Mathematics Policy 2023-2024

At Cromwell Learning Community Multi Academy Trust we believe that learning without limits means we do not put a ceiling on children's achievement.

Date policy last reviewed: September 2023

Signed by:

_____ Headteacher Date: _____

_____ Chair of governors Date: _____

Contents:

Statement of intent

CLC MAT recognises that maths is both a key skill within school, and a life skill to be utilised through everyday experiences. A high-quality maths education provides a firm foundation for understanding how maths is used in everyday life and activities, developing pupils' ability to reason mathematically.

Through the teaching of maths, we aim to develop:

- A positive attitude towards maths and an awareness of the relevance of maths in the real world.
- A process of enquiry and experiment.
- An ability to solve problems and think logically to work systematically and accurately.
- An ability to work both independently and in cooperation with others.
- Competence and confidence in pupils' maths knowledge, concepts and skills.
- An appreciation of the creative aspects of maths and an awareness of its aesthetic appeal.

We ensure that the statutory requirements of the National Curriculum 2014 and EYFS are met and so too are their aims:

• To become fluent in the fundamentals of Mathematics
• Reason mathematically
• Solve problems

1. Legal framework

This policy has due regard to statutory guidance including, but not limited to, the following:
- DfE (2021) 'National curriculum in England: Mathematics programmes of study'
- DfE (2021) 'Statutory framework for the early years foundation stage'
- DfE (2021) 'Teaching mathematics in primary schools'

This policy operates in conjunction with the following school policies:
- Teaching and Learning Policy
- Assessment Policy

2. Roles and responsibilities

The subject leader is responsible for:

- Preparing policy documents, curriculum plans and schemes of work for the subject.
- Reviewing changes to the national curriculum and advising on their implementation.
- Monitoring the learning and teaching of maths, providing support for staff where necessary.
- Ensuring the continuity and progression from year group to year group.
- Encouraging staff to provide effective learning opportunities for pupils.
- Helping to develop colleagues' expertise in the subject.
- Organising the deployment of resources and carrying out an annual audit of all maths-related resources.
- Liaising with teachers across all phases.
- Communicating developments in the subject to all teaching staff.
- Leading staff meetings and providing staff members with the appropriate training.
- Organising, providing and monitoring CPD opportunities in the subject.
- Ensuring common standards are met for recording and assessing pupil performance.
- Advising on the contribution of maths to other curriculum areas, including cross-curricular and extra-curricular activities.
- Collating assessment data and setting new priorities for the development of maths in subsequent years.

The classroom teacher is responsible for:

- Acting in accordance with this policy.
- Ensuring progression of pupils' mathematical skills, with due regard to the national curriculum.
- Planning lessons effectively, ensuring a range of teaching methods are used to cover the content of the national curriculum.
- Liaising with the subject leader about key topics, resources and support for individual pupils.
- Monitoring the progress of pupils in their class and reporting this on an annual basis to parents.
- Reporting any concerns regarding the teaching of the subject to the subject leader or a member of the SLT.
- Undertaking any training that is necessary to effectively teach the subject.

The SENDCO is responsible for:

- Liaising with the subject leader to implement and develop maths throughout the school.
- Organising and providing training for staff regarding the maths curriculum for pupils with SEND.
- Advising staff how best to support pupils' needs.
- Advising staff on the inclusion of mathematical objectives in pupils' individual education plans.
- Advising staff on the use of teaching assistants to meet pupils' needs.

3. Early years provision

Activities and experiences for pupils will be based on the seven areas of learning and development, as outlined in the DfE's 'Statutory framework for the early years foundation stage'.
Provision for early years pupils focusses on the following:
- Literacy
- Maths
- Understanding the world
- Expressive arts and design

Activities will provide pupils with the opportunity to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems, and describing shapes, spaces and measurements.
All activities will adhere to the objectives set out in the framework.
Children will learn how to:

- Count confidently.
- Develop a deep understanding of the numbers to 10.
- Understand the relationship between numbers and the patterns within those numbers.
- Develop a secure base knowledge of vocabulary from which mastery of mathematics is built.
- Develop their spatial reasoning skills across all areas of mathematics including shape, space and measures.
- Develop positive attitudes and interests in mathematics.
- Look for patterns and relationships.
- Spot connections.
- Talk to adults and peers about what they notice and not be afraid to make mistakes.

4. The national curriculum

The below demonstrates the 'ready-to-progress' criteria across all year groups and is not exhaustive of everything children will learn through the curriculum.

In Year 1, pupils will be taught to:

Number and place value

- Count within 100, forwards and backwards, beginning with any number.
- Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =.

Number facts

- Develop fluency in addition and subtraction facts within 10.
- Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple and count forwards and backwards through the odd numbers.

Addition and subtraction

- Read, write and interpret equations containing addition, subtraction and equals symbols, and relate additive expressions and equations to real-life contexts.
- Compose numbers to 10 from two parts and partition numbers to 10 into parts, including recognising odd and even numbers.

Geometry

- Recognise and name common 2D and 3D shapes presented in different orientations and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.
- Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.

In Year 2, pupils will be taught to:

Number and place value

- Recognise the place value of each digit in two-digit numbers and compose and decompose two-digit numbers using standard and non-standard partitioning.
- Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10.

Number facts

- Secure fluency in addition and subtraction facts within 10 through continued practice.

Addition and subtraction

- Add and subtract across 10.
- Recognise the subtraction structure of 'difference' and answer questions of the form "How many more?"
- Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only 1s or only 10s to or from a two-digit number.

- Add and subtract within 100 by applying related one-digit addition and subtraction facts.
- Add and subtract any two-digit numbers.

Multiplication and division
- Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.
- Relate grouping problems where the number of groups is unknown to multiplication equations within a missing factor, and to division equations.

Geometry
- Use precise language to describe the properties of 2D and 3D shapes and compare shapes by reasoning about similarities and differences in properties.

In Year 3, pupils will be taught to:

Number and place value

- Divide 100 into 2, 3, 5 and 10 equal parts and read scales/number lines marked in multiples of 100 with 2, 4,5 and 10 equal parts.

Number facts
- Secure fluency in addition and subtraction facts that bridge 10, through continued practice.
- Recall multiplication facts and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.
- Apply place-value knowledge to known additive and multiplicative number facts.

Addition and subtraction
- Calculate complements to 100.
- Add and subtract up to three-digit numbers using columnar methods.
- Manipulate the additive relationship:

- Understand the inverse relationship between addition and subtraction and how both relate to the part-part-whole structure.
- Understand and use the commutative property of addition and understand the related property for subtraction.

Multiplication and division
- Apply known multiplication and division facts to solve contextual problems with different structures, including quotative and partitive division.

Fractions
- Interpret and write proper fractions to represent one or several parts of a whole that is divided into equal parts.
- Find unit fractions of quantities using known division facts.
- Reason about the location of any fraction within one in the linear number system.
- Add and subtract fractions with the same denominator, within one.

Geometry
- Recognise right angles as a property of shape or a description of a turn and identify right angles in 2D shapes presented in different orientations.
- Draw polygons by joining marked points and identify parallel and perpendicular sides.

In Year 4, pupils will be taught to:

Number and place value
- Know that 10 hundreds are equivalent to 1 thousand and that 1,000 is 10 times the size of 100 and apply this to identify and work out how many 100s there are in other four-digit multiples of 100.
- Recognise the place value of each digit in four-digit numbers using standard and non-standard partitioning.
- Reason about the location of any four-digit number in the linear number system including identifying the previous and next multiple of 1,000 and 100 and rounding to the nearest of each.
- Divide 1,000 into 2, 4, 5 and 10 equal parts and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.

Number facts

- Recall multiplication and division facts up to 12 x 12 and recognise products in multiplication tables as multiples of the corresponding number.
- Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders and interpret remainders appropriately according to the context.
- Apply place-value knowledge to known additive and multiplicative number facts.

Multiplication and division

- Multiply and divide whole numbers by 10 and 100 and understand this as equivalent to making a number 10 or 100 times the size.
- Manipulate multiplication and division equations and understand and apply the commutative property of multiplication.
- Understand and apply the distributive property of multiplication.

Fractions

- Reason about the location of mixed numbers in the linear number system.
- Convert mixed numbers to improper fractions and vice versa.
- Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.

Geometry

- Draw polygons, specified by coordinates in the first quadrant and translate within the first quadrant.
- Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal, and the angles are equal.
- Find the perimeter of regular and irregular polygons.
- Identify line symmetry in 2D shapes presented in different orientations.
- Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.

In Year 5, pupils will be taught to:

Number and place value

- Know that 10 tenths are equivalent to 1 one and that 1 is 10 times the size of 0.1.
- Know that 100 hundredths are equivalent to 1 one and that 1 is 100 times the size of 0.01.
- Know that 10 hundredths are equivalent to 1 tenth and that 0.1 is 10 times the size of 0.01.
- Recognise the place value of each digit in numbers with up to 2 decimal places and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning.
- Reason about the location of any number with up to 2 decimal places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.
- Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.
- Convert between units of measures including using common decimals and fractions.

Number facts

- Secure fluency in multiplication table facts and corresponding division facts, through continues practice.
- Apply place-value knowledge to known additive and multiplicative number facts.

Multiplication and division

- Multiply and divide numbers by 10 and 100 and understand this as equivalent to making a number 10 or 100 times the size or 1 tenth or 1 hundredth times the size.
- Find factors and multiples of positive whole numbers, including common factors and common multiples and express a given number as a product of 2 or 3 factors.
- Multiply any whole number with up to four digits by anyone-digit number using a formal written method.
- Divide a number with up to 4 digits by a one-digit number using a formal written method and interpret remainders appropriately for the context.

Fractions

- Find non-unit fractions of quantities.
- Find equivalent fractions and understand that they have the same value and the same position in the linear number system.

- Recall decimal fraction equivalents for $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$, and for multiples of these proper fractions.

Geometry
- Compare angles, estimate and measure angles in degrees and draw angles of a given size.
- Compare areas and calculate the area of rectangles using standard units.

In Year 6, pupils will be taught to:

Number and place value
- Understand the relationship between powers of 10 from 1 hundredth to 10 million and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size.
- Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and non-standard partitioning.
- Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system and round numbers, as appropriate, including in contexts.
- Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.

Addition, subtraction, multiplication and division
- Understand that 2 numbers can be related additively or multiplicatively and quantify additive and multiplicative relationships.
- Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships and place-value understanding.
- Solve problems involving ratio relationships.
- Solve problems with 2 unknowns.

Fractions
- Recognise when fractions can be simplified and use common factors to simplify fractions.
- Express fractions in a common denomination and use this to compare fractions that are similar in value.
- Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy.

Geometry
- Draw, compose and decompose shapes according to given properties, including dimensions, angles and area and solve related problems.

5. Cross-curricular links

Wherever possible, the maths curriculum will provide opportunities to establish links with other curriculum areas.

English
Mathematical terminology is used, where appropriate. Maths-based texts are sometimes used in English lessons and in guided reading sessions.

Science
Pupils' data collection and analysis skills are further developed through the conduction of physical experiments, using units of measurement, calculating averages and interpreting results.
Pupils record their finding using charts, tables and graphs.

KUW
Data analysis, pattern seeking and problem-solving skills are developed through the teaching of geography.
Pupils' understanding of time and measurements of time are developed through discussions of historical events.

ICT
Pupils are encouraged to use calculators and other electronical devices, gaining confidence throughout their school experience.
ICT will be used to enhance pupils' maths skills using online resources and the creation of spreadsheets. ICT will also be used to record findings, using text, data and tables.

6. Teaching and learning

Pupils will be taught to describe key characteristics and associated processes in common language, as well as understand and use technical terminology and specialist vocabulary.
Pupils will undertake independent work and can work in groups and discuss work with fellow classmates.
Lessons will allow for a wide range of mathematical, enquiry-based research activities, including the following:

- Questioning, predicting and interpreting.
- Pattern seeking
- Collaborative work
- Problem-solving activities
- Classifying and grouping

Lessons will involve the use of a variety of sources, including data, statistics, graphs and charts.

The classroom teacher, in collaboration with the subject leader, will ensure that the needs of all pupils are met by:

- Setting tasks which can have a variety of responses.
- Providing resources of differing complexity, according to the ability of the pupils.
- Setting tasks of varying challenge and scaffold
- Use adaptive teaching strategies to steer teaching and learning and improve outcomes.
- Providing sentence stems to develop mathematical oracy.
- Utilising teaching assistants to ensure that pupils are effectively supported.

A maths mastery approach is taken to the curriculum, in which fluency comes from deep knowledge and practice. This means that structured questioning is used to ensure that pupils develop fluent technical proficiency and think deeply about the underpinning mathematical concepts.
Focus is put on the development of deep structural knowledge and the ability to make connections, with the aim of ensuring that what is learnt is sustained over time.
The school does not prioritise between technical proficiency and conceptual understanding, and we aim to develop these in parallel.

Adaptive teaching in mathematics

The term of adaptive teaching is teaching and learning practices that help **all** learners to achieve by better suiting their needs. It also encapsulates the importance of investigating the reason behind the struggle, as opposed to merely addressing the struggle itself.

Assessment is also an essential aspect of adaptive teaching as it helps to steer teaching and learning to improve outcomes. Formative and summative assessment is used to inform in-the-moment adaptations and future planning. By gaining a snapshot of learners' current understanding, the teacher can then use a range of in-the-moment adaptations to address any gaps in knowledge or areas of misunderstanding.

In-the-moment adaptive teaching includes:

- Rephrasing questions or content.
- Adapting language to ensure all learners understand the content.
- Providing exemplars, models or WAGOLLs – 'what a good one looks like.'
- The use of concrete and pictorial representations.
- Highlighting and emboldening key learning points.
- Prompting learners with key words, visuals, sound bites or other sensory stimuli.
- Setting up temporary groups as an additional layer of scaffolding.
- Gauging group responses to support individual answers.
- Giving step-by-step instructions for tasks.

Adaptive teaching strategies should be selected purposefully and used flexibly to ensure the best possible outcomes for all pupils.

Implementing adaptive teaching:

Before the lesson

- **Know your learners** - What is their prior knowledge? Are there any SEND or EAL pupils in the class that have particular needs?
- **Anticipate barriers to learning -**Is there any special vocabulary needed? What are the common misconceptions of the topic? Do the SEND or EAL pupils need additional material or technology?
- Target to **address these barriers** with sources such as texts, PowerPoints, or worksheets.

During the lesson

- Use formative assessment techniques.
- Use of diagnostic questions planned hinge questions or cold tasks.
- Mini whiteboards
- Low-stakes tests
- **Know what they know during the lesson,** not after. In-class assessment techniques will inform you when an adaptation is needed.

- Make in**-the-moment adaptations.**
- Read a question out loud.
- Project or draw a diagram or pictorial representation.
- Use an example that learners can relate to
- Increase scaffolding or remove any temporary support when necessary.
- Provide extra examples alongside non-examples.
- Use peer support.
- If you see the need for an adaption, make it straight away. What will benefit one learner will more than likely benefit them all.

After the lesson

- **Act on what YOU have learnt from the lesson.**
- Did all learners achieve the required level of understanding and knowledge?
- What learners will need more support next lesson?
- What learners exceeded your expectations?
- Use this data to inform your future planning.

<u>Development of oracy through the use of stem sentences</u>

The use of stem sentences in maths, refers to the explanation of a concept or problem using accurate vocabulary. These can be used to state a fact, explain a thought process, or give an answer to a problem. They generally come in three different types:

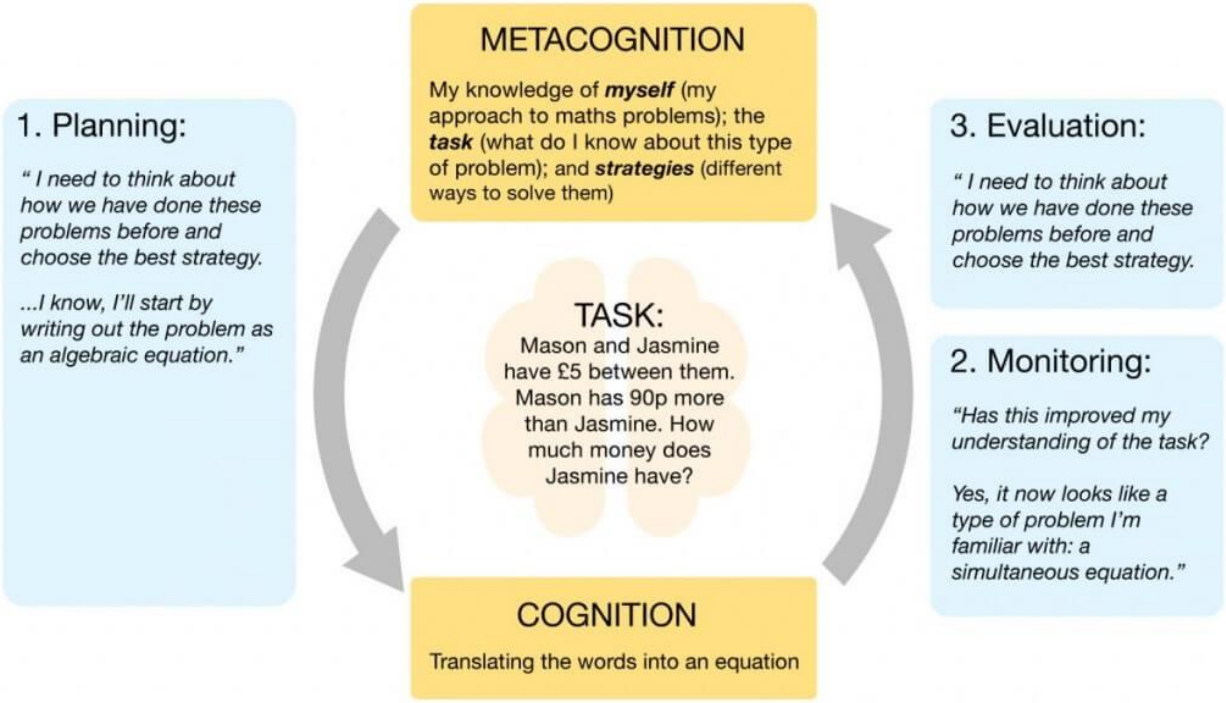
- Stating a key concept
- Stating a generalised concept
- Explaining thoughts and ideas

Stem sentences are designed to improve the comprehension of maths problems and concepts. This is done by breaking down these problems into smaller chunks and more familiar language that is more accessible to learners.

Sentence stems have been created for all phases, these need to be added to the maths working wall and used to support and scaffold pupils reasoning.

Effective learning in mathematics – Metacognition and cognition

There is a strong body of research from psychology and education demonstrating the importance of metacognition and self-regulation to effective pupil learning. The Sutton Trust-EEF Teaching and Learning Toolkit—which summarises international evidence—rates 'metacognition and self-regulation' as a high impact, low-cost approach to improving the attainment of disadvantaged learners. 'Self-regulated learners are aware of their strengths and weaknesses, and can motivate themselves to engage in, and improve, their learning. At the heart of this is metacognition.



In mathematics we support pupils to self-regulate through:

- SKILLS: Teachers should acquire the professional understanding and skills to develop their pupils' metacognitive skills
- MONITOR: Explicitly teach pupils metacognitive strategies, including how to plan, monitor, and evaluate their learning
- MODEL: Model your own thinking to help pupils develop their metacognitive and cognitive processes
- CHALLENGE: Set an appropriate level of challenge to develop pupils' self-regulation and metacognition
- TALK: Promote and develop metacognitive talk
- ORGANISE: Explicitly teach pupils how to organise and effectively manage their learning independently

7. Planning

All relevant staff members are briefed on the school's planning procedures as part of their staff training.
Throughout the school, maths is taught as a discrete lesson and as part of cross-curricular themes when appropriate.
Teachers will use the key learning content in the DfE's statutory guidance 'National curriculum in England: mathematics programmes of study'.
Lesson plans will demonstrate a balance of interactive and independent elements used in teaching, ensuring that all pupils engage with their learning. There will be a clear focus on direct, instructional teaching and interactive oral work with the whole class and targeted groups.
Teachers will ensure that all maths lessons include a focus on mental calculation.
Long-term planning will be used to outline the units to be taught within each year group.

Medium-term planning will be used to outline the vocabulary and skills that will be taught in each unit of work, as well as highlight the opportunities for assessment. Medium-term plans will identify learning objectives, main learning activities and differentiation. Medium-term plans will be shared with the subject leader to ensure there is progression between years.
Short-term planning will be used flexibly to reflect the objectives of the lesson, the success criteria and the aims of the next lesson. Short-term planning is the responsibility of the teacher. This is achieved by building on their medium-term planning, taking into account pupils' needs and identifying the method in which topics could be taught.
All lessons will have clear learning objectives, which are shared and reviewed with pupils.
Homework will be set on a weekly basis and will build on that week's lesson objectives. Homework will take a variety of formats, including mental maths tasks, games, data analysis activities and written tasks.

Implementation

Long- and medium-term planning

Long term and medium-term planning are taken from the White Rose Hub Mathematics mastery scheme. The schemes provide exemplification for each of the objectives in the new term by term overviews, which are linked to the National Curriculum. These are used with the mastery assessment materials that the NCETM spine materials, Nrich materials and Dfe Primary National Guidance. The guidance identifies the most important conceptual knowledge and understanding that pupils need as they progress from Year 1 to Year 6. These important concepts are referred to as ready-to-progress (RTP) criteria and provide a coherent, linked framework to support pupils' mastery of the primary mathematics curriculum. The guidance is used to support long-term, medium-term, and short-term planning, and assessment, each guidance point is referenced on the lesson-by-lesson overviews by White Rose.

Short term planning

Three lessons a week will begin with daily arithmetic tasks, this will be recorded in books and the class teacher will model the answers, children will mark, TAs will take note of any children falling behind, gap tasks will be set for these pupils with a modelled answer to address misconceptions. The additional two lessons a week will begin with Flashback four, these use the principles of spaced learning to recall the appropriate concepts:

- The first question is likely to be something children did in the previous lesson.
- The next question is something they did last week, to revisit and retain.
- The third and fourth questions are related to concepts they studied last month, or maybe much earlier in the year (or even last year).

- Lesson by lesson overviews provided by White Rose will be followed, these link to the Primary National Guidance.
- Each lesson will ensure that focus is on developing mathematical skill in relation to the 3 aims of the national curriculum. Fluency, reasoning, and problem solving. See – ***Medium- and short-term plans.***
- Conceptual understanding (comprehension of mathematical concepts, operations, and relationships) must be considered. See - ***The Big Ideas section on the NCETM Mastery assessment documentation.***
- Likely misconceptions must be shared with the children. See - ***NCETM Misconceptions document.***
- Concrete- pictorial - abstract resources are readily available and must support learning.
- Vocabulary - any new terminology or vocabulary within the session must be shared.
- Concept questions for understanding - are used to probe children's clarity of understanding of the methods/new concepts taught.
- Questions for deeper understanding - these questions develop children's reasoning skills. See – ***Mastery question stems document.***
- *ARE expectations* – the year group expectation will be planned for.
- *GDS expectations* - the expectations for rapid graspers will be planned for.
- Staff must ensure that they only move children on in their learning when they are ready. Staff are not expected to type up any changes / additions to the weekly plan. Planning can be annotated.
- Planning from previous years can be annotated however, a planning proforma with these specifics is provided.

Teaching time and structure
Mathematics is taught for a minimum of 5 hours per week in KS1 and KS2. Mathematics lessons are differentiated using concrete, pictorial, and abstract resources.

Each lesson has the following structure:

- A (4, 5, 6)-A-Day calculation activity or Flash back 4
- The main teaching
- Opportunities to apply new learning through activities focussing on the three aims.
- Plenaries/mini plenaries where appropriate

In Reception, Mathematics is taught daily in three differentiated groups. Pupils in Reception use a variety of concrete resources developing on to pictorial representations which are the foundations for abstract methods. Reception will follow the White Rose scheme which underpins the DfE programme for mathematics and embeds mathematical thinking and talk. The scheme promotes a broad mathematics curriculum focussing primarily on the counting principles and learning trajectories.

Recording work
All pupils in KS1 and KS2 use a pencil for mathematical calculations and squared exercise books to aid setting out of calculations. Pupils use 7mm squared books. Pupils are taught suitable setting out of work and this is modelled in everyday practise. On starting new work pupils rule off the last piece of work and date the next piece. The date is recorded in figures e.g., 23.11.03, unit title and the Learning Objective/WALTs are copied or stuck into children's books. Margins are 2 squares wide. 5 a day arithmetic will be self-marked by the pupils, all other work is marked according to the school's Feedback Policy, using live marking where possible.

8. Assessment and reporting

Pupils will be assessed, and their progression recorded in line with the school's Primary Assessment Policy. Pupils aged between two and three will be assessed in accordance with the 'Statutory framework for the early years foundation stage', to identify a pupil's strengths and identify areas where progress is less than expected. An EYFS Profile will be completed for each pupil in the final term of the year in which they reach age five.
The progress and development of pupils within the EYFS is assessed against the early learning goals outlined in the 'Statutory framework for the early years foundation stage'.
Throughout the year, teachers will plan on-going creative assessment opportunities to gauge whether pupils have achieved the key learning objectives.
Assessment will be undertaken in various forms, including the following:

- Talking to pupils and asking questions
- Discussing pupils' work with them
- Marking work against the learning objectives
- Pupils' self-evaluation of their work
- Classroom tests and formal exams
- End of block unit assessments

Formative assessment, which is carried out informally throughout the year, enables teachers to identify pupils' understanding of subjects and inform their immediate lesson planning.

Cold tasks - These will be used to assess pupils starting points to pinpoint progressions points and prior understanding.
End of block assessments - These will be used as a summative assessment to see strengths and areas of development that will be addressed through interventions.
Half termly assessments - White Rose half termly assessments can be used to assess pupils understanding in line with the scheme.

In terms of summative assessments, the results of end-of-year assessments will be passed to relevant members of staff, such as the pupil's future teacher, to demonstrate where pupils are at a given point in time.

Standardised tests will be used once a year, towards the end of the academic year, to measure each pupil's attainment in all areas of maths. These results will be compared with an 'average' for all pupils of that age.
Parents will be provided with a written report about their child's progress during the summer term every year. These will include information on the pupil's attitude towards maths, understanding of mathematical terminology, investigatory skills and the knowledge levels they have achieved.
Verbal reports will be provided at parent-teacher consultations during the Autumn and Spring terms.
The progress of pupils with SEND will be monitored by the SENDCO.

9. Resources

The subject leader is responsible for the management and maintenance of maths resources, as well as for liaising with the SBM to purchase further resources.
A variety of concrete Maths resources will be stored in each classroom, relevant to the age-related skill and expectations.
Resources which are not required regularly, and those in relation to key whole-school topics, will be stored in the Maths cupboards.
Display walls will be utilised and updated regularly, in accordance with the area of maths being taught at the time.
Maths equipment and resources will be easily accessible to pupils during lessons.

10.Equal opportunities

In accordance with the school's Equality Information and Objectives Policy, all pupils will have equal access to the maths curriculum.
Gender, learning ability, physical ability, ethnicity, linguistic ability and/or cultural circumstances will not impede pupils from accessing all maths lessons.
Where it is inappropriate for a pupil to participate in a lesson because of reasons related to any of the factors outlined above, the lessons will be adapted to meet the pupil's needs and alternative arrangements involving extra support will be provided where necessary.
All efforts will be made to ensure that cultural and gender differences will be positively reflected in all lessons and teaching materials used.
The school aims to provide academically more able pupils with the opportunity to extend their mathematic thinking through extension activities such as problem solving, investigative work and research of a mathematic nature.

11.Monitoring and review

This policy will be reviewed on an annual basis by the subject leader.
The subject leader will monitor teaching and learning in the subject at CLC MAT, ensuring that the content of the national curriculum is covered across all phases of pupils' education.
A named member of the governing body is briefed to oversee the teaching of mathematics, and review progress.
Any changes made to this policy will be communicated to all teaching staff.