

AKPS Mathematics Curriculum



"Enabling life in all its fullness"

"I came that you may have life, life in all its fullness" (John10:10)

Our **Core Christian values** for our school are: *Perseverance, Creativity, Trust and Friendship.*

Policy for Mathematics

Policy Date: March 2022

Date of next review: March 2024

This policy covers our school's approach to the teaching and learning of Mathematics. The policy will be made available to parents via the school website; paper copies may be requested via the school office.

Our Christian values underpin our ethos; every child is valued and encouraged to achieve their full potential. Every member of our school community is encouraged to respect and value each other. They are supported to develop their own self and self esteem (shine) and be understanding of the need to respect, support and help others (reach).

Rationale

Mathematics is an essential life skill. A high-quality mathematics education, provides a foundation for understanding the world, the ability to reason mathematically and a sense of enjoyment and curiosity about the subject that can be applied to other areas of the curriculum and everyday life. Mathematics education is a planned, developmental programme of learning through which children and young people acquire the necessary knowledge, understanding and skills they need whilst helping children to develop an appreciation of, and enjoyment in, the subject itself; as well as a realisation of its role in other curriculum areas.

Aims

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

At Ashton Keynes Primary School we also aim to :

- Help pupils develop lively, enquiring minds
- Encourage children to become independent learners through the selection of resources and representations used
- Provide pupils with the necessary Mathematical knowledge and skills
- Provide opportunities to apply that knowledge to reasoning to the world around us

Mathematics programme of study

Statutory Framework for the Early Years Foundation Stage: [Statutory Framework for the Early Years Foundation Stage](#)

National Curriculum Mathematics programme of Study for KS1 & KS2: [National Curriculum In England Mathematics Programme of Study](#)

The study of Mathematics is broken down into the following areas:

EYFS

<p>Early Learning Goal: Number Children at the expected level of development will: - Have a deep understanding of number to 10, including the composition of each number; 14 - Subitise (recognise quantities without counting) up to 5; - Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.</p>	<p>Early Learning Goal: Numerical Patterns Children at the expected level of development will: - Verbally count beyond 20, recognising the pattern of the counting system; - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity; - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.</p>
--	--

KS1

<p>Y1 programme of study</p> <ul style="list-style-type: none"> • Number – number and place value • Number – addition and subtraction • Number – multiplication and division • Number – fractions • Measurement • Geometry – properties of shapes • Geometry – position and direction 	<p>Y2 programme of study</p> <ul style="list-style-type: none"> • Number – number and place value • Number – addition and subtraction • Number – multiplication and division • Number – fractions • Measurement • Geometry – properties of shapes • Geometry – position and direction • Statistics
---	---

Lower KS2 – Years 3 & 4

<p>Y3 programme of study</p> <ul style="list-style-type: none"> • Number – number and place value • Number – addition and subtraction • Number – multiplication and division • Number – fractions • Measurement • Geometry – properties of shapes • Geometry – position and direction • Statistics 	<p>Y4 programme of study</p> <ul style="list-style-type: none"> • Number – number and place value • Number – addition and subtraction • Number – multiplication and division • Number – fractions (including decimals) • Measurement • Geometry – properties of shapes • Geometry – position and direction • Statistics
---	--

Upper KS2 – Years 5 & 6

<p>Y5 programme of study</p> <ul style="list-style-type: none"> • Number – number and place value • Number – addition and subtraction • Number – multiplication and division • Number – fractions (including decimals & percentages) • Measurement • Geometry – properties of shapes • Geometry – position and direction • Statistics 	<p>Y6 programme of study</p> <ul style="list-style-type: none"> • Number – number and place value • Number – addition and subtraction, multiplication and division • Number – fractions (including decimals & percentages) • Ratio and proportion • Algebra • Measurement • Geometry – properties of shapes • Geometry – position and direction • Statistics
--	--

Please refer to our Calculation Policy for further details of the statutory requirements for calculations for each year group. [Ashton Keynes Calculation Policy](#)

Please also refer to our Progression in Calculations guidance which shows the different strategies, resources and representations used to teach calculations at Ashton Keynes [Ashton Keynes Progression in Calculations](#)

Teaching and Learning

At Ashton Keynes C of E Primary School children are taught Maths daily. Teachers draw upon the White Rose Hub scheme of learning alongside the National Curriculum objectives when planning. The White Rose Hub scheme of learning has been selected because it is an award winning scheme that is utilised by many schools nationally. It provides small step guidance and promotes fluency, reasoning and problem solving opportunities for all pupils. Teachers produce their own weekly Maths plans and daily work for children which is differentiated three ways to offer appropriate levels of support and challenge.

Resources

At Ashton Keynes we are well resourced to support children in all areas of the Maths curriculum. Teachers make use of a wide range of topic specific interactive and physical resources within lessons. Classes also all have their own supply of physical resources used more frequently by pupils, particularly for number based learning. Children are encouraged to select and make use of resources which will best support them with their Maths learning. Some examples of resources available in classes include:

- base 10
- Numicon
- multilink cubes
- hundred squares
- multiplication grids
- number lines
- place value counters

Marking

Please refer to our school marking policy for how pupils' work is marked and feedback given: [Ashton Keynes Marking Policy](#)

Assessment

EYFS

In Early Years children are assessed using the Development Matters descriptors for Number and Number Patterns. Teachers use their knowledge gained about each child through observations, assessments and interactions to make their own judgements termly. Daily assessment occurs which informs planning and next steps. A profile assessment is completed at the end of the year to support a successful transition into KS1 and inform parents.

Years 1 - 6

Alongside ongoing assessment of pupils in lessons and from marking books, we have a number of formal assessments in place for Mathematics.

Headstart assessments

Hot and cold assessments are completed at the beginning and end of Maths units in Years 1-6, using Headstart assessments. These consist of a short, 15 question, test which assesses the children's understanding of key objectives for each unit. The scores are entered into the class Maths tracking spreadsheet where progress throughout the year is closely monitored by both the teacher and subject leader. Data from the tests is also analysed to see if there are any objectives that need revisiting in lessons or specific pupils that need additional support. Classes may also make use of White Rose Hub end of unit assessments.

White Rose Hub assessments

Teachers in Years 1-6 may also utilise White Rose Hub termly assessments. These consist of two test papers, one arithmetic and one reasoning. They assess skills the children will have learnt that term or in previous terms. The test scores are entered into a class tracking grid to allow teachers to analyse the data to look for any objectives that require revisiting in lessons.

SAT Tests

Pupils in years 2 and 6 will complete SAT tests in Mathematics. In Year 2 children complete two tests; one arithmetic (25 marks) and one reasoning (35 marks) paper. The test is untimed and pupils have as long as they need to complete the test. The test results are part of the evidence used by teachers to help inform their end of year assessment for each child.

In year 6 the children complete three SAT tests: one arithmetic (40 marks) and two (35 mark) reasoning papers. The tests in year 6 are timed.

The SAT test results are reported to parents alongside the end of year reports and are separate to teacher assessment

Multiplication Tables Check

Year 4 pupils will complete a statutory Multiplications Tables Check in June. This is a computerised test consisting of 25 questions which must be answered within 6 seconds per question.

Responsibilities

Each class teacher is responsible for:

- Planning Maths for their class
- Teaching Maths
- Marking, feedback and assessment of their class
- Informing Parents of the attainment and next steps of the child(ren)

The subject leader is responsible for:

- Monitoring pupil progress and attainment
- Monitoring the planning and delivery of the Mathematics curriculum
- Providing CPD and resources/guidance to staff and keeping staff up to date with new developments
- Using pupil and staff voice as a gauge
- Organising enrichment activities (such as Maths Week and competitions)
- Ensuring staff are kept up to date with new developments

Equality and Diversity

Our teaching will take into account the gender, age, ability, readiness and cultural backgrounds of the children to ensure that all pupils can fully access the curriculum.

Special Educational Needs

All children will have their specific needs met through differentiated work in conjunction with targets. Children may receive additional TA or teacher support before the lesson, in lessons or as part of an additional intervention to help them fully access the learning.

Linked Policies

This policy should be read alongside the following policies

- Calculation policy
- Progression in calculations
- Marking policy
- Assessment policy