PROGRESSION STRAND TRACKER

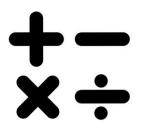
MATHS

Aims of the Maths curriculum at Inspire Education Trust:

- To promote enjoyment of mathematical learning through practical activity, exploration and mathematical discussion
- To inspire a curiosity about mathematics both in the world today and in the future
- To develop fluency in number and in calculations
- To build mathematical reasoning over time through a range of real-life contexts
- To apply their mathematical knowledge to simple and complex problems
- To develop confidence, perseverance and problem-solving skills

Progression Strand Tracker:

Core Skill:	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 6+
	 Recite numbers past five Show numbers to 5 using concrete resources Match numeral and quantity to 5 Count to 5 with 1:1 correspondenc e Quickly recognise up to three objects without counting 	 Recite numbers to 20 knowing the teen numbers Show how numbers to 10 are made up using different models e.g. part- part-whole; tens frame Match numeral and quantity within 10 Count to 10 with 1:1 correspondenc e Say one more or one less than number within 10 Begin to identify odd and even numbers (linked to sharing) Quickly recognise up to five objects 	 Count to & across 100, forwards & backwards beginning with 0 or 1, from any given number Count, read & write numbers to 100 in numerals Count in multiples of 2, 5 and 10 Identify 1 more or 1 less when given a number Identify & represent numbers using objects and pictorial representations , including the number line Use the language of 'equal to, more than, less than (fewer), most and least 	 Count in steps of 2, 3 and 5 from 0, and in tens from any number, forwards & backwards Recognise the place value of each digit in a two-digit number (tens & ones) Identify, represent & estimate numbers using different representations , including the number line Compare and order numbers from 0 up to 100, us <, > &= signs Read & write numbers to at least 100 in numerals and words 	 Count from 0 in multiples of 4, 8, 50 and 100 Find 10 or 100 more or less than a given number Recognise the place value of each digit in a 3-digit number (100s, 10s, 1s) Compare and order numbers up to 1000 Identify, represent & estimate numbers using different representations Read & write numbers up to 1000 in numerals and in words Solve number problems & practical problems involving these ideas 	 Count in multiples of 6, 7, 9, 25 & 1000 (plus counting in multiples of all other numbers 1-12) Find 1000 more or less than a given number Count backwards through zero to include negative numbers Recognise the place value of each digit in a 4-digit number (thousands, hundreds, tens & ones) Order & compare numbers beyond 1000 Identify, represent & estimate numbers using 	 Read, write, order & compare numbers to at least 1,000,000 & determine the value of each digit Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 Interpret negative numbers in context, count forwards & backwards with positive & negative whole numbers, including through 0 Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10 000 & 100,000 	 Read, write, order & compare numbers to 10,000,000 & determine the value of each digit Round any whole number to a required degree of accuracy Use negative numbers in context, & calculate intervals across 0 Solve number & practical problems that involve all of the above 	



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		ith at	Deed Quurit-			different	T.	Coluce mumbers		
		without	Read & write	Use place value		different	•	Solve number		
		counting	numbers from	and number		representations		& practical		
			1-20 in	facts to solve		 Round any 		problems that		
		ELG:	numerals & in	problems		number to the		involve all of		
		 Have a deep 	words			nearest 10, 100		the above		
		understanding				or 1000	•	Read Roman		
		of numbers to				Solve number		numerals to		
		10, including				& practical		1000 (M) &		
		the				problems that		recognise years		
		composition of				involve all of		written in		
		each number				the above &		Roman		
		Subitise up to 5				with		numerals		
								numerais		
		Verbally count				increasingly				
		beyond 20,				large positive				
		recognising the				numbers				
		pattern of the				 Read Roman 				
		counting				numerals to				
		system				100 (I to C) &				
		Compare				know that over	1			
		quantities up to				time, the				
		10 in different				numeral system				
		contexts,				changed to				
		recognising				include the				
		when one				concept of zero				
		quantity is				& place value				
		greater than,								
		less than or the								
		same as the								
		other quantity								
Addition &	 Know that the 	 Recall all 	 Read, write & 	 Use concrete 	 Add and 	 Add and 	•	Add and	 Perform mental 	•
Subtraction	last number	number bonds	interpret	objects and	subtract	subtract		subtract whole	calculations,	
Subtraction	said when	to 5 and some	mathematical	pictorial	numbers	numbers with		numbers with	including with	
	counting a	to 10	statements	representations	mentally	up to 4 digits		more than 4	mixed	
	small group of	Match some	involving	, including	including	using the		digits, including	operations and	
	objects is the	subtraction	addition (+),	those involving	- 3-digit	formal written		using formal	large numbers	
	total	facts to number	subtraction (-)	numbers,	number	methods of		written	Use knowledge	
	Solve simple	bonds within	and equals (=)	quantities and	and ones	columnar		methods	of the order of	
	one-step	10	signs	measures	- 3-digit	addition and		(columnar	operations to	
	problems with	Solve simple	Represent and		number	subtraction		addition &		
				PP 2					carry out	
	numbers to 5	one-step	use number	increasing	and tens	where		subtraction)	calculations	
		problems with	bonds and	knowledge of	- 3-digit	appropriate	•	Add and	involving the 4	
		numbers to 10	related	mental and	number	 Estimate and 	1	subtract	operations	
			subtraction	written	and 100s	use inverse		numbers	 Solve addition 	
		ELG:	facts within 20	methods	 Add and 	operations to		mentally with	and subtraction	
		Automatically	 Add and 	 Recall and use 	subtract	check answers	1	increasingly	multi-step	
		recall (without	subtract one-	addition and	numbers with	to a calculation	1	large numbers	problems in	
		reference to	digit and two-	subtraction	up to 3 digits,	Solve addition	•	Use rounding	contexts,	
		rhymes,	digit numbers	facts to 20	using formal	and subtraction		to check	deciding which	
		counting or	aigit namoers	fluently, &	written	two-step		answers to	operations and	
		counting of	1	nuenuy, a	WIILLEIT	two-step			operations and	L

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	other aids), number bonds up to 5 (including subtraction facts), and some number bonds to 10 including double facts	to 20, including 0 Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations , and missing number problems such as 7=9	 derive and use related facts up to 100 Add and subtract numbers using concrete numbers, pictorial representations and mentally: 2-digit number and ones 2-digit number and tens Two 2- digit numbers Adding three 1- digit numbers Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot Recognise and use the inverse relationship between addition and subtraction and use this to check calculations & solve missing number problems 	 methods of columnar addition and subtraction Estimate the answer to a calculation and use inverse operations to check answers Solve problems, including missing number problems using number facts, place value and more complex addition and subtraction 	problems in contexts, deciding which operations and methods to use and why	calculations and determine, in the context of a problem, levels of accuracy • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • Solve proble sin contexts, deciding which operations and methods to use and why • Solve problems of a problem an appropria degree of accuracy	ems i on ne, kt h, ate
Multiplication = & Division	Recall some doubles facts within 10	 Solve one-step problems involving 	 Recall and use multiplication and division 	Recall and use multiplication and division	 Recall multiplication and division 	Identify multiples and factors, Identify multiples and factors, up to 4 digit	rs

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Share a group	multiplication,	facts for the 2,	facts for the 3,	facts for	including	by a two-digit	
of objects	using concrete	5 and 10	4 and 8	multiplication	finding all	whole number	
equally	objects and	multiplication	multiplication	tables up to	factor pairs of a	using the	
Begin to	pictorial	tables,	tables	12x12	number, and	formal written	
identify odd	, representations	including	Write and	 Use place 	common	method of long	
and even	and arrays, with	recognising	calculate	value, known	factors of 2	multiplication	
numbers	the support of	odd and even	mathematical	and derived	numbers	Divide numbers	
(linked to	the teacher	numbers	statements for	facts to	Know and use	up to 4 digits	
sharing)		Calculate	multiplication	multiply and	the vocabulary	by a two-digit	
sharing)		mathematical	and division	divide mentally,	of prime	whole number	
ELG:		statements for	using known	including	numbers, prime	using the	
Explore and			5	5		5	
		multiplication	multiplication	- Multiplyin	factors and	formal written	
represent		and division	tables,	g by 0	composite	method of long	
patterns within		within the	including for	and 1	(non-prime)	division and	
numbers up to		multiplication	two-digit	- Dividing	numbers	interpret	
10, including		tables and write	numbers times	by 1	 Establish 	remainders as	
evens and		them using	one-digit	- Multiplyin	whether a	whole number	
odds, double		multiplication	numbers, using	g	number up to	remainders,	
facts and how		(x), division (÷),	mental, and	together	100 is prime	fractions, or by	
quantities can		and equals (=)	progressing to	three	and recall	rounding, as	
be distributed		signs	formal written	numbers	prime numbers	appropriate for	
equally		 Show that 	methods	 Recognise and 	up to 19	the context	
		multiplication	 Solve problems, 	use factor pairs	 Multiply 	Divide numbers	
		of two numbers	including	and	numbers up to	up to 4 digits	
		can be done in	missing	commutativity	4 digits by a	by a two-digit	
		any order	number	in mental	one- or two-	number using	
		(commutative)	problems,	calculations	digit number	the formal	
		and division of	involving	 Multiply two- 	using a formal	written method	
		one number by	multiplication	digit and three-	written	of short	
		another cannot	and division,	digit numbers	method,	division where	
		Solve problems	including	by a one-digit	including long	appropriate,	
		involving	positive integer	number using	multiplication	interpreting	
		multiplication	scaling	formal written	for two-digit	remainders	
		and division,	problems and	method	numbers	according to	
		using materials,	correspondenc	Solve problems	 Multiply and 	the context	
		arrays,	e problems in	involving	divide numbers	Perform mental	
		repeated	which n objects	multiplication	mentally,	calculations,	
		addition,	are connected	and adding,	drawing upon	including with	
		mental	to m objects	including using	known facts	mixed	
			to mobjects	5 5			
		methods and		the distributive		operations and	
		multiplication		law to multiply	up to 4 digits	large numbers	
		and division		two-digit	by a one-digit	 Identify 	
		facts, including		numbers by	number using	common	
		problems in		one-digit,	the formal	factors,	
		context		integer scaling	written method	common	
				problems and	of short	multiples and	
			1	harder	division and	prime numbers	
				correspondenc e problems	interpret remainders	Use knowledge of the order of	

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 abjects are connected to m objects . .<td>appropriately for the contextoperations to carry outMultiply and divide whole involving the numbers and those involvingSolve problems involvingdecimals by 10, 100 and 1000 multiplicationSolve problems involvingRecognise and use square numbers, and to the numbers, and the notation for squared (²) and calculationsUse estimation notation for and determine, squared (²) and calculations an appropriate involvingSolve problems involving multiplication and division, including using their knowledge of factors and multiplication and division, sinvolvingSolve problems an appropriate accuracySolve problems involving multiplication and division, sinvolvingSolve problems an appropriate accuracySolve problems involving addition, subtraction, multiplication and a combination of these, including understanding the meaning of the equals sign Solve problems involvingSolve problems involving addition, simple fractions and division, including scaling by simple fractions and problems</br></br></td>	appropriately for the contextoperations to carry outMultiply and divide whole involving the numbers and those involvingSolve problems

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Fractions =		 Share a group of objects equally 	 Recognise, find and name a half as one of two equal parts of an object, shape or quantity Recognise, find and name a quarter as one of four equal parts, part of an object, shape or quantity 	 Recognise, finame and write fractions 1/2, 1/3, 1/4, 2/4, at 3/4 of a length shape, set of objects or quantity Write simple fractions, e.g 1/2 of 6 = 3, at recognise the equivalence of 2/4 and 1/2 	te down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10	 Recognise and show, using diagrams, families of common equivalent fractions Count up and down in hundredths Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten Solve problems involving increasingly harder fractions to calculate quantities, and fractions to calculate quantities, including non-unit fractions where the answer is a whole number Add and subtract fractions with the same denominator Recognise and write decimal equivalents of any number of tenths or hundredths Recognise and write decimal equivalents to 1/4, 1/2 and 3/4 Find the effect of dividing a 	Compare and order fractions whose denominators are all multiples of the same number Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number Add and subtract fractions with the same denominator, and denominators that are multiples of the same number Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams Read and write decimal	to simplify fractions; use common multiples to express fractions in the same denomination Compare and order fractions, including fractions > 1 Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

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							fractions with a denominator of a multiple of 10 or 25		
Ratio & Proportion	=		=	=	=	=	-	 Solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication and division facts Solve problems involving the calculation of percentages (for example, of measures and such as 15% of 360) and the use of percentages for comparison Solve problems involving similar shapes where the scale factor is known or can be found Solve problems involving similar shapes where the scale factor is known or can be found Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples 	
Algebra	=	=	==	==	==	==	==	Use simple formulae Generate and describe linear number sequences	
								Express missing number	

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												•	problems algebraically Find pairs of numbers that satisfy an equation with 2 unknowns Enumerate possibilities of combinations of 2 variables	
Measurement	 Compare two or three objects relating to size, length, weight or quantity Begin to compare quantities using non-standard vocabulary in play Describe a sequence of events with adult support 	 Compare length, weight and capacity saying when one is bigger, smaller, the same etc. Describe a sequence of events 	 Compare, describe and solve practical problems for length and height mass/weight capacity and volume time Measure and begin to record lengths and heights mass/weight capacity and volume time (hours, minutes, seconds) Recognise and know the value of different denominations of coins and notes Sequence events in chronological order using appropriate language Recognise and use language relating to dates, including days of the week, weeks, months and years 	•	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels Compare and order lengths, mass, volume/capacit y and record the results using <, > and = Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value Find different amounts of coins that equal	• • •	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacit y (l/ml) Measure the perimeter of simple 2-D shapes Add and subtract amounts of money to give change, using both £ and p in practical contexts Tell and write the time from an analogue clock including using Roman numerals from I to XII, and 12- hour and 24- hour clocks Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds,	•	Convert between different units of measure e.g. kilometre to metre; hour to minute Measure and calculate the perimeter or a rectilinear figure (including squares) in centimetres and metres Find the area of rectilinear shapes by counting squares Estimate, compare and calculate different measures, including money in pounds and pence Read, write and convert time between analogue and digital 12- and 24-hour clocks Solve problems involving	•	Convert between different units of metric measure e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millimetre Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres Calculate and compare the area of rectangles (including	• • • • •	Solve problems involving the calculation and conversion of measure, using decimal notation up to 3 decimal places where appropriate Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places Convert between miles and kilometres Recognise that shapes with the same areas can have different perimeters and vice versa Recognise when it is	•

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			 Tell the time to the hour and half past the hour and draw hands on the clock face to show these times 	 the same amount of money Solve simple problems in a practical context involving addition and subtraction of money in the same unit, including giving change Compare and sequence intervals of time Tell and write the time to 5 minutes in an hour and the number of hours in a day Know the number of minutes in an hour and the number of hours in a day 	 minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight Know the number of seconds in a minute and the number of days in each month, year and leap year Compare durations of events 	converting from hours to minutes; minutes to seconds; years to months; weeks to days	 squares), including using standard units, square centimetres (cm²) and square metres (m²), and estimate the area off irregular shapes Estimate volume (for example, using 1 cm³ blocks to build cuboids including squares) and capacity (for example, using vater) Solve problems involving converting between units of time Use all four operations to solve problems involving measure (for example, length, mass, volume and money) using decimal notation, including scaling 	 possible to use formulae for area and volume of shapes Calculate the area of parallelograms and triangles Calculate estimate and compare the volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units (for example, mm³ and km³)
Geometry	 Follow and use simple positional language Continue or make up a simple sequence or pattern (ABAB) 	name 2D shapes • Name a pattern e.g. ABAB • Identify errors in a simple	 Recognise and name common 3D shapes, including cuboids, cubes, pyramids and spheres Describe position, direction and 	 Identify and describe the properties of 2D shapes, including the number of sides and line of symmetry in a vertical line 	 Draw 2D shapes to make 3D shapes using modelling materials; recognise 3D shapes in different orientations 	 Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes 	 Identify 3-D shapes, including cubes and other cuboids, from 2-D representations Know angles are measured in degrees; 	 Draw 2D shapes using given dimensions and angles Recognise, describe and build simple 3D shapes,

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•	Recognise		shapes through	n	novement	•	Identify and		and describe	•	Identify acute		estimate and		including	
	mistakes in		play and art	ir	ncluding		describe the		them		and obtuse		compare acute,		making nets	
	simple ABA	•	Select, rotate	W	hole, half,		properties of	•	Recognise		angles and		obtuse and	•	Compare and	
	patterns		and manipulate	q	uarter and 3		2D shapes,		angles as a		compare and		reflex angles		classify	
•	Combine		shapes	q	uarter turns		including the		property of a		order angles up	•	Draw given		geometric	
	shapes to make						number of		shape or a		to 2 right		angles, and		shapes based	
	a new one						edges, vertices		description of a		angles by size		measure them		on their	
•	Recognise and						and faces		turn	•	Identify lines of		in degrees (^O)		properties and	
	name simple					•	Identify 2D	•	Identify right		symmetry in 2D	•	Identify		sizes and find	
	2D shapes e.g.						shapes on the		angles,		shapes	- and	gles at a point		unknown	
	square,						surface of 3D		recognise that		presented in	and	1 whole turn		angles in any	
	triangle, circle						shapes (for		2 right angles		different	(tota	l 360 ⁰)		triangles,	
•	Build with 3D						example, a		make a half-		orientations	- ang	gles at a point on		quadrilaterals	
	shapes						circle on a		turn, 3 make	•	Complete a	a stra	aight line and		and regular	
							cylinder and a		three quarters		simple	half a	a turn (total		polygons	
							triangle on a		of a turn and 4		symmetric	180 ⁰)	•	Illustrate and	
							pyramid)		a complete		figure with	- oth	er multiples of		name parts of	
						•	Compare and		turn; identify		respect to a	90 ⁰			circles,	
							sort common		whether angles		specific line of	•	Use the		including	
							2D and 3D		are greater		symmetry		properties of		radius,	
							shapes and		than or less	•	Describe		rectangles to		diameter and	
							everyday		than a right		positions on a		deduce related		circumference,	
							objects		angle		2-D grid as		facts and find		and know that	
						•	Order and	٠	Identify		coordinates in		missing lengths		the diameter is	
							arrange		horizontal and		the first		and angles		twice the radius	
							combination of		vertical lines		quadrant	•	Distinguish	•	Recognise	
							mathematical		and pairs of	•	Describe		between		angles where	
							objects in		perpendicular		movements		regular and		they meet at a	
							patterns and		and parallel		between		irregular		point, are on a	
							sequences		lines		positions as		polygons based		straight line, or	
						•	Use				translations of		on reasoning		are vertically	
							mathematical				a given unit to		about equal		opposite, and	
							vocabulary to				the left/right		sides and		find missing	
							describe				and up/down		angles		angles	
							position,			•	Plot specified	•	Identify,	•	Describe	
							direction and				points and		describe and		positions on	
							movement,				draw sides to		represent the		the full	
							including				complete a		position of a		coordinate grid	
							movement in a				given polygon		shape following		(all 4	
							straight line						a reflection or		quadrants)	
							and						translation,	•	Draw and	
							distinguishing						using the		translate simple	
							between						appropriate		shapes on the	
							rotation as a						language, and		coordinate	
							turn and in						know that the		plane, and	
							terms of right						shape has not		reflect them in	
							angles for						changed		the axes	
							quarter, half									
						I	and 3 quarter			<u> </u>						

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					turns (clockwise and anti- clockwise)		Interpret 9		Interpret 9		Salva		Interpret and	
Statistics	=	=	=	•	Interpret & construct simple pictograms, tally charts, block diagrams & simple tables Ask & answer simple questions by counting the number of objects in each category & sorting the categories by quantity Ask & answer questions about totalling and comparing categorical data	•	Interpret & present data using bar charts, pictograms and tables Solve one-step & two-step questions using information presented in scaled bar charts, pictograms and tables	•	Interpret & present discrete and continuous data using appropriate graphical methods, including bar charts & time graphs Solve comparison, sum & difference problems using information presented in bar charts, pictograms tables & other graphs	•	Solve comparison, sum & difference problems using information presented in a line graph Complete, read & interpret information in tables, including timetables	•	Interpret and construct pie charts and line graphs, & use these to solve problems Calculate and interpret the mean as an average	•