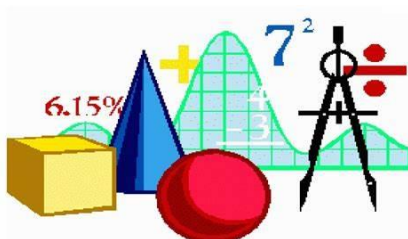


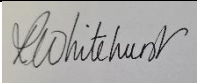


Annie Lennard Primary School

Mathematics Policy - Draft



Review annually to see if this document has been updated, sign and date when review has been undertaken.

Date of review:	Signed – Maths Lead	Date of review:	Signed – Maths Lead
24/3/2020	Rebecca Whitehurst		
July 2021			
September 2022			

INTRODUCTION

This policy reflects the school's values and philosophy in relation to the teaching and learning of maths. It sets a framework within the teaching and non-teaching staff can operate. This policy should be read in conjunction with the National Curriculum 2014 plus the corresponding section on Mathematics within the Foundation Stage Documentation.

Aims from National Curriculum 2014

The national curriculum for mathematics aims to ensure that all pupils:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

THE CONTEXT OF OUR SCHOOL

Annie Lennard is a one form entry primary school situated in Smethwick in Sandwell, welcoming approximately 230 children aged 3 to 11. Our proportion of disadvantaged pupils is above the national average. Our proportion of pupils with SEND is above the National average. The number of pupils with an education, health and care plan is slightly above the national average. We are currently under our school attendance target of 97% with persists absenteeism the biggest contributor to this. It is essential that our approach to teaching Mathematics is accessible to all learners, regardless of background.

INTENT and VISION

At Annie Lennard Primary School, we feel maths is something that EVERYONE can achieve in. A positive approach to nurturing maths is expected from all stakeholders in order to develop a 'can do' attitude towards maths from all pupils.

We believe it is important to approach maths with small steps, with a Mastery approach, exploring the underpinning principles of mathematic concepts in order to build on them as pupils move through their schooling.

Using a Mastery approach, it is our intent that to:

- develop a growth mind set approach to and a 'can do' attitude towards mathematics.
- develop an understanding that maths is part of our everyday lives.
- encourage the development of skills and concepts which can be applied in a variety of situations, including practical problem solving.
- develop a rapid recall of number facts essential to further arithmetical fluency and automaticity.
- incorporate effective oracy and mental arithmetic work wherever possible, thus providing pupils with the opportunity to discuss number and calculating strategies.
- develop, where appropriate, effective written calculation methods that can be applied to children's work. (See calculation policy for further information.)
- allow children to be aware of and involved in their own mathematical learning.
- develop a clear understanding of the ways in which information is gathered through calculating, counting and measuring, and can be presented in graphs, diagrams, charts and tables.
- promote mixed ability learning in mathematics lessons in order for pupils to deepen their understanding of concepts together.
- provide appropriate challenges for pupils accessing AREs, to deepen their understanding and think more widely around a concept rather than moving on to the next year's work.
- provide pupils access to a variety of concrete manipulatives, diagrammatical and pictorial representations as well as more abstract methodologies to solve mathematic problems.
- develop pupil's confidence to reason logically, in oral and written formats, around a problem or concept using technical and other key vocabulary.

IMPLEMENTATION

In EYFS, short Maths sessions are taught daily (x4 daily session in Nursery) and one day each week is dedicated to the Maths focus teaching in both Foundation classes. Foundation stage children will receive Maths teaching through integrated mathematical activities and transition into a more formal setting will occur during the first term in Year 1.

In Key Stage 1 and 2, daily maths lessons are taught (with the exception of timetabling differences during transition periods in year 1) via a Mastery approach whereby all pupils are exposed to Age Related Expectations (AREs) and opportunities are given to explore these using concrete, pictorial and abstract representations. Discrete regular mental arithmetic sessions will occur across the weekly timetable with a minimum of two sessions weekly. The number of sessions will depend on the individual year groups.

Opportunities are provided, whenever appropriate, to use and apply maths in other curriculum subjects, e.g. science, design and technology, etc

All pupils will be exposed to AREs during their maths lessons. For higher attaining pupils, opportunities to deepen their understanding will be provided rather than providing work for the next year group. We value the depth and breadth of understanding for every child. Lessons will provide work which is increasingly challenging throughout catering for a wide range of abilities within the class.

SCHEMES OF WORK

White Rose Maths

As a school, we have decided to follow the White Rose Maths (WRM) Schemes of Work as they follow small achievable steps for the children to progress. With consistency and staff wellbeing in mind, we subscribe to the premium service which provides a variety of support, CPD and resources which allow for teachers and support staff to deliver the maths curriculum in the small steps required. These resources include:

- Scheme of Work for each unit
- Scheme of work guidance for each step
- Reasoning and Problem-solving slides for the whole scheme of work
- End of block assessment papers with answers
- Topic based CPD for each unit of work – all staff have access to this and are expected to watch them prior to teaching each unit of work.
- Videos of the teaching slides being taught by maths specialists at WRM for each step
- Teaching slides in Power point format
- True or False questions
- Pupil questions in 3 formats – slides, screen display and sheet – with increasing difficulty
- Answers to the pupil questions

The WRM scheme of work is followed from Reception through to year 6. Nursery follow a broad structure based on the WRM Reception Scheme to ensure consistency throughout. Steps in WRM show a progression through the learning journey and each step does not necessarily mean one lesson. Teachers at Annie Lennard Primary use their professional knowledge of the cohort and

their prior attainment they are teaching to move on when they believe the children have achieved the step or take more than one lesson if required for a step to be understood.

Some concepts may need more than one lesson. However, some pupils may have grasped the learning point already. If this is the case, we do not make those that did understand sit through another lesson. They are given the opportunity to dive deeper into the concept. Additional PSR opportunities are be given to these children. This could be in the format of an investigation for the children to work on and apply their understanding deeper on the same learning point.

WRM is the primary scheme of work we use for teaching maths. Where additional lesson or activities are required for deeper understanding or further teaching, we also have subscriptions/access to the following sources:

- NRICH - [NRICH - Mathematics Resources for Teachers, Parents and Students to Enrich Learning \(maths.org\)](https://nrich.maths.org/)
- NCETM - [Home | NCETM](https://www.ncetm.org.uk/)
- Twinkl - [Primary Resources - KS2, KS1, Early Years \(EYFS\) KS3, KS4, Twinkl](https://www.twinkl.co.uk/resources/primary)
- Classroom Secrets - [Primary Teaching Resources and Worksheets | Primary Teaching Resources and Worksheets \(classroomsecrets.co.uk\)](https://www.classroomsecrets.co.uk/)

MENTAL ARITHMETIC AND RAPID RECALL

Mental Maths sessions should be separate to the maths lesson but can be adjacent to it if needed. They cover instant recall facts for the four main operations initially and build in arithmetic for other areas - fractions, time, etc - when appropriate. Mental Arithmetic can be paper based work or oral work – at the discretion of the teacher – but any tests or quizzes need to be in the main Maths books.

Supporting software

As a school, we subscribe to Times Tables Rock Stars (TTRS) and NUMBOTS to support instant recall facts for the four operations. NUMBOTS is to support addition and subtraction initially and is used by Year 1 and 2 mainly although older pupils can access it using their TTRS log in details.

TTRS is introduced from year 2 upwards (year 2 from Spring term). Children are assessed termly for their facts in TTRS to track their recall of multiplications in preparation for the MTC in Year 4. (See instructions for TTRS tracking for further details.)

Both NUMBOTS and TTRS can be accessed at home by children safely to practise their recall skills.

KIRFs – Key Instant Recall Facts

KIRFS are practised in year 1 and year 2 during arithmetic/mental maths sessions - see grid for y1 and y2 facts. (See Appendix 4) These facts should be displayed on the working walls. If KIRFS are not complete by end of y2, they will need to be continued into KS2 as an intervention until they are complete fluently or built into the Mental maths sessions.

Multiplication Tables

Times tables are tested weekly in y2 (from spring term), y3 and y4 and main foci to be as follows:

- Y2 - x2, x5, x10
- Y3 - x4, x8, x3, x6 (x6 is year 4 target focus but links to x3 as doubling, can also take strain off y4)
- Y4 - x7, x9, x11, x12

The times table tests are evidenced in the main Maths books. A sub heading is to be written prior to the test.

If children in UKS2 have gaps in their times tables, they need to be on a weekly tested intervention for them.

MATHS LESSONS

EYFS

The maths sessions and lessons will be taught in line with the foundation stage ethos and structures. Continuous provision, daily short sessions and weekly focus sessions are provided for all pupils.

KS1 and KS2

For all lessons to be effective, they will be well structured and balanced with teachers having clear understanding of what the children know as well as clearly defined objectives for the work to be taught. Problem solving and reasoning should be present in all maths lessons in order to support the underpinning concepts being taught and their purpose.

Most children are positioned in mixed ability seating arrangements. This may not always be appropriate for some pupils in each cohort but these children will be given mixed ability seating opportunities where it is appropriate to them.

The structure of the Maths lesson is consistent across the year groups 1-6 as follows (further guidance can be found in Appendix 1):

1. **Flashback 4 from WRM.** (5minutes) to complete these then self-mark - answers are available on PPT. These recap on prior learning in a cyclical way. Quick questions covering something from the previous lesson, last week and then topics from earlier in the year.
2. **Anchor task** - (5 minutes) The point of this is to introduce the children to PSR for the learning to come. It can also assess how well children already know the topic and can provide assessment for which children need more challenge during the lesson.
3. **Vocabulary** - All vocabulary for the lesson should be shared with the children and understood the meanings of it thus reducing the negative impact of ambiguous words EG. 'table' could mean a piece of furniture or a grid etc

4. **Share** - this is the direct teaching section at the initial part of the lesson and sharing of the WALT. There may be more than one 'Share' section in a lesson depending on the steps involved in the learning point.
5. **Practise** - this is a task which follows the direct teaching of a skill. It could be 1 or 2 questions for the children to complete in books to 'try out' the new learning in a fluency format to practise the new method or concept. There is always a Deep Diver Challenge (DDC) for those children who complete the basic tasks quickly.
6. **Independent** - This section follows the Share and Practise and is where the children will work on a carefully selected set of questions – usually independently. These questions will be chosen from the WRM questions (or supplemented by Twinkl/Classroom secrets/NCETM/NRICH) to progress in difficulty throughout. These questions should contain problem solving and reasoning opportunities for ALL the children in EVERY LESSON. The challenge comes with the increased difficulty of the questions, plus the opportunities to additionally provide explanations, representations in various ways, writing a similar question to demonstrate a deeper understanding of the concept behind the original question, asking a question about the original question Eg, what if x/y/z changes etc, etc - see the model strip on the PPT example format. A set time should be given and at the end of the section answers should be visited with the whole class for self or peer marking in appropriate pen colour.

There may be more than one share, practise and independent during the lesson where appropriate especially when building skills in mini steps during the lesson.

7. **Revisit Anchor task** - look back at the anchor task if not already solved.

It is a VERY PACY lesson structure and this needs to be upheld to get everything in the lesson. It may be that one step to take two lessons just as it is entirely acceptable for two steps to be covered in one lesson - it depends on the cohort and the prior attainment of the pupils.

MANIPULATIVES AND REPRESENTATIONS

The use of appropriate manipulatives, pictorial representations and abstract strategies are considered carefully, whilst adhering to the Calculation Policy, when teaching maths concepts. The calculation policy used by Annie Lennard Primary School has been adopted from the WRM Calculation Policy as it supports the progression through the scheme of work we are using.

All maths lessons allow pupils access to concrete manipulatives at all times to support and deepen their learning and understanding of new concepts. This may be that they have been provided by the teacher or they are easily accessible for the pupil to access when required.

All classes in KS1 and KS2 have a basic bank of manipulatives including the following:

- Place value counters (appropriate to their learning stage)
- Double sided counters
- Base ten ones, rods and hundreds (thousands where appropriate)

Additional resources are stored in classes dependent upon year group. Eg cubes in KS1. In EYFS, the resources are relevant to the provision being maintained on a regular basis.

There is a comprehensive bank of shared resources in the Hall for maths which staff can access to support the wider breadth of the mathematics curriculum, such as; money, time, measures etc.

Resources are monitored by and ordered via the Maths Lead. It is important that all materials and equipment are handled in an appropriate manner in order to maintain their quality. Any damaged equipment must be reported to the Maths Lead in order to replace or repair it. Any resource which becomes depleted must also be reported to the Maths Lead in order to replenish. A regular audit of resources will be carried out to identify current stock and equipment available for teaching purposes.

Jottings are used to show pictorial representations in the main Maths books and pupils should become confident in using a variety of representations as referenced in the calculation policy alongside the concrete and abstract representations.

ORACY & MATHEMATICAL TALK

The National Curriculum for Mathematics reflects the importance of spoken language in pupils' development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their mathematical vocabulary and presenting a mathematical justification, argument or proof.

Pupils must be assisted in making their thinking clear to themselves as well as others and teachers should ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions.

CALCULATION STRATEGIES

For more information, please see the Calculation Policy. As a school we have adopted the WRM Calculation Policy to work alongside the Scheme of Work.

PLANNING

Staff at Annie Lennard School plan on a long term, medium term and short-term basis.

Long term planning:

WRM blocking is used as the long-term planning at Annie Lennard Primary. (See Appendix 2) This outlines the blocks or units of work to be carried out at specific times of the academic year. Details of the LTP can be found on the WRM website directly.

Medium Term planning

Medium term planning, for all year groups and phases, is carried out half termly or termly and outlines the objectives from the National Curriculum/ Target Tracker to be taught alongside the WRM Small Steps. (Example can be seen in Appendix 3)

Short Term Planning

Short term planning is taken from the medium-term planning objectives and are for teachers to map out the lessons to be taught. Short-term planning will not be routinely monitored as it is to guide the teacher and support staff.

Maths Lead will monitor long term and medium-term plans to ensure coverage is effective.

INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

Calculators should not be used as a substitute for good written and mental arithmetic strategies. They should therefore only be introduced when appropriate to support pupils' conceptual understanding and exploration of more complex number problems, if written and mental arithmetic are secure.

Teachers should use their judgement about when ICT tools should be used. Staff have access to a variety of interactive teaching programmes and resources via annual subscriptions and applications stored on the school network. For further information please ask the Maths Lead.

IMPACT

ASSESSMENT

Informal Assessment

Assessment in maths will take place on a regular basis. Informal assessment which informs immediate planning/annotations is ongoing daily.

Formal Assessment

Formal assessment at Annie Lennard School takes place regularly. Assessments are used to track pupil progress against a unit of work or a set of skills. They include assessments for

- mental arithmetic – including KIRFS
- multiplication tables - including TTRS
- end of unit progress tests, etc.

In years 3 and 4, weekly times table tests are carried out to support success in the MTC taken in year 4.

Statutory Assessments

The Multiplication Tables Check (MTC), Key stage 1 SATs and Key Stage 2 SATs are carried out alongside the national guidance for them set out by the government.

EVIDENCE OF LEARNING AND DATA

Children in EYFS have their learning evidence collected on Tapestry. KS1 and KS2 collect evidence of learning in Maths books primarily and as Target Tracker observation entries as additional practical evidence. Where work can be seen on Target Tracker, a reference is placed in the main Maths book for continuity of learning.

Data is collected every half term using Target Tracker. This is monitored by SLT and the Maths Lead.

MONITORING

Monitoring will take place in the form of data scrutiny, learning walks and book looks. This will take place in accordance with the Whole School agenda for monitoring. Written and/or verbal feedback will be given to individual teaching staff and will focus on affirming the good practise and area(s) for development.

Pupil Progress meetings will be scheduled half termly with SMT to discuss any pupils which may need interventions or require further challenge.

EQUAL OPPORTUNITIES, INCLUSION AND SPECIAL EDUCATIONAL NEEDS

All pupils are entitled to an equal opportunity to achieve progress in this curriculum area irrespective of ability, gender, ethnicity or special educational needs.

All pupils should access AREs where possible. However, for a minority of pupils, this is not always suitable for their learning. For these individuals the teacher must consider if there is an appropriate link to their pupil's IEP which can be linked to the whole class teaching. For example, if children in year 4 are learning about written methods with 3 digit numbers, a child working at year 1 level may not be able to access this. In cases like this, adapting the objective would be suitable. EG Main objective is 'to use written method to add two 3 digit numbers with no exchange' and the personalised objective may be 'to use written method to add two 2 digit numbers with no exchange'. With objectives such as this, the principles are the same and all can access them.

If appropriate, children will be withdrawn to work in small groups to follow intervention programmes and it may be appropriate to work with children from different classes.

For pupils with higher attainment, who need to be challenged further, planning will reflect provision of greater depth challenges which enable the pupils to broaden and deepen their understanding of their current AREs.

Individual Education Plans (IEP's) will be written for children displaying specific problems or difficulties with maths. These will be incorporated whenever possible on the weekly planning grids or in separate planning if appropriate. Interventions will be carried out in the even of particular children requiring them.

HEALTH & SAFETY

All activities including pupils, parents and staff are organised within the framework and guidelines of the school and LA's Health and Safety policy. Children will be taught the safe use of any tools and/or equipment that is used. Electrical equipment will always be used under supervision.

Appendix 1

Guidance on lesson structure for KS1 and KS2

1. Flashback 4 from WRM. (5minutes) to complete these then self mark - answers are available on PPT. These recap on prior learning in a cyclical way. Quick questions covering something from the previous lesson, last week and then topics from earlier in the year – sometimes even last year. THIS IS NOT TO BE USED FOR THE MENTAL ARITHMETIC SESSION. THIS IS A LINK TO THE LESSON AND A REVISIT (LIKE IN PHONICS SESSIONS)
2. Anchor task - (5 minutes) try the problem solving activities from WRM in the PSR slides or the scheme of work. Choose the tricky ones which can be solved by end of lesson and/or as an additional challenge for the GD pupils. The point of this is to introduce the children to PSR for the learning to come. it can also assess how well children already know the topic and can provide assessment for which children need more challenge during the lesson. Does not need to be worked through- at the beginning as it can be revisited based on what the children learn in the lesson to solve at the end. This can be individual work or paired work. It can be talk based and jottings/ideas/thoughts should be written in books.
3. Vocabulary – All vocabulary for the lesson should be shared with the children and understood the meanings of it. Remember the training about ambiguous words - table could mean a piece of furniture or a grid etc
4. Share (I do) - this is the direct teaching section at the initial part of the lesson and sharing of the WALT. Usually the first part of the WRM PPT (lets learn) links to prior knowledge being built upon and the first couple of questions on the WRM worksheets are good for this. These questions may often be the varied fluency questions. We will not use the Get ready as the Flashback 4 lends this purpose and provides the revisit and review we need. The Get Ready slides can be removed. If the WRM PPT is not suitable for the lesson, then alternatives can be used as long as the step is being taught and following the calculation policy. This may include a more practical approach led according to the children's needs and requirements.
5. Practise (We do) - this is a task which follows the direct teaching of a skill. it could be 1 or 2 questions for the children to complete in books to 'try out' the new learning in a fluency format to practise the new method or concept. The slides on the WRM PPT which state 'Have a think' are great for this as they build in a Q based on the previous learning point. Alternatively, practical practise tasks may be set to allow children to explore the concept being taught.
There must be a Deep diver challenge (his name is Danny Diver!) for those children who complete the basis tasks quickly. This could be an oral task or a task to explain a concept etc. Limited time appropriate to the task should be given but often only a couple of minutes. Whole class self-marking of the tasks will be done at this point.
6. Independent (You do) - This section follows the Share and Practise and is where the child will work on a carefully selected set of questions or tasks. These questions will be chosen from the WRM questions (or supplemented by Twinkl/Classroom secrets/NCETM/teacher constructed tasks where appropriate) to progress in difficulty throughout. These questions should contain problem solving and reasoning opportunities for ALL the children in EVERY LESSON. The challenge comes with the increased difficulty of the questions, plus the opportunities to additionally provide explanations, representations in various ways, writing a similar question to demonstrate a deeper understanding of the concept behind

40-45 minutes

the original question, asking a question about the original question Eg, what if $x/y/z$ changes etc, etc - see the model strip on the PPT example format. A set time should be given and at the end of the section answers should be visited with the whole class for self or peer marking in appropriate pen colour. During the section, Staff should be working with pupils who struggled in the practise sections and may need more targeted support with additional fluency before beginning the PSR independent Qs.

There may be more than one share, practise and independent during the lesson where appropriate especially when building skills in mini steps during the lesson.

7. **Revisit Anchor task** - look back at the anchor task if not already solved. Can we use what we have learned today to now solve the initial problem posed? Good opportunity for oracy and explanations using key vocabulary.

It is a VERY PACY lesson and this needs to be upheld to get everything in the lesson. It is entirely acceptable for one step to take two lessons just as it is entirely acceptable for two steps to be covered in one lesson - it depends on the cohort and the prior attainment of the pupils.

If you find that some get the concept but many do not and you have to continue the lesson, do not make those that did get it sit through another lesson. They must be given the opportunity to dive deeper into the concept.

Additional PSR opportunities should be given to these children. This could be in the format of an investigation (many can be found on Twinkl Diving into Mastery, Classroom Secrets, NCETM or NRICH) for the child to work on and apply their understanding deeper on the same WALT.

Under no circumstances should they be given more fluency, Target your Maths sections (carefully selected individual questions are permissible but not whole sections) or moved onto the next year group's work. Mastery involves Diving Deeper into the existing WALT. If you are not sure or want some ideas, please come to me for support. That's what I am here for.

Appendix 2

Long Term Planning

Early Years:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Getting to know you (Take this time to play and get to know the children!)			Just like me!			It's me 1, 2, 3!			Light & dark		
	VIEW			VIEW			VIEW			VIEW		
Spring term	Alive in 5!			Growing 6, 7, 8			Building 9 & 10			Consolidation		
	VIEW			VIEW			VIEW					
Summer term	To 20 and beyond			First, then, now			Find my pattern			On the move		
	VIEW			VIEW			VIEW			VIEW		

Year 1:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Number Place value (within 10) VIEW					Number Addition and subtraction (within 10) VIEW				Geometry Shape VIEW	Consolidation	
Spring term	Number Place value (within 20) VIEW		Number Addition and subtraction (within 20) VIEW		Number Place value (within 50) VIEW		Measurement Length and height VIEW	Measurement Mass and volume VIEW				
Summer term	Number Multiplication and division VIEW		Number Fractions VIEW		Geometry Position and direction VIEW	Number Place value (within 100) VIEW		Measurement Money VIEW	Measurement Time VIEW			Consolidation

Year 2:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Number Place value VIEW				Number Addition and subtraction VIEW				Geometry Shape VIEW			
Spring term	Measurement Money VIEW		Number Multiplication and division VIEW				Measurement Length and height VIEW		Measurement Mass, capacity and temperature VIEW			
Summer term	Number Fractions VIEW		Measurement Time VIEW		Statistics VIEW		Geometry Position and direction VIEW		Consolidation			

Year 3:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Number Place value VIEW			Number Addition and subtraction VIEW				Number Multiplication and division A VIEW				
Spring term	Number Multiplication and division B VIEW			Measurement Length and perimeter VIEW		Number Fractions A VIEW			Measurement Mass and capacity VIEW			
Summer term	Number Fractions B VIEW		Measurement Money VIEW		Measurement Time VIEW			Geometry Shape VIEW		Statistics VIEW		Consolidation

Year 4:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Number Place value VIEW			Number Addition and subtraction VIEW			Measurement Area VIEW	Number Multiplication and division VIEW			Consolidation	
Spring term	Number Multiplication and division VIEW			Measurement Length and perimeter VIEW		Number Fractions VIEW			Number Decimals VIEW			
Summer term	Number Decimals VIEW		Measurement Money VIEW		Measurement Time VIEW		Consolidation	Geometry Shape VIEW		Statistics VIEW	Geometry Position and direction VIEW	

Year 5:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Number Place value VIEW			Number Addition and subtraction VIEW		Number Multiplication and division A VIEW		Number Fractions A VIEW				
Spring term	Number Multiplication and division B VIEW			Number Fractions B VIEW		Number Decimals and percentages VIEW		Measurement Perimeter and area VIEW		Statistics VIEW		
Summer term	Geometry Shape VIEW			Geometry Position and direction VIEW		Number Decimals VIEW		Number Negative numbers VIEW	Measurement Converting units VIEW		Measurement Volume VIEW	

Year 6:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Number Place value VIEW		Number Addition, subtraction, multiplication and division VIEW				Number Fractions A VIEW		Number Fractions B VIEW		Measurement Converting units VIEW	
Spring term	Number Ratio VIEW	Number Algebra VIEW		Number Decimals VIEW		Number Fractions decimals and percentages VIEW		Measurement Area, perimeter and volume VIEW		Statistics VIEW		
Summer term	Geometry Shape VIEW		Geometry Position and direction VIEW		Themed projects, consolidation and problem solving							

Appendix 3

Medium Term Planning Format Sample

Blank format can be found on the shared One Drive. [Maths MTP format Sept 2022.docx](#)

Autumn Term – Year 3

Week number	WRM Block	Steps to be covered each week	Link to National Curriculum/ Target Tracker
1	Place Value	Step 1 Represent numbers to 100 Step 2 Partition numbers to 100 Step 3 Number line to 100 Step 4 Hundreds Step 5 Represent numbers to 1,000	• recognise the place value of each digit in a 3-digit number (hundreds, tens, ones) • Count from zero in multiples of 4, 8, 50 and 100- find 10 or 100 more or less than a given number • Identify, represent and estimate numbers using different representations • read and write numbers up to 1,000 in numerals and words • Read and write numbers up to 1,000 in numerals and words
2		Step 6 Partition numbers to 1,000 Step 7 Flexible partitioning of numbers to 1,000 Step 8 Hundreds, tens and ones Step 9 Find 1, 10 or 100 more or less Step 10 Number line to 1,000	• Read and write numbers up to 1,000 in numerals and in words • Recognise the place value of each digit in a 3-digit number (hundreds, tens, ones) • Count from zero in multiples of 4, 8, 50 and 100- find 10 or 100 more or less than a given number • Identify, represent and estimate numbers using different representations
3		Step 11 Estimate on a number line to 1,000 Step 12 Compare numbers to 1,000 Step 13 Order numbers to 1,000 Step 14 Count in 50s Plus End of Unit Assessment	• Count from zero in multiples of 4, 8, 50 and 100- find 10 or 100 more or less than a given number • Identify, represent and estimate numbers using different representations • Compare and order numbers up to 1,000
4	Addition and Subtraction		
5			
6			
7			
8			
9	Multiplication and Division		
10			
11			
12			

Progression of KIRFs

Adding 1 Bonds to 10 Adding 10 Bridging/compensating Y1 facts Adding 2 Adding 0 Doubles Near doubles Y2 facts											
+	0	1	2	3	4	5	6	7	8	9	10
0	0 + 0	0 + 1	0 + 2	0 + 3	0 + 4	0 + 5	0 + 6	0 + 7	0 + 8	0 + 9	0 + 10
1	1 + 0	1 + 1	1 + 2	1 + 3	1 + 4	1 + 5	1 + 6	1 + 7	1 + 8	1 + 9	1 + 10
2	2 + 0	2 + 1	2 + 2	2 + 3	2 + 4	2 + 5	2 + 6	2 + 7	2 + 8	2 + 9	2 + 10
3	3 + 0	3 + 1	3 + 2	3 + 3	3 + 4	3 + 5	3 + 6	3 + 7	3 + 8	3 + 9	3 + 10
4	4 + 0	4 + 1	4 + 2	4 + 3	4 + 4	4 + 5	4 + 6	4 + 7	4 + 8	4 + 9	4 + 10
5	5 + 0	5 + 1	5 + 2	5 + 3	5 + 4	5 + 5	5 + 6	5 + 7	5 + 8	5 + 9	5 + 10
6	6 + 0	6 + 1	6 + 2	6 + 3	6 + 4	6 + 5	6 + 6	6 + 7	6 + 8	6 + 9	6 + 10
7	7 + 0	7 + 1	7 + 2	7 + 3	7 + 4	7 + 5	7 + 6	7 + 7	7 + 8	7 + 9	7 + 10
8	8 + 0	8 + 1	8 + 2	8 + 3	8 + 4	8 + 5	8 + 6	8 + 7	8 + 8	8 + 9	8 + 10
9	9 + 0	9 + 1	9 + 2	9 + 3	9 + 4	9 + 5	9 + 6	9 + 7	9 + 8	9 + 9	9 + 10
10	10 + 0	10 + 1	10 + 2	10 + 3	10 + 4	10 + 5	10 + 6	10 + 7	10 + 8	10 + 9	10 + 10

A suggested progression for teaching addition facts

Group A: Year 1 (Within 10)

1. Adding 1 (e.g. $7 + 1$ and $1 + 7$)
2. Doubles of numbers to 5 (e.g. $4 + 4$)
3. Adding 2 (e.g. $4 + 2$ and $2 + 4$)
4. Number bonds to 10 (e.g. $8 + 2$ and $2 + 8$)
5. Adding 10 to a number (e.g. $5 + 10$ and $10 + 5$)
6. Adding 0 to a number (e.g. $3 + 0$ and $0 + 3$)
7. Near doubles (e.g. $3 + 4$ and $4 + 3$)
8. The ones without a family! $5 + 3$, $3 + 5$, $6 + 3$, $3 + 6$

Group B: Year 2 (Bridging 10)

9. Doubles of numbers to 10 (e.g. $7 + 7$)
10. Near doubles (e.g. $5 + 6$ and $6 + 5$)
11. Bridging (e.g. $8 + 4$ and $4 + 8$)
12. Compensating

Alongside

Partitioning 2, 3, 4, 5, 6 and 10

Partitioning 7, 8 and 9

Partitioning 11 – 20 into single digit addends