



William Barnes Primary School

Maths and Calculation Subject Statement

Excellent teaching gives children the life chances they deserve; children learn better when they are engaged with their learning and we endeavour to achieve this through high-quality teaching. Education is for all, not the few as all children have the right to be the best they can be. At William Barnes, we aspire to foster a love of learning alongside the development of the well-rounded child.

Preparing Children for Life

We believe that we are preparing children for successful futures. We aim for them to be independent thinkers, confident, interested learners and global citizens, equipped to live, work in and contribute to society.

At William Barnes Primary School, we believe that children deserve:

- A strong sense of belonging fostered through positive relationships;
- High-quality feedback that moves their learning forward;
- Appropriate support to overcome specific barriers that they may face.
- Routines that provide consistency and stability throughout the school day.
- Children are able to be curious about different areas of learning.
- Children are given the opportunity to experience the widest variety of the written and spoken word possible with a vocabulary rich curriculum and school experience.
- Academic and pastoral experiences serve to enhance

Knowledge and Skills

As a school, we believe in the equal relationship between knowledge and skills in our curriculum.

We believe that:

- Knowledge can be declarative (to know that) or procedural (to know how to).
- Both these forms are important and that declarative knowledge is turned into procedural knowledge through action and the act of practising and applying.
- Skills can be procedural knowledge as a result of the application of declarative knowledge.
- Skills can be linked to dispositions and behaviours.

In short, skills often procedural knowledge and are linked intrinsically to declarative knowledge.

We prefer to see the debate laid out as:

Knowledge → Comprehension → Application → Evaluation

Parents and carers

Evidence shows that *“Parental engagement has a positive impact on average of 4 months’ additional progress.”* (EEF) Parents and Carers are a vital part of the learning process at every step of a pupil’s journey through our school therefore we work together with families to support their children’s learning.

“For all children, the quality of the home learning environment is more important for intellectual and social development than parental occupation, education and income. What parents do is more important than who parents are.” (EPPE)



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Mathematics Intent

Introduction

The National Curriculum (2014) clearly states that the teaching of mathematics is an essential role of a Primary School. The programmes of study are designed to enable children to

1. become **fluent** in the **fundamentals of mathematics**
2. be able to **reason mathematically**
3. be able to **solve problems** by applying **their knowledge** of mathematics

The new Mathematics Programmes of study are organised into five domains – statistics begins in year 2 and algebra is added in year 6.

Early Learning Goals from the Early Years and Foundation Stage Profile – Specific area of learning	
Mathematics	
ELG11 – Number	ELG12 – Shape, space and measures
Domains of Learning within the Programmes of Study for Key Stage 1 and Key Stage 2	
Number <ul style="list-style-type: none"> Number and place value Addition and subtraction Multiplication and division Fractions 	Geometry <ul style="list-style-type: none"> Properties of shapes Position and direction
	Statistics – (not in year 1)
Measures	Algebra (year 6 only)

The curriculum is divided into 4 Stages; EYFS, Year 1 and 2, Year 3 and 4, and Year 5 and 6. Although the curriculum is ‘by necessity divided into distinct domains’ pupils are expected ‘to make rich connections across mathematical ideas’ to develop fluency, reasoning and problem solving.

In Early Years Foundation Stage (EYFS) the children learn mathematics through the characteristics of effective learning – playing and exploring, active learning and creating and thinking critically. Mathematics is a specific area of learning and has two Early Learning Goals (ELGs) – ELG11 – Numbers and ELG 12 Shape, space and measures.

By the end of each Key Stage, children should have moved through the curriculum at broadly the same pace. Decisions about when to progress onto new content ‘should always be based on the security of pupils’ understanding and their readiness to progress to the next stage. More able children should be challenged through ‘rich and sophisticated problems’ whilst those lacking fluency should ‘consolidate their learning through additional practice’ before moving on.

Why teach mathematics?



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- It is enjoyable.
- It is used to analyse and communicate information.
- It transcends cultural barriers.
- It teaches children skills for life.
- It helps us to understand the world.
- It crosses curriculum boundaries being used over a range of subjects.

The aims of mathematics at William Barnes

- To develop a positive attitude to numeracy by presenting it as an enjoyable, interesting and attractive subject.
- To develop children's confidence in their own ability to understand and tackle mathematical challenges.
- To develop their ability to think clearly and logically with independence of thought and flexibility of mind.
- To develop an understanding of mathematics through a process of enquiry and experiment.
- To make children aware of the uses of mathematics in everyday learning and in the world beyond the classroom.
- To encourage persistence through sustained learning in mathematics, that requires perseverance over a period of time.
- To encourage children to express their mathematical ideas both orally and in written form.

Current Practice

- All teachers and teaching assistants follow the **National Curriculum 2014**.
- **Long term planning** takes the form of the programmes of study for each year group in National Curriculum 2014 and outlined by **White Rose Maths**.
- **Long term planning** outlines the content to be covered in **number, measures, geometry and statistics**
- In **reception long term planning** is drawn from the **EYFS Statutory framework** and **White Rose Maths**.
- In **year 1** there is no **statistics** content, and in **year 6 Algebra** is added as a further area of learning.
- **Medium term planning** divides the learning objectives in the National Curriculum 2014 between six half terms and ensures even coverage.
- The **White Rose Maths scheme of learning** is used as a template for **long term and medium term** planning.



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- Teachers use a **mastery approach** and adapt the **medium term plans** accordingly.
- **In year 6, planning is condensed** to allow full coverage in good time for **national tests**.
- **Overall progress in mathematics is assessed at least termly using Testbase assessments.**
- All teaching of **maths** is infused with the **Assessment for Learning Strategies** developed by the school.
- Teachers create a **balance** between **rapid recall of number facts**, the understanding and consolidation of **new concepts** and the **application of knowledge** in their planning and teaching.
- **Cross curricular links** between **maths** and **other subjects** are encouraged whenever possible.

Planning

- Long term and medium term planning is in line with National Curriculum 2014 and outlined by White Rose Maths.
- Each term a class will be taught a mixture of number, calculation, statistics, measures, shapes and reasoning strategies as well as activities to promote fluency.
- Weekly planning follows an agreed proforma and generic principles.
- Broad Learning Intentions from Curriculum 2014 are broken down in the smaller, appropriate Learning Intentions. Success Criteria, required exposition and linked differentiated activities are also included.

OVERVIEW

The content of the mathematics curriculum at William Barnes is taken from the 2014 National Curriculum programmes of study in years 1 to 6. In EYFS the requirements of the Early Years Foundation Stage Profile (EYFSP) are combined with White Rose Maths resources to produce a program appropriate for the reception children. Staff in KS2 follow the outline from White Rose Maths. However, these are adapted by teachers to create a mastery approach. These adapted plans outline which parts of the programmes of study are taught in each week of each half term. The plans are not carved in stones and teachers can choose to spend longer or shorter periods of time on each learning objective depending on the needs of the children in their class, which change from one year to the next.

IMPLEMENTATION

Curriculum



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[Curriculum and progression map linked to White Rose Maths planning.](#)

How We Teach

At William Barnes Primary School, at least an hour each day is dedicated to the teaching of mathematics. Lessons structure is consistent throughout year groups and follows a firm routine.

- Retrieval – recalling prior knowledge learnt in maths
- Whole Class Feedback – Teacher gives feedback for successes and areas of improvement from previous lesson
- Teaching input – Children to use whiteboards throughout this to check for understanding.
- Independent activity – Children work independently with appropriately scaffolded activities. Manipulatives should be available for anyone that requires them. Teachers will live mark during this time to give immediate feedback and address misconceptions.
- Daily Reasoning Challenge – Each lesson ends with a reasoning problem that links to that lesson's learning.

- Maths fluency – 4 times a week, children complete a maths fluency session for 10 minutes. This focusses on retrieving concepts already taught to develop fluency and to embed in long-term memory.

Interventions – Post-Teach/Personalised learning

Children who have not understand a concept in a lesson are withdrawn from class in the afternoons for a short period of time, during assemblies or registration and given a short input, with a teaching assistant to ensure that the gap in their understanding is remedied quickly. This approach is known as post-teach and will often be recorded alongside the activity completed in class.

Further follow-ups are given if children have not immediately understood and this is known as personalised learning. This can include other mathematical concepts that children have gaps in. Pre-teach also occurs to support children with upcoming learning.

Classrooms and Display

To reinforce mathematical concepts and the value of mathematics, all classrooms have an interactive mathematics display called a “working wall” as well as other useful resources such as number lines or number square appropriate for the age and ability of the pupils. Displays are fluid and regularly change to reflect the learning happening in the classroom.

Resources



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Maths resources are stored both centrally in the resources room and occasionally in teachers' classrooms. A folder called 'Mathematics' is also kept up to date on the school's server and contains spreadsheets, interactive teaching programs and electronics versions of the school's mathematics resources where they are available in that format.

Concrete – Pictorial - Abstract

Manipulatives are vital in supporting children with their understanding on mathematical knowledge. Manipulatives are on offer in all classrooms during maths lessons for those that require them. Children use these **concrete** objects to help them understand and be able to explain processes. Common manipulatives that will be used are: Numicon, tens frames, bead-strings, dienes, and place value counters. Children are then able to progress to using **pictorial** methods alongside these concrete manipulatives to ensure strong foundations in mathematical concepts. Children then progress to use **abstract** methods confidently with the understanding formed through concrete and pictorial methods.

Manipulatives are to be on offer in all maths lessons and children should be able to decide whether they need to use them as support.

Methods for using manipulatives are outlined in the calculation policy (below).

Mathletics

Mathletics is a subscription based on-line learning resource that supports children in year 5 and 6 with their learning of maths. This programme complements homework that has been set and children are encouraged to reach 1000 points a week to obtain a certificate. Mathletics can also be used during dedicated maths lesson time.

Times Tables Rock Stars

Like Mathletics, this is a subscription based on line learning resource. Its focus is developing rapid recall of times tables and is geared towards preparation of children for the year 4 national times tables assessment. In year 3 and 4, teachers use Times Tables Rock Stars. However, children across the school have Times Tables Rock Stars accounts.

Numbots

Numbots is another subscription based on-line learning resource and is primarily used for children in reception and key stage 1. It focusses upon children having a strong understanding of number bonds up to 20. It can also be used as an intervention to support children across the school.

Mastery and Deepening and the Keen Kite Resources

At William Barnes, when a child fully understands a mathematical concept they are said to have mastered that concept. This is equivalent to reaching age related expectations (ARE). A



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child reaching ARE at the end of the academic year will have mastered all of the content for their year group. Once a child has mastered a concept, the next stage is to deepen their learning. This is achieved by providing problems and challenges that give rich opportunities for the children to use and apply their mathematical knowledge. The school has adopted a resource called Keen Kite to help teachers to deepen their children's understanding. This approach consists of two different resources – 'Everyday problem solving and reasoning' and 'Mastery with Greater Depth'. Both resources are compendiums of problems and investigations for each year group that are used to extend children once they have reached mastery. Eleven distinct reasoning strategies are introduced and developed in each year group's resource.

Whole School Reasoning Strategies supported by Keen Kite Deepening Resources	
Finding all the possibilities	Finding rules and describing patterns
Logic puzzles	Real life word problems
Reasoning – true or false	Reasoning – would you rather?
Reasoning – explain how you know	Reasoning – always, sometimes, never true
Reasoning – odd one out	Reasoning – if the answer is x, what is the question?
Reasoning – what's the same, what's different?	

Parental Involvement

At William Barnes Primary School, we believe that parents and teachers working together is highly beneficial to long-term quality learning.

We ask parents to be as involved as possible in the following areas of the Mathematics Curriculum:

- Supporting children with their online Mathematics, Times Tables Rock Stars, Numbots learning
- Supporting with homework
- Parents' Meetings for information on subjects such as Calculation policy and the national year 4 times tables test

We also involve parents with maths learning by offering:

- Open lessons, where parents may come and join in/support
- Family Learning Week activities

IMPACT



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Assessment

Formative assessment is ongoing with teachers giving whole-class feedback at the beginning of each lesson and live-marking throughout lessons. Teachers also check for understanding during inputs using show-me boards and targeted questioning.

Summative assessment occurs termly using Testbase assessments to support teacher judgment. This are recorded and support with tracking progress and where support is required.

Equal Opportunities

Mathematics is taught within the framework of the school's equal opportunities policy.

Special educational needs (SEN):

- a. Children with AEN, SEN and Higher Achieving Children will have activities differentiated to their individual needs.
- b. Children with SEN should have an IEP detailing targeted support.
- c. Weekly planning should be sufficiently differentiated to cover their needs.
- d. Practical resources may need to be available especially in Reception and Key Stage 1.
- e. All teaching staff must ensure that they support these children during the week for numeracy.
- f. Specific skills for numeracy will be on the IEP and additional time needs to be available for the teaching of these.
- g. It is important to note that a child who finds numbers difficult may not struggle in all areas of the mathematical curriculum.

SEND

Children with SEN in mathematics are identified by the class teacher with the support of the SENDCo. Sometimes children are referred to the Special Educational Needs Support Service (SENS) for an assessment of their specific learning difficulties. These children are supported in lessons either 1:1 or as part of a small group with a TA. Children can also be withdrawn from assemblies and lessons to receive interventions. SEND children are also supported through personalised learning when gaps in their understanding are uncovered during lessons.

Marking

Marking in Mathematics follows the school's marking and AfL policies. Teachers mark correct answers in pink highlighter. Errors are marked or highlighted in green (crosses are not used). Teachers will live-mark to give children immediate feedback and address misconceptions quickly. Children can mark their own work, but teachers need to check children's work daily so that misconceptions can be identified for personalised learning, and to ensure that the children have been working as hard as they can. Children are given the opportunity to respond to marking during a subsequent lesson, and often show their improvements in purple pen.



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Moderation

At least each term, teachers bring examples of children's work to a staff meeting. Prior to the meeting, teachers decide whether the child is working at below age related expectations (ARE), at ARE or exceeding ARE. In small groups, each teacher gives a commentary on their child's work, whilst the objectives covered are highlighted by the rest of the teachers. Teachers then decide whether they agree with judgement for that child and then discuss areas for development. Moderation meetings can be based upon a particular focus such as fractions or calculations and normally focus on either more able, ARE or less able children. The school also attends moderation meetings arranged by the Local Authority. These follow the same format and occur annually. From time to time, moderation is also arranged for schools in the local cluster.

Scrutiny of Books and Planning

Termly, the Senior Leadership Team (SLT) collect books from each year group for work or planning scrutiny. Teachers supply books for different abilities and children who are pupil premium. Using a criteria, the SLT then look through the books in turn ensuring that school policy and good developments are in place. Notes are taken by the head teacher. General feedback is given at the next staff meeting, whilst issues with particular year groups are dealt with 1:1 by the mathematics leader.

School Development Planning and the Governors

In September, the mathematics leader writes a school development plan that details the improvements in mathematics provision to be made during the following school year. There is a member of the Governing Body with overall responsibility for mathematics. Whole school attainment data is shared with the Governing body. Governors are kept up to date at Governing Body meetings on any developments in mathematics. Reports are given by the mathematics leader at Curriculum Governors meetings termly. The maths leader also completes at least one written report for the governors each year.

Calculation policy

Addition



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Year 1

... is a part.
... is a part.
... is the whole.

and make

I start at ...
I jump on ...
I land on ...

If ... is the whole and ... is a part, the other part must be...

$7 + 6 + 3 = 16$

10

In year 1, children explore numbers to 10 using aggregation and augmentation strategies.

Part-part-whole models, bar models, numicon, and ten-frames support aggregation.

Tens frames and number tracks/lines support augmentation.

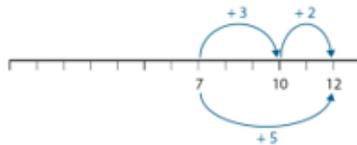
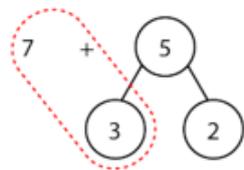
Progression to adding 3 or more digit numbers.



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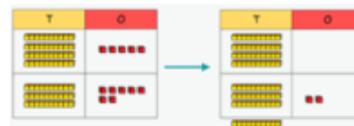
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Year 1 / 2



Tens	Ones
4	3

?	
Tens	Ones
4	3
2	1



$$43 + 21 =$$



Addition crossing the tens boundary.

Bridging 10 is introduced using a part-part-whole model and extended to using a number line.

Diennes are used by making both addends and combining them. When crossing tens boundaries, ten ones are exchanged for one ten.

This can be extended to drawing diennes.

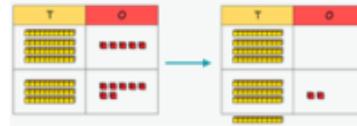
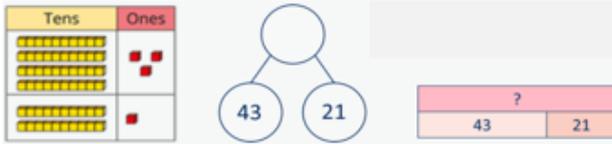
Progression in number lines are made by making jumps of 10.



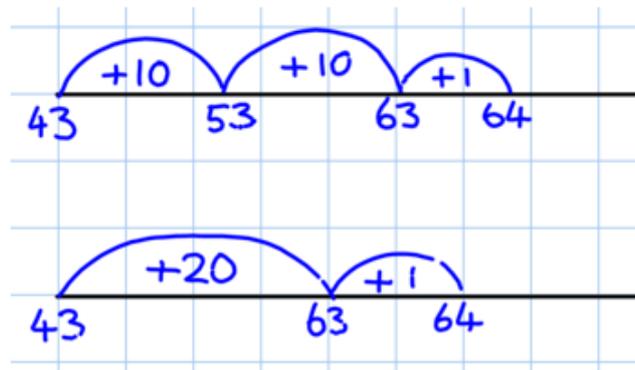
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Maths and Calculation Subject Statement

Year 2



$$43 + 21 =$$



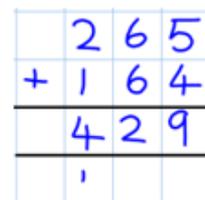
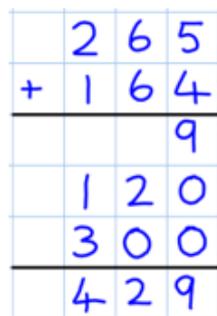
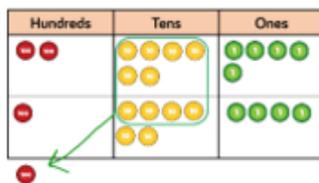
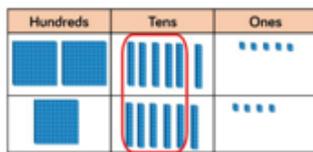
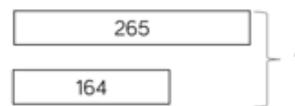
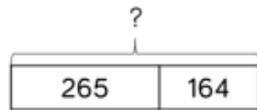
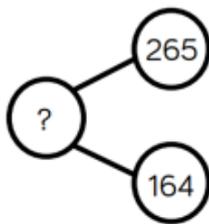
In year 2, children continue to use strategies used in year 1.

Children should apply their knowledge of number bonds to add efficiently.
e.g. $7 + 6 = 13$ so $47 + 6 = 53$

Children continue to use number lines and diennes to support adding larger numbers when approaching and exceeding 100.

Progression in number lines is evident with Tens and Ones remaining combined.

Year 3



In year 3, children should have a range of manipulatives to support addition.

Diennes and place value counters alongside a place value grid are effective when adding three-digit numbers.

Children are to record using expanded column methods alongside manipulatives.

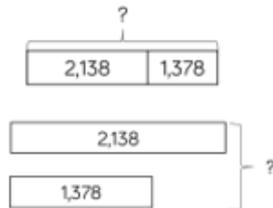
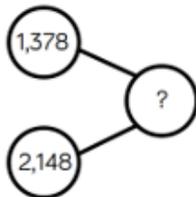
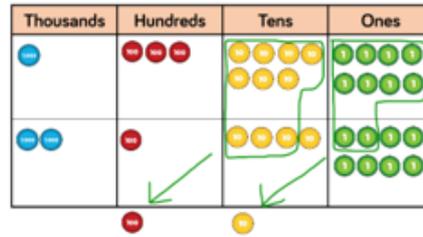
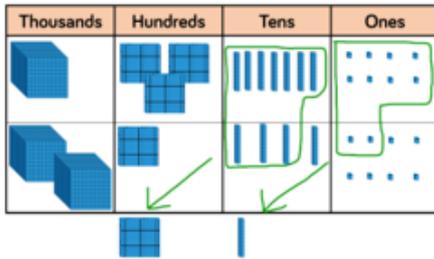
Children to progress to contracted column methods after gaining sound understanding of regrouping.



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Year 4



	1	3	7	8
+	2	1	4	8
<hr/>				
	3	5	2	6
<hr/>				
		1	1	

In year 4, children are to use place value counters and diennes to support with adding numbers up to 4-digits.

Children should be recording number sentences alongside the concrete resources to support with making the links.

Children will continue to use part-whole and bar models.

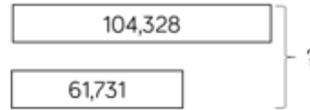
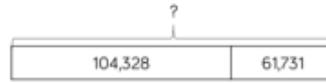
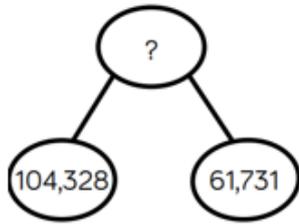
Children are to use the contracted column method secure with expanded method taught in year 3.



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Year 5/6



HTh	TTh	Th	H	T	O
○		●●●●	●●●●	●●●	●●●●●●
	●●●●	●	●●●●	●●●	●

1	0	4	3	2	8
+	6	1	7	3	1
<hr/>					
1	6	6	0	5	9
<hr/>					
		1			

Ones	Tenths	Hundredths
● ● ●	●● ●● ●●	●●● ●●● ●●●
● ●	●● ●● ●●	●●●
●	●	

3	.	6	5	
+	2	.	4	1
<hr/>				
6	.	0	6	
<hr/>				
		1		

Children in year 6 will continue to use part-whole and bar models to support addition.

Place value counters are to be used to support addition including adding decimals.

At this stage, children should be encouraged to use the contracted column method to add large numbers efficiently. This includes decimals, and applying this to contexts such as money.

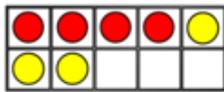
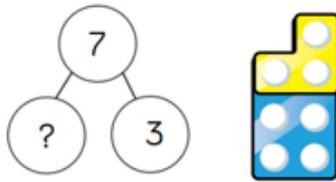
Subtraction



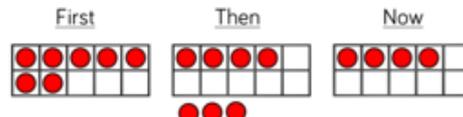
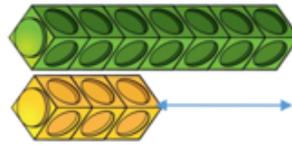
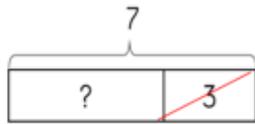
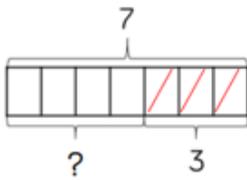
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Year 1



$$7 - 3 = 4$$

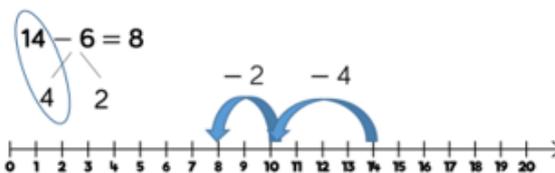
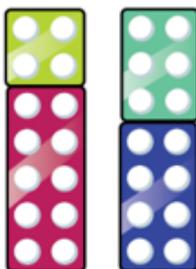
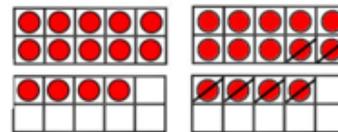
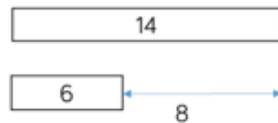
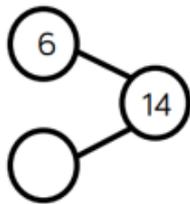


In year 1, children explore numbers to 10 using reduction and finding the difference strategies.

Manipulatives like number cards, tens frames, and multi-link are used to support understanding with reduction and finding the difference.

Bar models demonstrate finding the difference.

Year 1 / 2



Subtracting across ten boundaries.

In year 1, this is done by counting backwards using manipulatives such as ten frames and number tracks to support.

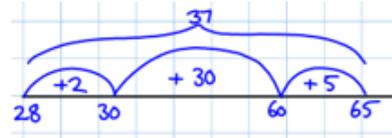
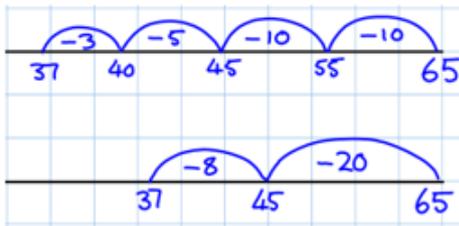
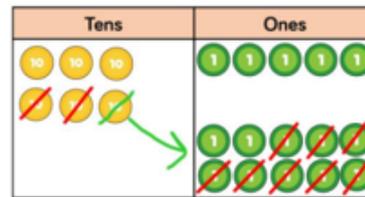
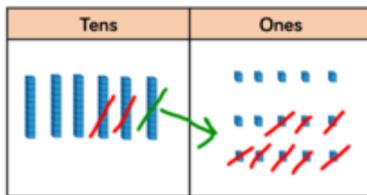
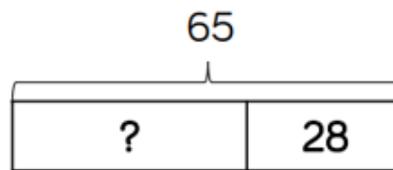
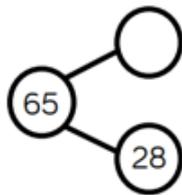
This progresses to children being encouraged to find the number bond to the ten when partitioning the subtracted number. $14 - 6$ (-4 then -2) = 8



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Maths and Calculation Subject Statement

Year 2



In year 2, children continue with counting backwards to find the difference.

Tenness and place value counters are useful to use along with part-part-whole models and bar models.

Children can progress to using number lines. Encourage jumps of 10 to become more efficient.

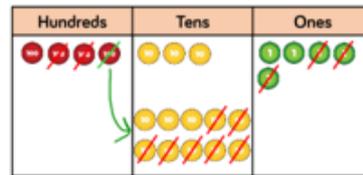
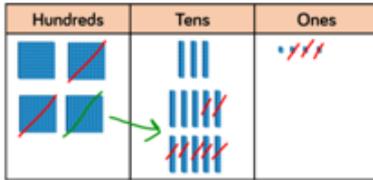
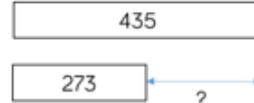
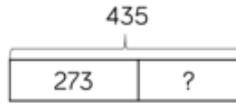
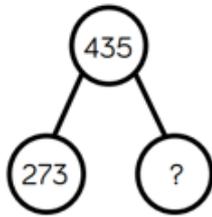
Number lines can also be used to count forwards to make links with the inverse operation.



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Maths and Calculation Subject Statement

Year 3



3 4	0	0	1	3	0	5
-	2	0		7	0	3
<hr/>						
	1	0		6	0	2

3 4	3	5
-	2	7
<hr/>		
	1	6
		2

In year 3, children subtract numbers with up to 3 digits.

Diennes and place value counters are an effective manipulative support with this. The calculation should be presented alongside the manipulatives that children make links.

Children should be taught strategies that do not cross boundaries first. Children should be taught exchanging using these manipulatives.

Children should continue using manipulatives alongside written formal methods.



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Maths and Calculation Subject Statement

Year 4

Number bond: $4,357 = 2,735 + ?$

Bar model: $4,357 - 2,735 = ?$

Grid method:
$$\begin{array}{r} 3 \cancel{4} 3 5 7 \\ - 2 7 3 5 \\ \hline 1 6 2 2 \end{array}$$

Thousands	Hundreds	Tens	Ones

Thousands	Hundreds	Tens	Ones

In year 4, children subtract numbers with up to 4 digits.

Part-part-whole models and bar models should be used to visualise these calculations.

Diennes and place value counters are to be used alongside written formal methods.

Year 5 / 6

Number bond: $294,382 = 182,501 + ?$

Bar model: $294,382 - 182,501 = ?$

HTh	TTh	Th	H	T	O

	2	9	3	1	8	2
-	1	8	2	5	0	1
	1	1	1	8	8	1

Ones	Tenths	Hundredths

Ones	Tenths	Hundredths

Decimal grid method:
$$\begin{array}{r} 4 \cancel{5} . 4 3 \\ - 2 . 7 0 \\ \hline 2 . 7 3 \end{array}$$

In year 5 and 6, children subtract numbers with up to three decimal places.

Children should be encouraged to work in the abstract using formal written methods.

This includes subtracting with decimals up to thousandths.

Children should also experience subtracting decimals in the context of money and other measurements.

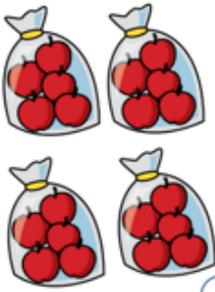


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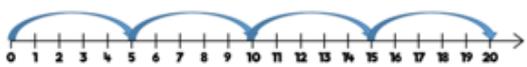
Maths and Calculation Subject Statement

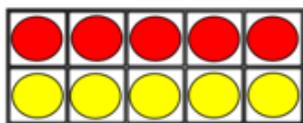
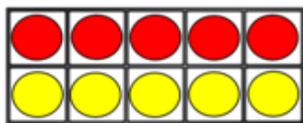
Multiplication

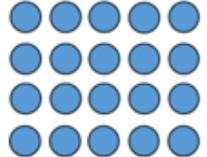
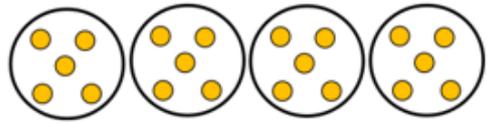
Year 1 / 2



One bag holds 5 apples.
How many apples do 4 bags hold?







$$5 + 5 + 5 + 5 = 20$$
$$4 \times 5 = 20$$
$$5 \times 4 = 20$$

In year 1 and 2, children need to be familiar with skip counting forwards and backwards in 2s, 5s, 10s, and 20s. Children should look for patterns in these sequences.

Children should demonstrate multiplication as repeated addition.

Using numicon, number strings, peg boards (arrays) and pictorial representations, such as number lines and groups of, children should solve.

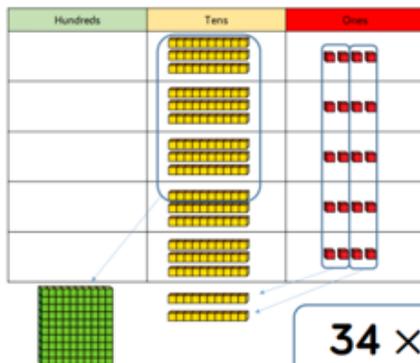
In year 2, children are introduced to the multiplication symbol.



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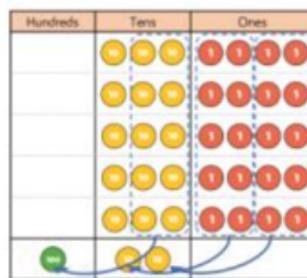
Year 3



$$34 \times 5 = 170$$

	H	T	O	
		3	4	
x			5	
		2	0	(5 x 4)
+	1	5	0	(5 x 30)
	1	7	0	

	H	T	O
		3	4
x			5
	1	7	0
	1	2	



In year 3, children should be familiar with 2, 3, 4, 5, 10 times tables.

Children will learn expanded and contracted methods of multiplication to multiply a 2 digit number by a 1 digit number.

Tenness and place value counters should be used alongside calculations.

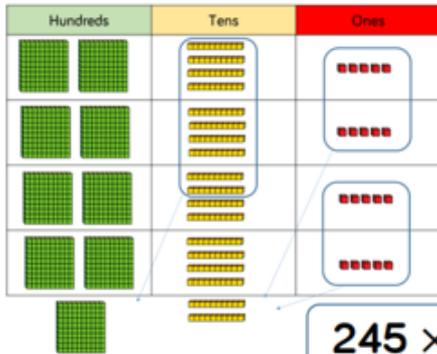
Children should progress using their times table knowledge to support working in the abstract.



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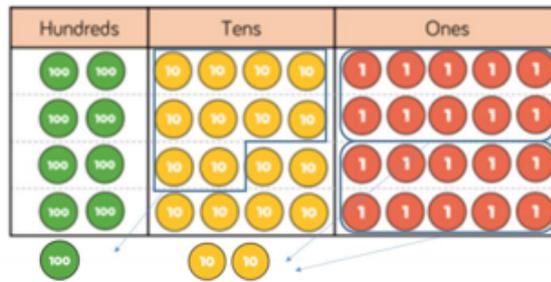
Maths and Calculation Subject Statement

Year 4



	H	T	O
	2	4	5
x			4
	9	8	0
	1	2	

$$245 \times 4 = 980$$



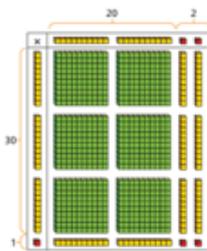
In year 3, children should be familiar with times tables up to 12 x 12.

Children should continue to use diennes and place value counters to support multiplication calculation.

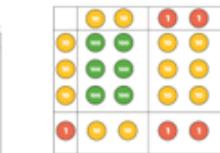
Children should be encouraged to record using contracted column methods.

When multiplying larger numbers, children can use multiplication grids to support to ensure focus upon the use of written method.

Year 5 / 6

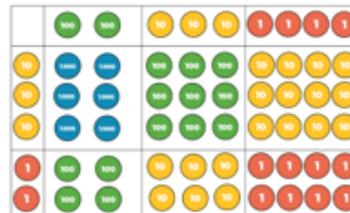


$$22 \times 31 = 682$$



x	20	2
30	600	60
1	20	2

	H	T	O
		2	2
x	3	1	
	6	6	0
	6	8	2



	Th	H	T	O
		2	3	4
x		3	2	
	4	6	8	
1	7	0	2	0
7	4	8	8	

$$234 \times 32 = 7,488$$

x	200	30	4
30	6,000	900	120
2	400	60	8

In years 5 and 6 children will multiply multi digit numbers by 2 digit numbers.

Children are to use area/grid models with diennes or place value counters to support understanding of the size of numbers they are using. This can then be completed mentally.

Children should progress to using a column method alongside the area/grid model to identify links.

Multiplication grids can be used to support with times tables.



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Maths and Calculation Subject Statement

Division

Year 1 / 2

There are 20 apples altogether.
They are put in bags of 5.
How many bags are there?

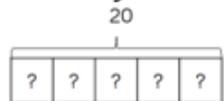
$20 \div 5 = 4$

In year 1 and 2, children solve division questions by grouping and counting the numbers of groups.
This supports links with multiplication and repeated addition.

Children should use numicon, ten frames, peg boards (arrays) and counters to create groups.

This is extended to written methods such as number lines and pictorial drawings.

Bar models are also used to show groups.



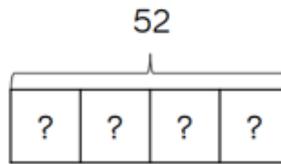


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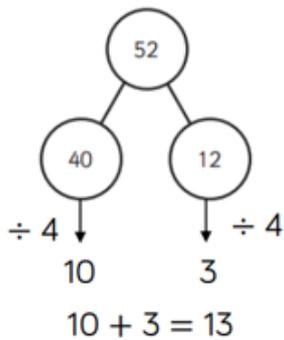
Maths and Calculation Subject Statement

Year 3 / 4

Tens	Ones



$52 \div 4 = 13$



Tens	Ones

In year 3, children should be with division questions that not require exchanging.

Diennes and place value count support division by sharing in groups beginning with the dividend starting outside of the grid.

Part-part-whole models allow children to partition into equal groups to divide numbers.

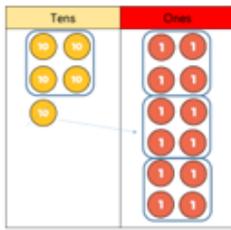
When introduced to remainder manipulatives are left outside the grid once equal groups have been made.



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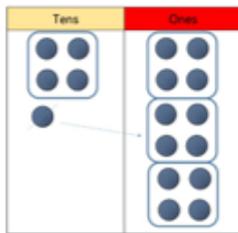
Maths and Calculation Subject Statement

Year 5



$$52 \div 4 = 13$$

		1	3
4	5	2	



$$856 \div 4 = 214$$



		2	1	4
4	8	5	6	

In year 5, children should continue their understanding of grouping methods using tens, hundreds and place value counters.

This can also be used in pictorial method by drawing.

Children should then learn short division while using manipulatives to support and make links.

Calculations with greater number of exchanges will require written short division.

Year 6

		0	3	6
12	4	3	2	

$$432 \div 12 = 36$$

$$7,335 \div 15 = 489$$

		0	4	8	9
15	7	3	3	5	

15	30	45	60	75	90	105	120	135	150
----	----	----	----	----	----	-----	-----	-----	-----

$$7,335 \div 15 = 489$$

		0	4	8	9
15	7	3	3	5	
-	6	0	0	0	
	1	3	3	5	
-	1	2	0	0	
		1	3	5	
-		1	3	5	
				0	

- 1 x 15 = 15
- 2 x 15 = 30
- 3 x 15 = 45
- 4 x 15 = 60
- 5 x 15 = 75
- 10 x 15 = 150

$$372 \div 15 = 24 \text{ r}12$$

			2	4	r	1	2
1	5	3	7	2			
-		3	0	0			
			7	2			
-			6	0			
				1	2		

- 1 x 15 = 15
- 2 x 15 = 30
- 3 x 15 = 45
- 4 x 15 = 60
- 5 x 15 = 75
- 10 x 15 = 150

			2	4	r	1	2
1	5	3	7	2			
-		3	0	0			
			7	2			
-			6	0			
				1	2		

In year 6, children will continue with short division when the divisor is 2 digits. The child may need to recall skip counting to support.

Long division will also be taught. Children may need to write out multiples to support with larger numbers.

When a remainder is left at the end of the calculation, children can leave it as a remainder or convert to a fraction depending on context.



William Barnes Primary School

Maths and Calculation Subject Statement

Joshua Newman
December 2026

Adopted date:	
Signature of Headteacher:	
Signature of Governing body:	
Next review date	