RISING STARS ASSESSMENT

Progression Frameworks

FOR

MATHEMATICS

YEAR 4

Developed in Association with CORNWALL LEARNING

RISING STARS ASSESSMENT

Progression Frameworks

Introduction

The Progression Framework for mathematics is organised by domain in the Programme of Study.

The content of each domain is further broken down into strands. These are:

- Number (which is split into the following three sub-domains):
    - ✦ Number and place value
    - ✦ Calculations and fractions
    - ✦ Decimals and percentages
- Measurement
- Geometry – shape and position
- Statistics
- Ratio and proportion (Year 6 only)
- Algebra (Year 6 only).

See the separate document 'About the Progression Framework for mathematics' for more detailed information.

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Rising Stars Progression Framework for mathematics, Year 4

Domain: Number

Strand	Sub-strand	Progression statement	NAHT key performance indicator (Y/N)	What to look for guidance (Working towards expectations)	What to look for guidance (Meeting expectations)	What to look for guidance (Exceeding expectations)
1) Number and place value	a) Count	**4.1.a.1 Count in multiples of 1000; count backwards through zero to include negative numbers** (^)	Y	The pupil can chant the sequence 1000, 2000, 3000 … and 3, 2, 1, 0, –1 ..., with prompting.	The pupil can chant the sequence 3000, 6000, 9000, 12,000 … and 2, 1, 0, –1, –2 …	The pupil can count backwards in thousands from 2500 to include negative numbers.
		4.1.a.2 Find 1000 more or less than a given number	N	The pupil can work out 1000 more than 432.	The pupil can work out 1000 more than 3468.	The pupil can reduce any four-digit number to zero by subtracting the appropriate number of thousands, hundreds, tens and ones.
		4.1.a.3 Count in multiples of 6, 7, 9 and 25 (^)	Y	The pupil can count up in 6s using their knowledge of counting up in 3s and can begin the sequences for 7, 9 and 25.	The pupil can decide whether a number is a multiple of 6 by counting up in 6s or a multiple of 7, 9 or 25 by counting up in 7s, 9s or 25s.	The pupil can identify whether numbers are in more than one of the sequences of 6, 7, 9, 25 and others with which they are familiar.

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1) Number and place value	b) Represent numbers	4.1.b.1 Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, ones)	N	The pupil can identify the thousands digit when presented with a three-digit number.	The pupil can arrange four digit cards showing 3, 4, 6 and 7 to make the smallest possible number and can justify their choice of 3467 using the language of thousands, hundreds, tens and ones.	The pupil can solve problems such as 'Arrange the digit cards 1, 4, 5 and 8 to make the number closest to 6000' and can justify their choice using the language of place value.
		4.1.b.2 Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value	N	The pupil can convert Roman numerals from I to X to our number system.	The pupil can convert a number expressed in Roman numerals below 100 and explain why they are difficult to calculate with.	The pupil can explain why Roman numerals are not a place value system and how zero makes a place value system work.
		4.1.b.3 Identify, represent and estimate numbers to 10 000 using different representations	N	The pupil can choose between 60 and 6000 to estimate the number of people in a crowd.	The pupil can choose between 6, 60, 600 and 6000 to estimate the size of a crowd.	The pupil can solve problems such as 'Write in order of size: the number of people watching Arsenal play at the Emirates stadium; the number of cubic centimetres in a cubic metre and the distance in miles to the moon'.

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1) Number and place value	c) Order and compare	**4.1.c.1 Order and compare numbers beyond 1000**	Y	The pupil can choose the smaller number out of 3000 and 1300.	The pupil can place the correct sign (=, < and >) in statements such as between 3004 and 3040 and between 4500 and 4050 + 450.	The pupil can solve problems in the context of measurement such as ordering the lengths of rivers.
	d) Solve number problems	4.1.d.1 Solve number and practical problems with number and place value from the Year 4 curriculum, with increasingly large positive numbers (*)	N	The pupil can solve problems such as 'A number has been rounded to the nearest hundred to get 500. What could that number be?'	The pupil can solve problems such as 'A number has been rounded to the nearest hundred to get 3000. What is the largest whole number it could be?'	The pupil can solve problems such as 'I am a number between 3000 and 4000. I am a multiple of 25 and of 9. When I am rounded to the nearest hundred my digits add to 7. What number am I?'
	e) Round numbers	**4.1.e.1 Round whole numbers to 10,000 to the nearest 10, 100 or 1000** (*)	Y	The pupil can round 678 to the nearest ten.	The pupil can round 8076 to the nearest hundred.	The pupil can round 8074 to the nearest 50.

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2) Calculation	a) Understand calculation	4.2.a.1 Use the distributive law to multiply two digit numbers by one digit (^)	N	The pupil can work out 11 x 3 by calculating 10 x 3 = 30 and 1 x 3 = 3 and then adding to get 33.	The pupil can work out 23 x 4 mentally by calculating 20 x 4 = 80 and 3 x 4 = 12 and then adding to get 92.	The pupil can work out 345 x 6 mentally by calculating 300 x 6 = 1800, 40 x 6 = 240 and 5 x 6 = 30 to get 2070.
		4.2.a.2 Understand the inverse relationship between addition and subtraction (+)	N	The pupil can 'undo' adding 7 by subtracting 7.	The pupil can 'undo' adding 23 by subtracting 23 and vice versa.	The pupil can explain using manipulatives that addition and subtraction are inverse operations.
		4.2.a.3 Use commutativity in mental calculations (^)	N	The pupil can work out 3 x 4 x 6 by working out 3 x 4 = 12, then 12 x 6 = 72.	The pupil can work out 12 x 7 x 5 by rearranging mentally to get 12 x 5 x 7 = 60 x 7 = 420.	The pupil can work out 8 x 4 x 7 x 5 by rearranging to get 4 x 7 x 8 x 5 = 4 x 7 x 40 = 4 x 280 = 800 + 320 = 1120.
		4.2.a.3 Use factor pairs in mental calculations (^)	N	The pupil can work out 20 x 6 by working out 20 = 10 x 2, then 10 x 12 = 120.	The pupil can work out 12 x 5 x 7 by rearranging to get 6 x 2 x 5 x 7 = 6 x 70 = 420.	The pupil can explain why factor pairs work to make calculations easier.

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2) Calculation	b) Calculate mentally	4.2.b.1 Mentally add and subtract pairs of three-digit and four-digit numbers (+)	N	The pupil can calculate the difference between 850 and 640 mentally.	The pupil can calculate the difference between 1348 and 745 mentally.	The pupil can add a sequence of numbers mentally such as 243 + 179 + 606 + 192.
		4.2.b.2 Use addition and subtraction facts to 100 and derive related facts up to 1000 (+)	N	The pupil can correctly answer 56 + 24 = 80 and deduce that 80 – 24 = 56.	The pupil can deduce that 120 + 370 = 490 and 402 + 307 = 709 from 2 + 7 = 9.	The pupil can solve problems such as 'I am thinking of two numbers. Their sum is 387 and their difference is 107. What are the numbers?'
		4.2.b.3 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	N	The pupil can calculate 40 ÷ 2 = 20 using their knowledge that 2 x 2 = 4.	The pupil can calculate 400 ÷ 50 = 8 using their knowledge of 8 x 5 = 40. They know that 5 x 0 = 0; 12 x 1 = 12; 8 ÷ 1 = 8; 2 x 4 x 3 = 24.	The pupil can calculate 60 x 500 x 30 x 1 = 900,000.

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2) Calculation	c) Solve calculation problems	**4.2.c.1 Solve calculation problems involving two-step addition and subtraction in context, deciding which operations to use and why** (^)	Y	The pupil can solve problems such as 'Sarah buys a pen for 40p and a ruler for 80p. How much change does she get from £2?'	The pupil can solve problems such as 'Sarah buys five pens at 99p each. How much change does she get from £5?'	The pupil can solve problems such as 'Sarah buys five pens at £1.25 each, three pencils at 38p each and a ruler for 85p. How much change does she get from £10?'
		4.2.c.2 Solve calculation problems involving two-step addition and subtraction in context, deciding which methods to use and why (^)	Y	The pupil can solve calculation problems such as 154 + 23 by considering the numbers involved and choosing an appropriate mental or written method, e.g. partitioning 23 and adding 20 to 154 to get 174 then adding 3 to get 177.	The pupil can solve calculation problems such as 283 + 119 by considering the numbers involved and choosing an appropriate mental or written method, e.g. rounding to 280 + 120 to give 400 and then adjusting by adding 3 and subtracting 1 to give 402.	The pupil can solve calculation problems such as 786 + 247 by considering the numbers involved and choosing from a variety of mental or written methods.
		4.2.c.3 Solve problems involving multiplying and adding, including integer scaling and harder correspondence problems such as n objects are connected to m objects (^)	N	The pupil can solve problems such as 'Eggs are sold in boxes of six. How many eggs are there in nine boxes?'	The pupil can solve problems such as 'A stick is 8 cm long. Another stick is 12 times longer. How long is the second stick?' and 'You have four cards each with a different digit on it. How many different two-digit numbers can you make?'	The pupil can solve problems such as 'Three cakes are shared equally between ten children. How much do they have each?'

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2) Calculation	d) Recall	4.2.d.1 Recognise factor pairs (^)	N	The pupil can recognise that 2 and 6, and 3 and 4 are both pairs of numbers that multiply to make 12.	The pupil can list the factor pairs of numbers such as 24.	The pupil can solve problems such as finding the number with the most factors below 30.
		4.2.d.2 Recall multiplication and division facts for multiplication tables up to 12 × 12	Y	The pupil can respond to any question on multiplication or division facts up to 12 x 12 and 144 ÷ 12, when given time to think and with the support of jottings and prompts.	The pupil can respond promptly and correctly to any question on multiplication or division facts up to 12 x 12 and 144 ÷ 12.	The pupil can respond promptly and correctly to any question such as 'I am thinking of two numbers. They multiply to give 72 and have a difference of 1. What are they?'
	e) Use written calculation	4.2.e.1 Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	N	The pupil can calculate 6078 + 1934 and 6078 – 1934, choosing whether to use a mental method or a more formal written layout with prompting.	The pupil can calculate 6078 + 1934 and 6078 – 1934, choosing whether to use a mental method or a more formal written layout.	The pupil can calculate 6078 + 1934 and 6078 – 1934, choosing between a variety of mental methods or a more formal written layout.
		4.2.e.2 Multiply two-digit and three-digit numbers by a one-digit number using formal written layout	N	The pupil can calculate 6 x 283 using jottings to support progress towards a formal written layout such as the grid method.	The pupil can calculate 6 x 283 using a formal written layout such as the grid method.	The pupil can calculate 6 x 283 using a formal written layout such as the grid method and relate it to the formal methods of long multiplication.
		4.2.e.3 Divide two-digit and three-digit numbers by a one-digit number using formal written layout (+)	N	The pupil can calculate 1698 ÷ 6 using jottings to support progress towards a formal written layout such as chunking.	The pupil can calculate 1698 ÷ 6 using a formal written layout such as chunking.	The pupil can calculate 1698 ÷ 6 using a formal written layout such as chunking and relate it to the formal methods of long division.

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2) Calculation	f) Check	4.2.f.1 Check answers to addition and subtraction calculations by estimating and using inverse operations (*)	N	The pupil can check their answer to 68 + 23 by rounding 68 to 70 and 23 to 20 and working out 70 + 20 = 90.	The pupil can check their answer to 478 – 133 by working out 345 + 133.	The pupil can check their answer to 478 – 133 by rounding or inverse operations and explain why they chose that method.
		4.2.f.2 Check answers to multiplication and division calculations using rounding (+)	N	The pupil can check their answer to 68 x 3 by rounding 68 to 70 and working out 70 x 3 = 210.	The pupil can check their answer to 478 x 3 by rounding 478 to 500 and working out 500 x 3 = 1500.	The pupil can check their answer to 478 x 3 by rounding 478 to 500 and working out 500 x 3 = 1500, knowing this will be an over-estimate.

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3) Fractions, decimals and percentages	a) Understand FDP	4.3.a.1 Make connections between fractions of a length, of a shape and as a representation of one whole or a set of quantities (+)	N	The pupil can sort a set of representations of 1/2 and 1/4 into two groups according to which fraction they represent.	The pupil can sort a set of representations of 1/2, 1/4 and 3/4 into two groups according to which fraction they represent.	The pupil can sort a set of representations of 1/2, 1/4 and 3/4 into two groups according to which fraction they represent and add further items to each group.
		4.3.a.2 Use factors and multiples to recognise equivalent fractions and simplify where appropriate (+)	N	The pupil can recall some multiplication table facts to write down some fractions equivalent to 1/3.	The pupil can apply their knowledge of multiplication table facts to write down a set of fractions equivalent to 2/5.	The pupil can recognise common factors between the numerator and denominator of a fraction and divide to simplify the fraction.
		4.3.a.3 Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten	Y	The pupil can continue the sequence 1/100, 2/100, 3/100 and use a 10 by 10 square to identify one-tenth and one-hundredth and, with supporting diagrams, relate the two so that one-tenth of one-tenth is one-hundredth.	The pupil can continue the sequence 1/100, 7/100, 13/100 for another five terms and draw a 10 by 10 square to demonstrate that one-hundredth of it is one square and one-tenth of it is ten squares They deduce one-tenth of the ten squares is one-hundredth.	The pupil can continue the sequence 1/100, 7/100, 13/100 and write the terms as tenths when appropriate and draw a 10 by 10 square to demonstrate that one-hundredth of it is one square and one-tenth of it is ten squares. They deduce one-tenth of the ten squares is one-hundredth and relate it to other contexts such as measurement and money.
		4.3.a.4 Divide a one- or two-digit numbers by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths (^)	N	The pupil can calculate 4 ÷ 10 = 0.4 and, with prompting, identify the 4 in 0.4 as four-tenths.	The pupil can calculate 23 ÷ 100 = 0.23, identifying the 2 in 0.23 as two-tenths and the 3 as three-hundredths.	The pupil can explain why dividing ones by ten or one hundred results in tenths or hundredths and how this might extend into thousandths.

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3) Fractions, decimals and percentages	b) Convert FDP	**4.3.b.1 Recognise and show, using diagrams, families of common equivalent fractions**	Y	The pupil can draw a 3 by 4 rectangle and demonstrate that 1/2 is equivalent to 2/4 and 3/6 and 6/12 by appropriate shading.	The pupil can draw a 3 by 4 rectangle and demonstrate that 2/12 is equivalent to 1/6 and that 3/12 is equivalent to 1/4.	The pupil can draw a 4 by 6 rectangle and use it to illustrate several families of equivalences, explaining why certain fractions cannot be shown using the rectangle.
		4.3.b.2 Recognise that the denominator of a fraction always tells you the number of equal parts that make one whole (+)	N	The pupil can identify that there are five-fifths in one whole one using diagrams to support.	The pupil can identify that there are seven-sevenths in one whole.	The pupil can solve problems such as 'Five cards form one-third of my set. How many are there in the whole set?' by multiplying by three.
		4.3.b.3 Recognise and write decimal equivalents of any number of tenths or hundredths and 1/4; 1/2; 3/4 (^)	N	The pupil can write 7/10 as 0.7 and extend this to 7/100 as 0.07 and write 1/2 as 0.5 with prompting.	The pupil can write 7/10 as 0.7 and 7/100 as 0.07. They recognise that 0.7 is also 70/100 and write 1/4 as 0.25, 1/2 as 0.5 and 3/4 as 0.75.	The pupil can extend writing 6/10 and 60/100 as 0.6 to converting 3/5 to tenths and so 3/5 = 0.6 as well. They write 1/4 as 0.25, 1/2 as 0.5 and 3/4 as 0.75. They can deduce that 1/8 = 0.125 and that 3/8 is 0.375.

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3) Fractions, decimals and percentages	c) Use FDP as numbers	4.3.c.1 Continue to compare and order unit fractions, and fractions with the same denominators (+)	N	The pupil can identify the larger of 1/3 and 1/4 and the larger of 2/7 and 3/7, with supporting diagrams.	The pupil can identify the larger of 1/6 and 1/7 and identify the smaller out of 2/9 and 5/9.	The pupil can give a general rule for identifying the smaller of two unit fractions and the larger of two fractions with the same denominator, explaining why they work.
		4.3.c.2 Add and subtract fractions with the same denominator	N	The pupil can calculate 3/4 + 3/4 = 6/4, with supporting diagrams.	The pupil can calculate 3/9 + 8/9 = 11/9 and 11/9 – 8/9 = 3/9.	The pupil can calculate 3/9 + 8/9 = 11/9 and 11/9 – 8/9 = 3/9. They realise that 11/9 is greater than one and can suggest ways to record this.
		4.3.c.3 Understand the relation between non-unit fractions and multiplication and division of quantities (+)	N	The pupil can interpret 3/4 as 3 x 1/4, with the support of diagrams.	The pupil can interpret 3/5 as 3 x 1/5 and as 3 ÷ 5.	The pupil can interpret 6/7 as 6 x 1/7 and 1/7 of 6 and 6 ÷ 7.
		4.3.c.4 Rounds decimals with one decimal place to the nearest whole number	Y	The pupil can round 3.2 to 3 and 3.8 to 4 because those are the whole numbers they are nearest to.	The pupil can round 3.2 to 3 and 3.5 to 4, explaining that rounding 3.5 to 4 is a convention rather than because it is nearer to 4.	The pupil can list the numbers to one decimal place that round to a number such as 4, explaining how they know and why 3.5 is included but 4.5 is not included.
		4.3.c.5 Compares numbers with the same number of decimal places up to two decimal places	N	The pupil can identify the larger number out of 0.6 and 0.64 with the support of a decimal scale.	The pupil can identify the larger number out of 3.02 and 3.2, explaining their reasoning.	The pupil can write instructions for ascertaining the larger number out of 4.28 and 4.08.

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3) Fractions, decimals and percentages	d) Solve FDP problems	4.3.d.1 Solve problems involving harder fractions to calculate and divide quantities, including non-unit fractions where the answer is a whole number (*)	N	The pupil can solve problems such as 'I have 12 oatcakes. I eat 3/4 of them for lunch. Do I have enough left to eat two for a snack in the afternoon?'	The pupil can solve problems such as 'I have 20 oatcakes. I eat 2/5 of them for lunch and need to save 1/4 of them for an afternoon snack. Do I have enough to give my friend 8 of them for her lunch?'	The pupil can make up problems involving harder fractions and numbers of sweets and group them into easy, medium and hard problems.
		4.3.d.2 Solve simple measure and money problems involving fractions and decimals to two decimal places	Y	The pupil can solve problems such as 'I have £12. I spend 3/4 of it on lunch. Do I have enough left for my bus fare home of £1.80?'	The pupil can solve problems such as 'I have £12. I spend 2/5 of it on lunch and need to save 1/3 of it for the bus fare home. Do I have enough to spend £2.40 on an ice cream?'	The pupil can make up problems involving harder fractions and money and group them into easy, medium and hard problems.

Rising Stars Progression Framework for mathematics, Year 4

Domain: Measurement

Strand	Progression statement	NAHT key performance indicator (Y/N)	What to look for guidance (Working towards expectations)	What to look for guidance (Meeting expectations)	What to look for guidance (Exceeding expectations)
1) Understand units of measure	4.1.1 Read, write and convert time between analogue and digital 12- and 24-hour clocks	N	The pupil can write quarter past three in the afternoon as 3:15 p.m. and, with prompting, as 15:15.	The pupil can write quarter past three in the afternoon as 3:15 p.m. or 15:15 and can read 10:45 as 'a quarter to 11'.	The pupil can explain the connection between analogue clocks and 12- and 24-hour clock times.
	4.1.2 Convert from larger to smaller units of time (*)	Y	The pupil can work out how many minutes in an hour and a half or how many days until the end of term, with prompting.	The pupil can apply their knowledge of multiplication to convert from larger to smaller units of time, selecting the appropriate multiplier and method to perform it.	The pupil can work out how many days they have been alive.
	4.1.3 Record money using decimal notation (+)	N	The pupil can write £2 and 46p as £2.46.	The pupil can write £2 and 50p as £2.50, knowing they need to include the zero.	The pupil can explain the difference between £2.06 and £2.60, with reference to both money and the decimal system.
	4.1.4 Convert from larger to smaller units of metric measure (*)	Y	The pupil can convert 3 kg to 3000 g by multiplying 3 by 1000 with prompting.	The pupil can apply their knowledge of multiplying by 10, 100 and 1000 and the relationship between metric units to convert 3 kg to 3000 g.	The pupil can apply their knowledge of multiplying by 10, 100 and 1000 and the relationship between metric units to convert from larger to smaller units and begin to explore how to do the reverse process.

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Domain: Measurement

Strand	Progression statement	NAHT key performance indicator (Y/N)	What to look for guidance (Working towards expectations)	What to look for guidance (Meeting expectations)	What to look for guidance (Exceeding expectations)
2) Make measurements	4.2.1 Read time from analogue and digital 12- and 24-hour clocks (^)	N	The pupil can write down the time to watch a programme on the television.	The pupil can write the order of events for a class presentation with times in 12- and 24-hour clock versions.	The pupil can write down when it is time to go for a music lesson.
	4.2.2 Write time from analogue and digital 12- and 24-hour clocks (^)	N	The pupil can write down one of the versions of the time for their parents or carers to attend a consultation with their teacher.	The pupil can write the order of events for a class presentation with times in 12- and 24-hour clock versions.	The pupil can write down the times for a day trip by bus or train to the nearest large town in all the three formats.
	4.2.3 Estimate and compare different measures, including money (^)	N	The pupil can sometimes judge that they have enough money to pay for an item.	The pupil can judge when there is enough money to pay for an item or enough string to measure the perimeter of an object.	The pupil can arrange a series of similar objects in ascending order of weight.
	4.2.4 Measure the perimeter of a rectilinear figure (^)	N	The pupil can draw a shape made up of squares on a square grid and measure its perimeter, with support.	The pupil can draw a shape made up of squares on a square grid and measure its perimeter.	The pupil can draw a shape made up of squares on a square grid with a given perimeter.
	4.2.5 Find the area of rectilinear shapes by counting squares and relate it to multiplication arrays (+)	N	The pupil can draw a rectangle on a square grid and count the squares within it to measure its area, with prompting.	The pupil can draw a rectangle on a square grid and count the squares within it to measure its area.	The pupil can draw a rectangle on a square grid and count the squares within it to measure its area, using efficient strategies such as multiplication or repeated addition.

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3) Solve measurement problems	4.3.1 Continue to solve problems relating to the duration of events (+)	N	The pupil can work out how long it is until the next break in school.	The pupil can work out how long it is from the beginning of school to lunchtime.	The pupil can work out the duration of journeys from a bus or train timetable.
	4.3.2 Calculate with different measures (^)	N	The pupil can solve problems such as 'I have 1 litre of orange juice. I pour a glass of 250 ml. How much orange juice is left?'	The pupil can solve problems such as 'I have 2 litres of orange juice. How many 200 ml drinks of orange juice can be poured?'	The pupil can solve problems such as 'How many 150 ml glasses of orange juice can I pour from four 1-litre cartons?'
	4.3.3 Calculate with money in pounds and pence (^)	N	The pupil can solve problems such as 'I have £5. How many cups of tea at £1.20 can I afford?'	The pupil can solve problems such as 'I have £20. How many pencils at 45p can I buy?'	The pupil can solve problems such as 'What combination of teas and coffees could I buy to cost £5 exactly if tea costs 80p and coffee costs £1?'
	4.3.4 Continue to solve problems involving mixed units of length, mass and capacity/volume (+)	N	The pupil can measure and record the lengths of the pencils in their pencil case to see how much work they do during a term.	The pupil can measure and record the heights of the pupils in the class in metres and centimetres to see how much they grow during the year.	The pupil can measure and record the heights of seedlings each week to check their progress.
	4.3.5 Calculate the perimeter of a rectilinear figure (^)	N	The pupil can work out the perimeter of a rectangle by adding up the four sides.	The pupil can work out the perimeter of a rectangle, knowing the length and width, without counting up all of the sides.	The pupil can write down a rule for calculating the perimeter of a rectangle using words.

Rising Stars Progression Framework for mathematics, Year 4

Domain: Geometry

Strand	Progression statement	NAHT key performance indicator (Y/N)	What to look for guidance (Working towards expectations)	What to look for guidance (Meeting expectations)	What to look for guidance (Exceeding expectations)
1) Make and visualise shapes	4.1.1 Complete a simple symmetric figure with respect to a specific line of symmetry, and measure angles using a protractor (+)	N	The pupil can complete a simple design so that it has one line of symmetry.	The pupil can complete a design so that it has two lines of symmetry.	The pupil can complete a design so that it has more than two lines of symmetry.
	4.1.2 Identify lines of symmetry in 2-D shapes presented in different orientations, including where the line of symmetry does not dissect the original shape (+)	Y	The pupil can identify the lines of symmetry for some simple shapes made up of identical squares joined edge to edge.	The pupil can identify the lines of symmetry for shapes made up of identical squares joined edge to edge.	The pupil can identify extra squares to add to shapes made up of identical squares joined edge to edge so that they have line symmetry.
	4.1.3 Continue to recognise 3-D shapes, using the correct language (+)	N	The pupil can select cubes from a collection of 3-D shapes.	The pupil can match a selection of 3-D shapes to their names.	The pupil can research the names of unfamiliar 3-D shapes.

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Domain: Geometry

Strand	Progression statement	NAHT key performance indicator (Y/N)	What to look for guidance (Working towards expectations)	What to look for guidance (Meeting expectations)	What to look for guidance (Exceeding expectations)
2) Classify shapes	**4.2.1 Compare and classify geometric shapes, including different types of quadrilaterals and triangles, based on their properties and sizes** (*)	**Y**	The pupil can sort simple geometric shapes such as squares and rectangles or triangles into a Carroll diagram according to two different criteria, with support.	The pupil can sort geometric shapes such as types of quadrilateral or triangles into a Carroll diagram according to two different criteria.	The pupil can devise extra shapes to place in the categories in their Carroll diagram.
	4.2.2 Use the vocabulary of the different types of triangle and quadrilateral (+)	N	The pupil can use words such as 'equilateral' and 'kite', with prompting.	The pupil can use the words for different types of triangle and some of the quadrilaterals.	The pupil can readily recall and use the vocabulary for all three of the different types of triangle and the six quadrilaterals.
	4.2.3 Continue to make and classify 3-D shapes, including by the 2-D shapes that form their surface (+)	N	The pupil can select shapes with a triangle on their surface from a collection of 3-D shapes.	The pupil can sort shapes into a Venn diagram that has one set labelled 'has a circle as part of its surface' and another set labelled 'has a rectangle as part of its surface'.	The pupil can devise various strategies for sorting the shapes, justifying them by reference to their properties.
3) Solve shape problems	4.3.1 Identify acute and obtuse angles (^)	N	The pupil can use the words 'obtuse' and 'acute' to describe angles that are greater than or less than a right angle, with prompting.	The pupil can use the language of 'obtuse' and 'acute' to describe whether angles are greater than or less than a right angle.	The pupil can use the language of 'obtuse' and 'acute' to justify a conjecture that a quadrilateral cannot have more than two obtuse angles.
	4.3.2 Compare and order angles up to two right angles by size (^)	N	The pupil can compare two angles and decide which is bigger.	The pupil can place a set of angles in ascending order of size.	The pupil can place a set of angles in ascending order of size, describing how they know that one angle is larger than another.
	4.3.3 Continue to identify types of angles and to reason about their sizes (+)	N	The pupil can compare angles in order to decide whether an acute angle is greater or smaller than 45^0.	The pupil can compare angles in order to order them or estimate their size.	The pupil can compare angles in order to decide whether a polygon is regular.

Rising Stars Progression Framework for mathematics, Year 4

Domain: Geometry

Strand	Progression statement	NAHT key performance indicator (Y/N)	What to look for guidance (Working towards expectations)	What to look for guidance (Meeting expectations)	What to look for guidance (Exceeding expectations)
4) Describe position	4.4.1 Describe positions on a 2-D grid as coordinates in the first quadrant	N	The pupil can locate a point in the first quadrant such as (3, 5), knowing that it marks the intersection of two gridlines and that 3 represents the distance moved 'along' and 5 the distance moved 'up', with prompts.	The pupil can plot a point in the first quadrant such as (3, 5), knowing that it marks the intersection of two gridlines and that 3 represents the distance moved 'along' and 5 the distance moved 'up'.	The pupil can plot a point in the first quadrant such as (3, 5), knowing that it marks the intersection of two gridlines and that 3 represents the distance moved 'along' and 5 the distance moved 'up'. They explain that this process will locate any point on the plane.
	4.4.2 Plot specified points and draw sides to complete a given polygon	Y	The pupil can plot points to mark the vertices of a polygon and joins them in the correct order to form the polygon, with prompting.	The pupil can plot points to mark the vertices of a polygon and joins them in the correct order to form the polygon.	The pupil can decide for themselves where to place the points that will join to make a polygon.
5) Describe movement	4.5.1 Describe movement between positions as translations of a given unit to the left/right and up/down	N	The pupil can describe a change of position but not orientation in terms of distance moved to the left or right and up or down, with prompts.	The pupil can describe a change of position but not orientation in terms of distance moved to the left or right and up or down.	The pupil can describe a change of position but not orientation in terms of distance moved to the left or right and up or down, and can describe the left and down using negative signs.

Rising Stars Progression Framework for mathematics, Year 4

Domain: Statistics

Strand	Progression statement	NAHT key performance indicator (Y/N)	What to look for guidance (Working towards expectations)	What to look for guidance (Meeting expectations)	What to look for guidance (Exceeding expectations)
1) Interpret data	4.1.1 Interpret discrete and continuous data using appropriate graphical methods, including time graphs (^)	N	The pupil can answer questions such as 'What was the temperature at noon on the 12th October?' from an appropriate time series graph.	The pupil can answer questions such as 'How much warmer was it at noon on the 12th October than it was at 8 a.m.?' from an appropriate time series graph.	The pupil can make up a series of questions about given graphs and time graphs.
2) Present data	4.2.1 Present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs (^)	N	The pupil can construct a line graph to show change over time, realising that it is not appropriate to use a bar graph for this, with support.	The pupil can construct a line graph to show change over time, understanding that it is not appropriate to use a bar graph for this.	The pupil can justify their choice of a line graph to show change over time instead of a bar graph by referring to the difference between continuous and discrete data.
3) Solve data problems	**4.3.1 Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs** (^)	Y	The pupil can conduct a survey to collect information about how the children in the class get to school in the morning. They draw an appropriate graph and comment on the means of travel.	The pupil can conduct a survey to collect information about how long the children in the class take to get to school in the morning. They draw an appropriate graph and draw conclusions about the journey times.	The pupil can conduct a survey to collect information about how long the children in the class take to get to school in the morning and their means of transport. They devise an appropriate graph to show all of this information and draw conclusions about the journeys to school.
	4.3.2 Begin to solve problems involving information presented in tables (+)	N	The pupil can extract information from tables such as the cost of swimming for a child at the local pool.	The pupil can extract information from tables such as the cost of particular items.	The pupil can extract information from tables and compare to find the best deal.

Rising Stars Progression Framework for mathematics, Year 4

Domain: Ratio

Strand	Progression statement	NAHT key performance indicator (Y/N)	What to look for guidance (Working towards expectations)	What to look for guidance (Meeting expectations)	What to look for guidance (Exceeding expectations)
	4.1.1 Solve calculation problems involving multiplying and adding, including integer scaling and harder correspondence problems such as n objects are connected to m objects. LINK: Number 4.2.c.1	N	The pupil can solve problems such as 'Eggs are sold in boxes of six. How many eggs are there in nine boxes?'	The pupil can solve problems such as 'A stick is 8 cm long. Another stick is 12 times longer. How long is the second stick?' and 'You have four cards each with a different digit on it. How many different two-digit numbers can you make?'	The pupil can solve problems such as 'Three cakes are shared equally between ten children. How much do they have each?'

Rising Stars Progression Framework for mathematics, Year 4

Domain: Algebra

Strand	Progression statement	NAHT key performance indicator (Y/N)	What to look for guidance (Working towards expectations)	What to look for guidance (Meeting expectations)	What to look for guidance (Exceeding expectations)
1) Understand formulae	4.1.2 Use the distributive law and associative law to perform mental calculations (+)	N	The pupil can work out 3 x 5 x 2 as 3 x 10 = 30.	The pupil can work out 39 x 7 as 30 x 7 + 9 x 7.	The pupil can devise a variety of strategies involving these laws to do mental arithmetic.
2) Solve algebra problems	There is no content for this strand in Year 4.				
3) Describe sequences	There is no content for this strand in Year 4.				

RISING STARS ASSESSMENT

Progression Frameworks

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Author: Heather Davis (Cornwall Learning)
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Copyeditor: Denise Moulton

Design and layout: Stephanie Matthews,
Kirsten Alexander and Kirsty Taylor

Publisher: Camilla Erskine

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Developed in Association with CORNWALL LEARNING