

Camelford Primary School Skills Progression

Maths Pathway

Subject Lead: Trish Rabson

The Maths pathway shows clearly what the pupils will be learning as they progress on their journey at Camelford Primary School.

At Camelford Primary School we work on a 2-year rolling programme – Year A starting Sept 2020. It follows the White Rose Small Steps Mixed age planning document and is supported by the whole school Calculation Policy.

	Autumn	Christmas	Spring		Summer	
	Autumn (10 weeks) Rebellion and Invasion: <i>Humanities focus</i>	Christmas (3wks) <i>Performance focus</i>	Spring 1 (5 wks) Civilization/British Values <i>Humanities focus</i>	Spring 2 (5 wks) Environmental Warrior <i>Science/school ethos focus</i>	Summer 1 (5 wks) Our community/Our World <i>Humanities focus</i>	Summer 2 (5 wks) Evolution of Man <i>Science focus</i>
Nursery	Number (2weeks)- Take part in finger rhymes with numbers React to changes of amount of up to 3 Shape and measure (2weeks) - Talk about and explore 2D shapes Patterns - Explore with their own symbols and marks as well as numerals. Number (2weeks) - Compare quantities (0-3) by saying lots, more, same.	Shape and measure - Compare weights (heavy/ lighter) Patterns - Notice and compare patterns. Arrange things in patterns	Number: Say one number for each item. Show fingers to 5 Shape and Measure Talk about and explore 3D shapes Pattern Talk about and identify the patterns around them (stripes, dotty, spotty)	Number: Recite numbers past 5 Develop fast recognition of up to three items Compare quantities Shape and Measure Combine shapes to make new ones – 2 triangles =square Pattern Extend and create ABAB patterns (leaf, stick, leaf, stick)	Number: Link numerals to amounts (1-3) Compare quantities using ‘more than’ and ‘less than’ Shape and measure Understand position through words alone Select shapes appropriately for building (eg triangular prism for a roof) Pattern Begin to describe a sequence of events. Using ‘first, then...’	Number: Link numerals to amounts (1-5) Solve real world problems with numbers up to 5 (adding 1 more) Shape and measure Describe a familiar route. Pattern Explain and describe ABAB patterns. Notice mistakes in a repeating pattern.
EYFS	Getting to know you (Baseline assessments) Just like me: Match and sort Compare amounts Compare size, mass and capacity Making and discussing simple patterns It’s me 1,2,3: Representing 1,2,3 Comparing 1,2,3 Composition of 1,2,3 Circles and triangles 2D and 3D Spatial awareness (positional language)	Light and Dark: Counting to four (forwards and backwards) Counting to 5 Comparing numbers to 5 Composition of 4 and 5 One more one less Shapes with four sides Combining shapes Night and day	Alive in 5 Introducing 0 Compare Mass Compare Capacity Growing 6,7,8 6,7,8 Combining two amounts Making pairs (Odd and even) Comparing height and length Time (today, tomorrow, yesterday)	Building Counting 9 and 10 Comparing numbers to 10 Bonds to 10 3D shapes Spatial awareness Patterns 2 weeks consolidation	To 20 and beyond Build numbers beyond 10 Count patterns beyond 10 Spatial reasoning Match, rotate, manipulate First, then, now Adding more Taking away Spatial reasoning	Find my pattern Doubling Sharing and grouping Even and odd Spatial reasoning (inc visualising and building) On the move Patterns and relationships Spatial mapping
Years 1/2 A	Place Value Y1 – Numbers to 10 (4 weeks) Y2 – Numbers to 100 (3 weeks)	Number: Year 1 Shape Year 2 – Shape	Number: Y1 – Place value to 20 (3 weeks) Y2 – Money (2 weeks)	Measurement: length and height Y1 and Y2 (2 week) Y1 /2 – Mass and volume	Geometry Y1 – Number: multiplication and division. (3 week)	Measure: Year 1/ 2 time (2 weeks)

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	Number: Addition and Subtraction Y1 – Numbers within 10 (6 weeks) Y2 – Numbers within 100 (6 weeks)		Y1 – Number: Addition and subtraction to 20 (3 weeks) Year 1 – number: place value to 50 (2 weeks) Y2 – multiplication and division (5 weeks)	Consolidation (3 weeks) Year 2 – Capacity and temperature (1 week)	Year 2- Statistics (2 weeks) Year 1/2 – number Fractions (3 weeks)	Year 1/ 2 position and direction (2 weeks) Year 1 Place value to 100. Y2- Consolidation and Investigations (2 weeks)
Years 1/2 B	See above – Use appropriate year group	See above – Use appropriate year group	See above – Use appropriate year group	See above – Use appropriate year group	See above – Use appropriate year group	See above – Use appropriate year group
Years 3/4 A	Number: Place Value (4 weeks) Number: Addition and Subtraction (4 weeks / 3 weeks year 4) Year 4 – Measure area (1 week) Multiplication and Division (2 weeks)	Multiplication and Division (2 weeks)	Number: Multiplication and Division (3 weeks) Measurement Length and perimeter (3 weeks) Fractions (1 week)	Fractions Cont. (3 weeks) Y3 – Measurement: Mass and Capacity (3 weeks) Y4 – Number: Decimals (3 weeks)	Year 3 Number: Fractions (2 weeks) Year 4 – number: Decimals Y3/4: Measurement - money Y3/4: Measurement: Time (2 weeks)	Y3 /4 Geometry: Properties of Shape Y3 /4 Statistics (Yr3 - 2 weeks Yr4 – 1 week) Consolidation (Inc Y4 Position and Direction) (2 weeks)
Years 3/4 B	See above – Use appropriate year group	See above – Use appropriate year group	See above – Use appropriate year group	See above – Use appropriate year group	See above – Use appropriate year group	See above – Use appropriate year group
Years 5/6 A	Number: Place Value Number: Four Operations (5 weeks) Number: Fractions (3 weeks)	Fractions Cont. (2 weeks) Yr 5 consolidate fractions (1 week) Yr 6 converting units	Number: Decimals and Percentages (3 weeks) Number: Y5 – Decimals (2 weeks) Y6 – Algebra (2 weeks)	Measurement: Converting Units (1 weeks) Measurement: Perimeter, Area and Volume (2 weeks) Number Y5 – Consolidation (2 weeks) Y6 – Ratio (2 weeks)	Statistics (2 weeks) Geometry: Properties of Shape (2 weeks) Geometry: Position and Directions (1 week) SATS	Investigations and Consolidation
Years 5/6 B	See above – Use appropriate year group	See above – Use appropriate year group	See above – Use appropriate year group	See above – Use appropriate year group	See above – Use appropriate year group	See above – Use appropriate year group

The table below includes the subject coverage which details when in the year the specific topics/areas of Maths are taught. At Camelford School, we use White Rose Mixed-Age documentation and progression documents to guide our long-term planning.

Planning Maths lessons

At Camelford we have adopted the ‘Mastery Approach’ and a clear progression through concrete, pictorial and abstract methods should be seen across all units. The White Rose Small Steps Document should be used alongside AfL to plan meaningful lessons. Children must be exposed to regular opportunities to practise and develop their fluency, reasoning and problem solving. The Calculation Policy must be adhered to.

Daily lessons should also provide a short opportunity to practise either counting, recall number-bonds and/or number facts along with times tables.

Fluency

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This is a 30 minute session that is carried out 3x a week in addition to the daily 50 minute maths lesson. Within these sessions children should complete 6 questions in 6 minutes (more able pupils can be challenged by reducing the time they have to complete them). These questions should provide an opportunity for children to revisit the 4 operations and then 2 further questions identified from AfL and assessment papers.

99 Club should also be carried out in addition to the above once a week. It is important that children's progress through this is recorded on the Sharepoint.

The following documents detail the National Curriculum statements and Assessment procedures for Mathematics at Camelford.

How can this document be used by subject leads and SLT?

Subject leads and SLT should use the progression of skills and subject coverage documents (White Rose) to ensure the correct coverage is happening across the school, at the right times. Along with these documents, the Topic Guides for each Topic across the year, provide teachers with the small steps and suggested IALTs for each maths block. Subject Leads and SLT should use the Topic Guides to help them ensure that the areas being taught are relevant (as per the Topic Guide) and that lessons are pitched to the right level ensuring maximum challenge. The journey of a child throughout the school (starting from Year 1 rotation A) should be carefully monitored to ensure their learning is progressive and varied.

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National Curriculum Mathematics Statement 2014

Purpose of Study

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

Aims P

The national curriculum for mathematics aims to ensure that all pupils:

§**become **fluent**** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

§**reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

§**can **solve problems**** by applying their mathematics to a variety of routine and non- routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programmes of study 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.

Assessment

Children's knowledge and understanding should be assessed at the start of every unit of work through a Pre-unit assessment. They must also complete a Post-unit assessment at the end of the unit. It is considered beneficial to mark the post unit **with** the children. Both of these assessments should be photocopied on to yellow paper and stuck in maths books.

Children in Years 1-6 will complete end of year NFER papers. Children will sit termly WR papers to aid teacher assessment. Children should sit the year they are in unless discussed with the SENCo and maths coordinator. Any support children receive (readers, scribes extra time) should also be discussed and reported to help monitor progress. Standardised scores should be recorded on SIMs and a copy of the scores from each paper given to the maths coordinator. These tests should be used to inform future planning, intervention and fluency sessions as well reporting to parents.

Children in EYFS will have termly moderation with other schools in the MAT

Children in years 2 and 6 will also sit SATs in the Summer term.

Children in Year 4 will complete the Multiplication Tables Check (MTC) in June.

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