Big Maths

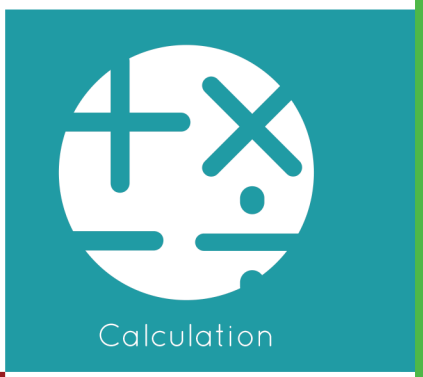
Year 3

Termly Learning Objectives


Counting

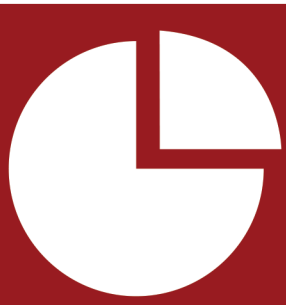
Learn Its


It's Nothing New


Calculation


Shape

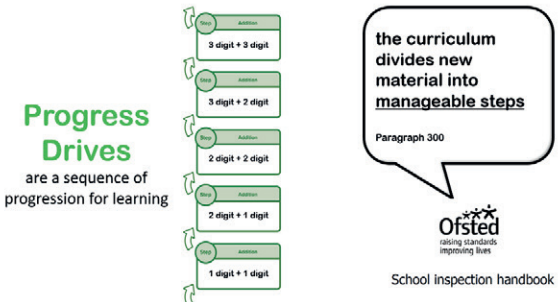

Amounts

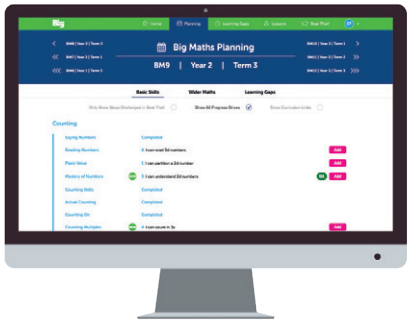

Fractions


Explaining Data

Andrell Education Ltd

Big Maths takes the broader curriculum statements from the national curriculum and breaks them down into smaller manageable steps. This results in a sequence of learning that forms the structure of the Big Maths curriculum design, which schools can then adopt. In Big Maths we call each strand/spine a Progress Drive, since it becomes a tool for the teacher to drive (as in 'to guide' or 'to steer') the learner's progress. We can see too how Ofsted now explicitly recognises this as a crucial curriculum design feature for maths.



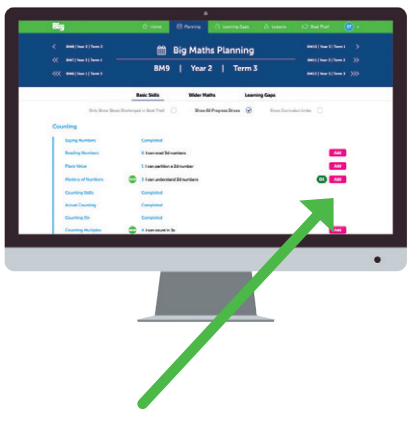


It is also effective to know *when* learners should secure each small step on the Progress Drive. This is an age-related expectation that comes from mapping the smaller steps to national curriculum year group statements. This provides the teacher with a clear and simple view of which steps need to be secured each term in order to keep the learner 'on track'. These can be seen as a list of term by term learning objective statements on the Big Maths Online website.

This can also be seen here in this 'termly learning objectives' planning document. This can be downloaded and printed out from the library section within the Big Maths Online website (new learning is denoted by being highlighted in green).

Basic Skills

Progress Drive	Step	Statement	✓
Place Value	5	I can partition a 3dp number	
Mastery of Numbers	8	I can understand 3dp numbers	
	9	I can understand 5, 6, 7, 8d numbers	
Count Along in 4 Ways	-25s	-25s	
Counting Along Scales	6	I can find the gap between 2 negative numbers	
Multiplying by 10	5	I can multiply whole numbers and decimals by 1000	
Dividing by 10	5	I can divide whole numbers and decimals by 1000	
Multiple-Factor-Prime	4	I understand prime numbers	
Addition	36	I can solve additions with 2dp	
	37	I can solve any additions with 2dp	
	38	I can solve additions with larger numbers	



Click here to immediately add this step to Big Maths Online weekly/lesson planning:

- Teacher notes are added automatically.
- Personalised notes can be added.
- Chosen resources from Big Maths Online can also be immediately added.

This planning guidance should not be used as a list that takes the teacher back to the antiquated days of simply 'covering a curriculum', but rather is a list of 'next steps' for learners to secure (that term) in their long term memory, the teacher having ensured learners have secured earlier steps on that Progress Drive. The teacher will need to construct their own plan as to how they will guide their pupils from their current starting points to the desired end points for that term. Although this requires important thinking that can only be done at the bespoke level of that teacher responding to that particular class of children, the planning process itself is quick and easy since the step is always simply located from the structure of the Big Maths curriculum, and the teacher notes and resources are there to be found at that location. All the teacher need do is click and add that step to their weekly/lesson plan, and then familiarise themselves with the delivery of that step.

A more short-hand version of this termly planning view is to use the Big Maths planning document that outlines the expected finishing position for leaners that term on each Progress Drive. This document simply shows which step the learner should be on by the end of that term if they are to be classed as 'on track'.

	Progress Drive	Steps
C	Saying Numbers	✓
	Reading Numbers	10, 11
	Place Value	4
	Mastery of Numbers	7
	Counting Skills	✓
	Actual Counting	✓
	Counting On	✓
	Counting Multiples	✓
	Counting Along in 4 Ways	-2s, -5s
	Counting Along Scales	5

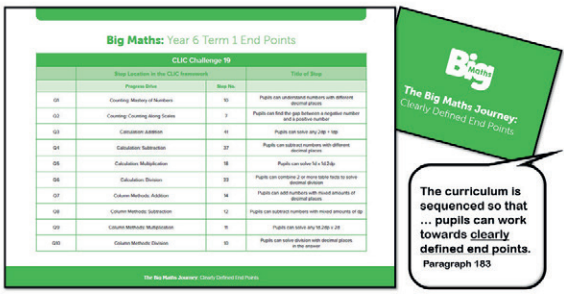
	Progress Drive	Steps
L	Learn its	✓

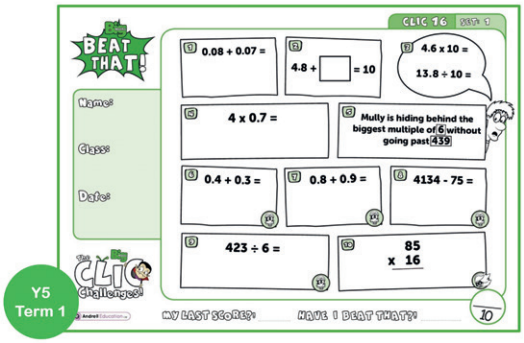
	Progress Drive	Steps
I	Swapping the Units	✓
	INN: Addition and Subtraction	✓
	Doubling & Halving	✓ ✓ ✓
	INN: Number Bonds to 10	✓
	x10 & ÷10	4 4
	INN: Multiplication	5
	Coin Multiplication	5

	Progress Drive	Steps
S	Explore & Draw	24
	2D Shapes	23
	3D Shapes	20, 21
	Position & Direction	26, 27

	Progress Drive	Steps
A	Amounts of Distance	26
	Amounts of Mass	16
	Amounts of Money	15
	Amounts of Space	20
	Amounts of Temperature	11
	Amounts of Time	27
	Amounts of Time: Telling the Time	✓
	Amounts of Turn	22, 23, 24

	Progress Drive	Steps
F	Fractions of a Whole	17
	Fractions of a Set	13
	Fractions: Counting	18
	Fractions: Learn its	9
	Fractions: It's Nothing New	7
	Fractions: Calculation	8 - 12





The Big Maths Beat That challenges are also mapped into this age-related expectation journey. Indeed, the 10 questions on each CLIC challenge represent the most essential core knowledge of the curriculum that the learner should have acquired. In effect, the 10 questions are 10 learning objectives that provide the sharpest focus of a clearly defined end point for each term. This allows the school to have perfect transparency as to which individuals, and what proportion of individuals, are 'on track' at any one time. Ensuring all pupils secure this core knowledge of the curriculum is a vital aspect of any mastery approach. Again, this idea of breaking the bigger maths journey into smaller clearly defined parts, mapped into an expected timeframe, is something that has been part of Big Maths for over a decade, but that Ofsted now recognises as an essential element of curriculum design.

Using Big Maths Online to track the performance of pupils will speed up the teacher's response to planning the next steps for learning. This can be extended into pupils completing their challenges online so that there is no printing, photocopying, sheet-management or marking; yet, the teacher can use the learning gaps feature to respond immediately in their online planning if they so wish.

Basic Skills

Progress Drive	Step	Statement	✓
Reading Numbers	6	I can read 3d numbers	
Place Value	2	I can partition a 3d number, then a 4d number	
Mastery of Numbers	3	I can understand 2d numbers	
Counting Multiples	4	I can count in 3s	
Count Along in 4 Ways	20s, 200s, 2000s, 1/4s	20s 200s 2000s 1/4s	
Counting Along Scales	1	I can count along when the numbers are written in	
Learn Its	10	3x table	
Swapping the Units	1	Swap 'the thing' to another object	
INN: Addition and Subtraction	3	I can add thousands	
Doubling with Pim (without crossing 10)	3	I can double 2d numbers	
Doubling with Pim (with crossing 10)	3	I can double 2d numbers	
Halving with Pim	3	I know half of 300, 500, 700, 900	
INN: Number Bonds to 10	3	I can find the missing piece to 100	
Multiplying by 10	1	I can multiply whole numbers by 10	
Dividing by 10	1	I can divide multiples of 10 by 10	
Coin Multiplication	2	I can complete a 1, 2, 5, 10 card	
INN: Finding Multiples	1	I can find Mully using my tables	
INN: Fact Families	4	I know the Fact Families for 1d x 1d facts	
Addition	25	I can solve any 2d + 2d	
Subtraction	28	I can take any 2d number from 100	
Multiplication	9	I can solve 1d x 1d (2, 3, 4, 5x tables)	
Division	17	I can use a Tables Fact to find a division fact (with remainders) (2, 3, 4, 5x tables)	

Basic Skills (Continued)

Progress Drive	Step	Statement	✓
Addition - Column Methods	2	I can solve any 2d + 2d	
Subtraction - Column Methods	2	I can solve any 2d - 2d	

Wider Maths

Progress Drive	Step	Statement	✓
Explore and Draw	15	I can recognise horizontal and vertical lines	
	16	I can recognise parallel lines	
	17	I can recognise perpendicular lines	
2D Shapes	17	I can compare and sort many 2D shapes	
3D Shapes	17	I can recognise the 3D shapes I know in context	
Position and Direction	13	I can use the four compass points to describe direction	
Amounts of Distance	10	I can choose to count in metres or centimetres by seeing what makes most sense	
Amounts of Mass	10	I can choose to measure in kilograms or grams by seeing what makes most sense	
Amounts of Money	12	I can use all of my CLIC steps, so far, in the context of money (involving either pounds or pence)	
Amounts of Space	10	I can choose to measure in litres or millilitres by seeing what makes most sense	
Amounts of Temperature	7	I know that we measure temperature in degrees Celsius	
Amounts of Time	19	I can place different periods of time in order	
Amounts of Time: Telling the Time	8	I can tell the time!	
Amounts of Turn	7	I can recognise half turns, three quarter turns and whole turns as amounts of right angles	
	8	I can tell if an angle is greater than or less than a right angle	
	9	I can move two arms to replicate an angle in a polygon	
	10	I can spot right angles in shapes	

Wider Maths (Continued)

Progress Drive	Step	Statement	✓
Fractions of a Whole	9	I can tell you fractions equal to 1, e.g. two halves, three thirds, four quarters, etc.	
	10	I can always count up how many equal parts altogether	
	11	I can always count up how many equal parts are shaded	
	12	I can find any simple fraction of any simple shape	
	13	I can show any simple fraction	
Fractions of a Set	8	I can find fractions of amounts by sharing and then counting (2 or more parts)	
Fractions: Counting	6	I can count in thirds	
	7	I can count in tenths	
Fractions: Learn Its	4	I know all of my x2, x5 and x10 tables as fractions Learn Its	
Fractions: It's Nothing New	4	I can add and subtract fractions with the same denominator (within 1)	
Fractions: Calculation	1	I can see fractions as 'just another number'	
Ratio	2	I can use fixed number relationships in my learning	
Diagrams and Tables	16	I can explain pictograms with half pictures	
Bar Charts	3	I can read a bar chart	
Line Graphs	2	I can track my own Big Maths Beat That! scores with a line graph	
Pattern Spotting	9	I can spot and extend more challenging patterns of shapes	
Algebra	3	I understand that = means the same amount as	
Prove It!	2	I can Prove It! - 2	

Basic Skills

Progress Drive	Step	Statement	✓
Reading Numbers	6	I can read 3d numbers	
Place Value	2	I can partition a 3d number, then a 4d number	
Mastery of Numbers	3	I can understand 2d numbers	
Counting Multiples	5	I can count in 4s	
Count Along in 4 Ways	1000s	1000s	
Counting Along Scales	2	I can count along even when the numbers aren't written in	
Learn Its	11	4x table	
Swapping the Units	1	Swap 'the thing' to another object	
INN: Addition and Subtraction	3	I can add thousands	
Doubling with Pim (without crossing 10)	4	I can double 3d multiples of 100	
Doubling with Pim (with crossing 10)	4	I can double 3d multiples of 100	
Halving with Pim	3	I know half of 300, 500, 700, 900	
INN: Number Bonds to 10	3	I can find the missing piece to 100	
Multiplying by 10	1	I can multiply whole numbers by 10	
Dividing by 10	1	I can divide multiples of 10 by 10	
INN: Multiplication	1	I can multiply multiples of 10	
	2	I can write Smile Multiplication tables	
Coin Multiplication	3	I can complete a full Coin Card	
INN: Finding Multiples	2	I can find Mully using 10 lots and a Tables Fact	
INN: Fact Families	4	I know the Fact Families for 1d x 1d facts	
Addition	26	I can solve 3d + 2d	
	27	I can solve any 3d + 2d	
Subtraction	28	I can take any 2d number from 100	
Multiplication	10	I can do Smile Multiplication (2, 3, 4, 5x tables)	

Basic Skills (Continued)

Progress Drive	Step	Statement	✓
Division	17	I can use a Tables Fact to find a division fact (with remainders) (2, 3, 4, 5x tables)	
Addition - Column Methods	3	I can solve a 3d + 2d	
Subtraction - Column Methods	3	I can solve any 2d - 2d	
	4	I can solve a 3d - 2d	

Wider Maths

Progress Drive	Step	Statement	✓
Explore and Draw	18	I can recognise lines of symmetry in a variety of shapes	
	19	I can use my knowledge of symmetry to recognise non-symmetrical shapes	
2D Shapes	18	I can identify regular and irregular polygons	
	19	I can identify congruent shapes	
3D Shapes	17	I can recognise the 3D shapes I know in context	
Position and Direction	14	I can use simple grid references	
Amounts of Distance	11	I can measure distance accurately using metres and centimetres	
	12	I know my metre Learn It 1m=100cm	
	13	I know my millimetre Learn It 1cm=10mm	
Amounts of Mass	11	I can measure mass accurately using kilograms and grams	
	12	I know my mass Learn It 1kg=1000g	
Amounts of Money	12	I can use all of my CLIC steps, so far, in the context of money (involving either pounds or pence)	
Amounts of Space	11	I can measure capacity accurately using litres and millilitres	
	12	I know my capacity Learn It 1L=1000ml	
Amounts of Temperature	7	I know that we measure temperature in degrees Celsius	
Amounts of Time	20	I can time and record simple events	
	21	I can time, record and compare simple events	
Amounts of Time: Telling the Time	8	I can tell the time!	
Amounts of Turn	11	I can recognise acute angles	
	12	I can recognise obtuse angles	
Fractions of a Whole	13	I can show any simple fraction	
Fractions of a Set	8	I can find fractions of amounts by sharing and then counting (2 or more parts)	

Wider Maths (Continued)

Progress Drive	Step	Statement	✓
Fractions: Counting	8	I can record my tenths with decimals too	
	9	I can compare and order fractions with the same denominator	
Fractions: Learn Its	4	I know all of my x2, x5 and x10 tables as fractions Learn Its	
Fractions: It's Nothing New	4	I can add and subtract fractions with the same denominator (within 1)	
Fractions: Calculation	1	I can see fractions as 'just another number'	
Ratio	2	I can use fixed number relationships in my learning	
Diagrams and Tables	17	I can explain pictograms with quarter pictures	
	18	I can use a variety of Venn diagrams	
Bar Charts	4	I can draw a 1:1 scale bar chart	
	5	I can explain a 1:2 scale bar chart	
	6	I can draw a 1:2 scale bar chart	
Line Graphs	2	I can track my own Big Maths Beat That! scores with a line graph	
Pattern Spotting	9	I can spot and extend more challenging patterns of shapes	
Algebra	3	I understand that = means the same amount as	
Prove It!	2	I can Prove It! - 2	

Basic Skills

Progress Drive	Step	Statement	✓
Reading Numbers	6	I can read 3d numbers	
Place Value	2	I can partition a 3d number, then a 4d number	
	3	I can partition a 1dp number	
Mastery of Numbers	4	I can understand 3d numbers	
Counting Multiples	6	I can count in 8s	
Count Along in 4 Ways	1/10s, 0.1s	1/10s 0.1s	
Counting Along Scales	2	I can count along even when the numbers aren't written in	
Learn Its	12	8x table	
Swapping the Units	2	Swap 'the thing' to an amount	
	3	Swap 'the thing' to a unit of measure	
INN: Addition and Subtraction	3	I can add thousands	
Doubling with Pim (without crossing 10)	5	I can double 3d numbers	
Doubling with Pim (with crossing 10)	5	I can double 3d numbers	
Halving with Pim	3	I know half of 300, 500, 700, 900	
INN: Number Bonds to 10	3	I can find the missing piece to 100	
Multiplying by 10	1	I can multiply whole numbers by 10	
Dividing by 10	1	I can divide multiples of 10 by 10	
INN: Multiplication	3	I can write Smile Multiplication Fact Families	
Coin Multiplication	3	I can complete a full Coin Card	
INN: Finding Multiples	2	I can find Mully using 10 lots and a Tables Fact	
INN: Fact Families	5	I know Smile Multiplication Fact Families	
Addition	28	I can solve 3d + 3d	
Subtraction	29	I can subtract with 3 digit numbers	

Basic Skills (Continued)

Progress Drive	Step	Statement	✓
Multiplication	11	I can solve 1d x 2d (2, 3, 4, 5x tables)	
Division	18	I can combine 2 or more Tables Facts to solve division (2, 3, 4, 5x tables)	
	19	I can combine 2 or more Tables Facts to solve division (with remainders) (2, 3, 4, 5x tables)	
Addition - Column Methods	4	I can solve any 3d + 2d	
	5	I can solve a 3d + 3d	
	6	I can solve any 3d + 3d	
Subtraction - Column Methods	5	I can solve any 3d - 3d	
Multiplication - Column Methods	1	I can solve a 2d x 1d	
Division - Column Methods	1	I can solve a 2d ÷ 1d (using x2, 3, 4, 5) with no remainders inside the question	

Wider Maths

Progress Drive	Step	Statement	✓
Explore and Draw	19	I can use my knowledge of symmetry to recognise non-symmetrical shapes	
2D Shapes	20	I can sort and describe 2D shapes using angles	
3D Shapes	18	I can describe 3D shapes using measurements and types of angles	
	19	I can make 3D shapes	
Position and Direction	14	I can use simple grid references	
Amounts of Distance	14	I can calculate in the context of measuring distance	
	15	I can change an amount of distance to make it 3, 4 or 5 times bigger	
	16	I know what the perimeter is	
	17	I can count to find a perimeter	
	18	I can measure to find a perimeter	
Amounts of Mass	13	I can calculate in the context of measuring mass	
	14	I can change an amount of mass to make it 3, 4 or 5 times bigger	
Amounts of Money	13	I can use all of my CLIC steps, so far, in the context of money (involving different units, e.g. 125p add £2)	
	14	I can record money spent and money saved	
Amounts of Space	13	I can calculate in the context of measuring capacity	
	14	I can change an amount of water to make it 3, 4 or 5 times bigger	
Amounts of Temperature	7	I know that we measure temperature in degrees Celsius	
Amounts of Time	22	I know how many days in each month, year and leap year	

Wider Maths (Continued)

Progress Drive	Step	Statement	✓
Amounts of Time: Telling the Time	9	I can say how long until o'clock	
	10	I can read quarter past and quarter to on a digital clock	
	11	I can tell the time to the nearest minute	
	12	I can tell the time with Roman numerals	
	13	I understand am and pm	
	14	I can read a 24 hour clock	
	15	I can convert time from analogue to 24 hour clock	
Amounts of Turn	13	I can use acute and obtuse to accurately describe properties of shapes	
	14	I know that angles are used to sort shapes	
Fractions of a Whole	14	I know any fraction equal to 1	
	15	I can use equivalence to show any simple fraction	
Fractions of a Set	9	I can find fractions of amounts using my tables (1 part)	
	10	I can find fractions of amounts using my tables (2 or more parts)	
Fractions: Counting	10	I can place the fractions I know on a number line	
	11	I can compare and order fractions with different denominators	
Fractions: Learn Its	5	I know all of my x3, x4 and x8 tables as fractions Learn Its	
Fractions: It's Nothing New	4	I can add and subtract fractions with the same denominator (within 1)	
Fractions: Calculation	2	I can solve addition calculations with fractions	
	3	I can solve subtraction calculations with fractions	
Ratio	3	I can increase measures by a given proportion	
Diagrams and Tables	19	I can explain a table with several rows and columns	
	20	I can read timetables	

Wider Maths (Continued)

Progress Drive	Step	Statement	✓
Bar Charts	7	I can find how many in a subset	
	8	I can find how many altogether	
	9	I can compare subsets and explain what this tells us	
Line Graphs	2	I can track my own Big Maths Beat That! scores with a line graph	
Pattern Spotting	9	I can spot and extend more challenging patterns of shapes	
Algebra	4	I can use a two-step function machine	
Prove It!	3	I can Prove It! - 3	

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