



**Knavesmire Primary School**  
**Maths Policy**  
2021

## **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.

## **Knavesmire Aims:**

- ALL pupils access a broad and balanced maths curriculum.
- To present maths as a challenging, exciting, creative and relevant subject.
- To ensure that all children achieve their full potential in mathematics
- Develop strong 'mental agility' skills that create a solid foundation for enhancing reasoning and problem solving skills.
- Ensure pupils become resilient and reflective learners.

## **Foundation Stage**

In the Early Years Foundation Stage, we use the statutory framework for early years foundation stage document as a base to deliver an enriching and engaging maths curriculum.

Mathematics involves providing children with opportunities to develop and improve their skills in counting confidently, developing a deep understanding of numbers to 10, the relationships between them and the patterns within those numbers. Also, children will develop spatial reasoning skills across all areas of mathematics.

We consider the individual needs, interests, and stage of development of each child in our care, and use this information to plan a challenging and enjoyable experience for each child in all of the areas of learning and development within mathematics. Children are always encouraged to not be afraid to make mistakes.

## **Learning and class structure**

Classes are all in mixed ability groups throughout school. In KS1 and KS2, children are paired together in maths buddies so they can share ideas and encourage each other to learn.

We use a number of different strategies to promote learning in mathematics: online games, maths packs, a range of in class resources and appropriate problem solving investigations to encourage a love of learning.

'Mental agility' strategies are used in the majority of lessons to further embed cognitive methods.

Every lesson should be meaningful and have a purpose. Outdoor maths is encouraged at every opportunity to give maths problems a real life context.

During every lesson, high order questioning is used to challenge and engage pupils. This allows teachers to constantly assess learning and create opportunities for pupils to explain their thinking.

Following the calculation policy, each year group develops and applies a range of learning strategies; leading up to an understanding of efficient written/formal calculations when appropriate.

## **Timescales**

Maths is taught daily. Morning starters are encouraged to promote pupils 'mental agility' and consolidate learning from previous lessons.

## **Planning**

All planning is predominantly based on ensuring every child accesses our broad and balanced curriculum (through the National Curriculum and Statutory Framework) regardless of ability. To support this, the Maths Hub White Rose scheme of learning is used to support pupils understanding of all areas of mathematics. However, planning across school is based on individual and class needs so planning can be altered at the teacher's discretion.

Short term plans provide strong learning outcomes for the week and are adapted daily based on children's needs. Within short term planning, clear success criteria for each learning objective taught should be created – demonstrating the progression needed to reach and exceed the objective. This will enable the class teacher to follow a clear and systematic teaching sequence, where input and activities are differentiated by considering which parts of the success criteria individual children are ready for.

Medium and Long term frameworks have been adapted from the White Rose Maths Hub schemes of work.

High order questioning is used within lessons, in the form of a 'challenge' or problem which requires the pupil to demonstrate their ability to apply the skill and in doing so deepen their understanding. Also, allowing children to think for themselves and become independent learners.

## **Marking**

Immediate written or verbal feedback is applied within every lesson (see school marking policy). This feedback should be meaningful and allow children to feel confident in what they have done well and what their next steps are.

Peer marking is utilised to allow children to give feedback on each other's work and create discussion topics about particular problems/successes within each lesson.

## **Assessment**

During the year, each child's progress should be recorded by the class teacher with regard to their progress towards meeting the end-of-year expectations for their year group.

This is achieved by weekly 'mental agility' cold questioning to assess children's understanding of particular mental maths skills.

Termly assessments (Maths Hub White Rose) help to indicate whether a child is Beginning, Developing, Secure or Exceeding the standard in their respective year group. Alongside teacher assessment, this data will be passed on to the following year's teacher to inform each child's particular learning needs.

Half termly times tables assessments highlight any gaps in learning and allow pupils to see their progress in each times table.

Times Table Rockstars and Number Gym software are used as tools to support and consolidate times table knowledge.

### **Inclusion/SEND.**

In order to ensure that ALL pupils are provided with a purposeful and relevant range of work to suit their individual needs:

- We provide learning challenges appropriate for each stage of learning.
- Use pre-assessment tasks to allow for future planning.
- Provide a range of resources to engage every learning style.
- Allow quality teaching to provide foundations to reaching the required level (including interventions when necessary).

### **Cross Curricular**

Maths is a transferrable skill and it is encouraged to be used as such whenever possible. For example:

- Daily/weekly skipping morning starters are used to children to practise their X tables.
- Scientific results displayed in a table/graph to analyse results.
- During Big Idea topics such as space, it highlights the understanding of scale when measuring distances between the planets.

### **Resources**

Maths displays in classrooms are expected to engage children in their previous and current learning. In addition, calculation strategies and mathematical vocabulary is displayed so that children can develop their understanding by becoming independent learners.

Children's work is on display in all classrooms/shared areas in order to encourage a positive attitude and enthusiasm towards mathematics for everyone.

All resources that can be copied are stored on the school system with a main bank of resources stored in the school maths folder. Individual year groups have their own shared area which they can update and transfer resources when necessary.

Alongside individual classrooms, all concrete, pictorial and any other mathematical apparatus is stored in both Key Stage 1 and Key Stage 2 maths cupboards which are located centrally within school.

### **Homework**

Children will be set home learning tasks where appropriate. The focus will be to consolidate previous learning in class throughout the week and allow parents/guardians at home to see what their child/children have been learning in maths at school.

At Knavesmire, we subscribe to MyMaths which is an online tool that provides immediate feedback for both the pupil and teacher.

### **Calculation Policy**

Alongside the National Curriculum, we use the Sense of Number Visual Calculation Policy to support our teaching of calculations.