TAFF BARGOED LEARNING PARTNERSHIP

School Curriculum – Whole School Progression

Curriculum for Wales		
	AoLE Focus	Mathematics and Numeracy
	Our School Curriculum Vision	Within the Taff Bargoed Learning Partnership, our learners will be provided with experiences that will allow them to; achieve their potential with their mathematics and numeracy skills. Our learners will experience a sense of pride and achievement as they solve a problem, discover different solutions and strategies, and apply their skills independently through authentic contexts. Our learners will gain a deep understanding of the subject, explored through a range of concepts/contexts, which ensures they fully understand and engage with what they are learning, and develop as numerate individuals, able to apply their skills in their everyday lives.
	Progression Step	3

Knowledge – *'Learn ABOUT'*		**Experience – *'Learn FROM'***
Within our Curriculum, a focus is given to Pupil interest in contributing to the learning that is taking place, in order to develop a child-centred approach. However there is a range of expected knowledge & experience that we aim to develop Pupils Skills through.		Pupils will be provided with an opportunity to experience:-
In Year 5, Pupils will learn about & experience… ○ Identifying processes and connections to ○ *transfer mathematical skills to a variety of contexts and everyday situations* ○ *identify the appropriate steps and information needed to complete the task or reach a solution* ○ *select appropriate mathematics and techniques to use* ○ *select and use suitable instruments and units of measurement* ○ *choose an appropriate mental or written strategy and know when it is appropriate to use a calculator* ○ *estimate and visualise size when measuring and use the correct units* ○ Represent and communicate by ○ *explaining results and procedures clearly using mathematical language* ○ *refining informal methods of recording written calculations, moving to formal methods of calculation when developmentally ready* ○ *using appropriate notation, symbols and units of measurement* ○ *selecting and constructing appropriate charts, diagrams and graphs with suitable scales* • Review by • *selecting from an increasing range of checking strategies to decide if answers are reasonable* • *interpreting answers within the context of the problem and consider whether answers, including calculator, analogue and digital displays, are sensible* • *drawing conclusions from data and recognise that some conclusions may be misleading or uncertain*	**In Year 6, Pupils will learn about & experience…** ○ Identifying processes and connections to ○ *transfer mathematical skills to a variety of contexts and everyday situations* ○ *identify the appropriate steps and information needed to complete the task or reach a solution* ○ *select appropriate mathematics and techniques to use* ○ *select and use suitable instruments and units of measurement* ○ *choose an appropriate mental or written strategy and know when it is appropriate to use a calculator* ○ *estimate and visualise size when measuring and use the correct units* ○ Represent and communicate by ○ *explaining results and procedures clearly using mathematical language* ○ *refining informal methods of recording written calculations, moving to formal methods of calculation when developmentally ready* ○ *using appropriate notation, symbols and units of measurement* ○ *selecting and constructing appropriate charts, diagrams and graphs with suitable scales* • Review by • *selecting from an increasing range of checking strategies to decide if answers are reasonable* • *interpreting answers within the context of the problem and consider whether answers, including calculator, analogue and digital displays, are sensible* • *drawing conclusions from data and recognise that some conclusions may be misleading or uncertain*	• Mathematics in the real world including the world of work and design where numeracy play an integral part • Take part in maths activities of a collaborative natures, including across Cluster and regions • Engage in practical mathematics activities, being provided with a range of concrete, abstract and pictorial resources • Develop and consolidate skills through reasoning and problem solving in a range of contexts • Visits to and from people who use mathematics in their everyday lives • Identify mathematics in the world around them • Take part in STEM based activities; identifying how mathematics can be used in science and engineering based tasks • Balance of practical and written methods of solving problems and calculations • Be provided with an opportunity to use a wide range of mathematical equipment, and number based resources

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School Curriculum – Whole School Progression

SKILLS – *'Learn TO'*				
LNF Links	The Number System, Relationships within the Number System, Calculation			
*Through our Curriculum for **Mathematics and Numeracy,** our pupils will develop as **Ambitious, Capable Learners**, **Healthy confident Individuals**, **Ethical, informed Citizens** & **Enterprising, Creative contributors.** Enrichment and Experiences within this AoLE, at our School, will include opportunities for Pupils to;*				
WMS	**Through opportunities to;**	**Descriptions of Learning**	What this looks like in **YEAR 5**:	What this looks like in **YEAR 6**:
The number system is used to represent and compare relationships between numbers and quantities		(3.1)I can use a range of representations to develop and secure my understanding that the value of a digit is related to its position.	▪ compare numbers with 1 and 2 decimal places	
		(3.2)I can read, record and interpret numbers, using figures and words up to at least one million.	▪ read and write numbers to 100 000	▪ read and write numbers to 1 million and numbers to 3 decimal places
		(3.3)I can use a range of representations to extend my understanding of the number system to include negative values, decimals and fractions.		▪ add or subtract across zero using a number line
		(3.4)I can accurately place integers, decimals and fractional quantities on a number line.	▪ order negative and positive numbers, including decimals to 1 decimal place	
		(3.5)I can apply my understanding of number value to round and approximate appropriately.	▪ estimate by rounding to the nearest 10, 100 or 1 000	▪ estimate by rounding to the nearest 10, 100, 1 000 or whole number
		(3.6)I can demonstrate my understanding that non-integer quantities can be represented using fractions (including fractions greater than 1), decimals and percentages.	▪ calculate fractional quantities, e.g. 1/8 of 24 = 3, so 5/8 of 24 = 15	▪ calculate percentage quantities based on 10%, e.g. 20%, 5%, 15%

What this looks like in **YEAR 7**:

(3.7)I can use my knowledge of equivalence to compare the size of simple fractions, decimals and percentages and I can convert between representations.	▪ use understanding of simple fraction and decimal equivalences when measuring and calculating, e.g. ½ = 0.5, 1 / 10 = 0.1	▪ use understanding of simple fraction, decimal and percentage equivalences, e.g. find 25% of 60cm and know that this is equivalent to ¼ of 60cm	
(3.8)I can demonstrate my understanding that a fraction can be used as an operator or to represent division.	▪ recognise connections between fractions, e.g. one-tenth is half of one-fifth	▪ state the proportion of a whole that each share represents, e.g. recognise that in a ratio of 1:3, 1 part represents a quarter of the total ▪ simplify fractions	
(3.9)I can understand the inverse relation between the denominator of a fraction and its value.	▪ add and subtract fractions with the same denominator ▪ add fractions with the same denominator to make a whole	▪ find equivalent fractions and use these to add and subtract fractions	
(3.10)I can verify calculations and statements about number by inverse reasoning and approximation methods.	▪ check answers using inverse operations	▪ check answers using inverse operations	
(3.11)I can use the four arithmetic operations confidently, efficiently and accurately with integers and decimals, and I can combine these using distributive, associative and commutative laws where appropriate.	▪ multiply and divide numbers and decimals by 10 and 100 ▪ identify multiples of 2, 3, 4, 5, 6, 8 and 10; use the terms multiple and factor ▪ find differences between numbers with 1 decimal place ▪ add and subtract 3-digit numbers using an appropriate mental or written method ▪ multiply and divide 3-digit numbers by a single-digit number	▪ multiply numbers and decimals by a multiple of 10, e.g. 15 x 30, 1.4cm x 20 ▪ identify multiples of numbers up to 10; use the terms multiple and factor ▪ add and subtract numbers using whole numbers and decimals ▪ multiply 2- and 3-digit numbers by a 2-digit number ▪ divide 3-digit numbers by a 2-digit number	
(3.12)I have extended my understanding of multiplicative reasoning to include the concept and application of ratio, proportion and scale.	▪ use doubling and halving strategies when working with simple proportions ▪ • share objects in a given ratio, e.g. red blocks and blue blocks in a ratio of 1:2	▪ • use simple ratio and proportion ▪ use ratio to express two or more quantities in words	
(3.13)I can fluently recall multiplication facts up to at least 10 x 10 and use these to derive related facts.	▪ • use mental strategies to recall multiplication tables for 2, 3, 4, 5, 6, 8 and 10 and use to solve division problems	▪ use mental strategies to recall multiplication tables up to 10 x 10 and use to solve division problems	

		(3.14)I have experienced and explored simple multiplicative relationships that allow me to discuss the properties of number, including factors, multiples, prime and square numbers.	▪ • identify prime numbers as having only two factors; recognise that 1 is not a prime number	▪ identify common multiples of two numbers ▪ identify common factors of two numbers ▪ identify prime numbers ▪ know prime numbers below 20	
		(3.15)I can demonstrate an understanding of income and expenditure, and I can apply calculations to explore profit and loss.	▪ order and compare the cost of items up to £1 000 ▪ add and subtract totals less than £100 using correct notation, e.g. £28.18 + £33.45 ▪ plan and track money and savings by keeping accurate records ▪ realise that budgeting is important	▪ use the terms profit and loss in buying and selling activities and make calculations for this ▪ understand the advantages and disadvantages of using bank accounts ▪ make comparisons between prices and understand which is best value for money	

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LNF Links	N/A

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What Matters Statement	Through opportunities to;	Descriptions of Learning	What this looks like in **YEAR 5**:	What this looks like in **YEAR 6**:	What this looks like in **YEAR 7**:
Algebra uses symbol systems to express the structure of mathematical relationships.		(3.16)Algebra uses symbol systems to express the structure of mathematical relationships.		▪ explore general statements through practical activities, e.g. that a + a + a = 3a, 3 x a = 3a and a + a + a + b + b = 3a + 2b ▪ simplify expressions involving the addition of one variable, e.g. 5t + 3t = 8t	
		(3.17)I can explain numerical sequences and spatial patterns in words and by generalising them.			
		(3.18)I can use commutativity, distributivity and associativity to explore equality and inequality of expressions.	▪ use < > to describe whether a number is less than or greater than another, working with different types of numbers	▪ list numbers between two points using the terminology 'less than or equal to' and 'greater than or equal to'	
		(3.19)I can demonstrate an understanding of the idea of input, application of a rule (including inverse operations) and output, using a function machine or other appropriate methods, and I have applied this idea to solve problems.	▪ recognise and state the difference in sequences that involve adding or subtracting	▪ find the term to term rule for ascending and descending sequences, e.g. 3, 7, 11, 15 add 4	
		(3.20)I can model problems, using expressions and equations involving symbols or words to represent unknown values, adopting the conventions of algebra.	▪ show that a number is in the sequence and/or find the position number by continuing the sequence or otherwise ▪ solve one step equations using letters to present 'unknowns' with integer solutions, e.g. 6 + a = 10 and b + b = 8	▪ consider spatial patterns, e.g. square numbers ▪ construct and solve one step equations with whole number solutions	
		(3.21)I can use inverse operations to find unknown values in simple equations.	▪ write the next two (or more) terms in sequences ▪ use multistep function machines to generate input and output using all four operations; express, in words, the operations of function machines	▪ generate a sequence given the first term and the term to term rule ▪ express output generated from one step function machines using algebra	

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School Curriculum – Whole School Progression

LNF Links	Measurement, Shape and Space, Position

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What Matters Statement		Descriptions of Learning	What this looks like in **YEAR 5**:	What this looks like in **YEAR 6**:	What this looks like in **YEAR 7**:
Geometry focuses on relationships involving shape, space and position, and measurement focuses on quantifying phenomena in the physical world.	**Through opportunities to;**	(3.22)I can read analogue and digital clocks accurately and I can make interpretations and perform calculations involving time.	▪ read and use analogue and digital clocks ▪ time events in minutes and seconds, and order the results ▪ calculate start times, finish times and durations using hours and minutes ▪ carry out practical activities involving timed events and explain which unit of time is the most appropriate ▪ estimate the length of time everyday activities take to complete, extending to hours and quarters of hours	▪ use and interpret timetables and schedules to plan events and activities and make calculations as part of the planning process ▪ estimate how long a journey takes ▪ time events in minutes and seconds to the nearest tenth of a second ▪ convert between standard units of time ▪ estimate the length of time everyday activities take to complete with increasing accuracy	
		(3.23)I can estimate and measure length, capacity, mass, temperature and time, using appropriate standard units	▪ make estimates of length, weight/mass and capacity based on knowledge of the size of real-life objects	▪ make estimates of length, weight/mass and capacity based on knowledge of the size of real-life objects, recognising the appropriateness of units in different contexts	
		(3.24)I can convert between standard units, including applying my understanding of place value to convert between metric units.	▪ make use of conversions, e.g. ¼ of a km = 250m ▪ recognise the appropriateness of units in different contexts	▪ record measurements in different ways, e.g. 1.3kg = 1kg 300g ▪ use the language of imperial units in daily use, e.g. miles, pints	
		(3.25)I can explore and consolidate my understanding of the properties of two-dimensional shapes to include the number of sides and symmetry.	▪ • recognise and classify triangles, using their own criteria ▪ draw squares, rectangles and right angled triangles accurately ▪ • draw the reflection of a shape in any line	▪ recognise tetrahedra and square based pyramids ▪ recognise and sketch different types of quadrilaterals ▪ explore the tessellation of different shapes ▪ find all the lines of symmetry for a given shape ▪ identify rotational symmetry of shapes ▪ identify symmetrical properties of regular polygons	
		(3.26)I can explore vertices, edges and faces of three-dimensional shapes and I can use these characteristics to describe a three-dimensional shape	▪ identify congruent shapes and justify whether two or more shapes are congruent	▪ draw cubes and cuboids on isometric paper	

(3.27)I can relate a three-dimensional shape to its two-dimensional nets.	▪ construct solids from given nets	▪ identify a net of a cube ▪ draw nets of cubes on square paper	
(3.28)I can use efficient methods for finding the perimeter and area of two-dimensional shapes, understanding how basic formulae are derived.	▪ calculate, estimate and compare the area of squares and rectangles using standard unit	▪ calculate the area of squares and rectangles	
(3.29)I have developed an understanding of the ways in which co-ordinates are used to solve problems involving position, length and shape.	▪ use coordinates to specify location ▪ read, plot and write coordinates in one quadrant, e.g. (2, 4)	▪ use grid references to specify location ▪ refer to the x axis and the y axis ▪ identify the coordinates of a missing point from a regular shape	
(3.30)I can demonstrate my understanding of angle as a measure of rotation and I can recognise, name and describe types of angles.	▪ recognise acute and obtuse angles ▪ draw and measure acute angles in multiples of 10 degrees	▪ recognise reflex angles ▪ draw accurately and measure acute and obtuse angles in multiples of 5 degrees ▪ calculate a missing angle within a right angle, on a straight line or around a point	

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LNF Links	Collecting Data, Representing Data, Interpreting Data

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What Matters Statement		Descriptions of Learning	What this looks like in **YEAR 5**:	What this looks like in **YEAR 6**:	What this looks like in **YEAR 7**:
Statistics represent data, probability models chance, and both support informed inferences and decisions.	**Through opportunities to;**	(3.31)I can collect different types of data to answer a variety of questions that have been posed, demonstrating an understanding of the importance of collecting relevant data.	▪ collect different types of data to answer a variety of questions that have been posed, demonstrating an understanding of the importance of collecting relevant data.	▪ collect different types of data to answer a variety of questions that have been posed, demonstrating an understanding of the importance of collecting relevant data.	
		(3.32)I can represent information by creating a variety of appropriate charts of increasing complexity, including tally charts, frequency tables, bar graphs and line graphs.	▪ represent data using: – lists, tally charts, tables, diagrams and frequency tables – bar charts, grouped data charts, line graphs and conversion graphs	▪ represent data using: – lists, tally charts, tables, diagrams and frequency tables – bar charts, grouped data charts, line graphs and conversion graphs	
		(3.33)I can use different scales to extract and interpret information from a range of diagrams, tables and graphs, including pie charts with simple fractions and proportions.	▪ extract and interpret information from an increasing range of diagrams, timetables and graphs (including pie harts)	▪ extract and interpret information from an increasing range of diagrams, timetables and graphs (including pie charts)	
		(3.34)I can recognise any trends that are seen.			
		(3.35)I can find and use the mean of a simple set of data to explain how the statistics do, or do not, support an argument.	▪ use mean, median, mode and range to describe a data set	▪ use mean, median, mode and range to describe a data set	
		(3.36)I can recognise how anomalies affect the mean.			
		(3.37)I can explore outcomes and chance, using appropriate language, and I am beginning to use numerical values to represent probability.	▪ use the words ‘certain’ and ‘impossible’ to describe the likelihood of an event occurring ▪ recognise that some events are impossible and some events are certain ▪ recognise that some events are more likely than others ▪ use the words ‘likely’, ‘unlikely’ and ‘even chance’	▪ use numbers to describe the likelihood of an event, e.g. a one-in-six chance ▪ recognise that some events are equally likely ▪ identify the outcomes of simple events, e.g. flipping a coin, rolling a dice.	