Maths In Action
At
Woodlands Academy

Created by L Edmunds

Intent.

Our aim at Woodlands is for every child to be **confident and competent mathematicians** who have a deep understanding of mathematics, which allows them to make connections across mathematical ideas, be able to solve sophisticated problems, be fluent in their application of maths and be able to explain their mathematical reasoning using a wealth of mathematical vocabulary.

Maths is a key skill we use on a daily basis and is an essential part of everyday life. Therefore, at Woodlands we **foster a love of maths** and endeavour to ensure our children **develop an enjoyment and enthusiasm for maths** that equips and empowers them for life.

We recognise that the key to unlocking the potential in our children is through the **development of basic mathematical skills** and their understanding of mathematical concepts. Therefore, we prioritise children being able to understand the fundamentals of number during the autumn term, prior to moving on to other areas of maths through which they can apply their number skills and knowledge. Arithmetic and basic maths skills are practised daily to ensure that mathematical concepts are embedded, can be rapidly recalled and that children can use this knowledge to make links to other mathematical concepts.

We aim for all of our children to be able to **reason and problem solve**; thinking logically so they are fully prepared for the future. Therefore, problem solving and reasoning is an integral part of each and every maths lesson in which our children are challenged through a variety of rich and sophisticated problems.

At Woodlands our ambition is for children to have a **deep understanding of mathematical concepts**. We therefore place great emphasis on the use of concrete resources and pictorial representations at all ages. New mathematical concepts are introduced using a CPA (concrete, pictorial and abstract) approach; enabling all children to experience hands on learning when discovering new mathematical concepts.

Our lesson structure is designed so that content is delivered through **small steps**, which children move through at broadly the same pace. Our maths curriculum is **progressive and cyclical** so that key skills and knowledge are regularly revisited to enable learning to 'stick' (children know more and remember more) and each lesson/topic builds on what has previously been taught. Our foundations in EYFS and year 1 focus on mastering number so that children are prepared for the end of KS1. This is built on further in Key Stage 2, where children are taught to be independent learners who can make connections and solve increasingly sophisticated problems to equip them for Key Stage 3.

Implementation.

Our Maths curriculum provides breadth and balance, is relevant and engaging and learning tasks are differentiated to match the needs and abilities of all our children to ensure that all pupils are able to excel.

Across our school we use 'White Rose Maths' as our overarching scheme and this is supplemented in EYFS and Key Stage 1 by the NCETM's Mastering number. We have chosen to use these as the basis for our mathematics curriculum as they are progressive, based on the mastery approach for maths, focus on the fundamentals of maths and encourage our children to make connections. Lesson content is delivered through small step design through which new knowledge and skills are presented to our children in small, achievable steps which children must master, prior to moving on. We have created our Medium Term Plans using White Rose small steps however, we have adapted the order of the units to meet the needs of our children. Our diagnostic analysis showed that due to the unsettled schooling during Covid, that our children needed to revise and secure their understanding of place value, calculation (4 operations) and fractions so these were prioritised and taught during the autumn and spring terms. These skills are then kept simmering through their application whilst learning other areas of maths such as measures and statistics and our cross curricular maths. We believe that it is essential for children to understand place value

and the four operations prior to moving on to other areas of maths as everything in maths builds on having these secure foundations. Our medium term plans are also adapted to meet the needs of our children. If an area of need is identified by the class teacher through diagnostic analysis or assessment for learning, then this area of need is taught and our medium term plan is adapted. Teachers use our Woodlands medium term plans and their own diagnostic assessments to create their plan for each unit or block. In addition to this, if children need more or less time on a block, then this is adapted too. Revision and review consolidation weeks are also built in to our curriculum which are used to revisit previous learning and ensure maths skills are embedded.

Our daily lesson structure is based around Rosenshine's 10 Principles of Lesson Instruction (2012) which is detailed further in the following section. Each lesson begins with revising the key knowledge/skills children should already know in order to achieve that lesson's learning objective. Due to our children's disrupted education sometimes this involves revising skills from the previous year group or year groups. We term this our 'Slingshot approach' which is detailed further in our Woodlands Standards. Teacher's understand that sometimes we need to go backwards to ensure children understand the building block prior to moving forwards. Teacher's use our progression in skills mathematics documents to support their knowledge of the key skills each child should have from previous year groups.

In each lesson, all of our children are challenged and learning tasks are differentiated through the use of our mild, hot and spicy challenges. Mild challenges practise the skill taught during whole class teaching and scaffolds and/or support is given to those who may need it. Our hot challenges assess if each child is able to apply each skill when it is presented in different ways (fluency) and our spicy challenges require our children to be able to problem solve and reason. In addition to this, children regularly use their reasoning skills though our reasoning starters and our weekly flashbacks. In our reasoning skills starter, children are given a reasoning problem from a recent assessment they completed or a test style reasoning question for them to complete. The reasoning problem is discussed and then each child attempts to solve the reasoning problem. The problem is then returned to as a whole class and children are encouraged to explain how they solved the reasoning problem. At the end of each week, our children are given a Weekly Flashback challenge which is created by their teachers. This includes a variety of fluency and reasoning problems linked to what they learned this week, last week and last term.

As an academy, we believe in the importance of following the concrete-pictorial-approach (CPA) as a means to developing a solid understanding of mathematical concepts which guide children through their understanding of mathematical processes – children can see the mathematics that is happening. We follow the 'White Rose' Calculation policy to ensure consistency in our CPA approach across our academy.

Basic maths skills are taught regularly at Woodlands through our mental maths lessons in years 1 to 6 which are focussed on the NCETM 'Mastering Number' programme in KS1, Herts for Learning 'Progression in Mental Mathematics' and 'Woodlands Academy of Learning Times Tables progression plan'. This focuses on securing number fact knowledge so it can then be built on. This was an area that our children needed support with following the disruption to their learning over the past 2 years. We regularly practise mental arithmetic skills from years 1 to 6 through our sizzling starters, during which our children are presented with 1 to 6 mental arithmetic questions based on previous learning which they attempt individually to begin with and then children share how they solved each calculation as the teacher models the strategy/ies step by step.

Vocabulary is an area we are focussing on whole school. New vocabulary is shared and defined each lesson and children are encouraged to use the correct mathematical vocabulary in their explanations. We follow Rising Stars Vocabulary Progression document to ensure vocabulary knowledge is progressive across our academy.

We regularly assess our children's understanding through the use of daily formative assessment for learning, pre and post unit assessments, termly Pixl assessments followed by detailed Question Level Analysis and half termly teacher assessed judgements. All of our assessment informs our planning and we adapt our curriculum and lessons to meet the needs of our children. We also use our assessments to ensure targeted and timely interventions are undertaken and these are detailed in the teacher's assessment for learning book, wobble boards and/or in their catch up plans.

Home learning is set fortnightly or weekly to develop and review our children's learning for the week.

Impact.

As a result of our maths teaching at Woodlands you will see:

- Engaged children who are enthusiastic towards their maths learning.
- High ambition for all - children of all abilities challenged and are eager to achieve the spicy and scorcher challenges.
- Lessons that use a variety of resources to support learning.
- Mathematical concepts presented using a range of representations.
- Children who have mastered mathematical concepts and can show their understanding in multiple ways using mathematical vocabulary to explain their ideas.
- Well planned sequences of learning which are presented in small manageable steps.
- Learning that has stuck – key skills are embedded to long term memory (children know more, remember more and can do more).
- Learning that is regularly monitored to ensure all children make good or better progress.
- The majority of children reaching end of year expectations in maths.
- Children working at age related expectations and greater depth in maths being in line with national expectations at end of EYFS, KS1 and KS2.

Research that underpins our teaching and learning approach to maths.

At Woodlands our teaching and learning approach to maths is underpinned by the research of Rosenshine (2012) and his '17 Principles of Effective Instruction' (2010), Bruner's (1966) 'Three modes of Representation' (CPA approach to learning), Vygotsky's (1976) 'Zone of proximal development' research and findings of the Education Endowment Foundation (EEF).

The research of Rosenshine (2012) found that, '*The most effective teachers ensured that their students efficiently acquired, rehearsed, and connected background knowledge by providing a good deal of instructional support. They provided this support by teaching new material in manageable amounts, modelling, guiding student practice, helping students when they made errors, and providing for sufficient practice and review.'* (p.12).

Rosenshine's (2012) 'Principles of Instruction Research-Based Strategies That All Teachers Should Know'.

1. **Begin a lesson with a short review of previous learning.**
    - 'Daily review is an important component of instruction. Review can help us strengthen the connections among the material we have learned. It can strengthen previous learning and can lead to fluent recall' (Rosenshine, 2012, p.13).
    - 'Effective teachers also reviewed the knowledge and concepts that were relevant for that day's lesson. It is important for a teacher to help students recall the concepts and vocabulary that will be relevant for the day's lesson because our working memory is very limited. If we do not review previous learning, then we will have to make a special effort to recall old material while learning new material, and this makes it difficult for us to learn the new material' (Rosenshine, 2012, p.13)
        - **'review material where errors were made'**
        - **'review concepts relevant for that day's lesson'**
        - **'review vocabulary that is relevant to that day's lesson'**
        - **'review material that needs overlearning (i.e., newly acquired skills should be practiced well beyond the point of initial mastery, leading to automaticity)'**
        - **'Provide additional practice on facts and skills that [are] needed for recall to become automatic.' (Rosenshine, 2012, p13)**
2. **Present new material in small steps with student practice after each step. Only present small amounts of new material at any time, and then assist students as they practise this material.**
    - 'Our working memory, the place where we process information, is small. It can only handle a few bits of information at once—too much information swamps our working memory. Presenting too much material at once may confuse students because their working memory will be unable to process it. Therefore, the more effective teachers do not overwhelm their students by presenting too much new material at once. Rather, the most effective teachers ensured that students efficiently acquired, rehearsed, and connected knowledge. These teachers only present small amounts of new material at any time, and then assist the students as they practice this material. Only after the students have mastered that step do teachers proceed to the next steps…They checked their students' understanding on each point and retaught material when necessary (Rosenshine, 2012, p. 14).

3. **Ask a large number of questions and check the responses of all students: Questions help students practice new information and connect new material to their prior learning**
    - 'Students need to practice new material. The teacher's questions and student discussion are a major way of providing this necessary practice. The most successful teachers in these studies spent more than half of the class time lecturing, demonstrating, and asking questions. Questions allow a teacher to determine how well the material has been learned and whether there is a need for additional instruction. The most effective teachers also ask students to explain the process they used to answer the question, to explain how the answer was found' (Rosenshine, 2012, p. 14).
    - In **every** lesson, it is **vital** that the teacher gauges the understanding of **every** student in the room before allowing children to begin their main independent task. This can very easily be achieved

through the use of mini whiteboards. Every child in the room could be asked to write their thoughts on a whiteboard and the teacher then circulates the room or asks pupils to hold their whiteboard in the air.

Other possible strategies for checking the responses of all students:

- *'Tell the answer to a neighbour.'*
- *'Summarise the main idea in one or two sentences, writing the summary on a piece of paper and sharing this with a neighbour, or repeating the procedures to a neighbour.'*
- *'Write the answer on a card and then hold it up.'*
- *'Raise their hands if they know the answer (thereby allowing the teacher to check the entire class).'*
- *'Raise their hands if they agree with the answer that someone else has given.' (Rosenshine, 2012, p.14)*

4. **Provide models: Providing students with models and worked examples can help them learn to solve problems faster.**
    - 'Students need cognitive support to help them learn to solve problems. The teacher modelling and thinking aloud while demonstrating how to solve a problem are examples of effective cognitive support. Worked examples (such as a math problem for which the teacher not only has provided the solution but has clearly laid out each step) are another form of modelling that has been developed by researchers. Worked examples allow students to focus on the specific steps to solve problems and thus reduce the cognitive load on their working memory' (Rosenshine, 2012, p. 14).
5. **Guide student practice: Successful teachers spend more time guiding students' practice of new material.**
    - 'It is not enough simply to present students with new material, because the material will be forgotten unless there is sufficient rehearsal. An important finding from information-processing research is that students need to spend additional time rephrasing, elaborating, and summarizing new material in order to store this material in their long-term memory. When there has been sufficient rehearsal, the students are able to retrieve this material easily and thus are able to make use of this material to foster new learning and aid in problem solving. But when the rehearsal time is too short, students are less able to store, remember, or use the material' (Rosenshine, 2012, p. 14).
6. **Check for student understanding: Checking for student understanding at each point can help students learn the material with fewer errors.**
    - 'The more effective teachers frequently checked to see if all the students were learning the new material. These checks provided some of the processing needed to move new learning into long term memory. These checks also let teachers know if students were developing misconceptions.'(Rosenshine, 2012, p.16)
7. **Obtain a high success rate: It is important for students to achieve a high success rate during classroom instruction.**
    - 'In the classroom the most effective teachers obtained this success level by teaching in small steps (i.e., by combining short presentations with supervised student practice), and by giving sufficient practice on each part before proceeding to the next step. These teachers frequently checked for understanding and required responses from all students.' (Rosenshine, 2012, p17)
8. **Provide scaffolds for difficult tasks: The teacher provides students with temporary supports and scaffolds to assist them when they learn difficult tasks.**
    - 'Providing scaffolds is a form of guided practice. Scaffolds include modelling the steps by the teacher, or thinking aloud by the teacher as he or she solves the problem. Scaffolds also may be tools, such as cue cards or checklists, that complete part of the task for the students, or a model of the completed task against which students can compare their own work.' (Rosenshine, 2012p.18)
    - 'One characteristic of effective teachers is their ability to anticipate students' errors and warn them about possible errors some of them are likely to make.' (Rosenshine, 2012, p.18).

- *Warn them about possible errors some of them are likely to make'*
- *'Mode[l] the steps by the teacher'*
- *'Thinking aloud by the teacher'*
- *'Tools, such as cue cards or checklists'*
- *'A model of the completed task against which students can compare their own work' (Rosenshine, 2012, p.18)*

9. **Require and monitor independent practice: Students need extensive, successful, independent practice in order for skills and knowledge to become automatic.**
    - 'In a typical teacher-led classroom, guided practice is followed by independent practice—by students working alone and practicing the new material. This independent practice is necessary because a good deal of practice (overlearning) is needed in order to become fluent and automatic in a skill. When material is overlearned, it can be recalled automatically and doesn't take up any space in working memory. When students become automatic in an area, they can then devote more of their attention to comprehension and application. Independent practice provides students with the additional review and elaboration they need to become fluent.' (Rosenshine, 2012, p.18)
10. **Engage students in weekly and monthly review: Students need to be involved in extensive practice in order to develop well-connected and automatic knowledge.**
    - 'The more one rehearses and reviews information, the stronger the interconnections between the materials become. Review also helps students develop their new knowledge into patterns, and it helps them acquire the ability to recall past learning automatically. The best way to become an expert is through practice—thousands of hours of practice. The more the practice, the better the performance.' (Rosenshine, 2012, pp's. 19-20)

<u>CPA (concrete, pictorial and abstract) approach.</u>

In maths at Woodlands we believe that we learn best by doing and as evidenced in both of the EEF's Improving Mathematics teaching recommendations, both for EYFS/KS1 and KS2/KS3, manipulatives being used effectively is crucial to develop children's understanding in mathematics (EEF, 2017, p.1). Therefore, apparatus is used throughout our Academy, right from nursery to year 6, to support children's understanding. Hands on learning brings concepts to life!

In our maths lessons, concepts are experienced, strategies are scaffolded and everything is discussed so that children learn with understanding. To develop children's understanding in maths we teach maths using the CPA approach (concrete, pictorial and abstract approach).

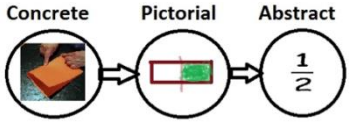
This approach is underpinned by the research of psychologists Jerome Bruner, Lev Vygotsky and Jean Piaget. Bruner (1966) studied how children learn and through his empirical studies he proposed that children learn best through 'Three modes of Representation' (CPA approach to learning). He proposed that children first begin to learn through actions (concrete), then they progress to the iconic stage (pictorial) and finally the symbolic stage (abstract). He believed that a child of any age is capable of understanding complex ideas through the use of a 'spiral curriculum'. Through the adoption of a 'spiral curriculum' complex ideas are introduced at a simplified level first, and are then revisited at more complex levels later on. Subjects are taught at gradually increasing levels of difficulty and then children are able to solve complex problems independently. He saw that when pupils used the 'Three modes of Representation' (CPA approach to learning) they were able to build on each stage and developed a fuller understanding and their knowledge was internalised to a greater degree.

Through his work, Lev Vygotsky developed the notion that there was a 'Zone of proximal development'. He defined this as the gap between what a child can do on their own and what they are able to do with the help of an adult or peer. He suggested that teachers use co-operative learning tasks in which less competent children are given support

from a more skilful peer. With this help, he found that when a child is in the 'Zone of Proximal Development' the help of their peer gives them a boost and they are able to achieve the task. Wood et al. (1976) then developed this further and suggested that once the child has achieved the task with support, the scaffold should then be removed and the child will then be able to complete the task on their own.

Jean Piaget's (1951) work also suggested that children aged seven to ten years old work in primarily concrete ways and that the abstract notions of mathematics may only be accessible to them through embodiment in practical resources.

The work from these psychologists underpins our CPA approach to mathematics at Woodlands.



- Concrete allows discovery (the doing stage).
  - First children investigate mathematical concepts using concrete apparatus (equipment).
- Pictorial allows conceptual understanding (the seeing stage).
  - Next concepts are displayed to children pictorially and children begin to represent their ideas pictorially (e.g. use of a number line, drawing to show the value of numbers).
- Abstract allows a shorter and more efficient way to represent numerical ideas using symbols (the symbolic stage).
  - Finally children learn how their understanding can be shown in the abstract form (number sentences).

All concepts within maths are fully explained and explored prior to moving on. Children have 'maths toolkits' available for them to access throughout their learning. Their 'maths toolkits' are filled with apparatus they can independently access to support their learning (e.g. base ten equipment, number lines, multiplication tables). Children are encouraged to demonstrate their understanding of a mathematical concept by being able to show their understanding using concrete apparatus, a pictorial image and the abstract number sentence. Peer support and collaborative learning are used to deepen children's understanding. Once children are able to explain their understanding using all three means, then we can be confident that they have mastered that mathematical objective.

Real things and structured images enables children to understand the abstract. The concrete and the images are a means for children to understand the symbolic so it's important to move between all modes to allow children to make connections
Morgan, D. (2016)

Used well, manipulatives can enable pupils to inquire themselves- becoming independent learners and thinkers. They can also provide a common language with which to communicate cognitive models for abstract ideas.'
Drury, H. (2015)

"If we do not use concrete manipulations, then we can not understand mathematics. If we only use concrete manipulations, then we are not doing mathematics."
Gu (2015)

Maths teaching at Woodlands.

At our academy, children move through the content of the curriculum at broadly the same pace. Throughout our academy, mathematics is taught in mixed ability teaching groups in which children learn collaboratively and consolidate their own learning whilst helping others with teaching support through the use of peer tutoring. As demonstrated through the EEF's Teaching and Learning Toolkit, these approaches (peer tutoring, mastery teaching and not setting/streaming) enables powerful learning to take place.

To enable our SEND children to be supported, they work with a TA, teacher or LSA in one classroom. The class teacher works with SEND children at least once a week. A separate nurture group is held for SEND children in Years 5 and 6.

Maths lessons at Woodlands are divided into 2 sessions. The main maths lesson (approx. 60 minutes) and a daily mental maths lesson (approx. 20 minutes). Each year group determines when is best to teach each maths lesson (some year groups combine both lessons in the morning and some year groups teach them as discrete lessons in the morning and afternoon). During the main maths lessons, objectives from the National Curriculum, White Rose Small steps and NCETM strands are taught. In the mental maths lesson, children are taught mental strategies to solve calculations and they practise their times table/addition and subtraction facts daily within this lesson. Teachers refer to the Progression in Mental Mathematics guidance from Herts for Learning, White Rose Calculation Policy and/or Mastering Number when planning their daily mental maths lessons. Work is recorded in the children's maths books or photographic evidence is recorded in their class Maths Photo Evidence book.

At the start of each week or fortnight, the **'Big Picture'** for the week is shared with the children. This is printed on coloured paper so it is easy to reference throughout the week. The Big Picture gives each child their target for the week, it shows the key learning objectives (WALTs) for the week and the vocabulary for the week. At the end of the week, each child reflects on their learning for the week and sets their own personalised target.

At the back of their books, children have their year group targets which are coloured in by the children throughout the year, as they achieve each target.

Every lesson draws on the 'slingshot' approach. The teacher will begin with the foundations required to master the objective, which will be skills that lie in the curriculum of previous year groups, before accelerating very quickly to teach the current year group's objectives. This learning journey will take place within the short teaching period of one lesson (approximately 20 minutes). The secure understanding of previous year groups' curriculum objectives will help to power and accelerate the acquisition of new learning/skills.

Teachers note in their AFL books or planning, to show the more able learners and identify children who require same day intervention. The AFL book is then used by teachers and support staff to reinforce that day's learning with children who require further support or extend the learning of the more able learners. Any misconceptions that can be seen in children's work is also noted in the AFL book, this is then addressed at the start of the next day's lesson.

Problem solving is an integral part of every maths lesson across our academy and teachers use skilled questioning and intelligent practice to develop children's problem solving. Every maths lesson, children are challenged to develop their understanding further by solving a variety of problems. Children progress from mild challenges (basic), to hot challenges (advanced) and spicy (deep) challenges. AFL is used by the teacher to ensure each child starts their learning journey at the appropriate level of challenge.

Planning.

At Woodlands Academy of Learning we follow Woodlands Maths Curriculum Map which combines the White Rose small steps, the teaching points from the NCETM Teaching Spines and the 2014 programmes of study for mathematics. However, this is balanced with identified needs of the children and closing the gap.

Teachers plan using our Woodlands Maths Curriculum Map, however we also teach to need, addressing the needs of the children as identified through assessment (both formative and summative).

Prior to planning an overview of the half term, children complete the White Rose Block Assessment for their year group (and year group previous if teachers feel there are gaps in the previous year groups curriculum that may need to be addressed). Teachers use their analysis of the children's White Rose Block Assessments, the Woodlands Maths Curriculum Map and areas of need identified from AFL and Question Level analysis to plan an overview of each half term or block. The half termly overview (Medium Term Plan) identifies the vocabulary to be taught, the ready to

progress criteria for the current year group and previous year group/s, the key teaching points from the NCETM spines and the White Rose Small Steps. Teachers use this information to plan the key learning objectives for the half term (WALTs) and teachers bullet point the key learning checkpoints (the key learning foundations from their year group or from previous years) within the lesson that they need to ensure all children understand, prior to moving on. Teachers then use these medium term plans to create their teaching screens for each week which is their short term/weekly plan.

Format of the daily plan/screens (see maths consistency screens for additional guidance)

- **Rolling numbers** warm up
- **Lessons 1 and 4 - Sizzling starter** – 1 to 6 arithmetic questions linked to previously taught concepts, questions of weakness from Pixl assessments or Testbase.
    - Y1 – 1, Y2 – 3, Branch – 4, Oak – 6. Revising skills already taught.
    - Children have 1 minute per question.
    - Each question is discussed one by one and children feedback on the methods and strategies they used to solve each question.
    - Teacher models the strategies/methods discussed.
    - Children self-mark their answers in green pen.
    - Children correct any mistakes and in KS2, children are encouraged to reflect on what their mistake was and how they can ensure they don't make the same mistake next time.
- **Lesson 2 – Reasoning problem** - a reasoning challenge that your teaching group found challenging (taken from previous assessment).
- **Lesson 3 - Continuous provision** slide – other areas of maths kept simmering (measures, statistics, geometry)
- **Lesson 5 - Look back –** Each Friday children complete a weekly lookback, which contains questions from short, medium and long term content (what we learned this week, last week, last term).
  Questions are a mixture of fluency and reasoning problems.
- Key questions for the lesson (Basic, Advanced and Deep) using Blooms as guidance
- WALT and WILF
- Number of the day and Roman numeral of the day in KS2
    - Number of the day progression - Y1 to 50, Y2 to 100, Y3 - 100 to 1000, Y4 – 1000 – 9999, Y5 – numbers up to 2 decimal places, Y6 – numbers up to 10 million)
    - Roman numeral of the day progression – Y3 – roman numerals to 1 to 12 (I to XII), Y4 – Roman numerals to 100 (I to C), Y5 and Y6 - Roman numerals to 1000 (M)
    - Teacher and TA/LSA to circulate, correcting any mistakes – intervene - model correct formation.
- Key vocabulary for the lesson – shared and defined for children
- Review of previous learning – Slingshot
- Introduction/guided practice presented in small steps and following the Rosenshine principles.
    - (teacher models, teacher ping pong models, children practise – this process is repeated for each step in the learning until the majority of children are secure)
    - Teacher checks understanding through the use of skilled questioning
- Independent application (mild, hot and spicy challenges must be evident on the screens)
- Plenary – challenges are discussed, modelled and children self-mark

Teachers save a copy of their maths screens on the shared drive each week under their year group folder.

The structure of our daily main maths lessons.

Monday	Tuesday	Wednesday	Thursday	Friday
Rolling numbers	Rolling numbers	Rolling numbers	Rolling numbers	Rolling numbers
Sizzling starter	Reasoning	Continuous Provision	Sizzling starter	Look back
Introduction (My turn – guided task, we do together task, your turn task)	Introduction (My turn – guided task, we do together task, your turn task)	Introduction (My turn – guided task, we do together task, your turn task)	Introduction (My turn – guided task, we do together task, your turn task)	Introduction (My turn – guided task, we do together task, your turn task)
Independent practice (mild, hot and spicy)	Independent practice (mild, hot and spicy)	Independent practice (mild, hot and spicy)	Independent practice (mild, hot and spicy)	Independent practice (mild, hot and spicy)
Plenary	Plenary	Plenary	Plenary	Plenary

- **Rolling numbers**
  Daily counting based on times tables they will learn the following year (see Times Table Progression Plan).
- **Starter activity**
  Sizzling starter
  To develop children's mental arithmetic skills, children practise their arithmetic at last twice a week. Children practise 1-6 mental arithmetic questions. Children have one minute to answer each question. Teachers then encourage the children to discuss and explain how they solved the arithmetic questions. The teacher models the strategies shared by children. The children self-mark their questions and correct any they may have answered incorrectly. Any areas the children are weaker at, are practised daily until children are confident with this area.
  These starters revise what the children have already been taught and keep these skills simmering.
  Daily reasoning challenge.
  To develop children's reasoning skills, once a week children have a reasoning problem from a test they have undertaken, from Pixl or Testbase. They attempt to solve this problem independently. It is then discussed as a class, strategies used are modelled by the teacher and the children self-mark their work.
  Continuous provision.
  Children recap other areas of maths to keep skills simmering (measures, statistics and geometry).
  Weekly Look Back challenge.
  Each Friday children complete a weekly lookback, which contains questions from short, medium and long term content (what we learned this week, last week, last term).
  Questions are a mixture of fluency and reasoning problems.

- **Lesson introduction and review of learning**
  During the lesson introduction the teacher shares the WALT and WILF with the class. This shows children the big picture for that lesson.
  The vocabulary for the lesson is shared with children and the definition of each key word is discussed so that this is not a barrier to children accessing the lesson (this could be pre-taught to children who may need it as part of an intervention session). Children record new key vocabulary in their maths book underneath the date and WALT, and children could be challenged to write their own definition of each word.
  Any misconceptions from the previous lesson are addressed and previous learning is reviewed. The teacher explicitly describes how the new lesson builds on the knowledge and skills children were taught in a previous lesson/previous year. By connecting a new lesson to a lesson the students previously completed, the teacher shows children how the concepts and skills they already learned will help them with their new learning.

- *'review material where errors were made'*
- *'review concepts relevant for that day's lesson'*
- *'review vocabulary that is relevant to that day's lesson'*
- *'review material that needs overlearning (i.e., newly acquired skills should be practiced well beyond the point of initial mastery, leading to automaticity)'*
- *'Provide additional practice on facts and skills that [are] needed for recall to become automatic.' (Rosenshine, 2012, p13)*

- **Main teaching and application of skills/guided practice**

Every lesson draws on the 'slingshot' approach. The teacher will begin with the foundations required to master the objective, which will be skills that lie in the curriculum of previous year groups, before accelerating very quickly to teach the current year group's objectives. This learning journey will take place within the short teaching period of one lesson (approximately 20minutes). The secure understanding of previous year groups' curriculum objectives will help to power and accelerate the acquisition of new learning/skills.

During the main teaching part of the lesson, the teacher breaks the lesson up into a series of 'small steps' (progressive key teaching points that children need to understand in order to achieve the WALT for the lesson). Between each 'small step', the teacher checks to see if students have understood the concept, gives them time to practise/rehearse the skill and explains how the maths skills they are learning will help them solve more challenging problems.

<u>Small steps (structure)</u>

The small steps introduces key concepts in small manageable chunks. Each teaching step is modelled and rehearsed by children, and assessed by the teacher, prior to moving on to the next teaching point.

- Teacher models the process– step by step, thinking aloud as they model the steps and creates a WAGOLL with the children. This WAGOLL could be copied into the child's book for them to refer to.
- Teacher uses ping-pong strategy to model another example to children (ping pong strategy - teacher asks the children what each step is and then models each step to them e.g. asks one child for the first step, then another child for the next step etc).
- Children practise the skill modelled by the teacher (this could be as a group, then as a pair and then individually if needed). The teacher/s circulates to assess/check children's understanding, guiding pupils, questioning their understanding, encouraging them to explain the process and addressing individual misconceptions. If several children have a similar misconception, the class is stopped, this misconception is addressed and re-taught to the whole class. Children then practise the skill that has been modelled and the teacher circulates to assess their understanding. This is repeated until the majority of children are secure in their understanding (high success rate – approx. 80%).
- Teacher models how they should have solved the problem and invites children to feedback how they solved the problem.
- Each key teaching point is modelled by the teacher and rehearsed prior to moving on to the next teaching point.
- The model and practise approach is repeated until children have achieved all of the teaching points the teacher planned for that lesson. The teacher uses AFL to adapt the lesson as needed.

  Possible strategies for checking the responses of all students:
  - *Mini-whiteboard work*
  - *'Tell the answer to a neighbour.'*
  - *'Summarise the main idea in one or two sentences, writing the summary on a piece of paper and sharing this with a neighbour, or repeating the procedures to a neighbour.'*
  - *'Write the answer on a card and then hold it up.'*
  - *'Raise their hands if they know the answer (thereby allowing the teacher to check the entire class).'*
  - *'Raise their hands if they agree with the answer that someone else has given.' (Rosenshine, 2012, p.14)*

- **Independent Practice.**
  During this part of the lesson, children use the skill/s learnt to independently solve maths challenges and problems. Children all start at the same point and then move through the BAD challenges accordingly (Mild, Hot, Spicy and Scorcher challenges). Challenges are made available for all children in every lesson.
  At various points throughout the lesson the teacher will stop the lesson to address misconceptions or to go through/discuss the questions together and children self-mark their answers.
  Teacher circulates the classroom during the independent practice and supports those children who may need it.
  Scaffolds are provided to support those who need it. Possible scaffolds could be:
    - *Warn children about possible errors some of them are likely to make'*
    - *'Tools, such as cue cards or checklists'*
    - *'A model of the completed task against which students can compare their own work' (Rosenshine, 2012, p.18)*
- **Plenary/mini-plenary**
  The teacher discusses the challenges with the class and children explain the strategies they used, these are modelled by the teacher and children self-mark their work.
  Children self-assess the progress they have made within the lesson against the learning objective. The teacher guides their understanding of metacognition and teaches the children to reflect on how they learn. This lesson's learning is then consolidated, deepened through the use of mathematical problems or the children move onto the next steps in their learning.
  By the end of the lesson, children should be able to summarise the key learning points.

Mental maths lesson.

Our mental maths lesson is divided into two parts. One part focuses on times table/addition and subtraction fact knowledge and one part focuses on mental calculation skills.

'3 minutes counting everyday'
At Woodlands we understand the importance of counting in developing children's understanding of number and increasing their mathematical fluency. Therefore, all children spend at least 3 minutes counting daily. This can be done within the mental maths session, the main mathematics lesson or at another opportune time of the day (e.g. transition points – lining up, moving to their tables etc).

Mental calculation skills.
In the mental maths lesson, children are taught mental strategies to solve calculations and they practise their times table/addition and subtraction facts daily within this lesson. Teachers refer to the Progression in Mental Mathematics guidance from Herts for Learning, White Rose Calculation Policy and/or NCETM's Mastering Number when planning their daily mental maths lessons. Work is recorded in the children's maths books or photographic evidence is recorded in their class Maths Photo Evidence book.

Times table focus/number fact focus
Children in years 2 to 6, practise their times tables daily. This is done through the use of the NCETM Maths Hub times table booklets in years 2 and 3 and TT Rockstars in years 4-6. Children in years 1 and 2 practise number facts daily during the mental maths lesson using the guidance from 'Mastering Number'.

Our approach to teaching times tables is a systematic, whole-class approach. Each times table is broken down into manageable chunks. Children learn one times table at a time and one times table fact a day.

The importance of commutative law is taught and children use this to help eliminate times table facts they already know (e.g. In year 3 children learn their 4 times table but they don't need to learn 2x4=8 as in year 2 they have already learned 4x2=8). This is modelled to children each time they learn a new times table.

Times tables are taught using the little and often approach. As with RWI 'pinny time', children are asked to recall the times table fact/s (or addition/subtraction fact/s) throughout the day, especially during transition times to the carpet, tables or lining up.

Children undertake a 4-minute challenge at least once a day (twice a day if possible) during their mental maths lesson. This challenge is from their times table booklet, TT Rockstars worksheet or TT Rockstars online. In years 1 and 2, when practising their number fact knowledge, teachers follow the 'Mastering Number' approaches from the NCETM workgroup. Each times table booklet challenge has 40 questions and children have an average of 6 seconds per question (as per Multiplication times table check). Children in years 5 and 6 use worksheets on TT Rockstars to consolidate knowledge of times tables.

All teachers engage with the process and take ownership. Teaching staff use AFL to know who is 'stuck' and what facts they are stuck on. Teaching staff identify the barrier to their learning. This is broken down into what is the one fact each child who is 'stuck' will learn that day and how they will learn it in order to make it stick.

Teachers are enthusiastic and create environments where all children feel supported, encouraged and excited about their learning. Children encourage their peers and growth mindset approaches are used to ensure that all children are proud of their achievements. Teachers instil in all children that it's the learning and progress that takes place that we want to see. Teachers praise the progress children make and not their score. Children are encouraged to share tips and strategies on how they have learnt a tricky times table fact. Do they have a rhyme or a pattern that helps them? How could we help others?

<u>How a new times table is introduced.</u>
Let's look at the 6 times table. Teacher displays the 6 times table on the IWB.

Highlight with the children the facts they already know using their knowledge of commutative law. Cross these number facts out. Which number facts are easy facts to remember (e.g. 1 x 6 = 6, 10 x 6 = 60)? Cross these times tables out. Focus children's attention on the times table facts we are left with. These are the ones we need to learn. Write the associated division facts alongside each times table fact. Discuss the relationship between each times table and division fact. Discuss how we can use our times table knowledge to help us learn our division facts.

Explain to children that we are going to learn one fact at a time. One fact per day.

This times table fact is displayed in the classroom. It could also be sent home using Marvellous Me or as part of their home learning.

Children undertake a timed challenge at least once a day focused on the times table they are learning. Children undertake a 4-minute challenge at least once a day (twice a day if possible). Each challenge has 40 questions and children have an average of 6 seconds per question (as per Multiplication times table check). Children in year 1, work their way through Learn It challenges. Children in years 5 and 6 use worksheets on TT Rockstars to consolidate knowledge of times tables.

The times tables are displayed on the IWB as children complete the challenge. Children are encouraged to look at the IWB if they don't know a fact but teacher explains that if they know the fact or if they think they know the number fact then looking at the IWB will slow them down. At the end of the challenge, children self-mark their challenges and fill in any gaps. The times table fact is read out by the teacher and repeated by the class. For division facts teacher says '18 divided by 3. 6 threes are 18'. Each times table fact is read aloud by the teacher using a rhythmic pattern (e.g. 1 five is five, 2 fives are ten, 3 fives are fif-teen, 4 fives are twen-ty, 5 fives are twenty-five, 6 fives are thir-ty, 7 fives are thirty-five, 8 fives are forty, 9 fives are forty-five, 10 fives are fif-ty, 11 fives are fifty-five, 12 fives are six-ty). Once marked, all children write their name and score on a piece of paper (or post it note). Each child then turns this over and on the back they write one number fact they want to learn. Teacher uses this as AFL to assess which facts children are struggling with and collate each child's daily score. Adults in the room quiz children on their number fact throughout the day.

Simmering strategies used in maths.

- Continuous provision throughout the day – what time is it? How long until? Quick fire maths facts, daily 10 maths facts, times table facts during transition times.
- Spiral curriculum where key skills are revisited throughout the year.
- Use of Sizzling 6/Flashback/weekly workout challenges to revise key skills.
- Plenary after play or lunch can be utilised to recap what the children have learned that lesson.
- Recap the days learning at the end of the day. Children could help teacher create revision slides that are added to each day and referred back to when revising for assessment fortnights.
- Children complete their big picture at the end of the week and recap that week's learning.
- At the end of each strand/topic children complete a White Rose end of block assessment. Answers are shared and discussed as a class, children self-mark and any misconceptions remaining are re-taught prior to moving on to the next strand.

Calculations Policy

Calculation is taught using a CPA approach. Children are taught consistent written calculations methods which progress throughout the academy. Staff teach formal written methods as per the White Rose Calculations Policy.

Talk in Every Lesson

Spoken language is of paramount importance to children's understanding of maths and teachers use the Rising Stars Mathematical vocabulary book to plan the vocabulary they will be teaching the children each week/lesson.
At the beginning of the lesson the key vocabulary for the day is shared and explained to the children. This is displayed daily on the screens for that days learning and on the side of the interactive whiteboard and/or working wall and is referred to throughout the week. As the children's level of understanding deepens then the expected vocabulary changes and this higher level vocabulary is included. Children are encouraged to use the correct mathematical language when explaining their understanding and reasoning. The mathematical vocabulary used is progressive throughout our academy, built upon throughout each year and children are encouraged to use the correct mathematical vocabulary when explaining their reasoning. Teachers develop children's spoken language by modelling 'Maths talk' and develop their explanations and reasoning through the use of Blooms taxonomy.

Exploratory talk will be used in every lesson to engage with the learning objective. It will be used to strengthen and deepen children's understanding of their learning, enabling them to explore the knowledge before they present to the class or complete a written task.
Presentational talk tasks are used as an opportunity to assess children's understanding of the learning objective.

- Children will be given the opportunity to think for themselves for at least one minute (wait time) and then discuss with a talk partner before sharing their response with the class for any question that is posed.
- Children will be asked to feed ideas back to the class in a variety of ways in every lesson e.g. hands-up, whiteboard, thumbs-up. When sharing responses through a written form, a selection of pupils will be asked to also provide it verbally ("5, 4, 3, 2, 1, boards up." Teacher scans the responses provided. "Can someone tell me…?")
- Teachers will use partner or group talk as an opportunity to circulate the room and make a note of any misunderstandings revealed. They will then use the responses as anonymous examples later, asking the class to tell them why it is not accurate ("I noticed a few people saying… Can anyone explain why this cannot be true?").
- Teachers will plan for some 'open' questions in every lesson.
- Teachers will plan for some 'why' questions in every lesson and ask the children to explain their ideas to the class.
- Teachers will provide sentence/talk stems for questions posed to support children in structuring their response. Sentence/talk stems will be adapted based on the subject (drawing upon subject-specific language and sentence structures). NCETM sentence stems will be used when teaching key concepts in Number, Addition and Subtraction, Multiplication and Division and Fractions (see https://enigmamathshub.co.uk/primary-tfm-in-practice/ for an overview of the sentence stems for each topic).

- Teachers will introduce children to the vocabulary they will require for the objective at the beginning of every lesson.
- Teachers will always hold back on providing any of the correct answers to a question until a number of children have given their idea:
  - Student provides idea.
  - Teacher repeats their idea to them ("So you are saying/you think…") and then praises them for contributing and asks if any other students have an idea.

Mathematics Presentation Policy.

- Underline the last piece of work using a ruler
- Leave 1 square blank
- 1st line - Digit of the day (at least 3 times)
- 2nd line - Number of the day written in words (at least once)
- 3rd line - Roman numeral of the day (KS2) (at least 3 times) Y6 – date in Roman numerals
- 4th line - Number date
- 5th line – WALT (EYFS, KS1 and SEND children can have WALT printed off and glued in if appropriate).
- Date and WALT should be underlined with a ruler.
- Miss a line after WALT.
- 1 digit per square.
- All digits must be correctly formed and written neatly.

- All work completed in pencil.
- All lines drawn using rulers.
- If a mistake is made, draw one neat line through the mistake and start again. No rubbers unless drawings.
- Each calculation must be clearly numbered. Following the number use a bracket E.g. 4)
  One square must be left after each question number.
- Calculations should be laid out vertically down the page. The page can then be folded and children start their next calculation one square away from the fold.
- At least two squares must be left between each calculation.
- When using vertical layout, the answer should have ruler lines above and below an answer with the operation sign to the left in a separate square.
- Calculations involving decimals should see the decimal point written in the centre of the square between the squares used for the ones and tenths digits.
- Calculations which involve carrying should see the relevant digit written beneath the bottom line.
- Calculations which involve exchanging should see the digit remaining after exchange being written in the top left hand corner where the original digit appeared. This should be smaller than usual.
- All work should be neatly glued in (lined up with squares in books and not overhanging the edge of the page).
- Children RAG rate their learning by the WALT at the end of each lesson. This should be by colouring in one square or writing R, A or G in a square by the WALT.
- Mild, Hot and Spicy challenges should be written in as subheadings and underlined if recording work in books.
- Children should record their work directly in their books as much as possible. Not too many worksheets.
- Children should not write next to a glued in worksheet.

Assessment

- Every lesson children self-assess their progress against the WALT (see marking and feedback policy).
- Teachers record in their AFL books throughout the lesson and after the lesson to show children that are secure, children who need further support any whole class misconceptions that need to be addressed at the start of the next lesson or any individual misconceptions that require same-day intervention. Teachers can also note any presentation that needs to be addressed and what to praise the next lesson.
- At the start and end of a block/strand of work, children undertake the White Rose assessment for that block/strand to identify the gaps prior to teaching the block/strand and at the end of the block/strand to ensure that each child has secured the key learning objectives.
- Through quality first teaching staff use AFL and questioning to assess the children's learning within lessons.
- Children undertake a summative maths assessment during whole school assessment fortnights.
- Children undertake weekly mental maths tests (Woodlands' Weekly Workouts).
- Children undertake daily times tables challenges which are recorded by the teacher. At the end of each half term, children undertake a times table/addition and subtraction assessment.
- Once taught, children RAG rate their understanding of each target on their maths target sheet at the back of their books.
- Staff use all of this information in conjunction with our Maths targets on Classroom Monitor to arrive at a teacher assessed judgement. For more information on how we arrive at robust teacher assessed judgements for each child see our, 'Guidance on how to arrive at a teacher assessed judgement' document.

Learning walls

- Each week the key vocabulary for maths is displayed on the interactive whiteboard and working wall/side of IWB. This is taught and referred to during the week and children are praised for the correct use of key mathematical vocabulary.
- Our Learning Walls are part of our maths toolkit to help our children with their mathematical understanding. They are used in all parts of the lesson and are created through discussion with the class.
- Our learning walls are interactive. They support our children's learning, show the strategies learned in class, challenge children and provide children with the key vocabulary for the week.

Cross Curricular maths.

- Maths objectives such as statistics, space, position and time are taught across the curriculum through science, history/geography and PE or through the use of continuous provision.
- One Science lesson and one history/geography lesson each half term is dedicated to applying children's maths knowledge. These lessons are clearly identified in children's History/Geography and Science books by a 'Maths in Action' sticker in the children's books for that lessons learning.

Written feedback in maths

During the maths lesson

Number of the day/Date and WALT - Number of the day/date and WALT – teacher and TA/LSA to circulate, correcting any mistakes – intervene - model correct formation.

Sizzling six and reasoning challenge.

- Each question is discussed one by one.
- Methods and strategies are shared by the children and discussed.
- Teacher models the strategies discussed.
- Children self-mark in green pen.
- Children correct any mistakes and write what they did wrong or what they will make sure they don't do next time.

Vocabulary – when recorded in books teaching staff correct any spelling mistakes.

Teacher/TA/LSA circulate during the maths lesson, marking with the children. Giving immediate feedback to them. Addressing any mistakes/misconceptions, modelling examples and intervening when necessary.

Teacher utilises plenary and mini plenaries to discuss the questions together. The children can self-mark using green pen and correct their mistakes and methods. Teacher questions the children on how they have solved each calculation.

Following the lesson.
The teacher looks at each child's book and records who has exceeded and who needs additional support in their AFL book.
In the children's books the following is recorded:

	Speech bubble = discussion with teacher or as a group
	Arrow = do another one the same
	Thinking bubble = go on to the challenge
C	C = corrections – correct anything in pink

The challenges (thinking bubble) or questions (arrow) are displayed on the IWB for the children to complete at the start of the next lesson.
Teacher then marks with the children the arrow and thinking bubbles so all children are then exposed to these even if it wasn't their challenge.

How we support children with SEND?

SEND pupils are supported in their learning through a variety of strategies some of these are outlined in the table below.

Universal strategies and approaches (Band 0)
Working wall Worked examples on working walls Vocabulary shared and explained every lesson Manipulatives used to support teaching and learning CPA approach used across the academy Revision of previous learning (slingshot approach) Learning presented in small steps Clear modelling by teacher Rosenshine Principles followed Staggered input (my turn – heavily modelled, ping pong – children tell teacher what to do, your turn – children complete an example on their whiteboards or in their books) Sizzling 6 twice weekly to keep key calculation strategies simmering Whiteboard work Directed and differentiated questioning Partner talk Collaborative learning Mixed ability groupings Peer support Rolling numbers starter to keep counting/multiplication skills simmering Mastery learning

Problem solving and reasoning a part of each lesson
Continuous provision slide – keep other areas of maths simmering
Paper on flipchart to match children's books (squares/ lines)
5 lessons per week
Maths consistency screens used when planning - familiar predictable routine within lessons
Sharing the WALT for each section of the lesson
Mini plenaries
Roman numerals daily in KS2
Number written in words daily

EYFS
NCETM Mastering number programme
Small adult led focus group
Targeted maths learning labs linked to current learning and previous learning (simmering skills)
Daily calendar session – focus on number, months/days, patterns, seasons and counting
Vocabulary shared and explained every lesson
Manipulatives used to support teaching and learning
CPA approach used across the academy
Revision of previous learning (slingshot approach)
Learning presented in small steps
Clear modelling by teacher
Rosenshine Principles followed
Partner talk
Collaborative learning
Mixed ability groupings
Peer support

Cognition and Learning	Communication and interaction	Social, emotional mental health	Sensory and Physical
-CPA approach -BAD learning tasks -Deliberate mistakes for children to correct - Provide equipment checklists for new equipment only. - Access to apparatus. - Daily arithmetic practise (Sizzling Six). - Daily number formation practise. - Revision of previous learning daily – sling-shot approach. - Times table Rockstars – daily times-table revision or calculation strategy teaching - Weekly workout – revisit last week's learning, two week's learning, month's learning. - Rehearse new skill using a whiteboard.	- Partner talk. - Key vocabulary shared and discussed. - Working wall posters. - Pictorial representation - maths rhymes - Makaton signs for good looking, good listening and good sitting - Sentence stems - Key vocabulary shared and explained - My Turn, Your turn	- Opportunities to work with a partner/group. - Pupil voice. - Rehearse new skill using a whiteboard. - use of class rewards (rainbow, housepoints etc) to reward in the moment - circle time -collaborative learning - deliberate mistakes made by teacher which show that mistakes can help us learn -praise the process or explanation, not the outcome – It's not what your answer is, I want to know how you got there. - Use of growth mindset within lessons -problem solving approaches – not quick answers – praise resilience	- Access to apparatus. - Songs with actions –e.g. Rolling Numbers, number fun -physical movement - Pencil grips if needed - Writing slopes if needed

- Providing scaffolds – e.g. modelled question on the board. - Different levels of challenge available for all – mild, hot and spicy. - Self-marking – creating own models. - Feedback from the teacher – see marking policy. - Same day interventions			

Reasonable Adjustments (LA and Environmental SEND) (Band 1)			
Sentence stems Scaffolds used Longer use of manipulatives More apparatus or resources used – greater selection Pictorial representations used to help support learning Worked examples given to children Table mats (hundred square, times table facts, key vocab etc) Pre/post teaching Peer support Partner work Step by step instructions for the method/strategy regular feedback and check ins by the teacher/Teaching assistant Additional reinforcement/further modelled examples larger squares Slower pace of learning – more steps Differentiated language			
Cognition and Learning	Communication and interaction	Social, emotional mental health	Sensory and Physical
- Provide equipment checklists. - Pre-teaching sessions/interventions. - Third Space -more intensive modelling -demonstrations	- Sentence stems. - partner talk - peer support - word banks	-task slicing to break up tasks - reward charts -growth mind set visual supports	-Longer use of manipulatives -More/less apparatus or resources used – greater selection -Pictorial representations used to help support learning -larger squares - use of scribing by an adult or peer - questions written out for children

SEND School Based Support (Band 2-3)			
Small group work with teaching assistant Differentiated home learning Personalised scaffolds provided Further additional resources provided Differentiated sizzling 6 Coloured paper/squares Use of brain breaks Use of task slicing Seating plan Additional time for tasks			
Cognition and Learning	Communication and interaction	Social, emotional mental health	Sensory and Physical
- Scribing - Plus one intervention - Differentiated home learning -personalised scaffolds - Precision teaching when needed ILP targets linked to need	-sentence stems used -word banks provided with key words for the lesson - Makaton signs for good looking, good listening and good sitting - Instructions repeated - Visual timetable	- Support from TA/LSA – small focus group - SEND nurture group. - Differentiated home learning – pitched so that some answers will always be correct to build confidence. -brain breaks - Sand timer to display the length of each section within the lessons	- Scribing - Different colour paper. - Large font. - Large squares. - Colour of the text used on teaching slides - Background colour for teaching slides -additional manipulatives used - ILP targets linked to maths learning covered at least twice a week – in a sensory way. - Fidget toys/ sensory toys to aid concentration - Wobble cushion - Weighted blankets

SEND EHCP (Band 4)

Personalised curriculums
Pre-teaching
1:1 support
Continued use of manipulatives/pictorial representations
Limit the range of strategies children are taught – narrow down to one that works for each calculation
Role play
Shorter activities
Smaller steps
Repetition of learning – key objectives are revisited often
narrowed down vocabulary
Daily calendar work (times of day, days/months, key events, seasons etc.)
1:1 or 1:2 reader
Coloured overlays
Enlarged font
Blown up worksheets, test papers etc.
Additional time for tasks
Different methods for approaching calculations

Cognition and Learning	Communication and interaction	Social, emotional mental health	Sensory and Physical
- Scribing - Task slicing - 1:1 support	- Verbal reminders - Timers -Makaton language and symbols Visual timetable Now and next boards	- Identified key adult for one-to-one support. - personalised timetable	- Scribing - iPad provision - IDL programme - Environment lighting - sensory room provision