



HJS GUIDE TO TEACHING MATHS

Adopting a consistent approach

JANUARY 2023

SCHEME OF WORK

We use the [White Rose](#) maths scheme as the starting point for our planning. White Rose provides a sequence of units for each year group, using CPA (concrete and pictorial approaches, before abstract), which enables children to progressively develop their confidence applying mathematical concepts, provides deep meaningful learning and allows their enjoyment of mathematical problem solving to flourish.

The units consist of lesson plans and resources which aim to integrate the teaching of skills with the application of those skills to meaningful contexts, with an emphasis on mathematical language, reasoning and problem solving. Reasoning is therefore linked at every step of the way with arithmetic, building pace and mathematic recall. The aim is for children to acquire fluency in manipulating numbers and using correct vocabulary to talk about maths, and to recognise how those skills can be used to tackle real-world challenges thus combining 'mastery' approaches including spending longer on topics to deepen and broaden understanding, along with revisiting and reinforcing concepts, year on year.

For each lesson White Rose provides a deck of powerpoint slides and video explanations which can be used to demonstrate and rehearse concepts. They also include worksheets which follow a consistent format in all year groups and all units, so that children can become familiar with the process for transferring abstract arithmetic skills into real-world problem-solving situations.

[How we all use White Rose:](#)

We all follow the units of work set out by White Rose for the year group in order to ensure that all children are working towards the same age-appropriate goals.

We all use various models recommended by White Rose to illustrate mathematical concepts in order to build a comprehensive toolkit of strategies and embed a deep understanding of mathematical language and meaning.

We all refer to the resources provided to ensure that children experience consistent teaching methods within and between year groups.

We all expect children to write their maths work in their books as much as possible, setting out their workings clearly, using correct mathematical vocabulary and syntax.

[How we adapt and depart from White Rose:](#)

No-one is expected to follow every lesson rigidly working through all of the powerpoint slides and all of the worksheets.

Children who are more confident do not have to sit through repetition of previously taught material. Children should be provided with repeated opportunities to practice and advance their mastery skills.

Everyone is expected to prepare their maths lessons in advance by choosing White Rose **or other materials** that will help children to progress in their understanding and learning.

Everyone is expected to use their own understanding of the key stage 2 maths curriculum and of how children learn to deliver lessons that are engaging, well-paced, and suitable for the range of abilities.

How do we teach times tables?

Children learn the tables in a sequence that builds up their ability to recall them. They are taught the basic facts about each product in turn, starting with $2 \times 2 = 4$ and ending with $12 \times 12 = 144$. Once confidence is developed, the inverse calculations are tested, which helps children recognise the relationship between multiplication and division.

Among other approaches, we use a maths application called TTRS (Times Tables Rock Stars).

How we use TTRS:

- Children may use the TTRS booklet in class; this can be differentiated (e.g. specific children focus on x 10 although the rest of the class focus on x 8)
- In class, online practice of TTRS anytime of the day, weekly.
- End of term competitions and holiday challenges.
- Competitions throughout the year (for: whole-school, classes and individuals)
- Yearly TTRS launch
- TTRS club in each year group facilitated by teachers for children who are not practising at home and are not fully fluent with their times tables.
- Weekly homework practice (e.g. x3 soundchecks - beneficial for Year 3 and Year 4, who will complete the Year 4 MTC)

How we assess/ measure it:

- Formative and summative assessment Term 1 and Term 6
- X6 Termly TTRS assessment [Termly TTRS assessments](#)
- Class baseline tests

WRITTEN CALCULATION POLICY

The [Written Calculation Policy](#) illustrates methods which must be taught in each year group. It is developmental, building on methods taught in Henleaze Infant School. It is designed to progressively build understanding of the principals of calculation, so that children are able to first and foremost understand what the four operations mean.

The Written Calculation Policy defines a standard baseline, but it does not prescribe specific methods that must be used by all children in all situations. Nor does it prevent teachers or children from demonstrating or sharing other methods.

It is important to model different ways of representing numbers and calculations. We all “see” numbers in different ways, and therefore a method that makes sense to one person might be more confusing to someone else. Ultimately, children should be sufficiently sure of the arithmetical concepts to choose the most efficient method for each task. This will depend partly on the numbers involved, and partly on their personal preference.

When and if children have other methods which are efficient and they understand them with the ability to explain, for reasoning purposes, we are happy for children to use these methods.

The Written Calculation Policy ensures that all teachers have an expectation that children's conceptual understanding progresses from year to year. It is important that these methods are taught. If a method in the policy is not taught one year, it will impede understanding of the methods taught subsequently.

Learning support assistants are also expected to understand the methods used in the Written Calculation Policy and should refer backwards to previous years to consolidate methods previously taught.

PLANNING AND DELIVERY

All classes have a daily Maths lesson of approximately one hour.

One teacher in each year group co-ordinates the weekly planning, which is adapted by each class teacher to meet the needs of their class and of any individuals within it. The weekly plan should be saved in Sharepoint Maths Planning folder for the Year Group.

Teachers are asked to post a brief outline of what is being taught in the coming week on the General Channel in the Year Group Team so that parents may support learning at home if they are able.

In Maths lessons, there will typically be a recap of previous learning, some mental arithmetic practice, some teacher instruction or explanation, some independent skills practice and an opportunity to use reasoning to solve a problem. This is not a rigid structure to be adhered to in every lesson. Teachers are expected to use their professional judgement to move on when ready, to pause and reflect, to adapt in response to ongoing feedback and to act promptly to address misconceptions or misunderstandings.

SUPPORT AND CHALLENGE

In all Maths lessons, children should be encouraged to engage in mathematical learning, which provides a healthy, stimulating challenge, which is ambitious for all, but support is provided where required to ensure adequate success to learning is attainable.

Learners who are less confident and those who are secure, with the ability to develop greater depth, are challenged with a range of resources which encourage investigative skills and develop reasoning skills.

EXAMPLES OF RESOURCES USED INCLUDE:

<ul style="list-style-type: none">• Fluent in 5• Deepening Understanding• Securing skills• Twinkl	<ul style="list-style-type: none">• Classroom secrets• Topmarks• Espresso• Nrich• timestables.me.uk	<ul style="list-style-type: none">• Maths is fun• Bitesize• Youcubed• Spear Maths• I see reasoning	<ul style="list-style-type: none">• Eedi• TTRS• Westbury Park times tables.• Testbase
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PRESENTATION

We prefer maths to be recorded in Maths Books. The process of recording their mathematical processes in writing helps children to consolidate their understanding of maths as a language that has to make sense.

Children use squared paper and are expected to record using one square per digit or symbol. Children in Year 3 use larger squares and progress to smaller squares as their handwriting improves.

Each piece of work is expected to begin with the date (short form) and a title. Titles do not have to be written in the form of a "Can I..." learning objective. They should be concise enough for most children to be able to write (e.g Adding fractions). In exceptional cases, the teacher may write the title or provide a printed title to be stuck in.

ASSESSMENT AND FEEDBACK

Teachers use various methods during and after each lesson to assess the understanding of individuals and the whole class:

<ul style="list-style-type: none">• Thumbs up• Circle of understanding• Individual whiteboards• Arithmetic tests	<ul style="list-style-type: none">• Targeted questioning• Hinge questions• Yeti table• Mini assessments, teacher made	<ul style="list-style-type: none">• Teacher circulating• Timed check-ins• Verbal feedback• Marking• Times Tables assessment termly also formative and summative.	<ul style="list-style-type: none">• Exit slips or target sheets which focus on the HJS non negs• End of unit assessments to recognise gaps
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QUALITY ASSURANCE

How do we monitor the quality of maths teaching?

- Observations
- Book looks
- Moderation
- Response to child-led marking

What support can we offer to improve the quality of Maths teaching?

- Observations
- Visits to maths specialists / how it's done in other year groups/ classes
- Colleague support/ discussion
- Teacher meetings
- Professional development
- TTRS training
- moderation