



# **POLICY**

## Mathematics Curriculum

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### **Assunnah Primary School**

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## Introduction:

All pupils should become fluent in the fundamentals of mathematics, including through varied and frequent practice, so that pupils develop conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems. (National Curriculum, 2014)

At the centre of the Assunnah's mastery approach to the teaching of mathematics is the belief that all pupils have the potential to succeed. They should have access to the same curriculum content and, rather than being extended with new learning, they should deepen their conceptual understanding by tackling challenging and varied problems. Similarly with calculation strategies, pupils must not simply rote learn procedures but demonstrate their understanding of these procedures through the use of concrete materials and pictorial representations.

The principle of the concrete-pictorial-abstract (CPA) approach is that for pupils to have a true understanding of a mathematical concept, they need to master all three phases. Reinforcement is achieved by going back and forth between these representations. Pupils who grasp concepts rapidly should be challenged through rich and sophisticated problems before any acceleration through new content. Those pupils who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

## Aims:

At Assunnah, our overarching aim is that all pupils will reach a minimum of age related expectations, or make at least expected progress from individual starting points.

Our pupils will learn to:

- Develop the appropriate mathematical language associated with number, shape and position;
- Use and apply mathematics in practical tasks, in real life problems and in acquiring further knowledge, skills and understanding in the subject itself;
- Understand and use the four operations of number in relevant contexts;
- Understand relationships between numbers, learn basic number facts and develop a range of computational methods;
- Understand place value in our counting system and understand how it can be extended into numbers below zero;

- Collect, interpret and represent data in tabular, graphical and diagrammatic form;
- Develop mental methods of calculation;

## Teaching and Learning:

Mathematics is taught for one hour and 20 minutes per day. This includes one hour of mathematics discrete teaching and 20 minutes of building reasoning and fluency in mental arithmetic through our power maths.

## Key Features of Fielding's approach to Mastery include:

- **Curriculum design** - A detailed, structured curriculum is mapped out across all phases, ensuring continuity and supporting transition. Effective mastery curricula in mathematics designed in relatively small carefully sequenced steps, which must each be mastered before pupils move to the next stage. Mid-Term planning is provided by 'Fielding Learning Journeys' to complement each block of study.
- **Teaching resources** - A coherent programme of high quality curriculum materials from the NCETM, White Rose Mathematics Hub and Power Mathematics is used to support classroom teaching. Concrete and pictorial representations of mathematics are chosen carefully to help build procedural and conceptual knowledge together. LTHC\*\*\* tasks are structured with great care to build deep conceptual knowledge alongside developing procedural fluency.
- **Lesson design** - Lessons are crafted with similar care and are often perfected over time with input from other teachers, drawing on evidence from observations of pupils in class. Practical lessons should follow whole class approach provided by White Rose Small Steps and Power Mathematics guidance whilst written lessons should follow the Blue print with a challenge by choice approach to differentiated activities.
- **Teaching methods** - Pupils work on the same tasks and engage in common discussions. Concepts are often explored together to make mathematical relationships explicit and strengthen pupils' understanding of mathematical connectivity. Precise questioning during lessons to ensure that pupils develop fluent technical proficiency and think deeply about the underpinning mathematical concepts.
- **Pupil support and differentiation** - Differentiation through the support and intervention provided to different pupils, not in the topics taught, particularly at earlier stages. There is no differentiation in content taught, but the questioning and scaffolding individual pupils receive in class as they work through problems will differ, with rapid graspers challenged through more demanding problems which deepen their knowledge of the same content. Pupils' difficulties and misconceptions should be identified through immediate formative assessment and addressed with rapid intervention

## Working Walls:

Mathematics working walls are in constant use throughout individual lessons and across weeks focusing on the current Learning Journey.

- Children's work, posters and WAGOLLS should be regularly posted and shared with class. □ Learning Journey Maps and key vocabulary definitions for each block are displayed.
- All relevant year specific display materials must be visible in the classroom.

## Number bond and Times Table Challenges:

Lower phase children to complete all number bond challenges before moving on to the Times Table challenge. All children at Fielding will know table facts up to  $12 \times 12$  by the end of Year 4, in line with National Curriculum expectations.

- All children will participate in the 'Assunnah Times Tables Challenge' practising at home.
- Children will be tested weekly on their Times Tables in the Challenge, moving through levels at their own pace (completing up to at least Level 8 of the Challenge at the end of Year 4). A 3:00min time limit the first time through to level 21, then return to level 8 at 2:30, then finally back to level 8 at a 2:00min time limit.
- Access to Times Tables Challenge will be online for parents. Teachers will keep copies of tests and tracking sheets in classrooms.
- Times Table Rock Stars can be used at home with each child having their own log in and password to access the site from computers, tablets and phones. Intervention Strategies

Children identified through the SEN would be provided with appropriate support.

### **Assessment:**

To develop learning, pupils will be continuously assessed using a variety of strategies including: observation, questioning and marking in accordance with our school marking and feedback policy. Information will be recorded onto the schools tracking system (classroom monitor) and used to inform future planning, and to identify children for intervention and support. Each pupil will have targets set and checked regularly.

We judge the impact of our mathematical teaching by:

- End of Key Stage assessments
- NFER Assessments Mid-year and End of Year
- Termly progress tests
- Book and planning scrutiny,
- Lesson evaluations of the teaching of mathematics,
- Learning walks and pupil interviews

Marking follows the guidance set out in the marking and feedback policy.

- celebrates success made within a piece of work or a lesson,
- is purposeful and contributes to children's learning and progress through the inclusion of a development point or next step comment,
- can include a response given to Mathematics Minutes to acknowledge pupil's written feedback,<sup>3</sup>
- Can include self-assessment, peer-assessment, and verbal feedback.<sup>t</sup>

### **Monitoring and evaluation:**

Monitoring of the standards of children's work and of quality of teaching in mathematics is the responsibility of the LT, supported by the subject leader and governors. The subject leader for mathematics will monitor this curriculum area through, monitoring pupils' books, talking to pupils and observing classroom practice through learning walks. In addition, the work of the subject leader involves supporting colleagues in the teaching of mathematics and informing teachers about current developments in the subject.

### **The Governing Body**

The Governing Body will monitor the implementation of the mathematics policy through its Pupil and Achievement committee receiving regular reports on the curriculum from the subject leader. Link governor visits will also include mathematics lessons as part of their visits.

National Strategies Websites

[www.ncetm.org.uk](http://www.ncetm.org.uk)

[www.mathematicshubs.org.uk](http://www.mathematicshubs.org.uk)

<https://nrich.mathematics.org>

<https://www.tes.com/.../whiterosemathematics>

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<https://www.activelearnprimary.co.uk/login> - Power Mathematics

Teachers Guidance Documents

<https://www.activelearnprimary.co.uk/login?c=0>

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