



# **Yenton Primary School**

## **Maths policy**

**Approved by Governing Board: Nov 2016**

**To be reviewed: Nov 2018**

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To be reviewed in Nov 2018

### The New Curriculum states that:

*“Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history’s most intriguing problems. It is essential to everyday life, critical to science, technology, and engineering, and necessary for financial literacy and most forms of employment. A high quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.”*

At Yenton Primary School we see Maths very much as a **multi-discipline, cross-curricular, interconnected** subject which should encourage **creativity**. Mathematics teaches children how to make **sense of the world around them** through developing their ability to **calculate, reason** and **solve problems**. It enables children to understand **relationships and patterns** in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics.

### Our AIMS are to ensure:

- We teach Maths in line with the **new National Curriculum guidelines**.
- Ensure the delivery of Maths is filled with **cross-curricular** opportunities
- to promote **enjoyment** in a **lively, exciting** and **stimulating environment** in which the children can learn Maths
- learning through a **CPA approach** – **concrete, pictorial, abstract**
- to promote **confidence** and **competence** with a secure understanding of numbers and the number system
- developing **Mental Maths**
- encourages children to use **mathematical vocabulary** to **reason** and **explain**
- to develop the **ability to solve problems** through **decision-making** and **reasoning** in a **range of contexts** – also allowing time for **‘talk partners’** in order to stimulate and develop a curiosity in Maths.
- **Challenges** children to stretch themselves and takes risks in their learning.
- to understand the importance of **mathematics in everyday life**.

### Planning, Teaching and Assessment

Following the introduction of the new National Curriculum 2014 the emphasis has been to ensure that all children:

- Become **FLUENT**
- **REASON** and **EXPLAIN** MATHEMATICALLY
- Can **SOLVE PROBLEMS**

This means that children need to be regularly exposed to opportunities involving increasingly complex problem solving which allows them to apply their Maths knowledge. In doing so they should be encouraged to develop an argument and line of enquiry which they can prove and justify using mathematical vocabulary. This includes the ability to break down problems, both routine and non-routine, into a series of steps.

There are five maths lessons a week. KS1 have an additional 5 minutes and KS2 have an additional 10 minutes each day. This additional time will be used to further develop mental maths and arithmetic and to go back through any misconceptions from previous weeks.

Teachers will work in pairs within each year group to plan and deliver lessons that suit the particular learning styles of the children within the year group. They will use their own judgement as well as formative assessments to ensure a flexible approach is adopted which recognises the pace of learning within the classroom. Individual, paired and group work will be used across a series of lessons and over the week children will be provided with opportunities to become **FLUENT**, to **REASON AND EXPLAIN** mathematically and to **SOLVE PROBLEMS**. Across a range of lessons, children will be allowed to engage in mathematical discussion (talk partner or group work), investigations, problem solving, practical experiences and written methods.

Planning will demonstrate the various challenges available to children, together with AFL (Assessment for Learning) opportunities (speaking and listening and self/peer assessment) and teacher assessment. Before the start of each unit of work, the children will complete a mini 'cold task' which will assess their understanding and therefore work will be planned for ensuring the pitch is at an appropriate level for all children in the class. This will be used to inform planning and to assess children's progress from the start of each unit to the end – could be approximately two/three weeks of learning.

In addition to these on-going 'cold task' assessments, teachers will assess children's progress for each of the skills taught and will then track the children's achievements and progress made using our School Pupil Tracking Online Assessment System (SPTO). This will be updated regularly and informed by annotated plans and work in the children's books. Half termly, the children will be assessed through the application of tests; this summative assessment will be used to support teacher judgements. These will also be used to identify next steps and therefore will inform planning and intervention groups.

Children will be provided with feedback on a daily basis either verbally or through written marking (all teachers should adhere to the Afl/Marking Policy). During lessons, children will be asked to complete mistakes made; this will ensure children are given opportunities to address errors or misconceptions in their learning in order to clarify their understanding of a concept. In addition to this, children will be set next steps as appropriate (at least twice a week) to further challenge their learning and to deepen their understanding. All next steps should be completed by the children at the next earliest opportunity after the lesson. Please See Assessment Policy for further information on SATs, reporting to parents.

### **Calculation Policy**

The Maths Calculation Policy was updated in 2015-2016 and revised in line with the New National Curriculum requirements 2014.

It is important that children are allowed to explore Maths and present their findings not only in a written form but also visually; to that end the school have adopted the CPA approach: concrete, pictorial, abstract. This will allow the children to experience the physical aspects of Maths before finding a way to present their findings and understandings in a visual form before relying on the abstract numbers.

## **Homework**

All children (Years 2-6) will receive Maths homework on a weekly basis. We encourage children to continue to work on the skills taught that week at home with the support of their parent/carer. These activities will help to promote children's mathematical learning in a wider context other than school.

In addition to the weekly homework, all children have access to our online maths software; Mathletics and Rockstars. This is also used to further enhance their learning of maths at home.

Teachers must ensure that all homework returned is marked and appropriate feedback is given. If work is not completed, children will be asked to complete this work during their break time.

## **Resources**

Each classroom will be resourced with materials to support the delivery of Maths; such items might include Numicon, multi-link, dienes (these are all counting resource), number lines, multiplication tables, 100 squares, 2D and 3D shapes, dice and much more. Mathematical dictionaries are available in all classrooms. All classrooms have table top resources where children are able to access the resources to support their learning. These resources are available on the tables every day. Larger items, such as trundle wheels, measuring cylinders will be help in the Maths cupboard.

All teachers are expected to model, using a range of resources, every time they start a new unit of work. This supports the **CPA model – concrete, pictorial, abstract**. Having had these resources modelled, children should then be encouraged to use whatever resources are available which they feel would be beneficial to support them when completing their maths work.

Each classroom will also have a 'Maths Working Wall'. This will highlight all the skills the children are learning in this unit of work, the mathematical vocabulary used to support this, resources and modelling of what the children can use to support their learning and an end of unit expectation.

## **Presentation**

All children must be set high expectations for the presentation of their work. The date should be written at the top of the page, using numbers, making sure there is one digit per box. The WALT is then written underneath starting at the left hand side of the page – letters do not need to be one per box.

When the children answer questions, they should be encouraged to present their work neatly so that it can be understood by others. Margins should be evident and used to promote organisation writing in the number for each question answered.

## **Inclusion**

In line with the Schools Inclusion Policy, each child will have an equal entitlement to all aspects of the Maths curriculum and to experience the full range of Maths activities. Therefore, in delivering Maths, care will be taken to ensure that a variety of learning styles are accessed and teaching methods adopted.

Intervention groups will take place both within Maths lessons and outside; these sessions may be delivered by the teacher or teaching assistant and may involve individual or small group work, accessing all abilities.

## **Monitoring and review**

Maths will be monitored regularly throughout the school by:

- Book trawls
- Lesson observations
- Learning walks including environment checks
- Reviewing and monitoring of planning
- Assessment and analysis of data
- Half termly moderation meetings. These will also include external moderations.

This policy will be reviewed at least every two years.

**Signed: K Bailey**

**Date: 16.10.16**