

What does it mean to be a mathematician at Gilnow?

At Gilnow, we want to not only develop children's understanding of the maths laid out in the national curriculum, but also to give them the confidence to thrive as mathematicians, and enjoy themselves while doing so.

To do this, we spent a lot of time talking to teachers, parents, governors and most importantly children, to find out exactly what they wanted to get from their mathematical education.

During these conversations, four common themes stood out that the vast majority agreed were of vital importance for someone to become an excellent mathematician.

What does it mean to be a mathematician at Gilnow?

They were:

- Confidence with maths and having a positive attitude towards it.
- Fluency with number and calculation.
- The ability to use and understand mathematical language and concepts.
- Recognition that maths is not just a subject in books, but one that has countless real-world applications.

Whilst we absolutely recognise that these things don't come naturally to everyone, we firmly believe that anyone can be an excellent mathematician, and we work hard every day to achieve these goals with all of our pupils.

Confidence

At Gilnow, we believe that any child can be an excellent mathematician. We think that for some children, the biggest barrier to achieving this is their confidence and attitudes towards maths, so we put a huge amount of effort into ensuring no child feels like maths is impossible.

Confidence

1. A whole class approach

As much as possible, we try to ensure that all of the children in a given class are learning about the same topic at the same time. This ensures that no child feels left behind and as if they can't achieve the same as their peers.

This does not mean that children are not provided with extra challenge or support where needed, just that we strive to do this whilst ensuring all children are working collaboratively on the same areas of maths.

On top of supporting their confidence, this also ensures that all children access high quality inputs from our most qualified members of staff, and makes increasing or decreasing challenge for individuals easier than if they were split into defined groups.

Confidence

2. High Quality Maths Lessons

To ensure that maths lessons across the school are of an extremely high standard and always resourced properly, we base our teaching on the White Rose Maths curriculum. This is designed to meet the criteria laid out in the national curriculum.

We also firmly believe that our teachers will get to know the needs and abilities of their classes over the course of the academic year, so we absolutely tweak and change the pace and challenge of the White Rose programme to better suit the needs of our children.

Confidence

3. Oracy Strategies

The second part of our approach is to incorporate oracy strategies into our lessons as often as possible.

We believe that allowing our children to discuss and share their knowledge in a safe and supportive environment has a huge impact on their understanding of both mathematical vocabulary and concepts.

We do not however expect all of our children to immediately have a firm enough grasp of mathematical language to allow for this style of conversation, so we provide a huge amount of support to help them with this.

Fluency

Fluency and basic number work will always be a focus at Gilnow.

Whilst it is not the only important area of maths, or even the most complex, we believe if children have a firm understanding of number and arithmetic, they can spend more time focusing on more challenging concepts.

Fluency

1. Mastering Number

To ensure our children make a good start with maths from a young age, we follow the Mastering Number programme in EYFS and KS1.

This programme was developed by the NCETM and has had fantastic results in schools across the country.

It applies a 'little and often' approach to teaching, that allows the children not just to memorise number facts and mathematical terms, but to understand them and the relationships between them.

<https://www.ncetm.org.uk/maths-hubs-projects/mastering-number-at-reception-and-ks1>

Fluency

2. Arithmetic Sessions

In KS2, we follow a similar approach. We still believe that for arithmetic and fluency, shorter lessons taught regularly are more effective than longer ones taught occasionally.

Due to this, we try not to teach entire maths lessons based on arithmetic and instead teach it via 15-20 minute sessions 4-5 times a week.

This allows the children to spend more time on more complex areas of maths in their actual maths lessons, while still allowing them to regularly practise the basic skills that underpin the rest of maths.

Language



At Gilnow, we recognise the importance of effectively teaching our children a wide range of mathematical vocabulary, and we ensure that this is done in a variety of different ways.

Return

1. White Rose Maths

On top of providing teachers with high quality resources, the White Rose Maths curriculum also has an excellent focus on mathematical vocabulary.

The question sets it provides are full of excellent vocabulary, and they ensure that the children are using words in every single maths lesson they are taught.

Language

At Gilnow, we recognise the importance of effectively teaching our children a wide range of mathematical vocabulary, and we ensure that this is done in a variety of different ways.

2. Vocabulary Starters

To ensure that children have the opportunity to be directly taught the meanings of the complex mathematical vocabulary they need to understand, we start all of our lessons with short vocabulary activities.

These range from activities focusing on the specific meanings of individual words, to broader tasks thinking about applying vocabulary to a range of different areas of mathematics.

Language

At Gilnow, we recognise the importance of effectively teaching our children a wide range of mathematical vocabulary, and we ensure that this is done in a variety of different ways.

3. Oracy Strategies

In all of our lessons, we include as much spoken English as we possibly can to allow the children to experiment with new vocabulary. This is particularly important in maths, as without it children never get the chance to understand the nuance of given mathematical terms and really understand the effect they have on numbers.

Real World Maths



Return

Finally, at Gilnow we believe that it is crucially important to show our children that maths is not just a subject taught in books but an important part of everyday life.

We try to show them this in a range of different ways, such as:

Using maths in our everyday classroom routines for topics such as:

- Calculating our attendance percentage.
- Calculating the children's percentage of reading stars.
- Looking at and using timetables of each day.
- Working out which house team is winning in assemblies.

Real World Maths



Return

Finally, at Gilnow we believe that it is crucially important to show our children that maths is not just a subject taught in books but an important part of everyday life.

We try to show them this in a range of different ways, such as:

Exposing the children to maths in subjects across the curriculum, for example:

- Graphs and tables in science.
- Timelines in history.
- Statistics in geography and PSHE

Real World Maths



Return

Finally, at Gilnow we believe that it is crucially important to show our children that maths is not just a subject taught in books but an important part of everyday life.

We try to show them this in a range of different ways, such as:

Including games and activities in our lessons that allow the children to explore maths in a less academic style.

Examples of these types of activity can be found here:

<https://nrich.maths.org/developing-mathematical-thinking-primary-teachers>

<https://nrich.maths.org/developing-mathematical-mindsets-primary-teachers>