TREWIDLAND PRIMARY SCHOOL MATHEMATICS CURRICULUM SPINE September 2024

Assessment Expectations Overview

- Complete Twinkl half-test arithmetic paper every 3 weeks to inform arithmetic planning in Years 2-6
- Termly complete White Rose arithmetic paper – at the end of each term
- Termly White Rose Reasoning tests – each half-term point
- Blocked unit assessments (cold tasks) for each unit to support planning of next steps of a unit
- Blocked end of unit assessments (hot tasks) for each completed unit to assess progress and intervention need.

YEAR GROUP	ARITHMETIC COVERAGE to develop fluency based on low stakes testing	TIMES TABLES FOCUS	TERMLY COVERAGE – ensuring problem solving and reasoning	Real Life maths
EYFS AUTUMN	Number sense for EYFS and KS1 to be followed to develop mathematical fluency.	Learn to count in 1s to 5.	Number: Match, sort and compare Measurement: Measure and patterns Number: Numbers to 3 Geometry: Circles and triangles Number: numbers to 5 Geometry: Shapes with 4 sides	**N/A**
EYFS SPRING	Number sense for EYFS and KS1 to be followed to develop mathematical fluency.	Practice counting in 1s to 5. Learn to count in 1s to 10.	Number: Subitising to 5 Measurement: Mass and Capacity Number: Numbers to 8. Measurement: Length, height and time. Number: Numbers to 10. Geometry: 3D shapes	**N/A**
EYFS SUMMER	Number sense for EYFS and KS1 to be followed to develop mathematical fluency.	Practice counting in 1s to 10. Learn to count in 1s to 20.	Number: Numbers to 20 Number: Addition and subtraction Geometry: Drawing and manipulating shapes Number: Sharing and grouping Geometry: position and direction	**N/A**
Y1 AUTUMN	Number sense for EYFS and KS1 to be followed to develop mathematical fluency.	Practice counting in 1s to 20. Learn to count in 2s.	Number: place value within 20 Number: addition & subtraction (within 20) Number: Place value within 100 Geometry: shape	**N/A**
Y1 SPRING	Number sense for EYFS and KS1 to be followed to develop mathematical fluency.	Practice counting in 2s. Learn to count in 10s.	Number: addition and subtraction within 100. Number: Multiplication and division Measurement: Length and height Statistics	**N/A**
Y1 SUMMER	Number sense for EYFS and KS1 to be followed to develop mathematical fluency.	Practice counting in 10s. Learn to count in 5s.	Measurement: Money Number: Fractions Measurement: Time Measurement: Mass, capacity and temperature Geometry: Position and direction	**N/A**

Last update December 2024

Y2 AUTUMN	Number sense for EYFS and KS1 to be followed to develop mathematical fluency.	Practice counting in 2s/5s/10s. Learn to count in 3s.	Number: place value within 20 Number: addition & subtraction (within 20) Number: Place value within 100 Geometry: shape	**N/A**
Y2 SPRING	Number sense for EYFS and KS1 to be followed to develop mathematical fluency.	Practice counting in 3s. Learn to count in 4s.	Number: addition and subtraction within 100. Number: Multiplication and division Measurement: Length and height Statistics	**N/A**
Y2 SUMMER	Number sense for EYFS and KS1 to be followed to develop mathematical fluency.	Practice to count in 4s. Learn to use & apply 2s/3s/4s/5s/10s.	Measurement: Money Number: Fractions Measurement: Time Measurement: Mass, capacity and temperature Geometry: Position and direction	**N/A**
Y3 AUTUMN	Add and subtract across 100. Add and subtract 3 digit numbers using the column method. Use the inverse operations to find missing numbers.	Practice counting in 5s/10s. Consolidate 3s. Learn to count in 6s.	Number: place value Number: addition and subtraction Number: multiplication and division A	Measurement: Area Measurement: length and perimeter Measurement: Mass and capacity
Y3 SPRING	Four operations calculation involving measures. Add and subtract fractions with the same denominator	Practice counting in 50s/100s. Consolidate 4s. Learn to count in 8s.	Number: multiplication and division B Number: Fractions A Number: Fractions B	Measurement: Time Measurement: Money
Y3 SUMMER	Multiplication and division – focus on concrete and pictorial. Abstract calculation as required. Fractions of amounts.	Practice counting in 25s. Learn to use & apply 3s/6s/4s/8s.	Number: Decimals Statistics	Geometry: shape Geometry: position and direction
Y4 AUTUMN	Calculate across 1000 Add and subtract up to 4 digit numbers using the column method.	Practice counting in 3s & 6s. Consolidate 2s/4s/8s. Learn to count in 9s.	Number: place value Number: addition and subtraction Number: multiplication and division A	Measurement: Area Measurement: length and perimeter Measurement: Mass and capacity
Y4 SPRING	Multiply and divide by 10 and 100. Use the inverse to find missing numbers in multiplication and division questions.	Practice counting in 10s/100s/1,000s. Consolidate 3s/6s/9s. Learn to count in 12s.	Number: multiplication and division B Number: Fractions A Number: Fractions B	Measurement: Time Measurement: Money
Y4 SUMMER	Add decimals to make a whole. Calculate using the four operations involving money.	Practice counting in 25s/50s/100s. Learn to count in 7s. Consolidation of all times tables – including square numbers.	Number: Decimals Statistics	Geometry: shape Geometry: position and direction
Y5 AUTUMN	Four operations Rounding	Daily consolidation/ practice of all times tables. Targeted intervention practice for children with gaps.	Number: place value Number: addition and subtraction Number: multiplication and division A Number: fractions A Number: Multiplication and Division B	Measurement: Area, Perimeter and volume

Last update December 2024

Y5 SPRING	+/- fractions (same den.) Percentage and fractions of amounts.		Number: Multiplication and Division B Number: fractions B Number: Decimals A Number: Decimals B Number: Fractions, Decimals and Percentages	Geometry: Shape Geometry: Position and direction
Y5 SUMMER	Decimals Calculation involving unit conversion		Ratio Algebra	Measurement: Converting units Statistics
Y6 AUTUMN	Long multiplication Long division – 'chunking' Fraction of a whole	Daily consolidation/ practice of all times tables. Targeted intervention practice for children with gaps.	Number: place value Number: addition and subtraction Number: multiplication and division A Number: fractions A Number: Multiplication and Division B	Geometry: shape Geometry: position and direction
Y6 SPRING	Percentage of a whole Four ops. with fractions Units of measure		Number: Multiplication and Division B Number: fractions B Number: Decimals A Number: Decimals B Number: Fractions, Decimals and Percentages	Measurement: Area, Perimeter and volume
Y6 SUMMER	Regular (weekly) low-stakes testing before SATs		Ratio Algebra	Geometry: Shape Geometry: Position and direction

Last update December 2024

Mathematics Ready to Progress Objectives

NC Area	Rec	Y1	Y2	Y3	Y4	Y5	Y6
Number and place value		1NPV–1 Count within 100, forwards and backwards, starting with any number. 1NPV–2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =	2NPV–2 Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and nonstandard partitioning. 2NPV–3 Reason about the location of any two digit number in the linear number system, including identifying the previous and next multiple of 10.	3NPV–1 Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three digit multiples of 10. 3NPV–2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning. 3NPV–3 Reason about the location of any three digit number in the linear number system, including identifying the previous and next multiple of 100 and 10. 3NPV–4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.	4NPV–1 Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100. 4NPV–2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and nonstandard partitioning. 4NPV–3 Reason about the location of any four digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each. 4NPV–4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.	5NPV–1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01. 5NPV–2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and nonstandard partitioning. 5NPV–3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each. 5NPV–4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts. 5NPV - Convert between units of measure, including using common decimals and fractions.	6NPV–1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000). 6NPV–2 Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning. 6NPV–3 Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts. 6NPV–4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.
Number facts		1NF–1 Develop fluency in addition and subtraction facts within 10. 1NF–2 Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.	2NF–1 Secure fluency in addition and subtraction facts within 10, through continued practice.	3NF–1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice. 3NF–2 Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number. 3NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).	4NF–2 Recall multiplication and division facts up to , and recognise products in multiplication tables as multiples of the corresponding number. 4NF Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context. 4NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)	5NF–2 Secure fluency in multiplication table facts, and corresponding division facts, through continued practice. 5NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).	
Addition and subtraction		1AS–1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers. 1AS–2 Read, write and interpret equations containing addition ( ), subtraction ( ) and equals ( ) symbols, and relate additive expressions and equations to real-life contexts	2AS–1 Add and subtract across 10. 2AS–2 Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?". 2AS–3 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two digit number. Then add and subtract any 2 two digit numbers.	3AS–1 Calculate across 100. 3AS–3 Add and subtract up to three-digit numbers using column methods. 3AS– Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part-part-whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.	4AS–1 Calculate across 1000 4AS–3 Add and subtract up to four-digit numbers using column methods.	5AS–1 Calculate across 10000 5AS–3 Add and subtract up to five-digit numbers using column methods.	6AS/MD - Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number). 6AS/MD - Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding. 6AS/MD - Solve problems involving ratio relationships. 6AS/MD - Solve problems with 2 unknowns.

Last update December 2024

Multiplication and division			2MD-1 Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables. 2MD - Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).	3MD-1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.	4MD-1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size. 4MD-2 Understand and apply the distributive property of multiplication. 4MD – Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication.	5MD-1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size. 5MD-2 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method. 5MD - Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors. 5MD - Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.	6AS/MD - Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number). 6AS/MD - Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding. 6AS/MD - Solve problems involving ratio relationships. 6AS/MD - Solve problems with 2 unknowns.
Fractions		1F-1 Recognise half and a quarter of a shape or amount using concrete materials.	2F-1 Recognise and write simple fractions of a whole: ½, 1/4, 2/4, 3/4	3F-1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts. 3F- Find unit fractions of quantities using known division facts (multiplication tables fluency). 3F-2 Reason about the location of any fraction within 1 in the linear number system. 3F-3 Add and subtract fractions with the same denominator, within 1.	4F-2 Reason about the location of mixed numbers in the linear number system. 4F-3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers. 4F- Convert mixed numbers to improper fractions and vice versa.	5F- Find non-unit fractions of quantities. 5F- Find equivalent fractions and understand that they have the same value and the same position in the linear number system. 5F - Recall decimal fraction equivalents for ½ , ¼ , 1/5 and , 1/10 and for multiples of these proper fractions	6F- Recognise when fractions can be simplified, and use common factors to simplify fractions. 6F - Express fractions in a common denomination and use this to compare fractions that are similar in value. 6F - Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy.
Geometry		1G-1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another. 1G-2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.	2G-1 Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.	3G-1 Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations. 3G-2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.	4G-2 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant. 4G- Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons. 4G- Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.	5G- Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size. 5G-Compare areas and calculate the area of rectangles (including squares) using standard units.	6G- Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.
Ready to progress criteria: shorturl.at/azH02 NCTEM ready to progress planning support and guidance: shorturl.at/crsEH							

End of Year 1 TT Knowledge

×	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

End of Year 2 TT Knowledge

×	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

End of Year 3 TT Knowledge

×	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

End of Year 4 TT Knowledge

×	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Last update December 2024