

John T. Rice Infant and Nursery School

Maths Policy



Maths Policy

Introduction

This policy has been written as a response to changes in the teaching of Maths through the New Primary Curriculum 2014.

It is a statement of the aims, principles and the teaching and learning of Maths at John T. Rice Infant School. At John T. Rice Infant School, we follow a Maths mastery approach with the aim to develop knowledge, fluency, mathematical reasoning and competence in solving increasingly sophisticated problems allowing children to apply their mathematical knowledge in a variety of contexts. We also aim to provide hands-on experience to aid understanding of mathematical concepts by providing the children with a range of concrete resources to use.

At John T. Rice Infant School we have high expectations of children's work and celebrate children's achievements, fostering self-esteem and confidence.

INTENT

Aims

In Maths we aim for the children: -

- to become fluent in the fundamentals of mathematics, 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.
- to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- to 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.

At John T Rice we intend our Mathematics Curriculum to be ambitious for all pupils. It will be coherently planned and sequenced to enable our children to become confident, lifelong Mathematicians. All children will be given the opportunity to reach their own potential in the above core skills, and our curriculum designed so that there is never a "lid on any child's learning". Children will be exposed to their year groups curriculum and it will be our job to strengthen their **mastery** of this knowledge by using a range of concrete, pictorial and abstract resources. It is our intent that children will be able to make links between their Mathematical knowledge to a range of subjects and topics.

Objectives

In Mathematics the children will be taught the age appropriate objectives from the National Curriculum programme of study for:

- Number –
 - Number & place value
 - Addition & Subtraction
 - Multiplication & Division
 - Fractions
- Measurement
- Geometry
 - Properties of shapes
 - Position and direction
- Statistics

IMPLEMENTATION

Teaching & Learning

Our Curriculum

At John T. Rice our planning follows the ethos that underpins the Essentials Curriculum and requires teachers to build on what children already know. Every half term contains a “Wow experience” either in school or a visit out of school.

Maths in Foundation Stage

In Foundation Stage we follow the Development Matters and Early Learning Goal framework which focuses on number and shape. The approach to Maths in Early Years is a practical approach with emphasis on using concrete apparatus to understand Mathematical concepts. We follow a ‘number of the week’ approach in Foundation Stage. This means children learn about each number to 10 for two weeks so then develop an in depth understanding of each number and its properties. There is a range of maths opportunities across the outdoor and indoor continuous provision, which teachers update regularly to reflect the weekly maths focus. Every week there are 2 teacher led Maths focus activity and an independent rainbow challenge. There are daily Maths activities in Foundation Stage 2

such as 100 days of school and number of the week. Staff also model and incorporate the maths weekly learning focus within their interactions in the provision with the children.

Planning

Key Stage teams meet half termly to discuss the medium term planning. We follow our school's long term plan to ensure that teachers provides complete coverage and progression throughout all year groups. Planning is shared between classes with the same year groups to ensure consistency, with class teachers adapting where appropriate to their individual class needs. Class teachers have responsibility for using the yearly overview plan and small steps document as a basis to plan effective maths lessons incorporating fluency, reasoning and problem solving which is adapted to the needs of the children by using assessment for learning. Teachers follow the agreed upon Maths lesson sequencing structure for each unit of work. (Appendix 1) Within planning, there is an emphasis on providing opportunities to use a variety of resources and allowing children to develop confidence in using a range of pictorial and abstract methods.

Maths mastery definition

Mastering Maths means acquiring a deep, long-term, secure and adaptable understanding of the subject. Using concrete, pictorial and abstract resources and applying mathematical concepts in different ways, enables pupils to see how mathematical concepts connect. At any one point in a pupil's journey through school, achieving mastery is taken to mean acquiring a solid enough understanding of the maths that has been taught to enable him/her to move on to more advanced material. The John T Rice written calculation policy details the concrete, pictorial and abstract methods taught and used within each area of Mathematics.

Resources

Mathematics resources that are used regularly (such as counters, base ten and numicon) are kept in every classroom. These are available for children to access independently in all aspects of their Maths learning. Resources that are more subject specific (such as time, shape, capacity) are kept in a central area that is situated in the Hall where they are in clearly labelled boxes according to their use in Maths lessons.

Daily Counting Objectives

The Daily Counting Objectives are the end of year expectations that outline the mathematical skills we aim children to be secure in by the end of each year. They focus on developing children's fluency in terms of counting and key mathematical skills. Throughout the day, teachers will take opportunities to develop fluency with mental and oral activities such as counting and recall of number facts.

(Appendix 2)

Teaching for Greater Depth “Deeper Thinking”

A Deeper Thinking Task is an extension of the age related objective to challenge and deepen the understanding of the more able or those who have understood the age related task. This is not extending into the next year group objectives but embedding greater depth in their current curriculum.

For Example

Missing Numbers eg $27 = 14 + ?$

True or False questions

Word Problems

Odd one Out

Greater than and Less than questions

Always, Sometimes, Never questions

Varied fluency “showing in different ways “

IMPACT

Monitoring & Assessment

Children are informally assessed during lessons (formative assessment), through questioning and performance which will be used formatively to inform planning. Summative assessments are used at the end of each term through Scholar Pack, to show progression throughout Foundation Stage and Key Stage 1. At the end of KS1 children are assessed through teacher assessment to give an end of key stage judgement.

Work scrutinies are completed termly (with either the SLT/ maths leader/ teaching staff) to monitor the quality and consistency of work in Maths. Termly planning scrutinies take place to monitor coverage and progression of Maths across the key stage. Due to the cross curricular nature of the Learning Challenge approach, Teaching & Learning observations are conducted termly and used to monitor a range of subject areas.

Speaking & Listening

Speaking and listening activities are encouraged within Maths whenever possible. These are linked to the learning objectives for Spoken Language taken from the National Curriculum for English.

Equal Opportunities

At John T. Rice Infant School we are aware of the need for equality of access for all children. Our staff believe strongly in creating equal opportunities for all children and work to this aim. We introduce and build upon the children’s awareness of equal opportunities

including the development of respect and understanding of multi-cultural, gender and S.E.N. issues.

John. T. Rice Infants is committed to ensuring equality of opportunity in line with the Equality Act 2010. We aim to reduce disadvantages, discrimination and inequalities of opportunity, and promote diversity in terms of our pupils, our workforce and the community in which we work.

We will assist our pupils in achieving to their very best potential. Where pupils experience barriers to their success, we will work with them to address these in a sensitive and sympathetic way. We will teach our pupils the importance of equality and what forms discrimination can take and the impact discrimination can have.

We will not discriminate on any of the grounds listed below (known as the Protected Characteristics) save where such discrimination is permitted by law. The Protected Characteristics that apply to schools are:

- Age (in relation to staff only);
- Disability;
- Gender re-assignment;
- Marriage and civil partnership (in relation to staff only);
- Pregnancy and Maternity;
- Race;
- Religion Faith or Belief;
- Sex; and
- Sexual orientation.

Use of ICT E-Safety

The use of ICT within Mathematics is important. ICT is used in various ways to support teaching and motivate children's learning. Each class has an interactive whiteboard and a visualizer which are used by the Teacher to demonstrate and model within the daily Maths lesson. These can also be used by the children during group activity time. ICT is only used within Mathematics if it is regarded as an efficient and effective way of meeting the lessons objectives.

Whilst using a wide range of technologies to teach Maths, we need to ensure children are safeguarded. E-Safety encompasses Internet technologies and electronic communications such as mobile phones as well as collaboration tools and personal publishing. It highlights the need to educate pupils about the benefits and risks of using technology and provides safeguards and awareness for users to enable them to control their online experience.

E-Safety depends on effective practice at a number of levels:

- Responsible ICT use by all staff and pupils; encouraged by education.
- Sound implementation of e-safety policy in both administration and curriculum, including secure school network design and use.

This policy was agreed by staff and the Governing Body. This policy was reviewed in Summer 2023 will be reviewed again in Summer 2025.

John T Rice Maths Lesson Sequence

The Maths sequence can be tailored to however many days are available for a unit of work, this document is to provide an outline the order of lessons.

There should be an emphasis on vocabulary and mental and oral starters at the beginning of every lesson.



Step 1	<ul style="list-style-type: none">• Pre-learning opportunities• Vocabulary introduction.• Practical based activities using resources and concrete apparatus.• Open ended activities that allow for the exploring of new Maths concepts, possible rotation of activities.• Option for a whole class guided approach where appropriate.
Step 2	<ul style="list-style-type: none">• Recap on vocabulary.• Playing a variety games that are opportunities for children to practice the learning objective, recording on whiteboards.• Opportunity for a carousel of activities.
Step 3	<ul style="list-style-type: none">• Continuation of the games/activities from step 2, recording in books.
Step 4	<ul style="list-style-type: none">• Guided Varied Fluency. Practical problems with drawing/apparatus to make the problems tangible.• Modelling of a range of different question types and the different ways a question can be answered.
Step 5	<ul style="list-style-type: none">• Independent/paired problem solving.• Similar questions styles as in Step 4 with numbers changed.



Maths Daily Counting Objectives



EYFS

- Number bonds to 10.
- One more, one less to at least 10.
- Counting to 20.
- Doubles to 10.

Year 1

- Number bonds to 20
- To double and halve numbers up to 10.
- Count in steps of 2, 5 and 10 from 0.
- Count within 100 from any given number.

Year 2

- Related number facts to 100 (tens) e.g $80 + 20$
- Count in steps of 2,3,5,10.
- Count in tens from any number, forward and backwards.
- Count forwards and backwards from any number within 100.