Maths

What am I going to learn?

Maths is a deeply creative subject that is integral to how we live our lives today. Maths is often divided into 'topics' but in reality these are deeply inter-connected and understanding in one domain supports understanding in others. In Maths, you will:

- **Become fluent in the fundamental concepts of maths**
- **Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations and developing an argument. You will be asked to find proof to justify your ideas.**
- **Solve problems by applying your knowledge of maths to a variety of routine and non-routine problems of increasing complexity, including breaking down problems into a series of simpler steps and persevering in seeking solutions.**

At Beit Shvidler, our whole school vision for maths is that:

- **everyone can do maths**
- **mistakes help us learn**
- **all contributions are valued whether right or wrong**
- **the process is the most important element of learning**
- **we should have a range of mathematical strategies to use appropriately**
- **knowing multiplication tables and number facts is crucial**
- **we should frequently make connections between maths topics**
- **we should relate maths to real life situations**
- **we should be able to reason and solve problems with increasing confidence**

What knowledge and skills will I learn when I study Maths?

Through the study of Maths, you will become fluent and confident in working with numbers for their own sake, and in the wider world. You will develop the key skills of reasoning, problem solving and the ability to think in abstract ways. You will learn that many problems have more than one correct answer, and that there are multiple means of finding a solution. You will learn to communicate your reasoning process and re-evaluate your calculations if you make mistakes. As the National Curriculum says, through maths you will develop 'an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity.'

Mastery in Maths

At Beit Shvidler we take a 'mastery' approach to maths, with the core value that everyone can enjoy and learn maths. A mastery approach means that we seek to engage children fully as learners in each lesson through whole class, interactive teaching including questioning, short tasks, explanation, demonstration and discussion. Practice is designed to reinforce fluency and develop conceptual understanding. A mastery curriculum is designed to give careful thought to the sequence of learning and ensures that each stage builds carefully on prior learning. Deep understanding of key principles is a feature of mastery learning and is seen as fundamental to future learning, recognising and making connections, and generalising knowledge. Our teachers have received training and excellent models of good practice via the NCETM Mathematics Hub, focusing on the five big ideas in teaching for mastery at: https://www.ncetm.org.uk/teaching-for-mastery/mastery-explained/five-big-ideas-in-teaching-for-mastery/

At Beit Shvidler, we recognise that not one scheme fits all learning therefore we use a range of resources including Power Maths, White Rose, Nrich, Classroom Secrets etc. Maths is enhanced further by making links through the wider curriculum. Opportunities for whole school Maths Assemblies and Whole school Maths Days ensure further Maths connections are created.

Children use a mix of Power Maths workbooks as well as blue maths exercise books to record their work. The exercise books contain evidence of the concrete resources used in maths lessons.

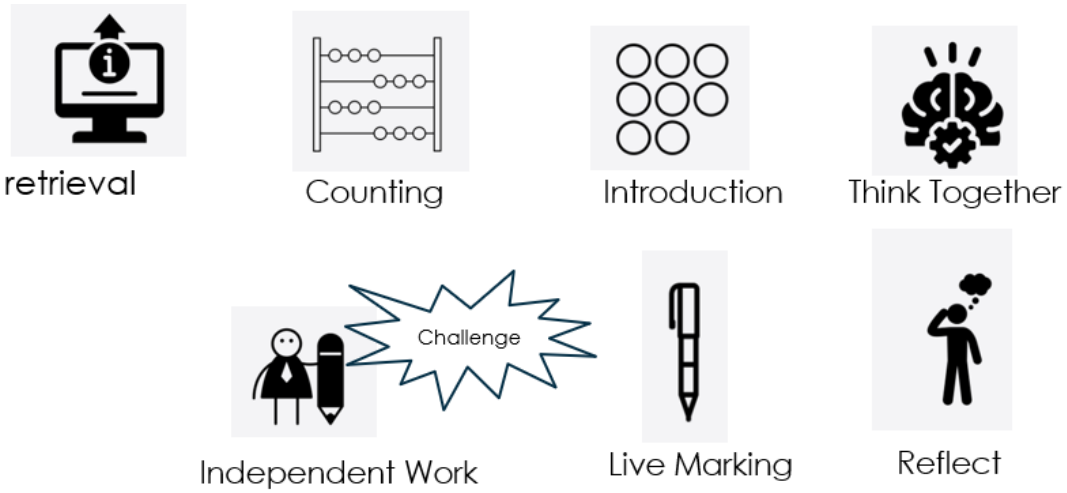
How do Maths lessons work?

Each lesson has a progression, with a central flow that draws the main learning into focus. There are different elements, informed by research into best practice in maths teaching, that bring the lessons to life:

- **Retrieval** – each lesson begins with retrieval practice. This improves memory retention and learning outcomes.
- **Counting** – Regular fluency practice takes place; this may involve using the counting stick or using Rolling numbers practice sessions.
- **Introduction** – Introduce the main concept of the lesson with hands-on resources and/or models, images and drawings to make the ideas clear. At Beit Shvidler, we use a CPA approach. Children are able to develop their understanding of the concept with input from the teacher.
- **Think together** – the next part of the lesson is a journey through the concept, digging deeper and deeper so that each child builds on secure foundations while being challenged to apply their understanding in different ways and with increasing independence.
- **Independent work**– now children work individually or in small groups, rehearsing and developing their skills to build fluency, understanding

of the concept and confidence. Learning takes place in small steps built with time for reflection.

- **Live Marking** – children mark small steps (using a green pen in line with the school's marking policy) this allows errors and misconceptions are identified immediately.
- **Reflect** – finally, children are prompted to reflect on and record their learning from each session and show how they have grasped the concept explored in the lesson.



Build it, Draw it, Write it, Say it

We use a Build it, Draw it, Write it and Say it approach to introduce new Maths topics.

Build it - Pupils use concrete resources (Build it) to explore and represent mathematical concepts.

Draw it – Pupils are provided with opportunities to record and represent their understanding through diagrams, models and pictorial representations.

Write it - Model effective use mathematical vocabulary and stem sentences.

Say it - Pupils' mathematical language develops and reasoning through regular discussion, explanation and justification of methods is extended.

Children are assessed half termly on the units taught using the White Rose end of unit as well as the end of term assessments which focus on both

reasoning and arithmetic. Children are supported through prompt interventions if there are gaps in their learning, with the understanding that they will 'keep up rather than catch up'.

Adaptation

At Beit Shvidler, all learners start at the same point. We like to have a keep up rather than catch up approach. We use a variety of methods to scaffold the learning, these may include maths frames, manipulatives and working in small groups. The children are then provided with suitable fluency, reasoning and problem-solving activities and challenges to stimulate discussions and cement learning. Challenges are accessible to all learners and focus on problem solving and reasoning skills, highlighting the relevance and real-life application of the learning.

Inclusion in Mathematics

At Beit Shvidler, inclusion in mathematics means that all pupils can access, participate in and succeed in maths. We maintain high expectations for every learner, ensuring all children work on the same ambitious curriculum with appropriate support.

We use a mastery approach, where learning is carefully sequenced and supported through scaffolds such as manipulatives, representations and structured questioning. Our 'keep up, not catch up' approach ensures gaps are addressed quickly so that all pupils can progress together. We highly value 'live marking' allowing support to be put in place quickly where any gaps may have arisen.

We recognise that oracy is central to inclusion. Planned opportunities for discussion enable pupils to explain their thinking, develop reasoning and feel that their contributions are valued, supporting deeper understanding and participation.

Our classrooms are inclusive environments where:

- All pupils are encouraged to think, explain and justify
- Mathematical language is explicitly taught and supported
- Mistakes are valued as part of learning
- Barriers to learning are identified and removed early

What knowledge and skills will maths give me when I leave Beit Shvidler?

We want our mathematicians to be curious and think deeply about the world. The skills of reasoning, breaking problems down into smaller steps and being

flexible and creative will underpin your ability to 'know' numbers. You will develop a number sense and be able to apply knowledge rapidly, accurately and efficiently. You will be able to move fluently between different representations of mathematical ideas and be able to use physical resources to model your mathematical thinking. You will have clear strategies for using number in future maths lessons, but also experience of applying your mathematical thinking in a wide variety of real-world situations.

The study of maths is essential to everyday life and is critical to the worlds of science, technology and engineering. Most forms of employment require some aspects of maths, and through understanding maths you will be able to manage and understand money when you enter employment. This is critical to your future independence as an adult.