

Maths Key Stage 3 Curriculum Overview



Key Stage 3 Curriculum Overview Mathematics

Year 7	Week 1 Week 39										
	Number	FDP	Ratio and proportion	Algebraic Manipulation	Equations	Angles	Area and Perimeter	Graphs	Data		
Key content (know thatKnow how)	Calculations Types of number Negative numbers Decimals Types of number and indices Decimals and rounding Powers and roots	Compare Fractions Manipulation Calculation with fractions Percentages Compare fractions Calculations with fractions Percentages Calculations with fractions percentages	Proportion Ratio Proportion Ratio Proportion Ratio	Expressions Formula Sequences Expressions Formula Sequences Expressions Formula Sequences	Equations Equations Inequalities Equations Inequalities	Drawing and measuring angles Properties of shapes Angle properties Properties of shapes Parallel lines Polygons Angle Problems/ equations	Area and perimeter Area and perimeter 3D solids Proportion Ratio Area and perimeter 3D solids	Linear Graphs Real life graphs Linear Graphs Real life graphs Linear Graphs Real life graphs	Charts and tables Averages and range Charts and tables Averages and range Charts and tables Averages and tables Averages and range		
Prior Knowledge	Calculate mentally Order numbers Carry out written calculations effectively Find factors and multiples Add, subtract, multiply and divide integers	Write percentages as a fraction with a denominator of 100 Write a percentage as a decimal Describe simple parts of a shape using fractions.	Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	Collect together items that are alike Add and subtract directed numbers Represent symbol or images as numbers Write expressions	Carry out calculations using the 4 operations Find the inverse of a simple function Use function machines to find inputs and outputs.	Know angles are measured in degrees Identify basic angle facts on a line and at a point Use a protractor. Name angles. Estimate angles.	Identify 3D shapes Solve time problems Know units of measure Estimate capacity and area Calculate simple perimeters and areas.	Draw and label axes accurately Read numbers along a number line Read and interpret information from tables Plot and describe coordinates in all four quadrants.	Read information from tables and graphs Add and divide numbers Draw and label an axis accurately To read information from To draw simple charts		

using a suitable	Compare	Use direct	from word	Write and solve	Use angle	Work out the	Find the	Find simple
written	simple	proportion in	descriptions.	one-step	notation	perimeters of	midpoint of a	averages
method.	fractions	simple contexts	Simplify	equations.	Draw triangles	shapes and	line segment.	Draw and read
		Use unitary	algebraic		using SAS and	polygons.	Plot and	from charts
Multiply and	Change an	method of	expressions	Solve two-step	SAA	Find the area of	interpret basic	and tables.
divide integers	improper	proportion	Expand single	equations.	Identify	shapes.	real-life	
by multiples of	fraction to a	Use	brackets (S5,	Solve multi-	properties of	Understand	conversion	
10, 100, 1000.	mixed number.	percentages to	G2)	step equations	triangles.	units for length	graphs.	Calculate the
Use estimation	Identify	compare		Form and solve	Identify lines of	and area		mode, median
to check an	equivalent	simple	Use and write	equations.	and rotational		Generate and	and mean of a
answer to a	fractions.	proportions.	function	Solve	symmetry	Calculate the	plot	set of data
multiplication	Simplify		machines.	equations	Identify a	area of 2D	coordinates	Calculate the
Divide numbers	fractions	Use and	Substitute	involving	shapes	shapes	from a rule	range
that give	Work with	interpret ratio	positive	brackets	rotational	Convert	Recognise,	
decimal	equivalent	notation.	integers into		symmetry.	between	name, and plot	
answers	fractions and	Simplify simple	simple	Describe what		metric and	straight line	
Use inverse	decimals.	ratios.	formulae	an inequality	Recall angles	imperial units.	Plot straight	
operations to			written in	represents	facts that		line graphs	
check answers.	Add and	Use direct	words and	using words.	include basic	Sketch nets of	using a table of	
Use the priority	subtract	proportion in	written in	Find integer	shapes and	3D solids	values.	
of operations	fractions with	simple contexts	letters.	values which	lines.		Substitute	
including	the same	and solve		satisfy an	Identify	Draw 3D solids.	positive and	
powers.	denominator.	simple	Find patterns	inequality.	properties of	Calculate the	negative	
Know and use	Calculate	problems.	and rules in	Represent	shapes and	volume and	numbers into	
the priority of	simple	Use the unitary	sequences	simple	name a shape	surface area of	equations	
operations,	fractions of	method to		inequalities on	from its	cubes and		
including	quantities.	solve simple	Write and use	a number line.	properties.	cuboids.	Draw, interpret	
brackets.	Write one	word problems	complex		Classify		and use, graphs	
	quantity as a	involving direct	expressions		quadrilaterals			
Recognise	fraction of	proportion.	Expand single		by their			
prime numbers.	another.		brackets		geometric			
		Reduce a ratio	Simplify		properties.			
Recognise	Convert simple	to its simplest	expressions					
square	fractions to	form	Factorise					
numbers.	percentages	Find equivalent	simple					
	Calculate	ratios.	expressions.					
	simple							

 Order positive	percentages	Divide a	Write simple			
and negative	(multiples of 10	quantity into	formulae in			
numbers.	and 5)	two parts in a	words and			
Calculate with		given ratio.	using letter			
negative	Order fractions		symbols.			
numbers.	by converting		Find the value			
	them to		of an unknown			
Order decimals.	decimals or		in a formula			
Multiply and	equivalent		where the			
divide decimals	fractions.		unknown is not			
by multiples of			the subject.			
10, 100 and	Add and					
1000.	subtract		Find the nth			
Add, subtract,	fractions with		term Generate			
multiply and	different		terms of a			
divide decimals	denominators.		sequence			
Calculate with	Multiply		Continue and			
money.	fractions.		describe			
Round decimals	Calculate		special			
	fractions of		sequences.			
	quantities.					
	Convert					
	between					
	fractions,					
	decimals, and					
	percentages.					
	Calculate					
	percentages of					
	amounts.					
	Express one					
	quantity as a					
	percentage of					
	another.					

Developing fluency, reasoning mathematically and solve problems features across all units. Document number										
KS3 National Curriculu Links	22 – 30 34 - 37	22 25 – 27, 30- 34 56 59 60 61	54 – 60 62, 63	38 – 43 51 - 53	24- 28 32 38 - 44	66 - 70 72 - 79	64- 70	45 - 4879	84 - 86	
Assessment s	Assessment 1	Assessment 2	Assessment 3	Assessment 4	Assessment 5	Assessment 6	Assessment 7	Assessment 8	Assessment 9	

Year 8	Week 1 Week 39										
	Number	FDP	Ratio and proportion	Algebraic Manipulation	Equations	Angles	Area and Perimeter	Graphs			
Key content (know thatKnow how)	Negative numbers Decimals Types of number and indices Decimals and rounding Powers and roots Indices Estimation Standard Form	Compare fractions Calculations with fractions Percentages Calculations with fractions Percentages Percentages Percentages	Proportion Ratio Proportion Ratio Proportion Ratio Compound measures	Sequences Expressions Formula Sequences Expressions Formula Sequences Expressions Formula Sequences Expressions Formula Sequences	Equations Inequalities Equations Inequalities Equations Inequalities	Angle properties Properties of shapes Parallel lines Polygons Angle Problems/ equations Polygons Pythagoras Congruence and similarity	Area and perimeter 3D solids Proportion Ratio Area and perimeter 3D solids Area and perimeter 3D solids Area and perimeter 3D solids	Linear Graphs Real life graphs Linear Graphs Real life graphs Linear Graphs Non linear			
Prior Knowledge	Add, subtract, multiply and divide integers using a suitable written method. Multiply and divide integers by multiples of 10, 100, 1000. Use estimation to check an answer to a multiplication	Describe simple parts of a shape using fractions. Compare simple fractions Change an improper fraction to a mixed number. Identify equivalent fractions. Simplify fractions	Use direct proportion in simple contexts Use unitary method of proportion Use percentages to compare simple proportions. Use and interpret ratio notation. Simplify simple ratios.	Write expressions from word descriptions. Simplify algebraic expressions Expand single brackets (S5, G2) Use and write function machines. Substitute positive integers into simple formulae written	Find the inverse of a simple function Use function machines to find inputs and outputs. Write and solve one-step equations. Solve two-step equations.	Use a protractor. Name angles. Estimate angles. Use angle notation Draw triangles using SAS and SAA Identify properties of triangles. Identify lines of and rotational symmetry	Work out the perimeters of shapes and polygons. Find the area of shapes. Understand units for length and area Calculate the area of 2D shapes Convert between metric and imperial units.	Plot and describe co-ordinates in all four quadrants. Find the midpoint of a line segment. Plot and interpret basic real-life conversion graphs. Generate and plot coordinates from a rule			

Divide numbers	Work with		in words and	Solve multi-step	Identify a shapes		Recognise, name,
that give decimal	equivalent	Use direct	written in letters.	equations	rotational	Sketch nets of 3D	and plot straight
answers	fractions and	proportion in		Form and solve	symmetry.	solids	line
Use inverse	decimals.	simple contexts	Find patterns and	equations.			Plot straight line
operations to		and solve simple	rules in	Solve equations	Recall angles	Draw 3D solids.	graphs using a
check answers.	Add and subtract	problems.	sequences	involving brackets	facts that include	Calculate the	table of values.
Use the priority	fractions with the	Use the unitary			basic shapes and	volume and	Substitute
of operations	same	method to solve	Write and use	Describe what an	lines.	surface area of	positive and
including powers.	denominator.	simple word	complex	inequality	Identify	cubes and	negative numbers
Know and use the	Calculate simple	problems	expressions	represents using	properties of	cuboids.	into equations
priority of	fractions of	involving direct	Expand single	words.	shapes and name	Calculate the area	
operations,	quantities.	proportion.	brackets	Find integer	a shape from its	and perimeter of	Draw, interpret
including	Write one		Simplify	values which	properties.	semi /quarter	and use, graphs
brackets.	quantity as a	Reduce a ratio to	expressions	satisfy an	Classify	circles and	Plot the graphs of
	fraction of	its simplest form	Factorise simple	inequality.	quadrilaterals by	sectors of a circle.	linear functions.
Recognise prime	another.	Find equivalent	expressions.	Represent simple	their geometric	Solve problems	Work out the
numbers.		ratios.		inequalities on a	properties.	involving circles	gradient of a
	Convert simple	Divide a quantity	Write simple	number line.	Recognise, apply	where answers	straight line.
Recognise square	fractions to	into two parts in	formulae in	Solve multi-step	angle facts and	are given as an	Write the
numbers.	percentages	a given ratio.	words and using	equations with	solve problems	exact value	equations of
	Calculate simple	Draw and	letter symbols.	unknowns on	involving parallel	Calculate and	straight-line
Order positive	percentages	interpret direct	Find the value of	both sides,	and intersecting	solve problems	graphs in the
and negative	(multiples of 10	proportion	an unknown in a	including	lines Understand	involving the	form $y = mx + c$.
numbers.	and 5)	graphs from a	formula where	fractions.	proofs of angle	surface area and	Plot and interpret
Calculate with		context.	the unknown is	Form and solve	facts	volume of prisms.	distance-time
negative	Order fractions	Use percentages	not the subject.	more complex	Calculate the sum		graphs.
numbers.	by converting	to describe		equations based	and size of the		
	them to decimals	proportions.	Find the nth term	on written and/or	interior and		
Order decimals.	or equivalent	Find best buys	Generate terms	geometrical	exterior angles of		
Multiply and	fractions.	Understand and	of a sequence	information.	a polygon		
divide decimals		use the	Continue and	Solve linear	Solve geometrical		
by multiples of	Add and subtract	relationship	describe special	inequalities and	problems		
10, 100 and 1000.	fractions with	between	sequences.	represent	showing		
Add, subtract,	different	percentages,		solutions on a	reasoning –		
multiply and	denominators.	ratio and		number line. (S8,	including all angle		
divide decimals	Multiply	proportion(Simplify algebraic	G4)	rules.		
	fractions.		powers (index				

money. Round decimals Add, subtract, agiven nations of quantities. Were large of accuracy. Apply decimal arithmetic to other areas of mathematics. Share a quantity into a ratio when the difference or one share is given. In more complex versions by forming and solving equations. Share a quantity into a ratio when the difference or one share is given. Use related calculate percentages of calculate involving decimals. Round numbers to a given number to an appropriate percentage of accuracy. Apply decimal arithmetic to other areas of mathematics. Share a quantity wersions wersions by forming and solving equations. Share a quantity as into a ratio when the difference or one share is given. In more complex cases, change the subject of the form n:1 and proportion problems within the context of percentages and fractions. Apply decimal arithmetic to other areas of mathematics. Share a quantity wersions wersions by forming and solving equations. (S8, G4) In more complex versions to spling into a ratio when the difference or one share is given. In more complex cases, change the subject of the form n:1 and proportion problems within the context of percentages and fractions. Apply decimal appropriate another, accuracy. Add, subtract multiply and arithmetic to other areas of mathematics. Work out an amount increased or decreased by a percentage using multipliers. Use prime factors. Apply precentage in decimals. Apply precentage in the form n:1 and proportion problems within the context of percentages and fractions. Apply fraction on a given in working quadratics. Apply decimal in more complex cases, change the subject of the form n:1 and proportion problems involving the nth the context of percentages and fractions. Apply fraction on a given in more complex subject of the form n:1 and proportion problems involving quadratics. Solve more complex variations. Solve more complex variations in more complex subject of the form n:1	Calculate with	Calculate	Divide a quantity	laws), including	Solve problems	
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Developing fluency, reasoning mathematically and solve problems features across all units. Documen								
KS3 National Curriculum Links	22 – 30 34 - 37	22 25 – 27, 30- 34 56 59 60 61	54 – 60 62, 63	38 – 43 51 - 53	24- 28 32 38 - 44	66 - 70 72 - 79	64- 70	45 – 48 79
Assessment s	Assessment 1	Assessment 2	Assessment 3	Assessment 4	Assessment 5	Assessment 6	Assessment 7	Assessment 8

Year 9	Week 39										
	Number	FDP	Ratio and proportion	Algebraic Manipulation	Equations	Angles	Area and Perimeter	Graphs			
Key content (know thatKnow how)	Decimals and rounding Powers and roots Indices Estimation Standard Form Indices Standard Form	Calculations with fractions Percentages Percentages Fractions and Decimals Algebraic fractions	Proportion Ratio Proportion Ratio Compound measures Proportion Ratio Compound measures	Expressions Formula Sequences Expressions Formula Sequences Expressions Formula Sequences	Equations Inequalities Equations Inequalities Equations Inequalities	Parallel lines Polygons Angle Problems/ equations Polygons Pythagoras Congruence and similarity Trigonometry	Area and perimeter 3D solids Bounds	Linear Graphs Real life graphs Linear Graphs Non linear Linear Graphs Non linear			
Prior Knowledge	Order positive and negative numbers. Calculate with negative numbers. Order decimals. Multiply and divide decimals by multiples of 10, 100 and 1000. Add, subtract, multiply and divide decimals	Order fractions by converting them to decimals or equivalent fractions. Add and subtract fractions with different denominators. Multiply fractions. Calculate fractions of quantities.	Use direct proportion in simple contexts and solve simple problems. Use the unitary method to solve simple word problems involving direct proportion. Reduce a ratio to its simplest form Find equivalent ratios.	Write simple formulae in words and using letter symbols. Find the value of an unknown in a formula where the unknown is not the subject. Find the nth term Generate terms of a sequence Continue and describe special sequences.	Solve two-step equations. Solve multi-step equations Form and solve equations. Solve equations involving brackets Describe what an inequality represents using words. Find integer values which satisfy an inequality.	Recall angles facts that include basic shapes and lines. Identify properties of shapes and name a shape from its properties. Classify quadrilaterals by their geometric properties. Recognise, apply angle facts and solve problems involving parallel and intersecting	Calculate the area of 2D shapes Convert between metric and imperial units. Sketch nets of 3D solids Draw 3D solids. Calculate the volume and surface area of cubes and cuboids. Calculate the area and perimeter of	Generate and plot coordinates from a rule Recognise, name, and plot straight line Plot straight line graphs using a table of values. Substitute positive and negative numbers into equations Draw, interpret and use, graphs			

Calculate with	Convert between	Divide a quantity		Represent simple	lines Understand	semi /quarter	Plot the graphs of
money.	fractions,	into two parts in	Simplify algebraic	inequalities on a	proofs of angle	circles and	linear functions.
Round decimals	decimals, and	a given ratio.	powers (index	number line.	facts	sectors of a circle.	Work out the
	percentages.	Draw and	laws), including	Solve multi-step	Calculate the sum	Solve problems	gradient of a
Add, subtract,	Calculate	interpret direct	more complex	equations with	and size of the	involving circles	straight line.
multiply and	percentages of	proportion	versions	unknowns on	interior and	where answers	Write the
divide any	amounts.	graphs from a	Expand and	both sides,	exterior angles of	are given as an	equations of
decimals	Express one	context.	simplify	including	a polygon	exact value	straight-line
Use related	quantity as a	Use percentages	quadratics	fractions.	Solve geometrical	Calculate and	graphs in the
calculations.	percentage of	to describe	In more complex	Form and solve	problems	solve problems	form $y = mx + c$.
Round numbers	another.	proportions.	cases, change the	more complex	showing	involving the	Plot and interpret
to a given	Add, subtract	Find best buys	subject of the	equations based	reasoning –	surface area and	distance-time
number to an	multiply and	Understand and	formula	on written and/or	including all angle	volume of prisms.	graphs.
appropriate	divide mixed	use the	Solve more	geometrical	rules.		
degree of	numbers and	relationship	complex	information.	Solve problems	To be able to	
accuracy.	fractions	between	problems	Solve linear	involving angles	work backwards	Find the
Apply decimal	Apply fraction	percentages,	involving the nth	inequalities and	by forming and	to find the radius	equations of
arithmetic to	arithmetic to	ratio and	term	represent	solving equations.	when given find	straight line when
other areas of	other areas of	proportion(Recognise,	solutions on a	Use conventions	the area of a	given two points
mathematics.	mathematics.		continue, and	number line.	for naming the	sector or arc	or when given
	Work out an	Divide a quantity	generate	Solve two linear	sides of a right-	length.	one point and the
Estimate square	amount increased	in a given ratio.	quadratic	simultaneous	angled triangle.		gradient.
roots	or decreased by a	Share a quantity	sequences.	equations	Use the tangent		Interpret more
Write a number	percentage using	into a ratio when		algebraically,	ratio to work out	To be able to	complex co-
as a product of its	multipliers.	the difference or	Expand triple	where neither or	an unknown side	calculate the	ordinate
prime factors.	Apply percentage	one share is	brackets.	one equation	of a right-angled	surface area and	problems
Use prime factor	increase/decreas	given.	Factorise	needs multiplying	triangle.	volume of a	involving parallel
decomposition to	e to other areas	Use ratios	quadratic	Solve complex	Use the sine ratio	spheres and	and
find the HCF and	of mathematics.	involving	expressions into	linear equations	to work out an	cones.	perpendicular
LCM – including	Convert a	decimals.	double brackets	with unknowns	unknown side of		lines
the use of Venn	recurring decimal	Write ratios in	Factorise	on both sides,	a right-angled	Find the lower	
diagrams.	to a fraction.	the form n:1 and	expressions	including those	triangle.	and upper	Plot more
To use fractional	Complete	1:n	involving the	with fractional	Use the cosine	bounds for a	complex
and negative	calculations	Solve ratio and	difference of two	coefficients and	ratio to work out	measurement.	quadratic graphs
indices.	involving	proportion	squares.	fractions on both	an unknown side	Calculate	and use these to
	recurring	problems within	Factorise	sides.	of a right-angled	percentage error	find solutions
	decimals.	the context of	quadratic		triangle.	intervals.	(including linear

Solve complex		percentages and	expressions with	Solve quadratic	Use the	Use bounds in	and quadratic
problems	Add and subtract	fractions.	a coefficient of x2	equations by	trigonometric	area, perimeter,	simultaneous
involving indices,	algebraic	Apply ratio to	> 1	factorising.	ratios to work out	and volume	equations).
	fractions	other areas of		Solve quadratic	an unknown	problems.	To be able to
Multiply and	Simplify algebraic	mathematics.	Change the	equations using	angle in a right-		draw graphs of
divide numbers in	fractions.		subject of a	the quadratic	angled triangle.		cubic and
standard form.		Use algebra to	formula including	formula	Begin to		reciprocal
Add and subtract		solve problems	where the subject		investigate exact		functions
numbers in		involving direct or	is on both sides	Represent simple	trigonometric		To be able to
standard form.		inverse		inequalities	values. (recognise a graph
Solve problems		proportion.	Find the nth term	graphically.	Use		from its shape
and apply		Solve problems	of a quadratic		trigonometry to		To be able to
standard form to		involving	sequence.		find missing		solve equations
other areas of		direct/inversely	To be able to		lengths and		using quadratic
mathematics		proportional to	solve problems		angles in cubes		graphs
		the square or	using geometric		and cuboids		To be able to
		cube.	sequences				draw the graph of
		Recognise and					a circle with
		interpret					centre (0,0)
		proportion					
		graphs					
		Apply proportion					
		reasoning to					
		other areas of					
		mathematics.					
		Code alimida makina					
		Sub divide ratios					
		into different					
		parts or fractions					
		Calculate a new amount after a					
		ratio change.					
		Interpret					
		compound					
		measures					
		problems					

			involving more complex units o)					
Ε	Developing	fluency, reason	ing mathematic	ally and solve p	roblems feature	s across all units	. Document nu	mber 4 - 21
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