

St. Aidan's RC Primary School

Policy for Mathematics and Progression in Calculations



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Adopted: September 2019

Review: Summer 2020

Impact Statement

The teaching of mathematics at St. Aidan's RC Primary School aims to equip all pupils with a sound understanding of mathematical ideas, fluency in calculation and reasoning and a competence in problem solving which prepares them for the next stage of their education and beyond.

Aims (Intent)

The aims for teaching Mathematics at St. Aidan's RC Primary School are:

- To promote an enjoyment and understanding of mathematics through practical activities that allows children to understand the links between maths and their everyday lives.
- To equip all pupils with functional calculation skills involving all four operations this prepares them for life beyond St. Aidan's.
- To support children through stages of learning this allows them to move between concrete, iconic and symbolic representations of number.
- To allow children to develop problem solving and reasoning skills which they can apply across a range of contexts.
- To support children in developing a range of mathematical language which allows them to explain their methods and reasoning.
- To foster an understanding of the practical aspects of data handling, shape, space and measurement which can be applied to real life situations.

Mathematics at St. Aidan's has applications to all areas of the curriculum and children should be given the opportunity apply the skills they have been taught to a range of different contexts and in other areas of the curriculum. This will allow children to practise their mathematical skills, develop fluency and improve problem solving.

Teaching and Learning Styles (Implementation)

The staff at St. Aidan's appreciate that all children are unique and, as such, all learn differently. Consequently, all staff teach, plan and deliver maths according to the needs of their individual classes, differentiating work and supporting pupils where needed. This can include, but is not limited to; use of a TA or appropriate adult within the lesson, support from a teacher, differentiated resources (i.e. an adapted activity), access to physical resources which children can manipulate. It is the responsibility of each individual member of teaching staff to plan lessons where pupils make progress which

makes clear differentiation for all groups of pupils in order to allow them to make progress within a lesson.

All pupils at St. Aidan's are taught mathematics, regardless of their abilities and needs. All pupils with additional needs are catered for through differentiation of planning by the appropriate class teacher. This includes those who are gifted and talented. We aim for children to achieve mastery of the mastery curriculum for a proportion of our pupils, whilst closing the gap between the most and least able learners.

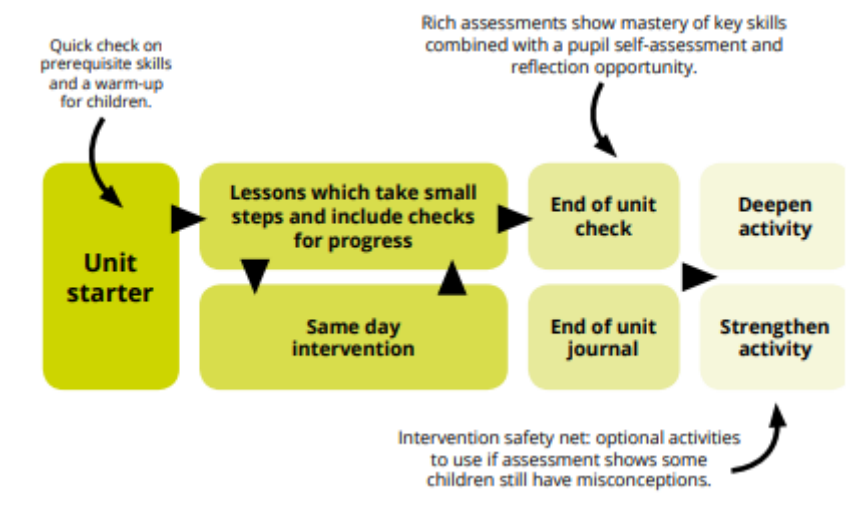
It is expected that the majority of pupils will move through programmes of study at, broadly, the same pace. Pupils will not be rushed onto the next stage of calculation until they have grasped and consolidated each stage. Those who progress rapidly will be challenged to apply their learning to a range of sophisticated reasoning and problem solving activities which enrich their learning experience.

Those who are not sufficiently fluent in prior stages of learning will be supported through a range of in class support and 'intervention', guided or targeted input delivered at the discretion of the class teacher in order to consolidate their understanding.

Maths Curriculum Planning and Expectations

Staff use the Power Maths scheme which was purchased in 2019 to ensure they are planning to meet the needs of all the children in their respective classes. The scheme broadly follows the scheme of work adopted for White Rose Maths and is approved by the DFE. The Yearly overview and units of work are attached as appendices in the back of this document for each year group. These are broken into small steps for each unit of work within White Rose Guidance and Power Maths, which support staff planning to help children achieve ARE.

The children are broadly expected to follow the process of learning laid out below, which is planned and differentiated for by the teachers in each year group. Teachers used their skill and discretion to decide which method of learning best suits the learning style of their class.



The new National Curriculum, introduced in 2014, places a high emphasis on mental recall. As such, staff are required to include weekly sessions focussed on Mental Maths, learning times tables, improving reasoning skills and practising arithmetic. The frequency of these sessions is outline below.

Curriculum	
<ul style="list-style-type: none"> • Staff to follow the Curriculum laid out in Power Maths scheme which was purchased to support staff in planning to ensure good curriculum coverage across all year groups in September 2019. The • Differentiation by ability/year group/class as appropriate to Year group. Staff may use the prior learning/prior knowledge sections with the Power Maths scheme to return to gaps/missed areas in learning lower down the scheme. • End of Year expectations in curriculum coverage monitored as per school monitoring and evaluation cycle. • SIMS assessments updated at pre-determined assessment windows to record progress and attainment. <ul style="list-style-type: none"> • Formal assessments to be carried out during assessment periods to support teacher judgement. 	
Expectations	
EYFS	
<ul style="list-style-type: none"> • Daily practical sessions for children to engage and explore a variety of mathematical skills through play based experiences. 	
KS1	KS2
<ul style="list-style-type: none"> • Practice times tables regularly and scores recorded • Times table display visible in classrooms • Practical assessment / Welcome task for each topic to assess pupils and to inform planning • At least one extra calculation session per week at the discretion of class teacher. 	<ul style="list-style-type: none"> • 2 x sessions of calculation practice using four operations • 1 x reasoning focus session per week, applying calculation skill. • Practice times tables regularly and scores recorded. • Times table display visible in classrooms • Practical assessment / Welcome task for each topic to assess pupils and to inform planning

How is this supported by other policies?

Progressions in Calculation

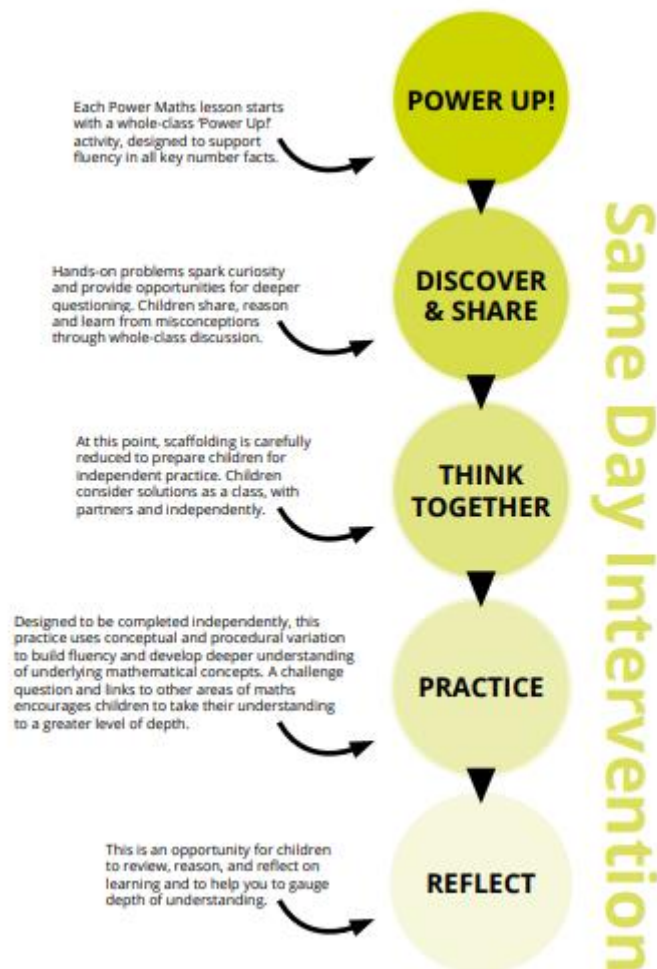
The progress in calculation policy is organised into stages and which is attached as an appendix at the end of this policy. This is a separate policy which runs alongside Power Maths Scheme and ensures that children are all taught to calculate the same way across the school. This separate document is published as a guide and shared with parents who request advice in supporting their children with maths at school.

The stages do not have ARE attached to them as it is likely, and expected, that all children will progress through these stages at different rates. The majority of the children in school will be able to achieve all things laid out in the calculation policy upon leaving school at the end of Year 6.

By the end of each year group, the majority of each class will be expected to:							
	EYFS/ Reception	Year1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition	Begin to recognise addition by combining objects.	Add by counting on on a number line. Recognise it can be done in any order.	Add two digit numbers using columns – including where there are exchanges.	Add four digit numbers using columns – including where there are exchanges.	Add up to four digit numbers using columns – including where there are exchanges – and decimals with the same number of decimal places.	Add numbers with different amounts of digits including decimals with different amounts of decimal places where exchanges are required.	
Subtraction	Relate subtraction to taking away objects from a group.	Subtract 1 from a two digit number using a number line and a hundred square.	Subtract two digit numbers using columns including where there are exchanges.	Subtract four digit numbers using columns including where there are exchanges.	Subtract four digit numbers using columns - including where there are exchanges – and decimal numbers with the same amount of decimal places.	Subtract numbers with different amounts of digits including decimals with different amounts of decimal places where exchanges are required.	
Multiplication	Grouping objects and counting in repeated groups of objects.	Multiply a one digit number by a one digit number by forming arrays and counting.	Partition a two digit number to be multiplied by a one digit number using arrays, alongside the written method.	Multiply up to a three digit number by a one digit number using the expanded method where there will be no exchanges when adding the answer.	Multiply up to a three digit number by a one digit number using the short method including where there are exchanges.	Multiply up to a four digit number by a two digit number using the short method with exchanges. Adapt this method to be used in other contexts such as multiplying decimal numbers and money.	

Division	Practical sharing by counting in groups of objects.	Dividing by grouping objects into arrays.	Dividing by grouping objects into arrays accompanied by the number sentences and objects arranged underneath.	Dividing by grouping objects into arrays accompanied by the number sentences and objects arranged underneath – including larger numbers.	Division using the short method for division where the number does not leave a remainder.	Division using the short method for division where the number leaves a remainder. Expressing the remainder in various forms such as a decimal and fraction. Using long division to divide up to a five digit number by a two digit number.
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Marking and Feedback



The newly introduced live marking and feedback trial was introduced to provide timely feedback to learners in order to move their learning forward. It was initially introduced in Year 2 and Year 6/5 before being further filtered through the whole school. The initial trial, followed the Power Maths scheme's 'Same Day intervention' initiative and made staff more aware of their role in 1:1 oral feedback and its role in moving learning forward.

This pilot scheme will be adopted in school during the academic year 2019-20 and reviewed in the Summer of 2020 to analyse its impact in providing accurately and timely feedback which promotes progress of pupils in Mathematics.

Impact

*The teaching of mathematics at St. Aidan's RC Primary School aims to equip **all** pupils with a sound understanding of mathematical ideas, fluency in calculation and reasoning and a competence in problem solving which prepares them for the next stage of their education and beyond.*

Appendices:

1. Progress in Calculation policy
2. Power Maths Yearly Overviews
3. White Rose Yearly Unit Overviews