



**CAM Trust
Mathematics
Department**

**This document outlines the main activities you
will complete this year. Use this as a guide to
prepare for lessons or check your understanding.**

B scheme

Learning log

Name:

Maths teacher(s):

Maths group:

I will:

- work to the best of my ability, showing all my workings
- complete my homework to a good standard by the deadline set
- show tenacity when solving problems
- always have the correct equipment for all lessons

Signed:

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The Mathematics Department will:

- help you develop fluency in mathematical concepts
- help you develop your mathematical communication and reasoning
- help you develop problem solving skills
- set appropriate homework
- regularly assess your progress
- give you regular feedback and let you know what else you need to do to maintain or increase your progress

Signed:

Maths Department

Sparx Maths

Online homework tasks will be set at

www.sparxmaths.com

You will use your school log-in details.

Use this space to keep track of your Sparx XP-level:

XP level

Every lesson you will need to bring this equipment:

- exercise book
- learning log
- scientific calculator
- black pen × 2
- pencil × 2
- ruler
- eraser
- pencil sharpener
- highlighter

When advised, you will also need to bring:

- protractor
- pair of compasses

Optionally:

- colouring pencils

	Objectives Term 1 Autumn	Sparx
BNum1	Order any decimals and put them on a number line	M522
	Do calculations in the right order, and use brackets (BIDMAS)	M521
	Order negative numbers and put them on a number line	M527
	Add and subtract negative numbers	M106
	Explain and work out the Lowest Common Multiple (LCM) and Highest Common Factor (HCF) of a pair of numbers	M277, M698
	Recognise prime numbers up to 100	M322
	Recognise numbers that have particular properties, such as square numbers, triangular numbers, cube numbers, multiples of 3 etc, factors of 20 etc order, ascending, descending, order of operations, operation, add, plus, sum, subtract, take away (NOT minus!), multiply, times, of, divide, share, brackets, BIDMAS, calculate, evaluate, expression, negative, positive, lowest common multiple, LCM, highest common factor, HCF, prime, cube, square, triangular number, factor, multiple, product of prime factors, LCM, HCF	
BAlg1	Explain the meaning of term, expression, algebraic	M830
	Write an expression that uses letters for numbers I don't know	M813
	Write "I think of a number" expressions as number machines and algebra	
	Substitution	M417, M327
	Simplifying	M795, M531
	term, expression, algebraic, order of operations, operation, evaluate, BODMAS, BIDMAS, number machine, substitute, collect like terms, simplify	
BGeom1	Angle facts: "angles around a point add to 360°"	M818
	Angle facts: "angles on a straight line add to 180°"	M818
	Angle facts: "angles in a triangle add to 180°"	M351
	Angle facts: "Vertically opposite angles are equal"	M163
	Show a shape tessellates	
	Use a protractor to draw any angle (including reflex)	U447
	Construct a triangle given two sides and the angle between them	M565
	Construct a triangle given two angles and the side between them	
	vertex, angle, side, line segments, angle facts, calculate, triangle, angles at a point, angles in a triangle, vertically opposite angles, reason, tessellation, measure, construct, sketch	
BData1	Write a hypothesis	
	Know the difference between quantitative and qualitative data	U322
	Draw and interpret line graphs	M771
	Draw and interpret bar graphs, including with dual bars	M460, M738
	quantitative (numerical) data, qualitative (non-numerical) data, hypothesis, line graph, bar chart, misleading graph, composite bar chart, comparative bar chart, dual bar chart, grouped data, extreme values, mode, modal group	

Number	Algebra	Geometry	Data	Revision	Total	
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	Objectives Term 2 Spring	Sparx
BNum2	Multiply a 3 digit by a 2 digit number	M187
	Multiply a decimal by a whole number in my head	M803
	Divide a 3 digit by a 2 digit number	M354
	Divide a short decimal by a whole number in my head	M262
	Round a number to the nearest 10, 100, 1000, million...	M111
	Round a number to 1 or 2 decimal places	M264
	Use rounding to work out a rough answer	M878
	multiplication, division, round, power of 10, decimal place, estimate, integer	
BAlg2	Make equivalent equations	
	Explain the idea of balancing equations	
	Solve equations with two operations, eg $2x + 5 = 11$	M707
	Solve equations with x on both sides, eg $4x - 2 = 3x - 1$	M554
	unwrapping, inverse operation, balancing, equals, brackets	
BGeom2	Work out missing lengths on shapes made up of rectangles	
	Work out the area and perimeter of shapes made up of rectangles	M635, M690, M269
	Work out the area of a parallelogram	M291
	Work out the area of a triangle	M610
	Work out the area of a trapezium	M705
	Work out the area of compound shapes (made up of rectangles, triangles, parallelograms and trapeziums)	M996
	area, square centimetre (etc), perimeter, length, centimetre (etc), rectangle, compound shape, triangle, parallelogram, trapezium, base, height, parallel sides	
BData2	Find the mean	M940
	Find the mode and modal group	M841
	Find the median for an even number of data values	M934
	Use the averages and range to compare two sets of data	M328
	Decide which average is most useful	M440
	Work out the data values if I'm told the mode, median, mean and range	
	average, mean, median, mode, modal, bimodal, trimodal, BIDMAS, hypothesis, range, data value, data sets	

Number	Algebra	Geometry	Data	Revision	Total	
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	Objectives Term 3 Summer	Sparx
BNum3	Write decimals as fractions eg 0.23, 0.05	M958
	Convert from percentages to fractions	M264
	Change between improper fractions and mixed numbers	M601
	Place (both improper and mixed) fractions greater than 1 on a number line	
	Compare and order fractions greater than 1	M335
	fraction, denominator, numerator, equivalent, common denominator, terminating decimal	
BAIg3	Describe how to get the next term in a sequence	M381
	Write a sequence if I'm told the first term and the pattern	
	Recognise which times table a sequence comes from	
	Write the 10 th , 100 th term of a sequence if I'm given the rule	
	Begin to link sequences to points plotted on a graph which follow a pattern	
	Recognise the variable and constant parts of a physical sequence	M241
	Draw and interpret graphs of real life or physical situations	M771, M843
	sequence, term, term-to-term rule, position-to-term rule, expression, general term, <i>n</i> th term, pattern, constant, variable, change, same, rule, symbols, difference, vertex, vertices	
BRatio3	Write one number as a fraction/decimal of another, eg 4 is $\frac{1}{3}$ of 12	
	Find equivalent ratios	M885, M801
	Split an amount in a ratio	M525
	Understand the difference between ratio (part-to-part) and proportion (part-to-whole)	
	Convert between ratios and fractions	
	proportion, equivalent ratio, simplest form	
BGeom3	Know the vocabulary of 3D shapes (face, vertex, vertices, edges)	M767
	Sketch the net for any 3-D shape	M518
	Create or sketch a 3D shape from a net	
	Draw the plan, front and side elevation for a 3-D shape,	M229
	Make a 3D shape from the plan, front and side elevations	
	face, vertex, vertices, edge, 2D shape, 3D solid, prism, cuboid, tetrahedron, net, cube sketch, isometric, view, plan view, front view, side view, elevations, sketch	
BData3	Say which situations have equally likely outcomes	M655
	Use the probability scale from 0 to 1 and place events on it	M941, M938
	Write the probability of an event as a fraction	M941, M938
	Estimate probability from an experiment	M332
	Compare expected results with an experiment	M206
	event, probability, impossible, certain, likely, unlikely, even chance, 50-50, equally likely, probability scale, chance, random, possible, outcome, experiment, frequency table, theoretical probability, experimental probability, biased	

Number	Algebra	Ratio	Geometry	Data	Total	
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