



Tonwell St Mary's School Curriculum Overview of Intent for Mathematics

Overall aims:

We aim for all of our children to have access to a high quality maths curriculum (Essential Maths) that is both challenging and enjoyable. We aim to provide our children with a variety of mathematical opportunities, which will enable them to make the connections in learning needed to enjoy greater depth in learning. We aim to ensure children are confident mathematicians who are not afraid to take risks. We aim to develop children into independent learners with inquisitive minds who have secure mathematical foundations and an interest in self-improvement. At Tonwell St Mary's our intent for mathematics is to teach a rich, balanced and progressive curriculum using Maths to reason, problem solve and develop fluent conceptual understanding in each area. Teachers are supported and aided (by H4L maths advisor) in their roles ensuring confidence in the skills and facts they are required to teach. Our curriculum allows children to better make sense of the world around them relating the pattern between mathematics and everyday life. The mapping of Mathematics across school shows clear progression in line with age related expectations. Pupils are challenged and those who are identified as SEND or underachieving are supported completely, revisiting learning where needed. The expectation is that the majority of pupils will move through the programmes of study in Essential maths at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

Our unique context:

Due to the unique context of our school with mixed-age classes we have organised our curriculum for maths in the following ways:
We use Essential maths to support the curriculum for primary teachers from Early years to Y6. The sequences are written as a spiral curriculum in which learning is built upon step by step, sequence by sequence and year on year. It is aspirational and ensures progression and coverage through the primary phase. Long term plans provide an overview of the learning for each term. Sequences of learning including identification of NC statements covered and key concepts. Stepped learning opportunities demonstrate the order of learning. The steps in the sequence build on each other. They should not be thought of as a lesson but rather a step of learning pupils must accomplish in the journey. The focus of the step is written underneath in bold. Activities for exploring at greater depth occur in some steps and provide further opportunity to deepen and challenge. Orange speech bubbles exemplify the standard of talk and reasoning expected of pupils. Models, drawings and symbols show how concrete resources can be used during the direct teaching session. Sequences often contain speaking frames to support pupil development of language. Buffer zones signal where teachers should stop and check that learning so far has been secured before moving onto the next step. Destination question flags indicate where it might be useful to use them as AfL opportunities to assess how well the learning is secured. Blue speech bubbles indicate key questions and teaching points for the teacher. Sequences promote whole class teaching rather than streaming or ability groups – differentiation is implicit throughout. It includes access, modelled examples of resource and pictorial use, intelligent practice, scaffolded practice examples, small step progression and highlighted opportunities for pupils to explore concepts at greater depth.



EYFS Maths Curriculum Intent:

For all children to be eager and engaged young mathematicians. For every pupil to be challenged to make good or better progress from their starting points so they are Year 1 ready with a firm grounding in the fundamental mathematical concepts. Essential maths is introduced in Early years to ensure children have basic foundations in place for maths and that our approach is consistent across the school.

We initially embed pre-counting skills in nursery and at the start of Reception to allow children to develop key mathematical skills such as subitising, comparing, ordering and identifying patterns.

We use the *Concrete, Pictorial, Abstract* approach to adult-led learning to ensure children have a strong grounding in the fundamentals of mathematics and practical understanding of its importance to our everyday life. This links into the Herts for Learning approach that is followed across the school.

We believe in the importance of recording within mathematics, and encourage the children to mark make to represent their thinking. To enable this, we give the children maths books from early in the Reception year and provide whiteboards and clipboards in the maths area.

Our environment is designed to encourage mathematical thinking throughout continuous provision, such as using 2D shape in the creative area or 3D shape for construction and junk modelling, using tape measures, clocks, money, tills and scales in different role play areas or comparing, classifying, measuring and counting objects in the investigation area. We practice numeral formation through sensory play and ordering number challenges.

We monitor children’s progress through observation on Seesaw, and any paper work is recorded in their learning journey.

EYFS	Range 4	Range 5	Range 6
	<p>Comparison</p> <ul style="list-style-type: none"> Beginning to compare and recognise changes in numbers of things, using words like more, lots or ‘same’ <p>Counting</p> <ul style="list-style-type: none"> Begins to say numbers in order, some of which are in the right order (ordinality) Cardinality (How many?) In everyday situations, takes or gives two or three objects from a group Beginning to notice numerals (number symbols) 	<p>Comparison</p> <ul style="list-style-type: none"> Compares two small groups of up to five objects, saying when there are the same number of objects in each group, e.g. You’ve got two, I’ve got two. Same! <p>Counting</p> <ul style="list-style-type: none"> May enjoy counting verbally as far as they can go Points or touches (tags) each item, saying one number for each item, using the stable order of 1,2,3,4,5. 	<p>Comparison</p> <ul style="list-style-type: none"> Uses number names and symbols when comparing numbers, showing interest in large numbers Estimates of numbers of things, showing understanding of relative size <p>Counting</p> <ul style="list-style-type: none"> Enjoys reciting numbers from 0 to 10 (and beyond) and back from 10 to 0 Increasingly confident at putting numerals in order 0 to 10 (ordinality)



	<ul style="list-style-type: none">• Beginning to count on their fingers. <p>Spatial Awareness</p> <ul style="list-style-type: none">• Moves their bodies and toys around objects and explores fitting into spaces• Begins to remember their way around familiar environments• Responds to some spatial and positional language• Explores how things look from different viewpoints including things that are near or far away <p>Shape</p> <ul style="list-style-type: none">• Chooses puzzle pieces and tries to fit them in• Recognises that two objects have the same shape• Makes simple constructions <p>Pattern</p> <ul style="list-style-type: none">• Joins in and anticipates repeated sound and action patterns• Is interested in what happens next using the pattern of everyday routines <p>Measures</p> <ul style="list-style-type: none">• Explores differences in size, length, weight and capacity• Beginning to understand some talk about immediate past and future	<ul style="list-style-type: none">• Uses some number names and number language within play, and may show fascination with large numbers• Begin to recognise numerals 0 to 10 <p>Cardinality</p> <ul style="list-style-type: none">• Subitises one, two and three objects (without counting)• Counts up to five items, recognising that the last number said represents the total counted so far (cardinal principle)• Links numerals with amounts up to 5 and maybe beyond• Explores using a range of their own marks and signs to which they ascribe mathematical meanings <p>Composition</p> <ul style="list-style-type: none">• Through play and exploration, beginning to learn that numbers are made up (composed) of smaller numbers• Beginning to use understanding of number to solve practical problems in play and meaningful activities• Beginning to recognise that each counting number is one more than the one before• Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same	<p>Cardinality</p> <ul style="list-style-type: none">• Engages in subitising numbers to four and maybe five• Counts out up to 10 objects from a larger group• Matches the numeral with a group of items to show how many there are (up to 10) <p>Composition</p> <ul style="list-style-type: none">• Shows awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects• Begins to conceptually subitise larger numbers by subitising smaller groups within the number, e.g. sees six raisins on a plate as three and three• In practical activities, adds one and subtracts one with numbers to 10• Begins to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and “+” or “-“ <p>Spatial Awareness</p> <ul style="list-style-type: none">• Uses spatial language, including following and giving directions, using relative terms and describing what they see from different viewpoints
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	<ul style="list-style-type: none">• Beginning to anticipate times of the day such as mealtimes or home time	<p>Spatial Awareness</p> <ul style="list-style-type: none">• Responds to and uses language of position and direction• Predicts, moves and rotates objects to fit the space or create the shape they would like <p>Shape</p> <ul style="list-style-type: none">• Chooses items based on their shape which are appropriate for the child's purpose• Responds to both informal language and common shape names• Shows awareness of shape similarities and differences between objects• Enjoys partitioning and combining shapes to make new shapes with 2D and 3D shapes• Attempts to create arches and enclosures when building, using trial and improvement to select blocks <p>Pattern</p> <ul style="list-style-type: none">• Creates their own spatial patterns showing some organisation or regularity• Explores and adds to simple linear patterns of two or three repeating items, e.g. stick, leaf (AB) or stick, leaf, stone (ABC)	<ul style="list-style-type: none">• Investigates turning and flipping objects in order to make shapes fit and create models; predicting and visualising how they will look (spatial reasoning)• May enjoy making simple maps of familiar and imaginative environments, with landmarks <p>Shape</p> <ul style="list-style-type: none">• Uses informal language and analogies, (e.g. heart-shaped and hand-shaped leaves), as well as mathematical terms to describe shapes• Enjoys composing and decomposing shapes, learning which shapes combine to make other shapes• Uses own ideas to make models of increasing complexity, selecting blocks needed, solving problems and visualising what they will build <p>Pattern</p> <ul style="list-style-type: none">• Spots patterns in the environment, beginning to identify the pattern "rule"• Chooses familiar objects to create and recreate repeating patterns beyond AB patterns and begins to identify the unit of repeat <p>Measures</p>
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	Autumn term	Spring term	Summer term
EYFS	RLS1_subitising-equivalence_more_or_less RLS2_counting-stable_order RLS3_comparison_measures RLS4_pattern_recognition RLS5_classification RLS6_counting-cardinality	RLS7_using_counting_to_compare RLS8_spatial_thinking RLS9_magnitude_ordering_and_estimating RLS10_regrouping_the_whole RLS11_regrouping_parts_to_find_the_total	RLS12_finding_the_whole_and_missing_parts RLS13_ten_and_some_more RLS14_doubling_and_halving RLS15_odd_and_even RLS16_counting_beyond_twenty
Y1/Y2	1&2_LS1 Positional Language and Sequencing 1&2_LS2 Subitising – Leading to More and Fewer 1&2_LS3 Number Magnitude, Estimation and Comparison 1&2_LS4 Place Value – Making Ten(s) and Some More 1&2_LS5 Time – Estimating, Sequencing and Comparing	1&2_LS10 Geometry 1 1&2_LS11 Regrouping to Add and Subtract 1&2_LS12 Strategy Choices for Addition and Subtraction 1&2_LS13 Problem Solving with Addition and Subtraction 1&2_LS14 Doubling and Halving 1&2_LS15 Multiplication – Counting, Multiples and Repeated Addition 1&2_LS16 Multiplication – Number of Groups, Group Size and Product 1&2_LS17 Division – Sharing and Grouping	1&2_LS19 Money 1&2_LS20 Fractions 1&2_LS21 Problem Solving – All Four Operations 1&2_LS22 Time – Turns and Telling the Time 1&2_LS23 Time – Drawing the Hands on a Clock and Intervals of Time 1&2_LS24 Measures and Reading Scales 1&2_LS25 Statistics 1&2_LS26 Geometry 2 1&2_LS27 Place Value with Larger Numbers 1&2_LS28 Calculation Review



	<p>1&2_LS6 Additive Reasoning – the Understanding and Language of Operations</p> <p>1&2_LS7 Part Whole</p> <p>1&2_LS8 Equality and Comparison</p> <p>1&2_LS9 Measures – Length, Height and Mass</p>	<p>1&2_LS18 Problem Solving with Multiplication and Division</p>	
Y3/4	<p>3&4_LS1 Number and Place Value Reasoning 1</p> <p>3&4_LS2 Additive Reasoning 1 – Mental Addition</p> <p>3&4_LS3 Additive Reasoning 2 – Mental Subtraction</p> <p>3&4_LS4 Multiplicative Reasoning 1 – Building Fact Recall</p> <p>3&4_LS5 Proportional Reasoning 1 – Scaling, Comparison and Fractions</p> <p>3&4_LS6 Geometric Reasoning 1 – Angles and Lines</p>	<p>3&4_LS7 Proportional Reasoning 2 – Adding and Subtracting Fractions</p> <p>3&4_LS8 Geometric Reasoning 2 – Properties of 2-D shape</p> <p>3&4_LS9 Additive Reasoning 3 – Formal Written Addition and Subtraction</p> <p>3&4_LS10 Spatial Reasoning 1 – Perimeter</p> <p>3&4_LS11 Statistical Reasoning 1 – Scaling</p> <p>3&4_LS12 Multiplicative Reasoning 2 – Multiplicative Laws and Area</p> <p>3&4_LS13 Multiplicative Reasoning 3 – Formal Written Multiplication and Division</p>	<p>3&4_LS14 Number and Place Value Reasoning 2 – Decimals</p> <p>3&4_LS15 Measurement Reasoning 1 – Comparing, Estimating and Calculating with Measures</p> <p>3&4_LS16 Measurement and Statistical Reasoning 2 – Time, Timetables and Time Graphs</p> <p>3&4_LS17 Operational Reasoning – Understanding and Applying the Four Operations</p> <p>3&4_LS18 Proportional Reasoning 3 – Finding Fractions of Continuous Quantities</p> <p>3&4_LS19 Rolling Topics</p> <p>First year:</p> <ul style="list-style-type: none"> • Roman Numerals to 100 (4LS28) • 3-D Shape – Building and Identifying Properties (3LS39) • Symmetry (4LS15) <p>Second year:</p> <ul style="list-style-type: none"> • Negative Numbers – Counting through Zero and Calculating in Context (4LS29) • Geometry – Coordinates in the First Quadrant and Translations (4LS32)



			<ul style="list-style-type: none">• Geometry – Position and Direction, incorporating Angles and Plotting Points of a Shape (4LS33)
Y5/6	5&6_LS1 Number and Place Value Reasoning 5&6_LS2 Multiplicative Reasoning 1 (Multiply and Divide by Powers of Ten) 5&6_LS3 Additive Reasoning 1 5&6_LS4 Number Properties Reasoning 5&6_LS5 Multiplicative Reasoning 2 (Multiplication) 5&6_LS6 Fraction Reasoning 1 5&6_LS7 Multiplicative Reasoning 3 (Division) 5&6_LS8 Algebraic Reasoning 1	5&6_LS9 Geometric Reasoning 1 5&6_LS10 Proportional Reasoning 1 (Percentages) 5&6_LS11 Multiplicative Reasoning 4 (Division) 5&6_LS12 Spatial Reasoning 1 (Area and Perimeter) 5&6_LS13 Fraction Reasoning 2 (Multiplying and Dividing with Fractions) 5&6_LS14 Spatial Reasoning 2 (Volume) 5&6_LS15 Proportional Reasoning 2 (Ratio and Scaling) 5&6_LS16 Positional Reasoning (Angles and Translation)	5&6_LS17 Statistical Reasoning 1 5&6_LS18 Roman Numerals, Time and Revision 5&6_LS19 Proportional Reasoning 3 5&6_LS20 Statistical Reasoning 2 5&6_LS21 Measures and Describing Patterns 6LS35 Financial Maths and Enterprise – Y6 focus but could be used with both year groups 5LS35 Solving Problems involving the Four Operations – Y5 focus but could be used with both year groups 5&6_LS22 Transition and High Value Learning