



# **Tuition, Medical and Behaviour Support Service Curriculum Policy - Primary Maths**

**Harlescott Education Centre**

<b>Reviewed:</b>	October, 2023
<b>Next Review:</b>	Spring, 2024
<b>Responsibility:</b>	Beth Evans

To be rewritten in accordance with the new model of provision adopted in September, 2023.

## **CONTENTS**

<b>Aims and Principles</b>	<b>Page 3</b>
<b>Planning</b>	<b>Page 3</b>
<b>School Curriculum</b>	<b>Page 3/4</b>
<b>Key Stage 1 overview</b>	<b>Page 4</b>
<b>Lower Key Stage 2 overview</b>	<b>Page 5</b>
<b>Upper Key Stage 2 overview</b>	<b>Page 5</b>
<b>Teaching</b>	<b>Page 7</b>
<b>Assessment and Recording</b>	<b>Page 7</b>
<b>Monitoring and Evaluation</b>	<b>Page 8</b>
<b>Marking Work</b>	<b>Page 9</b>

## **AIMS AND PRINCIPLES**

Our main aims are as follows:

- to support students achieving their full potential in mathematics
- to develop students' confidence in their mathematical ability
- to support students maintaining their progress whilst their main school provision is assessed
- to provide a broad and varied mathematics curriculum, through a variety of teaching approaches and learning situations, to meet the needs of all students

We seek to provide this for all students, in accordance with our policies on Equal Opportunities and Inclusion and in accordance with our statutory responsibilities under the SEND Code of Practice 2014.

We recognise our responsibility to provide a high quality, inclusive and broad and balanced curriculum for all our students that reflects their individual academic needs.

Our Maths Policy follows The National Curriculum 2014 for Math's Guidelines and aims to ensure that all students:

- Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that students 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.

Our Maths Policy also aims to take into account the seven main findings of Ofsted's 2021 Maths Research Review and the classification of Mathematical curriculum knowledge into three types, declarative, procedural and conditional.

## **PLANNING**

### **School curriculum**

A great mathematics curriculum should, as the education inspection framework (EIF) puts it, help students to 'gain enjoyment through a growing self-confidence in their ability'.

TMBSS follow the National Curriculum 2014 for mathematics, which describes what must be taught in Key Stages 1 and 2. Many students attend on a part time basis and the provision is short-term in nature. This means it can be difficult to ensure continuity and progression due to the transient nature of the students attending. At TMBSS we recognise that some of our students have gaps in their mathematical understanding due to other difficulties they may be facing, and in order to enable them to confidently access the curriculum in their mainstream school it may be appropriate to 'plug the

gaps'. As a result, we aim to provide a broad and varied curriculum for all students whilst targeting potential barriers to their success in achieving in mathematics.

Where possible, as students develop mathematical skills and knowledge planning should involve real life contexts for maths, where students are problem solving with a purpose in mind.

Due to the complexities, barriers and interruptions to learning, TMBSS will make judgements about which particular years curriculum is most suitable for each student. The aim of this is to effectively close the gap, provide targeted, purposeful learning to ensure a broad understanding of the subject as well as developing resilience and sense of enjoyment of the subject. As recommended in the Ofsted Maths Research Review of 2021; "Focusing on core content initially allows students to develop motivation which then helps them to develop a greater 'breadth and depth' of understanding later."

The programmes of study for mathematics are set out year by year for key stages 1 and 2. Schools are, however, only required to teach the relevant programme of study by the end of the key stage. Within each key stage, schools therefore have the flexibility to introduce content earlier or later than set out in the programme of study. In addition, schools can introduce key stage content during an earlier key stage, if appropriate. The Primary curriculum overview can be found on the 'Curriculum' section of the TMBSS Website.

Planning begins from a thorough understanding of students's needs gleaned through our baseline assessments and effective and rigorous assessment for learning, combined with high expectations and ambition for all students to achieve.

Medium term planning outlines the areas of mathematics that will be taught during each term to ensure a broad and varied coverage of the National Curriculum. The 'Learning Intentions' are from the National Curriculum. The 'Learning Outcome' forms the success criteria on the weekly plan. Teachers can select which topics are most suitable for their classes and how many sessions will be delivered. Problem Solving opportunities will be planned into the sequence of lessons at a level appropriate for each student. Strategies for problem-solving should be topic specific.

Within the weekly planning, clear learning objectives should be created which will break this down into further steps, to be completed during the lesson. These steps will form the Success Criteria for the lesson and will be stuck in each student's book and completed in line with the TMBSS Marking and Feedback policy. This will show a clear and systematic teaching sequence, where input and activities can be differentiated to meet the individual needs of each student.

Assessments will highlight if teachers need to focus on particular areas with a group of students. The units can be taught in different sequences, if required.

The Maths Coordinator will prepare the skeleton Medium Term planning for each term. Teaching staff will indicate the topics they intend to cover and the number of sessions that will be planned. The Learning Intentions, Implementation and Outcomes for the KS1 and KS2 Medium Term Plans will be populated by the staff who will be delivering the lessons.

## **TMBSS Primary Maths Offer**

### **Shared Placement Offer**

Students attending with the Shared Placement Offer, attend TMBSS for either a morning or an afternoon placement for four sessions each week alongside a partner school. Shared placements are 16 weeks in length.

As students only spend 40% or less of their education time at TMBSS, the maths curriculum is not covered in the same depth as if a student was accessing fulltime mainstream/specialist education.

Maths lessons are timetabled in the morning session for a minimum of 1 small group session per week and 1 small group session per week during the afternoon session. Students also engage in daily bespoke interventions to develop their mathematical skills, these are identified on the teacher's weekly planning.

### **Six Day Provision Offer**

Students may attend TMBSS following a Permanent Exclusion and take up a Six Day Provision place. This type of placement is to ensure a student has access to education whilst waiting for a new mainstream placement through the Fair Access Panel. The length of this placement is approximately 13 weeks.

Students in Years 3/4/5/6 attend from 9.15am – 3.00pm daily.

Maths lessons are timetabled for four sessions per week. Students also engage in daily bespoke interventions to develop their mathematical skills, these are identified on the teacher's weekly planning.

Once students are on a short integration plan, attending their mainstream school for full days, they may not access all of the maths sessions taught.

### **Key Stage 1 Overview**

The principal focus of mathematics teaching in Key Stage 1 is to ensure that students develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools].

At this stage, students should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.

By the end of Year 2, students should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency.

Students should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at Key Stage 1.

### **Lower Key Stage 2 - Year 3 and 4 Overview**

The principal focus of mathematics teaching in Lower Key Stage 2 is to ensure that students become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that students develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

At this stage, students should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that students draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.

By the end of Year 4, students should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work.

Students should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

### **Upper Key Stage 2 - Years 5 and 6 Overview**

The principal focus of mathematics teaching in Upper Key Stage 2 is to ensure that students extend their understanding of the number system and place value to include larger integers. This should develop the connections that students make between multiplication and division with fractions, decimals, percentages and ratio.

At this stage, students should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, students are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that students classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them.

By the end of Year 6, students should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages.

Students should read, spell and pronounce mathematical vocabulary correctly.

## **TEACHING**

Students who are functioning significantly below the age-related expectations in Key Stage 1, are given the opportunity to develop their understanding of number, measurement, pattern and shape and space through short, formal teaching and targeted interventions.

Students will be encouraged to become very competent 'counters' so that their fluency with the number system provides a foundation for mathematical understanding. Counting forwards and backwards in many different sized steps as well as from different starting and ending points is essential.

Maths learning builds from a concrete understanding of concepts where students are manipulating objects. When students are able to see concepts this way, they then need to understand the same concepts represented pictorially. Students are then ready for abstract representation before being able to apply their knowledge to different situations.

Students's mental maths is of great importance, with number bonds, times tables facts and various strategies for calculation taught and practiced at school with support sought from parents. Ofsted's 2021 Resarch Review found that maths anxiety is not a result of the nature of the subject but rather a 'failure to acquire knowledge'. Students are more likely to develop a positive attitude towards mathematics if they are successful and they know that they are successful.

A progression towards efficient written calculations should be developed in each year group. TMBSS does not have a Calculation policy, as we recognise that many students attend our provision on a part-time, short-stay basis, meaning students are attending from a variety of schools in Shropshire with a variety of different policies. As a result we will endeavour to be sensitive to the students' prior learning and methods taught.

Students will be set individual targets in mathematics and these will be shared with the students and displayed in an age-appropriate format appropriate for each class. Though the nature of lessons will be very different depending on the needs of the class, students should be: active; practicing skills they haven't yet mastered; learning something new or learning to apply their knowledge to different contexts. They should be: 'doing' very quickly; working at a good pace and being productive; sharing their thoughts and methods and being successful.

## **ASSESSMENT and RECORDING**

Assessment for learning should occur throughout maths lessons, enabling teachers and teaching assistants to adapt their teaching/input to meet the students's needs. This feedback should be incisive and regular.

Students should regularly self-assess against the learning objective, giving them a sense of success. Students should know when they are meeting their targets and be self-assessing against those too.

Student's work should be marked in line with the TMBSS Marking and Feedback Policy and should model how corrections should be made, giving students a chance to learn from their misconceptions or incorrect methods.

Future lesson plans should depend on individuals' success evaluated through marking and observations made during the lesson.

All students complete a baseline assessment on arrival at TMBSS, this provides a Maths Age, Standardised Score and Percentile Rank. For students who do not achieve a Maths Age, a 'Baseline Maths Skills' assessment will be completed to determine students' knowledge. These will be used to inform teaching and learning. Summative assessments are then completed once a term, in order to provide further understanding of the level a student is working at and to inform a more rounded judgement of their abilities.

In addition to these assessments, teacher's will make judgements of individual student attainment using a variety of evidence:

- observing students working
- listening to and questioning students
- discussing student's work

All Key Stage 2 classes complete a daily '5 Minute Maths' intervention, which is designed to improve students' declarative knowledge. A key aim of this intervention is to close the gap in knowledge through teaching students core facts, which form the building blocks for the next stages of education. For most students, the intervention focuses on automaticity and fluency of multiplication and division facts, differentiated for individual ability. Students working significantly below the multiplication and division baseline complete a similar activity which focuses on developing automaticity and fluency in addition and subtraction skills, differentiated for individual ability. As part of this '5 Minute Maths', students complete a termly assessment to determine their starting point and evaluate progress.

Another key intervention is 'Big Maths', students are introduced to this, once teachers have had an opportunity to complete baseline assessments. Teachers will use their assessments to judge a student's starting point. This intervention features 3 strands 'Learn Its' challenges to improve declarative knowledge, 'CLIC' (Counting, Learn Its, It's Nothing New and Calculation) Challenges and 'SAFE' (Shape, Amounts, Fractions and Explaining) Challenges. The CLIC and SAFE challenges feature a range of questions which provide systematic opportunities for retrieval, practice and overlearning. Students should be able to attempt most questions independently. Marking and Feedback of the 'Big Maths' intervention should provide teachers with opportunities to provide 'precision teaching' tasks when gaps in knowledge are identified.

## **MONITORING AND EVALUATION**

This is achieved by the Maths coordinator through;

- monitoring and evaluation of students' work;
- lesson observations;
- monitoring of planning and assessment folders;
- analysis of data.



## **MARKING WORK**

The purpose of marking is to move students forward in their learning.

Feedback and marking should be part of a process in which students need to have some involvement. Written or verbal comments made by the teacher should not only link back to the learning objectives, but should also give advice/suggestions/clues on how to “close the gap”. It should set the ‘next steps’ for learning on how to improve their work.

At the Primary Phase in depth marking, e.g. comments or next steps to improve work, should be given on average once per fortnight. For further guidance and detail on marking, please refer to TMBSS Marking and Feedback Policy.