	Learning Outcome 25 Pupils use their knowledge of the vertical relationship to solve equivalent fractions problems **WALT apply**	Teaching Point 2 Steps 2.10-2.11 (pgs. 22-24)	
22	Learning Outcome 26 Pupils explain the horizontal relationship between numerators and denominators across equivalent fractions (1/5, 1/3 and equivalent) **WALT explain**	Teaching Point 2 Steps 2.12-2.14 (pgs. 25-26)	
23	Learning Outcome 27 *(this may take two lessons)* Pupils explain the relationship within families of equivalent fractions	Teaching Point 2 Steps 2.15-2.21 (pgs. 27-32)	
24	**WALT explain**		
25	Learning Outcome 28 Pupils use their knowledge of equivalent fractions to solve problems **WALT apply**	Teaching Point 2 Steps 2.22- 23 (pgs. 32-35)	RTP 5F - 2
		Linking fractions, decimals, percentages	
26	Learning Outcome 29 *(this may take two lessons)* Pupils explain and represent how to divide 1 into different amounts of equal parts	Teaching Point 1 Steps 1.1-1.5 (pgs. 3-7)	
27	**WALT represent**		

28	Learning Outcome 30 Pupils identify and describe patterns within the number system **WALT describe**	Teaching Point 1 Steps 1.6-1.8 (pgs. 7-11)	
29	Learning Outcomes 31 & 32 Pupils use their knowledge of common equivalents to compare fractions with decimals Pupils practise recalling common fraction-decimal equivalents **WALT compare**	Teaching Point 1 Steps 1.9-1.11 (pgs. 11-13)	
30	Learning Outcome 33 Pupils use their knowledge of common fraction-decimal equivalents to solve conversion problems in a range of contexts **WALT convert**	Teaching Point 2 Steps 2.1-2.5 (pgs. 14-15)	
31	Learning Outcome 34 Pupils use their knowledge of common equivalents to compare fractions with decimals beyond one **WALT compare**	Teaching Point 2 Steps 2.6 – 2.7 (pgs. 16-17)	
32	Learning Outcome 35 Pupils use their knowledge of simplifying calculations by substitution to solve problems in a range of contexts **WALT apply**	Teaching Point 3 Steps 3.1 – 3.6 (pgs. 17-21)	Teaching for Mastery p19 and 20
33 34 35	Free lessons for consolidation or assessment opportunities. *Two N Rich investigations are presented – these are lengthy and require time. Ensure teachers click on the 'getting started' and 'solutions' section of the website before presenting to children.*		RTP 5F – 3 N Rich Fractions in a box N Rich Chocolate

Converting units – Unit 9

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Converting Units	Mathematics Guidance for KS1 and 2	Year 5 Maths Guidance
1	Learning Outcome 1 Pupils apply memorised unit conversions to convert between units of measure (larger to smaller, whole number conversions) **WALT divide**	Using the above link, please read pgs. 229-233 before planning this sequences of 5 lessons. Refer to the Ready to Progress criteria (in the above document) alongside the slides provided in the ncetm ppts.	RTP: NVP – 5 Link (Download link at end of page) Teaching for Mastery – p21-24
2	Learning Outcome 2 Pupils apply memorised unit conversions to convert between units of measure (smaller to larger, whole number conversions) **WALT multiply**		
3	Learning Outcome 3 Pupils convert from and to fraction and decimal fraction quantities of larger units **WALT convert**		
4	Learning Outcome 4 Pupils derive common conversions over 1 Learning Outcome 5 Pupils carry out conversions that correspond to 100 parts **WALT convert**		
5	Learning Outcome 6 Pupils solve problems involving different units **WALT apply**		
6	Learning Outcome 7 Pupils understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints **WALT convert**	There are no spine pedagogy documents that support this unit – see below for additional resources NCETM guidance for measures Use Target Your Maths books as well as Abacus books to support the learning.	I See Reasoning P67-68 A Day with Grandpa – N Rich yards, feet, inches Weighing fruit – N Rich kilos and pounds
7&8	Learning Outcome 8 Pupils convert between miles and kilometres **WALT convert**		
9&10	Learning Outcome 9 Pupils solve problems involving converting between units of time **WALT apply**		I See Reasoning P68-69 Wonky Watches -N Rich time

Angles – Unit 10

Lesson	Curriculum Prioritisation Learning Outcomes	Spine pedagogy document	Supporting materials
Key links	Angles	Mathematics Guidance for KS1 and 2	Year 5 Maths Guidance
1	Learning Outcome 1 Pupils compare the size of angles where there is a clear visual difference **WALT compare**	Use the above link to access the RTP guidance alongside the ppt animations. 5G1 – p265	N Rich angles investigations
2	Learning Outcome 2 Pupils use the terms acute, obtuse and reflex when describing the size of angles or amount of rotation with relation to right angles **WALT describe**	5G1 – p265	
3	Learning Outcome 2 Pupils use the terms acute, obtuse and reflex when describing the size of angles or amount of rotation with relation to right angles **WALT identify**	5G1 – p265	
4	Learning Outcome 3 Pupils use a unit called degrees as a standard unit to measure angles **WALT describe**	5G1 – p266	
5	Learning Outcome 4 Pupils estimate the size of angles in degrees using angle sets **WALT estimate**	5G1 – p266	
6 7 8 9	Learning Outcome 5 Pupils measure the size of angles accurately using a protractor **WALT measure**	5G1 – p267	I See Reasoning – p84
10	Consolidation and assessment of understanding of angles and accurate measuring using a protractor **WALT apply**		Teaching for Mastery – p26 I See Reasoning – p85 RTP 5G-1 Link (Download link at end of page)