

### **INTENT - What we want our students to achieve when learning maths.**

Our scheme is formed from the statutory Framework for the EYFS and the National Curriculum. The scheme of work follows the structure of White Rose Mathematics and is knowledge-based but we have placed skills at the heart of mathematics. The scheme has been adapted into clear steps of progression in each strand. These link to year groups in which they are taught but teachers may go down a step or two in the line of progression if the children have not understood a previous concept. Similarly, they may move up the ladder quicker if the children grasp a concept quickly and securely.

The needs of our children at Blackpool Gateway means that we have made reading, language and vocabulary development to be key features of mathematics as well as the three aims of fluency, reasoning and problem solving. We have enhanced the scheme by linking problems from NRich, NCETM and Classroom Secrets. This means the children will study concepts deeper and wider before moving on. Because of the transient nature of our pupils, we have adapted the scheme so that the children return to a concept more frequently than in the suggested White Rose structure.

The scheme has been designed and planned to give children the knowledge and skills that they need for later life such as: questioning, problem solving, resilience, confidence and presenting/explanation skills. We have planned clear end points for pupils to attain by the end of the topic and year. The knowledge has been carefully sequenced to enable our children to know more and remember more. There is repetition to help pupils to retain knowledge and skills.

The scheme of work embeds personal development expectations such as working together, sharing, explaining, negotiating, taking turns and respecting others. The scheme of work has been designed and planned to develop pupils' practical skills and provide learning experiences they would not normally be able to access.

We have a number of international new arrivals. These children will, as much as possible, follow the same curriculum as others, however for the first few months transitioning into school their curriculum will be focused more heavily on reading, writing and language acquisition.

The pupils who are disadvantaged and who have special needs and/or disabilities cover the same content as all pupils. Some pupils, who have specific needs or physical needs, these will be withdrawn occasionally from lessons for specific exercises or interventions. Where a pupil has severe needs, they will have a bespoke curriculum matched to their ECHP plan.

We build the Cultural Capital of our children through whole school initiatives and events such as supporting local and national charities. We introduce students to the stories of some of the most influential Mathematicians throughout history and the impact that their work has had on the world we live in. Real life applications of Mathematical ideas are made explicit to

students whenever possible for example BGA Boutique and enterprise events linked to school fairs.

## **ORACY**

Oracy refers to the skills involved in spoken language to communicate effectively. At Gateway,

we expect to see staff using talk effectively for teaching and learning and children developing their spoken language skills. Each key stage, we would expect to see different strategies used

in their Geography which will be progressive from EYFS to year 6.

## **IMPLEMENTATION - How we plan and teach**

- Our teachers have expert knowledge of maths. Where it is identified they do not, each individual need is assessed and bespoke support is provided.
- Teachers enable pupils to understand key concepts, present information clearly and encourage appropriate discussion - evidenced by lesson observations, team teach, book looks and planning analysis.
- Teachers check pupils' understanding effectively, and identify and correct misunderstandings - evidenced in lesson observations, team teaching, book looks and planning analysis.
- Teachers ensure that pupils embed key concepts in their long-term memory and apply them fluently - this is a fundamental part of school's RELATE teaching and learning policy and use of cyclical 'Can I still?'
- The subject curriculum is designed and delivered in a way that allows pupils to transfer key knowledge to long-term memory. It is sequenced so that new knowledge and skills build on what has been taught before and pupils can work towards clearly defined end points.
- Teachers use assessment to check pupils' understanding in order to inform teaching, and to help pupils embed and use knowledge fluently and develop their understanding, and not simply memorise disconnected facts.
- Teachers within Reception and KS1 use Number Sense Maths. The Number Facts Fluency Programme is a fully resourced scheme of work focused entirely on number fact teaching. The highly visual, research informed programme provides the structure and depth to number fact teaching that children need to achieve fluency. Within Reception The Early Years Number Sense Programme provides teaching resources and guidance which support the following aspects of the educational programme for mathematics in the 2021 statutory framework for the early years foundation stage:
  - Develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers
  - Provide rich opportunities for children to develop their spatial reasoning skills
  - Develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

From Nursery all the way to Year 6 all children are exposed to Maths Vocabulary, both written and spoken. All teachers should model a good use of Maths vocabulary

## **EYFS**

Children are exploring and immersing themselves in maths from Nursery onwards. They are introduced to the basics of maths in a variety of ways. In the Early Years Foundation Stage (EYFS), we relate the mathematical aspects of the children's work to the Development Matters statements and the Early Learning Goals (ELG), as set out in the EYFS profile document. Mathematics development involves providing children with opportunities to practise and improve their skills in counting numbers, calculating simple addition and subtraction problems, and to describe shapes, spaces, and measures.

The profile for mathematics areas of learning are Number and Numerical Patterns. We continually observe and assess children against these areas using their age-related objectives, and plan the next steps in their mathematical development. There are opportunities for children to encounter maths throughout the EYFS (both inside and outside) – through both planned activities and the self-selection of easily accessible quality maths resources. Whenever possible children's interests are used to support delivering the mathematics curriculum. Towards the end of Reception teachers aim to draw the elements of a daily mathematics lesson together so that by the time they move to Year 1 they are familiar with the structure for a lesson/activity.

## **Key Stage 1 and Key Stage 2**

At the start of each new topic, key vocabulary is introduced and revisited regularly to develop language acquisition, embedding as the topic progresses. All lessons begin with a short assessment to support retrieval practice and develop long-term memory. Children are taught through clear modelling and have the opportunity to develop their knowledge and understanding of mathematical concepts. The mastery approach incorporates using objects, pictures, words and numbers to help children explore and demonstrate mathematical ideas, enrich their learning experience and deepen understanding at all levels. Children work on the objective at whatever entrance stage they are assessed as being at. Within lessons children can ACQUIRE the skill, APPLY the skill or DEEPEN the skill. Our children move through the different stages of their learning at their own pace. Children who have shown their understanding at a deep level within the unit, will have opportunities to apply these skills in a GREATER DEPTH (gold) activity. This should be challenging and ensure that children are using more than just one skill to be able to answer the mathematical problems. Reasoning and problem solving are integral to the activities children are given to develop their mathematical thinking. Resources are readily available to assist demonstration of securing a conceptual understanding of the different skills appropriate for each year group.

Children with additional needs are included in whole class lessons and teachers provide scaffolding and relevant support as necessary. For those children who are working outside of the year group curriculum, individual learning activities are provided to ensure their progress.

### **IMPACT - What we achieve by delivering maths in this way and how we know?**

Our measures of success for Mathematics will be that:

- ❑ that the curriculum for Mathematics is well-constructed and well-taught
- ❑ all pupils, including those deemed disadvantaged and those with SEND acquire the knowledge and cultural capital they need to succeed in life
- ❑ pupils are making progress in that they know more, remember more and are able to do more - they are learning what is intended in the curriculum - so that learning in Mathematics is building to the end points outlined earlier and that pupils are being prepared for their next stage of education
- ❑ as mathematicians children will develop skills and attributes they can use beyond school and into adulthood.

A mathematical concept or skill has been *mastered* when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.

We use both formative and summative assessment information every day, in every lesson. Staff use this information to inform their short-term planning and short-term interventions. This helps us provide the best possible support for all of our pupils, including the more able.

Our staff use formative assessment grids to systematically assess what the children know as the topic progresses and inform their future planning. These formative assessment grids then inform summative assessment judgements

Leaders and teachers monitor the progress of how pupils are progressing in terms of knowing more, remembering more and being able to do more.

Pupils with SEND are prepared for the next stage of education and their adult lives.