



# Big Maths

## Year 4

# Termly Learning Objectives



Counting



Learn Its



It's Nothing New



Calculation



Shape



Amounts



Fractions



Explaining Data

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.

**Progress Drives**  
are a sequence of progression for learning

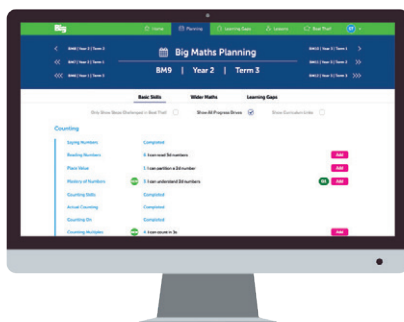


the curriculum divides new material into **manageable steps**

Paragraph 300



School inspection handbook

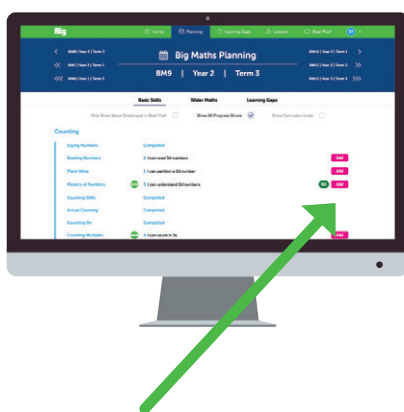


It is also effective to know *when* learners should secure each small step on the Progress Drive. This is an age-related expectation that comes from mapping the smaller steps to national curriculum year group statements. This provides the teacher with a clear and simple view of which steps need to be 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 learners 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	✓
L	Counting On	✓
	Counting Multiples	✓
	Counting Along in 4 Ways	2s, 5s
	Counting Along Scales	5
	Learn Its	✓
I	Swapping the Units	✓
	INN: Addition and Subtraction	✓
	Doubling & Halving	✓ / ✓
	INN: Number Bonds to 10	✓
	x10 & ÷10	4 / 4
	INN: Multiplication	5
S	Coin Multiplication	5
	Explore & Draw	24
	2D Shapes	23
	3D Shapes	20, 21
	Position & Direction	26, 27
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
F	Amounts of Time: Telling the Time	✓
	Amounts of Time	22, 23, 24
	Fractions of a Whole	17
	Fractions of a Set	13
	Fractions: Counting	18
F	Fractions: Learn Its	9
	Fractions: It's Nothing New	7
	Fractions: Calculation	8 - 12

Big Maths: Year 6 Term 1 End Points		
CLIC Challenge 19		
Item Location in the CLIC Resources	Item No.	End of Term
Counting: Mastery of Numbers	10	Pupils can understand numbers with different levels of precision
Counting: Counting Along Scales	7	Pupils can find the gap between a regular number and an irregular number
Calculation: Addition	14	Pupils can add any 2 (up to 100)
Calculation: Subtraction	17	Pupils can subtract numbers with different levels of precision
Calculation: Multiplication	18	Pupils can multiply 5s & 10s (up to 100)
Calculation: Division	22	Pupils can complete 2 or more steps tasks to solve division problems
Column Methods: Addition	14	Pupils can add numbers with mixed amounts of different precision
Column Methods: Subtraction	17	Pupils can subtract numbers with mixed amounts of different precision
Column Methods: Multiplication	18	Pupils can solve any 10 (2DP & 1 DP)
Column Methods: Division	19	Pupils can solve division with decimal products in 2 steps

**The Big Maths Journey: Clearly Defined End Points.**  
**The curriculum is sequenced so that ... pupils can work towards clearly defined end points.**  
 Paragraph 183

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	4	I can partition a 2dp number	
Mastery of Numbers	5	I can understand 4d numbers	
Counting Multiples	7	I can count in 6s	
	8	I can count in 7s	
	9	I can count in 9s	
Count Along in 4 Ways	25s, 250s, 2500s	25s 250s 2500s	
Counting Along Scales	3	I can still count along for all of Count Fourways' challenges	
Learn Its	13	The 6 Fact Challenge!	
INN: Addition and Subtraction	3	I can add thousands	
Halving with Pim	3	I know half of 300, 500, 700, 900	
INN: Number Bonds to 10	4	I can find the missing piece to 1000	
Multiplying by 10	2	I can multiply whole numbers by 100	
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	
Addition	28	I can solve 3d + 3d	
Subtraction	29	I can subtract with 3 digit numbers	
Multiplication	12	I can solve any 1d x 1d	
	13	I can do any Smile Multiplication	
Division	19	I can combine 2 or more Tables Facts to solve division (with remainders) (2, 3, 4, 5x tables)	

## Basic Skills (Continued)

Progress Drive	Step	Statement	✓
Addition - Column Methods	6	I can solve any $3d + 3d$	
Subtraction - Column Methods	6	I can solve any $4d - 2d$ or $3d$	
Multiplication - Column Methods	1	I can solve a $2d \times 1d$	
Division - Column Methods	2	I can solve $2d \div 1d$ (using $\times 2, 3, 4, 5$ ) with no remainders in the answer	

## Wider Maths

Progress Drive	Step	Statement	✓
Explore and Draw	20	I can find symmetry when shapes are in different orientations	
2D Shapes	21	I know 'The Triangle Family'	
3D Shapes	19	I can make 3D shapes	
Position and Direction	14	I can use simple grid references	
Amounts of Distance	19	I can calculate to find the perimeter	
	20	I can find the perimeter in a variety of 2D shapes	
	21	I know my kilometre Learn It $1\text{km} = 1000\text{m}$	
	22	I can convert kilometres to metres	
Amounts of Mass	15	I can measure and record mass to the nearest 5g	
	16	I can convert kilograms to grams	
Amounts of Money	15	I can use decimal notation for money	
Amounts of Space	15	I understand that the area is the amount of space inside a 2D shape and I can count squares to find it	
	16	I can find the area of rectangles by counting squares	
	17	I can compare the areas of different shapes by counting squares	
	18	I can compare the areas of different shapes by accurately counting squares and part squares	
Amounts of Temperature	7	I know that we measure temperature in degrees Celsius	
Amounts of Time	23	I can calculate the number of days	
	24	I can convert periods of time	
Amounts of Time: Telling the Time	16	I can convert time from 24 hour clock to analogue	
Amounts of Turn	15	I can compare, order and sort angles	
Fractions of a Whole	16	I can use equivalence to find any simple fraction	
Fractions of a Set	10	I can find fractions of amounts using my tables (2 or more parts)	

## Wider Maths (Continued)

Progress Drive	Step	Statement	✓
Fractions: Counting	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	5	I can add and subtract fractions with the same denominator (beyond 1)	
Fractions: Calculation	4	I can use my calculation skills to add/subtract fractions that make a whole number	
Ratio	3	I can increase measures by a given proportion	
Diagrams and Tables	20	I can read timetables	
Bar Charts	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	

## Basic Skills

Progress Drive	Step	Statement	✓
Reading Numbers	6	I can read 3d numbers	
Place Value	4	I can partition a 2dp number	
Mastery of Numbers	6	I can understand 1dp numbers	
Count Along in 4 Ways	0.2s, 0.5s, 0.25s	0.2s 0.5s 0.25s	
Counting Along Scales	4	I can even count along when there are no lines	
Learn Its	14	11x table	
INN: Addition and Subtraction	4	I can add tenths	
Halving with Pim	4	I know half of 3, 5, 7, 9 as decimals	
INN: Number Bonds to 10	4	I can find the missing piece to 1000	
Multiplying by 10	2	I can multiply whole numbers by 100	
Dividing by 10	2	I can divide whole numbers by 10 or 100 giving decimal answers	
INN: Multiplication	3	I can write Smile Multiplication Fact Families	
Coin Multiplication	4	I know when to add 2 multiples together	
INN: Finding Multiples	2	I can find Mully using 10 lots and a Tables Fact	
Addition	29	I can solve any 3d + 3d	
Subtraction	29	I can subtract with 3 digit numbers	
Multiplication	14	I can solve any 1d x 2d	
Division	19	I can combine 2 or more Tables Facts to solve division (with remainders) (2, 3, 4, 5x tables)	
Addition - Column Methods	7	I can solve any 4d + 2d / 3d	
Subtraction - Column Methods	6	I can solve any 4d - 2d or 3d	
Multiplication - Column Methods	2	I can solve any 2d x 1d	
Division - Column Methods	2	I can solve 2d ÷ 1d (using x2, 3, 4, 5) with no remainders in the answer	



## Wider Maths

Progress Drive	Step	Statement	✓
Explore and Draw	20	I can find symmetry when shapes are in different orientations	
2D Shapes	22	I know 'The Quadrilateral Family'	
3D Shapes	19	I can make 3D shapes	
Position and Direction	15	I can provide coordinates for a given point	
	16	I can locate a point using given coordinates	
	17	I can use x and y coordinates to find points	
	18	I can explain the difference between grid references and coordinates	
	19	I can create my own first quadrant	
	20	I can create my own first quadrant and plot given points	
Amounts of Distance	22	I can convert kilometres to metres	
Amounts of Mass	16	I can convert kilograms to grams	
Amounts of Money	15	I can use decimal notation for money	
Amounts of Space	18	I can compare the areas of different shapes by accurately counting squares and part squares	
Amounts of Temperature	8	I can use a range of thermometers to measure the temperature	
	9	I can read negative temperatures	
	10	I can find negative values for temperatures by counting	
	11	I can understand and use degrees Celsius	
Amounts of Time	24	I can convert periods of time	
Amounts of Time: Telling the Time	16	I can convert time from 24 hour clock to analogue	
Amounts of Turn	15	I can compare, order and sort angles	
Fractions of a Whole	16	I can use equivalence to find any simple fraction	
Fractions of a Set	10	I can find fractions of amounts using my tables (2 or more parts)	
Fractions: Counting	12	I can round numbers with 1dp	

## Wider Maths (Continued)

Progress Drive	Step	Statement	✓
Fractions: Learn Its	6	I know all of my tables as fractions Learn Its	
Fractions: It's Nothing New	6	I can multiply unit fractions (within 1)	
Fractions: Calculation	5	I can simplify fractions using my tables	
Ratio	3	I can increase measures by a given proportion	
Diagrams and Tables	21	I can calculate from timetables	
	22	I can use two variables to read timetables	
	23	I can use two variables to read timetables and then calculate	
Bar Charts	10	I can find how many more (or fewer) than a given value shown on the horizontal axis (with continuous data)	
	11	I can draw a bar chart with continuous data	
Line Graphs	3	I can explain a range of simple line graphs	
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	

## Basic Skills

Progress Drive	Step	Statement	✓
Reading Numbers	6	I can read 3d numbers	
Place Value	4	I can partition a 2dp number	
Mastery of Numbers	7	I can understand 2dp numbers	
Count Along in 4 Ways	1/5s	1/5s	
Counting Along Scales	4	I can even count along when there are no lines	
Learn Its	15	12x table	
INN: Addition and Subtraction	4	I can add tenths	
Halving with Pim	5	I can halve any 2d number	
	6	I can halve any 3d number	
INN: Number Bonds to 10	4	I can find the missing piece to 1000	
Multiplying by 10	2	I can multiply whole numbers by 100	
Dividing by 10	2	I can divide whole numbers by 10 or 100 giving decimal answers	
INN: Multiplication	3	I can write Smile Multiplication Fact Families	
Coin Multiplication	4	I know when to add 2 multiples together	
INN: Finding Multiples	3	I can find Mully using Smile Multiplication	
Multiple-Factor-Prime	1	I can find multiples	
	2	I can find factors	
Addition	30	I can solve $3d + 3d$ as money	
	31	I can solve any $3d + 3d$ as money	
Subtraction	30	I can solve $3d - 2d$	
Multiplication	14	I can solve any $1d \times 2d$	

## Basic Skills (Continued)

Progress Drive	Step	Statement	✓
Division	20	I can use a Tables Fact to find a division fact (x6, 7, 8, 9)	
	21	I can use a Tables Fact to find a division fact (with remainders) (x6, 7, 8, 9)	
	22	I can combine 2 or more Tables Facts to solve division (x6, 7, 8, 9)	
	23	I can combine 2 or more Tables Facts to solve division (with remainders) (x6, 7, 8, 9)	
Addition - Column Methods	8	I can solve any $4d + 4d$	
Subtraction - Column Methods	7	I can solve any $4d - 4d$	
Multiplication - Column Methods	3	I can solve any $3d \times 1d$	
Division - Column Methods	3	I can solve $2d \div 1d$ (using any table) with no remainders in the answer	
	4	I can solve a $3d \div 1d$ (using any table) with no remainders in the answer	
	5	I can solve a $4d \div 1d$ (using any table) with no remainders in the answer	

## Wider Maths

Progress Drive	Step	Statement	✓
Explore and Draw	21	I can recognise a line of symmetry even when it does not dissect the shape	
	22	I can draw lines to the nearest millimetre	
2D Shapes	23	I can sort polygons by side number and identify specific triangles and quadrilaterals	
3D Shapes	19	I can make 3D shapes	
Position and Direction	21	I can draw a simple 2D shape from given coordinates	
	22	I can describe the pattern of coordinates	
	23	I can move a point horizontally by a specified distance	
	24	I can move a point vertically by a specified distance	
	25	I can move a point horizontally and vertically	
Amounts of Distance	23	I can measure and record distances to the nearest millimetre	
	24	I can express perimeter through algebra	
Amounts of Mass	16	I can convert kilograms to grams	
Amounts of Money	15	I can use decimal notation for money	
Amounts of Space	19	I can measure and record capacities to the nearest 100ml, and convert to litres	
	20	I can convert litres to millilitres	
Amounts of Temperature	11	I can understand and use degrees Celsius	
Amounts of Time	25	I can calculate time gaps within an hour (5 min)	
	26	I can calculate time gaps across an hour (5 min)	
	27	I can calculate time gaps across several hours (5 min)	
Amounts of Time: Telling the Time	17	I can read Roman numerals to 100	
Amounts of Turn	16	I can use my angle knowledge to help sort polygons (triangles, quadrilaterals and regular/irregular)	
Fractions of a Whole	17	I can show a variety of equivalent fractions	

## Wider Maths (Continued)

Progress Drive	Step	Statement	✓
Fractions of a Set	11	I can reword my multiplication and division success as fractions (in context)	
	12	I can use all tables Learn Its to find fractions of amounts	
Fractions: Counting	13	I can count in fifths	
	14	I can count in fractions of any denominator	
	15	I can count in hundredths	
	16	I can record my hundredths with decimals too	
Fractions: Learn Its	7	I know $\frac{1}{2}=0.5$ $\frac{1}{10}=0.1$ $\frac{1}{4}=0.25$ $\frac{3}{4}=0.75$ $\frac{1}{100}=0.01$	
Fractions: It's Nothing New	7	I can multiply unit fractions (beyond 1)	
Fractions: Calculation	5	I can simplify fractions using my tables	
Ratio	3	I can increase measures by a given proportion	
Diagrams and Tables	24	I can explain data from a wide variety of representations	
Bar Charts	11	I can draw a bar chart with continuous data	
Line Graphs	3	I can explain a range of simple line graphs	
Pattern Spotting	9	I can spot and extend more challenging patterns of shapes	
Algebra	5	I can describe the function and use a given output to find an input	
	6	I can describe algebraically how to always find the perimeter of a rectangle	
	7	I can choose my own symbol to represent an unknown number	
	8	I can use multi step function machines	
Prove It!	4	I can Prove It! - 4	



# Big Maths. Better Online.



## What's Included?

- ✓ Detailed teacher guidance!
- ✓ Simple and efficient tracking.
- ✓ Easy to create lesson plans.
- ✓ Online Beat That! Challenges.
- ✓ Saves each teacher at least five hours per week in planning time.
- ✓ We are with you every step of the way with telephone and email support.
- ✓ Over 5,000 focused, fun, tailored resources.

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