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 2023/24

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:

……

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 360^0"	M818
		Angle facts: "angles on a straight line add to 180^0"	M818
		Angle facts: "angles in a triangle add to 180^0"	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		
BAlg3		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, nth 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	
/	/	/	/	/	/	