

Bierton CE Combined School and Nursery



Maths Policy

'Let your light shine before others, that they may see your good deeds and glorify your Father in heaven'

Matthew 5:16

Date: November 2023

Date of Review: October 2024

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Our Vision

At Bierton Church of England Combined School, we want to develop children as citizens who make a difference to themselves; their peers and their community. We are all different; we are all unique; we all have strengths. We want our children to find their light and let it shine; and let God and ourselves be proud of who they are.

'Let your light shine before others, that they may see your good deeds and glorify your Father in heaven'
Matthew 5:16

Rationale

Our policy is underpinned by the evidence of best practice from the Education Endowment Foundation and other expert organisations, including the National Centre for Excellence in Teaching Mathematics (NCETM).

The Education Endowment Foundation research shows that improving mathematics in the Early Years and Key Stage 1 involves:

- Developing practitioners' understanding of how children learn mathematics.
- Dedicating time for children to learn mathematics and integrating mathematics throughout the day.
- Using manipulatives and representations to develop understanding.
- Teaching building upon what children already know.
- Using high quality targeted support to help all children learn mathematics.

The Education Endowment Foundation research shows that improving mathematics in the Key Stage 2 involves:

- Using assessment to build on pupils' existing knowledge and understanding.
- Using manipulatives and representations.
- Teaching pupils strategies for solving problems.
- Enabling pupils to develop a rich network of mathematical knowledge.
- Developing pupils' independence and motivation.
- Using tasks and resources to challenge and support pupils' mathematics.
- Use structured interventions to provide additional support.

Key Principles

The NCETM have completed extensive research into the teaching for mastery and many of our key principles to learning are based on their guidance.

Teaching for Mastery: The Five Big Ideas:

At Bierton CE Combined School and Nursery, we follow a teaching for mastery (TfM) approach to mathematics. This is underpinned by five big ideas:

- Coherence
- Fluency
- Mathematical Thinking
- Representation and Structure
- Variation

The Essence of Mathematics Teaching for Mastery:

Underpinning principles:

Our aim is to incorporate the following underpinning principles within our daily maths sessions:

- Mathematics teaching for mastery assumes everyone can learn and enjoy mathematics.
- Mathematical learning behaviours are developed such that pupils focus and engage fully as learners who reason and seek to make connections.

- Teachers continually develop their specialist knowledge for teaching mathematics, working collaboratively to refine and improve their teaching.
- Curriculum design ensures a coherent and detailed sequence of essential content to support sustained progression over time.

Lesson design:

As a school, from Year 1 to Year 6 we follow *Maths No Problem*. The underpinning principles and guidance provided by *Maths No Problem* support the lesson design implemented throughout the school:

- Lesson design links to prior learning to ensure all can access the new learning and identifies carefully sequenced steps in progression to build secure understanding.
- Examples, representations and models are carefully selected to expose the structure of mathematical concepts and emphasise connections, enabling pupils to develop a deep knowledge of mathematics.
- Procedural fluency and conceptual understanding are developed in tandem because each supports the development of the other.
- It is recognised that practice is a vital part of learning, but the practice must be designed to both reinforce pupils' procedural fluency and develop their conceptual understanding.

In the classroom:

Combining the underpinning principles and the elements of lesson design result in the following approaches being implemented in the classroom:

- Pupils are taught through whole-class interactive teaching, enabling all to master the concepts necessary for the next part of the curriculum sequence.
- In a typical lesson, the teacher leads back and forth interaction, including questioning, short tasks, explanation, demonstration, and discussion, enabling pupils to think, reason and apply their knowledge to solve problems.
- Use of precise mathematical language enables all pupils to communicate their reasoning and thinking effectively.
- If a pupil fails to grasp a concept or procedure, this is identified quickly, and gaps in understanding are addressed systematically to prevent them falling behind.
- Significant time is spent developing deep understanding of the key ideas that are needed to underpin future learning.
- Key number facts are learnt to automaticity, and other key mathematical facts are learned deeply and practised regularly, to avoid cognitive overload in working memory and enable pupils to focus on new learning.

Curriculum Intent

It is our intent that our children develop physically, emotionally, socially, verbally and cognitively in an inclusive environment which values all cultures, communities and people. At the heart of our school are a set of core values, Love, Honesty, Co-operation, Responsibility and Respect. These values underpin everything that we do and provide the vehicle for delivering an ambitious and aspirational curriculum.

At Bierton, the maths curriculum has been designed with the children, the communities and the location in mind and considers the reflections of governors, teachers, parents and children. Our curriculum design is progressive, continuous and sequential and this is supported by the maths scheme we have chosen to adopt – *Maths No Problem*. Our sequential curriculum is designed to teach the children knowledge about the world and help them identify patterns, relationships and connections; subsequently, equipping them with the skills to apply their knowledge to new and unfamiliar contexts. We strive to support the development of independence, resilience and creative thinking of our pupils, preparing them for the next stage in their learning journey. We support children in building their self-esteem and confidence and allow them to realise their potential and 'find their light and let it shine', linked to our whole school vision.

Curriculum Implementation – How do we achieve this?

Implementation describes the way in which we deliver our curriculum each day. Our curriculum has been carefully designed to promote self-confidence and a positive attitude to learning in all children, regardless of their individual background. We have ensured it is progressive and caters for children from a variety of different starting points building upon what the children can already do and what they already know. Tailored and targeted support is put in place for those children who may need it and this is recognised and implemented as early as possible to ensure children make maximum progress.

The implementation of our maths curriculum is explained throughout this policy. It follows a clear pedagogy and regular training is provided to all classroom-based staff to ensure that they have the relevant subject knowledge and are confident to deliver and the support high quality teaching and learning across the curriculum. Throughout the year, subject leaders monitor the impact of their subject to ensure the intent and implementation – enables our children to ‘shine’.

Curriculum Impact – What difference does the curriculum make to our children?

At Berton CE Combined School and Nursery, pupils leave our setting with a secure understanding of the mathematical content taught and how this will support them in their next educational setting and throughout their life. In addition, we want them to apply their knowledge while having an awareness of how to be socially, morally, spiritually and culturally responsible; how to make positive contributions to the local community and how to endeavour to allow their light to shine and continue to shine brightly as they embark on their next journey. We aim for all of our children to leave Berton, respectful, responsible, ambitious and with a thirst for life and all it has to offer.

The impact of our maths curriculum is formatively assessed daily and summatively assessed throughout the year. End of year assessments are shared with the children’s next teacher and pupils’ achievements in statutory assessments (currently the multiplication check in Year 4 and SATs in Year 2 and Year 6) are also used to evaluate the impact of our curriculum. In addition, to assess and adapt our provision, we use reflections and feedback from: Governor visits and meetings; trips and visitors; pupil voice; and internal monitoring of teaching and learning.

Daily Maths Sessions in Key Stage 1 and Key Stage 2: *Maths No Problem*.

From Year 1 – Year 6, we follow *Maths No Problem*, an approach that is fully aligned with the 2014 English National Curriculum. It has been recommended by the DfE, with textbooks and workbooks that have been designed following decades of research to ensure deep, secure understanding of maths in learners of every attainment level. Children in these year groups, participate in an hour of mathematics each day; this is separated into two 30-minute sessions, which are separated by a 15-minute break.

Introduction to learning:

Every lesson will begin with a question (LQ) and throughout the lesson success criteria will be established with the children. All lessons will encourage children to consider the knowledge, skills and understanding that they are learning. We also want children to develop their understanding of the learning journey: identifying what they have learnt previously, how this will support their current learning and also contribute to their future learning.

Long Term Planning:

Each year group has a long-term maths plan based on the lessons provided by *Maths No Problems*. These lessons have been carefully sequenced to promote small steps in learning and enable children to build upon their existing knowledge and understanding both within a mathematical topic and across mathematical domains.

Daily Planning and Lesson Structure:

Each *Maths No Problem* lesson incorporates the five big ideas for teaching for mastery. There are several elements to a *Maths No Problem* lesson. Many of these elements will be present in every session, whereas others will be incorporated in some lessons.

➤ Exploration:

- The teacher presents the whole class with a problem to explore.
- It forms the central focus of the whole lesson and can be found in the Explore section of the lesson.
- The anchor task has been designed to motivate learning for the whole class.
- During this part of the lesson, learners work in groups exploring the task themselves, however they see fit, whether this is with concrete resources, modelling or different strategies etc.
- After teachers have presented the problem and set a time for exploration, their role is observation and assessment.
- They are giving their class independence to experiment.

➤ Structured discussion:

- Structured discussion usually comes after exploration.
- It can be found within the Master section of the lesson.
- This part of the lesson is a teacher-led whole class discussion.
- Targeted questions are used to draw out from the group, different methods to discuss and any misconceptions to rectify.
- The Master section of the lesson can provide some anticipated methods for solving the problem and teachers often use this to guide the discussion.
- Questioning will be based on: 'What are you doing in this strategy to solve the problem and why are you doing it?'

➤ Practice

- In the Maths — No Problem! programme there are two types of practice: guided and independent.
- Guided Practice can be found in the textbook and in the main lesson input.
- Learners can work through the questions in pairs.
- Independent Practice is in each child's personal workbook.
- They are encouraged to attempt these by themselves.
- Both sets of questions have been designed to incorporate with variation, so learners can develop a deeper understanding of the topic as they work through the exercises.
- During both types of practice, the teacher will be observing.
- Adults within the classroom will provide guidance and support when necessary.
- If they notice a common misconception throughout the class, they could choose to close this section of the lesson with a plenary to immediately address it.

➤ Activity Times:

- These help learners explore mathematical concepts further through games and activities.

➤ Mind Workout:

- These are found at the end of each chapter (unit of learning).
- They encourage pupils to work on their greater depth thinking.

➤ Journalling:

- The aim of journalling is to give learners a question or task based on the lesson's problem.
- Examples include: creating a story for an equation, taking a Guided Practice question and explaining the calculation, picking one method for solving a problem and justifying why it is the most effective.
- It allows learners to explore new ideas and to create a completely personal journal entry, making it easier for teachers to assess which individuals have truly grasped the concept and who in the class is working at a greater depth.

- It also gives learners an opportunity to develop their communication skills by learning to articulate their ideas and explicate their mathematical thinking that surfaced during exploration. There are four types of journaling: descriptive, evaluative, creative and investigative.
- There is a Maths Journal idea at the end of each chapter.

➤ Chapter Review and Revision:

- At the end of each chapter, children independently complete a review.
- Their performance in this review is used to monitor their understanding and highlight the need for further intervention or support.
- Throughout the year, children will complete revision activities. These are also used to highlight any additional support that may be required.

Daily expectations within the classroom:

In addition to the above elements incorporated within the lesson structure, class teachers will consider additional support and challenge activities during the planning, teaching and assessment progress.

Vocabulary:

At Bierton CE Combined School, we promote the correct use of mathematical vocabulary. This involves adults modelling, explaining and encouraging the use of mathematical terms. Within each *Maths No Problem* lesson, key vocabulary and stem sentences will be displayed and shared with the children. Adults will model and promote the correct use of mathematical vocabulary, stem sentences and generalisations.

Concrete-Pictorial-Abstract Approach:

Our maths lessons utilise the concrete-pictorial-abstract (CPA) approach because children can find maths challenging if it is just presented in an abstract form. The CPA approach builds on children's existing knowledge by introducing abstract concepts in a concrete and tangible way. It involves moving from concrete materials, to pictorial representations, to abstract symbols and problems.

➤ Concrete step of CPA

Concrete is the "doing" stage. During this stage, students use concrete objects to model problems. Unlike traditional maths teaching methods where teachers demonstrate how to solve a problem, the CPA approach brings concepts to life by allowing children to experience and handle physical (concrete) objects. With the CPA framework, abstract concepts are first introduced using physical, interactive concrete materials.

➤ Pictorial step of CPA

Pictorial is the "seeing" stage. Visual representations of concrete objects are used to model problems. This stage encourages children to make a mental connection between the physical object they just handled and the abstract pictures, diagrams or models that represent the objects from the problem. Building or drawing a model makes it easier for children to grasp difficult abstract concepts (for example, fractions). It helps students visualise abstract problems and make them more accessible.

➤ Abstract step of CPA

Abstract is the "symbolic" stage, where children use abstract symbols to model problems. Students will not progress to this stage until they have demonstrated that they have a solid understanding of the concrete and pictorial stages of the problem. The abstract stage involves the teacher introducing abstract concepts (for example, mathematical symbols). Children are introduced to the concept at a symbolic level, using only numbers, notation, and mathematical symbols (for example, +, −, ×, /) to indicate addition, multiplication or division.

Independence

We have a wealth of experience at Bierton: Teaching Staff; Learning Support Assistants and Trainee Teachers. It is important that all pupils, despite their educational need, work independently at regular points throughout the week. This will ensure that they do not become over-reliant on an adult's support.

Support and Scaffolding:

As most children experience the lesson through whole class teaching, support and scaffolding is personalised to each child. Prior to the lesson, teachers will consider possible misconceptions and subsequent support strategies they may implement within the session. As live feedback and marking is provided within the lesson, scaffolding and support will be provided in response to the needs of each child or group of children within the lesson. Support may be provided in many ways, including:

- additional use of manipulatives
- personalised modelling
- small group work or 1:1 discussion.

When an adult works with a child, all modelling must be in the pupil's book to demonstrate what support took place. If scaffolding or support has been given to the child, it will be referenced in their workbook or journal using the appropriate marking code (see marking and feedback).

White Space Days:

The number of specific *Maths No Problem* lessons provided is less than the number of available teaching days. This is to allow the inclusion of white space days. These can be used in different ways:

- Prior to the start of a lesson or unit to secure children's existing knowledge and understanding before introducing a new concept.
- After a specific lesson if many of the class have not grasped a secure understanding of the small step being taught.
- After completing the chapter review, a specific concept may be highlighted as a common area of development and therefore a white space day would be used to secure this understanding.

Challenges:

In accordance with the teaching for mastery approach, we use challenges to promote and support depth of learning. For each lesson, teachers ensure that there are challenges available for children. We believe all children should have the opportunity to achieve their potential. The challenges provided may incorporate: mini challenges, deeper thinking questions and tasks that support the development of children's reasoning and problem solving skills. Challenges are recorded in the child's maths journal.

Discussions and verbal feedback about learning:

Within maths lessons, discussions are encouraged and supported. In accordance with our school's approach to oracy, there are some strategies that can be used to support mathematical discussion within the classroom.

➤ Pupils' articulation of learning:

Children should be able to answer the following questions in lessons:

- What am I learning in this lesson?
- What skills or knowledge am I learning in this lesson?
- Why am I learning this (what is the final outcome) and how will it help me?
- How will I know that I have been successful in this learning?
- Where am I on the learning journey and how can I get to the next stage?

➤ Providing feedback to pupils

At Bierton CE Combined, we believe that pupils make the most gains in lessons when feedback is immediate and misconceptions are addressed at the point of learning. Therefore, we have adopted an 'In the Moment' feedback approach. Throughout independent learning stages of a lesson, the class teacher and learning support assistants will use their time to support and guide individuals or groups of pupils as errors occur or further challenge is required.

Rapid and responsive interventions may also be used and could be delivered by teachers or teaching assistants. These may take the form of a pre-teach, in-lesson intervention and/or a post-

lesson intervention. Marking may take place at this time too – showing the children the successes they have achieved and giving extra direction to support or extend learners.

➤ **Feedback strategies:**

Teachers will use a range of strategies within their class, e.g. Talk partners, no hands up, lollipop sticks, diagnostic questioning and 'Talk tactics' to ensure that all pupils are involved in the feedback process.

Talk Tactics:

- *Instigate* – Present an idea or open up a new line of enquiry
- *Probe* – Dig deeper, ask for evidence or justification of ideas
- *Challenge* – Disagree or present an alternative argument
- *Clarify* – Ask questions to make things clearer and check your understanding
- *Summarise* – Identify and recap the main ideas
- *Build* – Develop, add to or elaborate on an idea

Marking approach in daily maths sessions:

Maths No Problem Workbook:

- Within the lesson, adults or children can mark the pupil's work.
- After ten (or so) minutes independent work, teachers display the answers on the board for children to neatly self-mark the work they have completed so far.
- Teachers set expectations at the start of the year for how to tick their work neatly.
- Pupils tick correct answers and complete any corrections using green pen.
- At the end of the lesson, teachers display the rest of the answers and children complete their self-marking.
- Pupils write LP 1,2 or 3 next to the worksheet number.
- During the lessons, adults go around marking and addressing any misconceptions/ gaps in pupils' learning.
- Any modelling provided by an adult is modelled in the pupils' book and not on a whiteboard.
- The only expectation for teachers after the lesson is to complete the contents page (see Appendix 1).
- Where intervention is given by an adult, the following key needs to be marked next to the pupil's work.

Key	Reason
V	Verbal feedback was given
M	Manipulatives were used to support learning
C	Challenge given

Math's Journals Expectations

- Maths journals replace the need for whiteboards.
- Children write the short date and underline it.
- Children write the chapter (Ch) and lesson (L) under the short date.
- Any exploratory learning linked to the 'Explore' or 'Master' session of the lesson are recorded in their journals.
- When children complete the Guided Practice activity, they write GP before completing the questions.
- During the lesson, children (or an adult) mark their work within the lesson.

- If the work is not marked within the lesson, the class teacher needs to mark the work after the lesson.
- Where intervention is given by an adult, the same key as the workbook needs to be used.
- If a child has used less than half a page in the previous lesson, they will draw a line with a ruler across the page and then complete that day's work underneath.
- If there is less than half a page of space left, the child starts on a fresh new page.

Number formation:

- Children across the school use a consistent approach to number formation (see Appendix 2).
- Incorrect number formation will be picked up and addressed within the lesson.
- Adults model correct formation (and sizing) with an orange highlighter in pupils' books for the children to go over in pencil and then complete at least 3 further examples.
- In KS1 (and KS2 where needed), teachers need to have sayings/ number formation mats on pupil's tables.

Chapter Formative Assessments

- Each *Maths No Problem* unit has a chapter overview sheet (see Appendix 1)
- This overview sheet contains all of the learning focuses for the chapter and allows teachers to highlight the understanding of every child for each lesson.
- Each class will have a copy of these in their classroom.
- The chapter overview sheet should be completed during or after each session.
- Highlighting is used to indicate each child's understanding: pink – child has fully achieved the learning question; orange – child has partially achieved or achieved with support the learning question; green – child has not yet achieved the learning question; blue – child was absent during the lesson.
- Teachers use the outcome of each lesson to consider whether additional learning opportunities are required on a specific concept.

End of chapter reflections

- Each child will have a chapter reflection sheet stuck into their *Maths No Problem* workbook (see Appendix 3)
- At the end of each chapter, children independently complete a review which is marked by an adult (not self or peer marked).
- The children's score from their review will be recorded under the chapter title on the reflection sheet.
- Where applicable, the score will be split into 'number', 'word problems' and 'total'. This is to monitor the children's understanding in the different domains.
- Key observations or areas for development will be noted and used to inform future planning.

General marking guidance:

- Teachers mark using purple pen.
- HLTAs and learning support assistants mark using black pen.
- Children self or peer mark using green pen.
- At Bierton CE Combined School, all work will be marked, however, due to 'in the moment feedback' that has been given, there is no expectation for written feedback in books outside of the lesson.
- A lengthy next step is not necessary as misconceptions will be addressed during the lesson or in the next lesson.
- In addition, Dojo points, stickers and Headteacher awards should be rewarded where necessary to indicate who has worked extremely hard and has shown great progress within a lesson.

Daily Maths Sessions in Reception:

In EYFS, children will learn and develop in the classroom setting with both teaching and support from the adults. All children develop and learn at different rates, activities and group work are taught to reflect this. The children are provided with frequent and varied opportunities to build and apply their understanding using manipulatives, including small pebbles and tens frames for organising counting. Children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. Children will be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. In the EYFS setting the children are provided with rich opportunities for children to develop their reasoning skills across all areas through talking to adults and peers about what they notice and they are not afraid to make mistakes.

[Daily Fluency in Reception](#)

Within Reception, our school has also begun to implement the Mastering Number approach. This project aims to secure firm foundations in the development of good number sense for all children from Reception. The aim over time is that children will leave Reception with confidence and flexibility with number. This will instil children with a secure understanding of key knowledge in Reception and progression through Key Stage 1 aims to support success with their future mathematics.

All of our mathematics teaching and learning focuses on carefully planned and structured small steps. This provides both the necessary scaffold for all to achieve, and the necessary detail and rigour of all aspects of the maths to facilitate deep thinking. The small steps are connected and concepts are built. This leads to generalisation of the maths, and the ability to apply it to multiple contexts and solve problems. Fluency sessions are taught 4 days a week; with shape, space and measure being taught through continuous provision activities and separate lessons.

Daily Fluency Sessions:

[Daily Fluency Sessions in Key Stage 1:](#)

Within Key Stage 1, we implement the Mastering Number approach. This project aims to secure firm foundations in the development of good number sense for all children from Reception through to Year 1 and Year 2. The aim over time is that children will leave Key Stage 1 with fluency in calculation and a confidence and flexibility with number. Instilling children with a secure understanding of key knowledge in Reception and progression through Key Stage 1 aims to support success with their future mathematics.

All of our mathematics teaching and learning focuses on carefully planned and structured small steps. This provides both the necessary scaffold for all to achieve, and the necessary detail and rigour of all aspects of the maths to facilitate deep thinking. The small steps are connected and concepts are built. This leads to generalisation of the maths, and the ability to apply it to multiple contexts and solve problems.

➤ [Autumn Term:](#)

In the Autumn Term, children in Key Stage 1 complete four Mastering Number sessions per week. The fifth fluency session is used for 'call and response'. These sessions provide opportunities to practise, recite and secure generalisations about the composition of number.

➤ [Spring and Summer Term:](#)

In the Spring and Summer Term, children in Key Stage 1 complete four Mastering Number sessions per week. The fifth fluency session alternate on a fortnightly basis: 'call and response' will continue during week 1 and time tables will be taught during week 2.

[Daily Fluency Sessions in Key Stage 2:](#)

All children in Key Stage 2 participate in a daily fluency session.

Children in Year 3 continue to consolidate their understanding of additive reasoning and then begin to learn the multiplication and division facts for the 3-, 4- and 8-times table. This follows a small step approach and guides children in making connections between the facts they already know and the ones they are learning.

Children in Year 4 and Year 5 are following the Mastering Number at Key Stage 2 approach, which focuses on multiplicative reasoning.

Children in Year 6 use their fluency sessions to secure and consolidate fundamental mathematics facts that will be used during their daily maths sessions, as well as their future education and later life.

In response to the needs of the children, the fluency sessions provided in each class may vary according to priorities.

Achievement for All:

As a school, we strive to be proactive rather than reactive and want to support all children in 'keeping up' rather than 'catching up'. Consequently, we invite children to participate in pre-teaching activities at the start of the day. These sessions are used to prepare children for the daily maths concept, with the ambition that by the end of the lesson all children will have grasped the lesson content. It is expected that those children who will achieve well on a particular topic may not necessarily be the same children who achieved well on other topics. Our experience shows that it is not always the same pupils who require pre-teaching intervention and therefore different children may participate in different pre-teaching focus groups. This boosts the self-belief of previously low-attaining pupils

We understand that there may be a small number of children who may require alternative provision due to specific educational needs. These children may follow an adapted maths curriculum, which still follows the small steps approach. In order to support our children, we are collaborating with local schools to ensure they receive the best provision.

As a school, we also want to support our children's transition from Year 6 to their secondary setting, we have started to collaborate with local secondary schools to aid a smooth transition.

Daily Pre-Teaching Interventions:

Within our school we use daily pre-teaching maths interventions as our aim is for children to 'keep up' rather than 'catch-up'. The daily pre-teaching interventions occur in Year 1 – Year 6, consists of 30 minutes directed teaching which is delivered by a class teacher.

Teachers and subject leaders use analysis of formative and summative assessments (including chapter reviews and *Insights* assessments) to identify children who would benefit from this provision.

Each pre-teaching cycle occurs over a half term. Children complete a baseline assessment at the start and the end of the cycle and this is used to monitor the children's progress and the impact of the intervention. The importance of pre-teaching is shared with parents so they know why their child has been selected and the anticipated benefits of daily attendance and participation.

Summative Assessment in Maths:

Topic reviews:

At the end of each *Maths No Problem* unit, children independently complete a review based on the previous topic. Teachers use this information to inform future planning and support. Further information about this can be found in the 'End of Chapter reflections' section of this policy.

Assessments throughout the year:

➤ **Year 1 – Year 5**

Children in Year 1 – Year 5 complete assessments linked to *Maths No Problem*. Three assessments are completed throughout the year:

- September: Baseline assessment
- Spring Term 1: Assessment A
- Summer Term 2: Assessment B

Each of the assessments contains two different papers and includes arithmetic style questions, as well as worded, contextualised and reasoning and problem solving questions.

Once children have completed these assessments, their answers are entered into *Insights* – an assessment tool provided by *Maths No Problem*.

Teachers and subject leaders analyse the results and use the information to inform future planning and provision.

➤ [Year 6](#)

Children in Year 6 complete three assessments throughout the year. In order to familiarise the children with the end of Key Stage 2 statutory assessments, the children complete papers from previous years. These consist of:

- Paper 1: Arithmetic
- Paper 2: Reasoning
- Paper 3: Reasoning

Teachers and subject leaders analyse the results and use the information to inform future planning and provision.

Fluency assessments

➤ [Reception and Key Stage 1: Mastering Number \(additive reasoning\)](#)

In order to monitor the children's progress and the impact of Mastering Number, all children in Reception and Key Stage 1 will complete short assessment tasks based on the concepts covered throughout the year. These assessments will remain the same throughout the year (in order to record progress) and will occur:

- Start of Autumn Term
- Start of Spring Term
- End of Summer Term

➤ [Year 3 Times Tables:](#)

Each half term, children will complete times table test. This is a 96-question paper-based activity and is completed over 10 minutes. This is used to identify and monitor their recall of times table facts up to 12 x 12. Although not all of these facts are a focus in Year 3, the children are exposed to them in preparation for the statutory multiplication check in Year 4.

➤ [Year 4 and 5: Mastering Number at Key Stage 2 \(multiplicative reasoning\)](#)

Each half term, children will complete a times table test based on the Mastering Number at Key Stage 2 approach. This involves 10 multiplication questions and the children have 6-seconds per questions to record their response. This is to help prepare for the statutory multiplication check in Year 4. In Year 5, the same approach is used to ensure children are maintaining their fluency and recall.

➤ [Year 6: Arithmetic](#)

In Year 6, children independently complete a weekly 'Big Maths, Beat That' quiz. This is to help their recall and application of a range of number facts and arithmetic methods. The children progress throughout the different levels based on their current level ability. They also complete a weekly arithmetic task which is used to monitor their progress and attainment.

Appendix 1



Bierton CE Combined School

Maths No Problem: Chapter Formative Assessment

Key:	Child has achieved the LQ	Child has partially achieved the LQ (this may be with support)	Child has not met the LQ	Child was absent
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Key Lesson	Combined	Integrated	Independent	Non-Statutory	If time allows
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Remember to add the date(s) of each lesson to this overview document.

Class: Hazel	Textbook: 3A	Chapter: 1 - Numbers to 1000
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Lesson 1	• count in hundreds to 1000.	Lesson 6	a) find 10 more than a given number using number patterns. b) find 10 less than a given number using number patterns.
Lesson 2	• count in hundreds, tens and ones.	Lesson 7	a) find 100 more than a given number using number patterns. b) find 100 less than a given number using number patterns.
Lesson 3	• recognise the place value of each digit in a 3-digit number (hundreds, tens, ones).	Lesson 8	a) count in fours. b) count in eights.
Lesson 4	• compare and order numbers up to 1000.	Lesson 9	a) Review (29 questions) b) Mind Challenge (Workbook) c) Mind Challenge (Textbook) d) Maths Journal (Textbook)
Lesson 5	• count from 0 in multiples of 50.		


	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6	Lesson 7	Lesson 8	Lesson 9

Appendix 2



zero

Make a loop, just like so,
Now you've made a 0.



one

Straight line down and then
you're done! 1 is fun.



two

Half a heart will never do,
Slide to the right, make a 2.




three

Around the tree, around the tree,
That's the way to make a 3.



four

Down and across, down some more,
That's the way to make a 4.



five

First of all, make five's back.
Then make his round tummy
and add his hat.




six

Make a 'C' then in you go,
Now you've made a 6, you know.




seven

Across the sky, down from heaven,
Now you've made a 7.



eight

Make an 's', then shut the gate,
That's the way to make an 8.



nine

Circle and line,
That's the way to make a 9!

Appendix 3



Bierton CE Combined School
Maths No Problem
Personal Reflection



Name:	Class:	Textbook: 1A
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Chapter 1: Numbers to 10				
Review (Pages 20 - 24)				
	Number	Word	Total	Notes:
Number of questions:				
Score:				

Chapter 2: Number bonds				
Review (Page 30)				
	Number	Word	Total	Notes:
Number of questions:				
Score:				

Chapter 3: Addition within 10				
Review (Pages 48 - 52)				
	Number	Word	Total	Notes:
Number of questions:				
Score:				