Calculation Policy 2021

INTRODUCTION

This Calculation Policy has been produced in line with the 2014 National Curriculum for Mathematics and the EYFS 2021 curriculum to ensure consistency and progression in teaching throughout the school that is age appropriate. It aims to introduce children to the processes of calculation through practical, oral and mental activities. As children begin to understand the underlying ideas, they develop ways of recording to support their thinking and calculation methods, use particular methods that apply to special cases and learn to interpret and use signs and symbols involved. This policy shows the natural progression that a child should make in their mathematical education. **Children should not progress onto the advanced stages of formal written methods until they have a secure conceptual understanding**. By the end of Year 6, children should be able to choose the most appropriate approach to solve a problem: making a choice between using jottings (an extended written method), an efficient written method or a mental method.

Intent
Maths is a journey and long-term goal, achieved through exploration, clarification, practice and application over time. At each stage of learning, children should be able to demonstrate a deep, conceptual understanding of the topic and be able to build upon prior knowledge. Our overall aims for children leaving Broad Hinton Primary School at the end of Year Six are to: • develop a positive attitude towards mathematics and to view it as an interesting subject where all children can succeed; • have access to a high-quality maths curriculum that is both challenging and enjoyable, and builds upon previous learning; • be provided with a variety of mathematical opportunities, which will enable them to make the connections; • be confident mathematicians who are not afraid to take risks; • develop the ability to talk about the subject with confidence, using the correct mathematical language and vocabulary; • be fluent with the recall of basic facts and the four operations; • be able to use these basic facts and mathematical understanding to carry out calculations mentally; • make use of images, diagrams and informal notes to help record steps and part answers when using mental methods that generate more information than can be kept in their heads; and • have an efficient, reliable, compact written method of calculation for each operation that children can apply with confidence when undertaking calculations that they cannot carry out mentally. They will do this by always asking themselves: Can I do this in my head? Can I do this in my head using drawings or jottings? Do I need to use a pencil and paper procedure of a formal written method?

Implementation

Our implementation is developed through the teachers' secure understanding of the curriculum and subject area.

Planning

Maths is a core subject in the National Curriculum. Teachers at Broad Hinton believe that teaching should be individualised so no schemes are followed in order to achieve this. However, teachers have access to a variety of high-quality resources to support their planning process.

1. Long term: National Curriculum

The National Curriculum 2014 has 3 central aims:

- 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. In order to achieve this, we need to provide opportunities for children to investigate numbers by counting, cardinality (how many there are in the group), comparison and composition. They need to practice decomposing and recomposing numbers, recalling number bonds and multiplication tables to improve mathematical fluency.

- **Reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language. The conversations we have and questions we ask are key to developing reasoning skills. We can ask children to describe, explain, convince others, justify and prove to promote their reasoning skills. Adults can support children to develop reasoning by modelling, using mathematical language (also displayed in classrooms), using sentence stems (displayed and referred to on the front covers of the Maths books), group work, understanding how others work and making personal notes and recordings.

- 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. Activities should be provided where children can solve number problems, practical problems and missing number problems. Problem solving is not just about solving the problem, it is about how they solved the problem. What strategies and mathematical concepts did they use? All pupils should have the opportunity to apply their mathematics to solve problems. Higher attaining children need to solve problems that require more demanding reasoning and problem-solving skills rather than harder numbers. We must ensure that children have the opportunity to conjecture when problem solving. Problem solving is more than learning and following a procedure.

2. Medium term

The sequencing of teaching reflects the needs of the learners. For all teams, number and place value are given priority at the start of each academic year as these are the building blocks for mathematical learning. Here on, it is through use of ongoing formative assessment and planned summative assessments that results in the learning being planned for and delivered in direct correlation to the children's ability, starting point and individual next steps.

3. Short term planning

Short term planning is carried out weekly by the class teacher supported by the use of many different resources and by referencing our Calculation Policy. These plans are flexible, responsive and are appropriate to the teacher.

Concrete, pictorial and Abstract (CPA) approach

At Broad Hinton, we recognise that the **Concrete, Pictorial Abstract (CPA)** approach is highly effective in the teaching of Maths to develop conceptual understanding. This approach will vary between year groups and the individual abilities of children within each class.

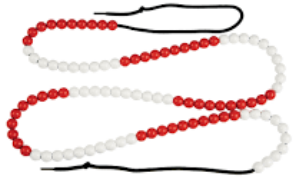
Objects, pictures, words, numbers and symbols are everywhere. The mastery approach incorporates all of these to help children explore and demonstrate mathematical ideas, enrich their learning experience and deepen understanding. Together, these elements help cement knowledge so pupils truly understand what they've learnt.

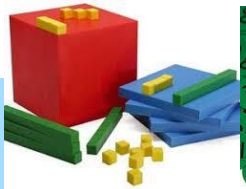
All pupils, when introduced to a key new concept, should have the opportunity to build competency in this topic by taking this approach. Pupils are encouraged to physically represent mathematical concepts. Objects and pictures are used to demonstrate and visualise abstract ideas, alongside numbers and symbols.

Concrete – The doing stage

There is a clear focus on the use of manipulatives and visual images to support understanding in every year group. Each new concept or calculation strategy will be introduced using appropriate manipulatives, giving the children a clear picture of the theoretical mathematics they are learning. It is important that children have access to a wide range of manipulatives in every year group and, consequently, we encourage children to be independent in their use of manipulatives throughout the school and access resources as they see fit. This is the foundation for conceptual understanding.

Concrete resources that may be found in classrooms will include:





These resources will vary depending on year group and individual needs.

Pictorial – The seeing stage

A child has sufficiently understood the hands-on experiences performed and can now relate them to representations, such as a diagram or a picture of the problem.

Abstract- The symbolic stage

A child is now capable of representing problems by using mathematical notation, for example 10 ÷ 2 = 5

Teaching

'Quality first teaching' linked to teaching standards:
All teachers:

1. 'Know where their children are' through the use of summative assessment, prior learning, formative assessment and maths talk

2. 'Understand where their children need to be' through a secure understanding of year group expectations and/or pre-key stage expectations and ongoing, formative assessment
3. 'Know how they are going to get them there' through the use of a range of strategies to promote independence, mastery and high expectations of ALL.
4. Effectively deploy adults, both within a maths lesson and through use of intervention or booster groups.
5. Plan for progression during and between lessons.

Impact

Pupils will leave us prepared for the next stage in their lives with:

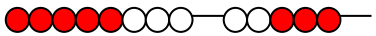
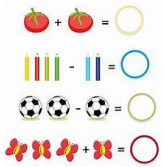
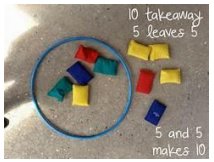
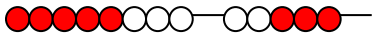
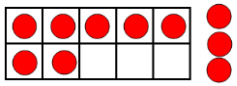
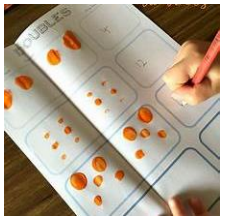
- quick recall of facts and procedures;
- the flexibility and fluidity to move between different contexts and representations of mathematics;
- the ability to recognise relationships and make connections in mathematics;
- confidence and belief that they can achieve;
- the knowledge that maths underpins most of our daily lives;
- skills and concepts that have been mastered; and
- a positive and inquisitive attitude towards mathematics as an interesting subject in which all children gain some success and enjoyment.

A mathematical concept or skill has been mastered when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations and this is the goal for our children.

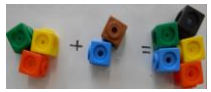
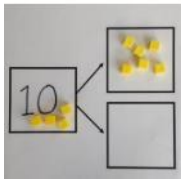
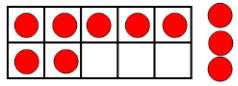
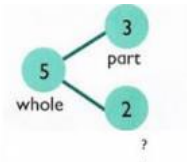
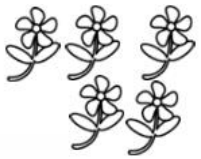
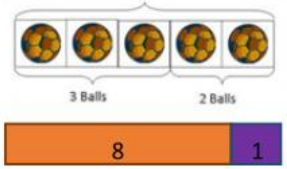
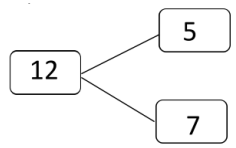
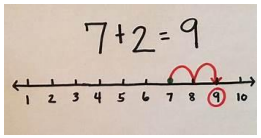
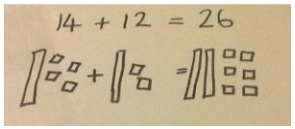
These will be assessed through: assessment, tracking, pupil progress meetings, performance management, moderation and standardisation.

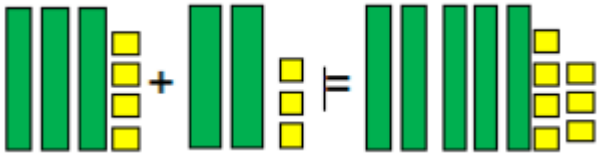
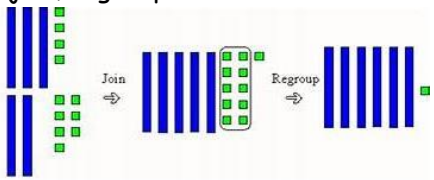
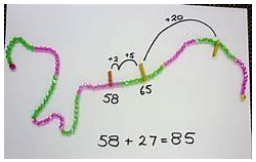
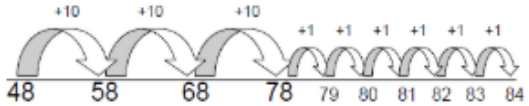
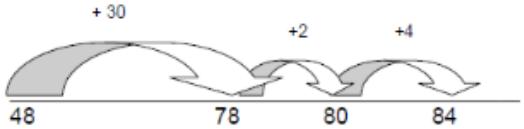
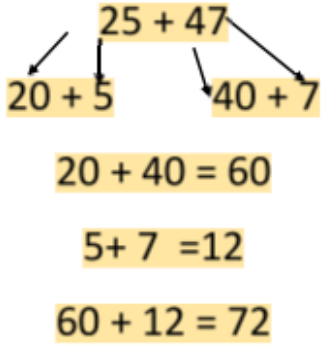
EYFS (Reception)

Ability to subitise is strongly emphasised with the new curriculum. Number sense is important (the twoness of two).

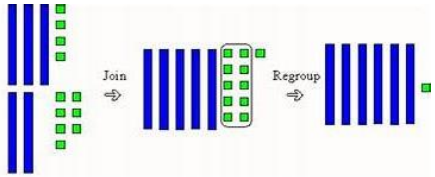
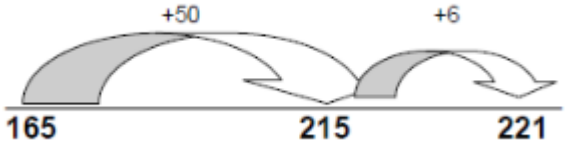
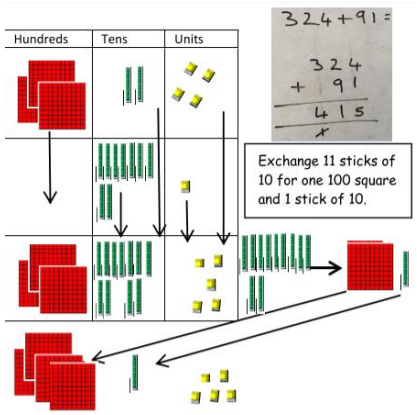
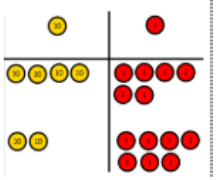
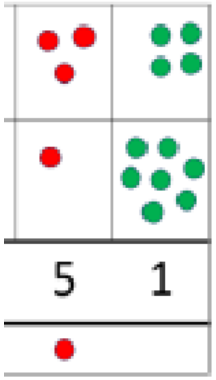
Addition	Subtraction	Multiplication	Division
Children are encouraged to gain a sense of the number system through the use of counting concrete objects. They combine objects in practical ways and count all. They understand addition as counting on and will count on in ones and twos using objects, cubes, bead string and number track.  They use concrete and pictorial representation to record their calculations in ways that makes sense to them. They begin to understand + and =  They are encouraged to develop a mental picture of the number system in their heads to use for calculations.	Children are encouraged to gain a sense of the number system through the use of counting concrete objects. They understand subtraction as counting out.  They begin to count back in ones and twos using objects, cubes, bead string and number track.   They use concrete and pictorial representation to record their calculations. They begin to understand – and =-	Children use concrete objects to make and count equal groups of objects. They will count on in twos using a bead string and number line. They understand doubling as repeated addition. 2 + 2 = 4 They use concrete and pictorial representation to record their calculations.  Higher attaining children may be able to represent their calculations using symbols and numbers within a written calculation. They may also begin to look at counting in 2s, 5s and 10s using different objects and pictures.	Children use concrete objects to count and share equally into 2 groups. 6 cakes shared between 2 people each person gets 3 cakes. They count a set of objects and halve them by making two equal groups. They will begin to use objects to make groups of 2 from a given amount. They use concrete and pictorial representation to record their calculations. Higher attaining children may be able to represent their calculations using symbols and numbers within a written calculation.

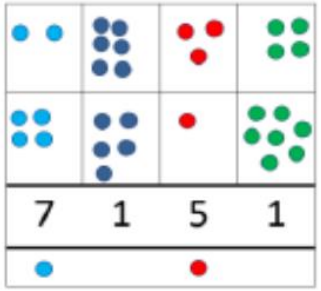
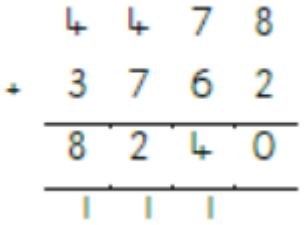
For example, hold the larger number in your head and use fingers to 'count on.' Higher attaining children may be able to represent their calculations using symbols and numbers within a written calculation.	They are encouraged to develop a mental picture of the number system in their heads to use for calculations. Higher attaining children may be able to represent their calculations using symbols and numbers within a written calculation.		

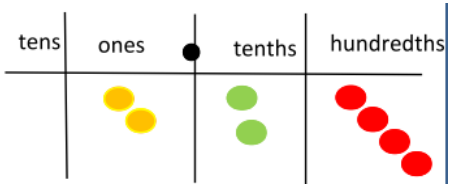
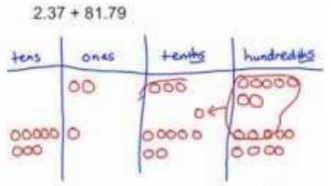
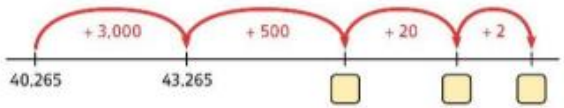
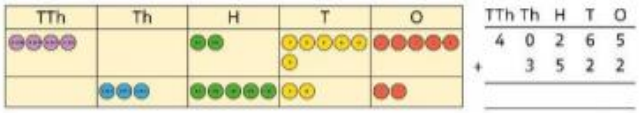
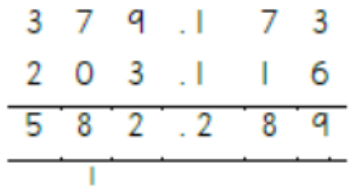
ADDITION - KS1 (Years 1&2)			
	Concrete	Pictorial	Abstract
Stage 1	Use part-part-whole model, cubes and bead strings to add two numbers together as a group or in a bar.   	Use jottings to represent numbers.    Use pictures to add two numbers together as a group or in a bar. 	Children will record their calculation using a pictorial method along with a calculation using numbers and symbols.  11 + 4 = 15 They may use their fingers to support their mental methods 5 + 2 = 7
Stage 2	**Grouping objects to add** Children will use dienes cubes to add larger numbers where regrouping is not required. They will also use a bead string to add larger numbers by counting in tens and ones	**Number line** Start at the larger number on the number line and count on in ones or in one jump to find the answer. Children will show their representations from the concrete method using pictures.   	Children will record their calculation using a pictorial method along with a calculation using numbers and symbols. Children will begin to add multiples of tens. 27 + 10 = 37 27 + 20 = 47 27 + □ = 57

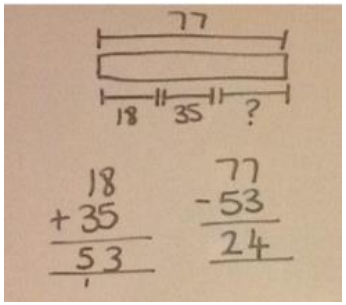
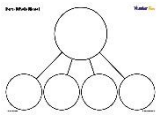
		Numbers will get progressively larger throughout the keystage. Children will be able to add tens and ones using an empty number line.	
Stage 3	**Partitioning** Children will add larger numbers where they will need to join, regroup and count.  Children will also use bead strings to add numbers together using groups of tens and ones to count on.  	**Number line** Use an empty number line to count in tens and then ones.  When confident:  	**Partitioning** Children will begin to use the partitioning method. Tens and ones will be added to form partial sums and then these partial sums will be added together to find the total.  Those who are confident will move on to column addition **<u>at the end of Year 2</u>** to prepare them for Key Stage 2. This will begin with no exchanging and those who are confident can move on to exchanging.

ADDITION - Lower KS2 (Years 3 & 4)

	Concrete	Pictorial	Abstract
Stage 1	Use dienes cubes to consolidate learning from KS1. Ensure children are confident at using these to join, regroup and count. This will support them moving onto the next stage of column addition. 	**Number line** Consolidate their learning from KS1 by using an empty number line to count larger numbers. 	**Partitioning** Children will consolidate using the partitioning method. The layout will begin to form a written method to support further progress onto the column method. Hundreds, Tens and ones will be added to form partial sums and then these partial sums will be added together to find the total. 200 + 60 + 3 + 100 + 10 + 9 300 + 70 + 12 300 + 80 + 2
Stage 2	Introduce children to place value counters and dienes cubes. Use the column method layout to support their learning onto the abstract method.  	Children can draw a representation of the grid to further support their understanding, carrying the ten underneath the line. 	**Expanded column method - Formal method** Children to use the Expanded Column Method. Start by partitioning the numbers before the formal column to show the exchange. Once confident, they can move onto the column method in stage 3. 176 + 147 13 (7 + 6) 110 (70 + 40) 200 (100 + 100) 323 147 + 176 = 323

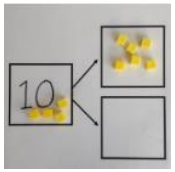
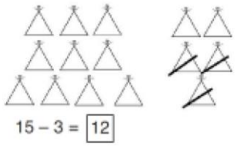
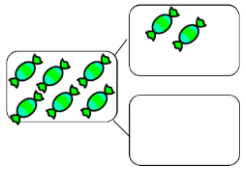
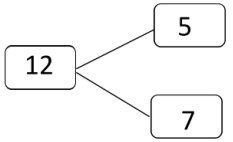
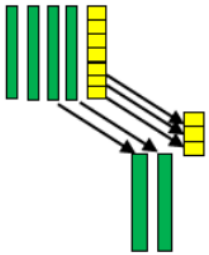
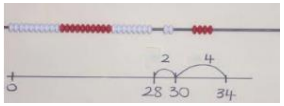
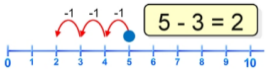
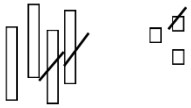
Stage 3	Children will add larger numbers where they will need to exchange place value counters or dienes cubes. 	Children can draw a representation of the grid using larger numbers.  	**Column method - Formal method** Column Method for addition to be used. 

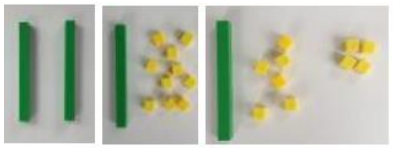
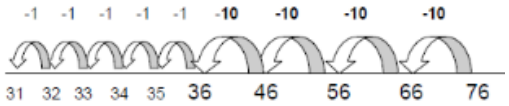
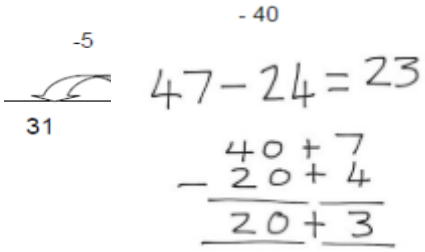
ADDITION - Upper KS2 (Years 5 & 6)			
	Concrete	Pictorial	Abstract
Stage 1	Introduce decimal place value counters and model regrouping for addition.  	Children will draw their representations showing where they have regrouped.    	**Column method** Children will continue to develop their understanding of column method addition.  Calculations will become larger and include decimal places.

Stage 2	Please note: Concrete apparatus and pictorial representations should still be used to support children who may be struggling with abstract concepts. Concrete apparatus should be readily available for lower achieving children and these with SEND.	Children will continue to use the bar model when problem solving. Jottings and calculations should be recorded to show their processes.  The part-whole model will still be used to help with the inverse and missing number addition problems. These will also be used to aid with numbers that have been partitioned in standard and non-standard ways. Example: 36,360 =? + ? + 6000 + 360  Those that need it may still use informal drawings to support themselves.	**Column method** Children to further develop their confidence using the column method. Larger numbers, decimal places and inserting zero for place holders when decimals are different. 6 digit + 6 digit 4 4 7 8 1 3 + 3 7 6 2 4 5 8 2 4 0 5 8 Numbers with 3 decimal place 3 7 9 . 1 7 3 + 2 0 3 . 1 1 6 5 8 2 . 2 8 9 Numbers with a different number of decimal places 45.25 + 8.5 + 3.247 4 5 2 5 0 + 8 5 0 0 3 2 4 7 5 6 9 9 7 Insert zeros for place holders. 23 · 361 9 · 080 59 · 770 + 1 · 300 93 · 511

Calculation Policy

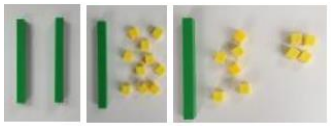
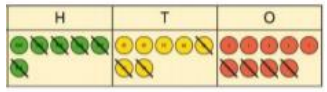
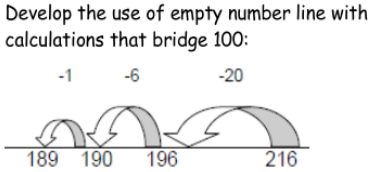
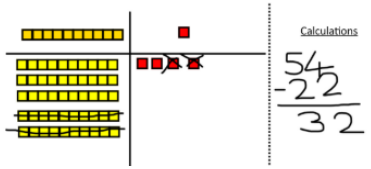
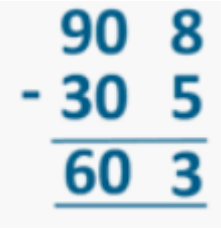
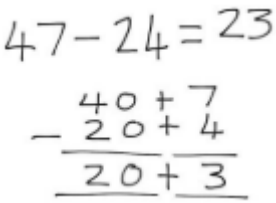
SUBTRACTION - KS1 (Years 1&2)

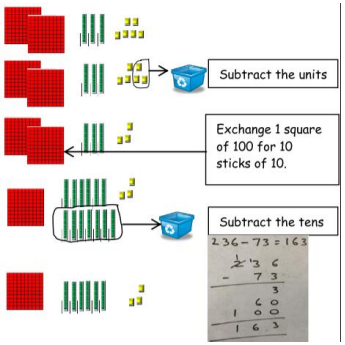
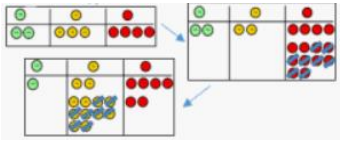
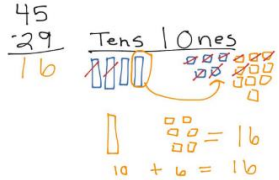
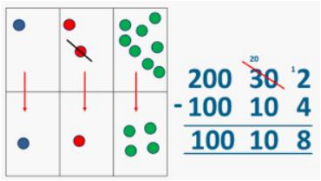
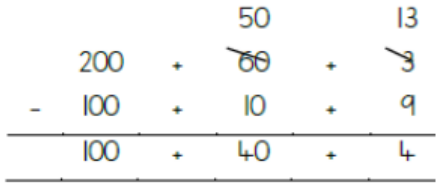
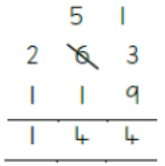
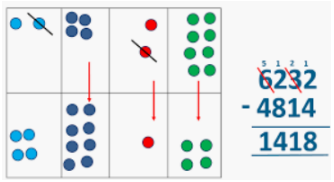
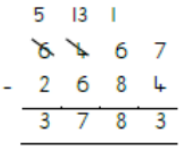
	Concrete	Pictorial	Abstract
Stage 1	**Taking objects away** Use part-whole model, cubes and bead strings to subtract two numbers together by moving objects away from the group.  	Use jottings to represent numbers. Children will learn to cross out drawn objects to show what has been taken away.  	Children will record their calculation using a pictorial method along with a calculation using numbers and symbols.  11 - 4 = 7 They may use their fingers to support their mental methods
Stage 2	Children will use dienes cubes to subtract larger numbers where exchanging is not required. Children will lay out the first number using the dienes cubes and then move the second number away to show the subtraction.  They will also use a bead string to add larger numbers by counting in tens and ones.  	**Number line** Children will begin to draw their own number lines. Start at the larger number on the number line and count back in ones or in one jump to find the answer.  Numbers will get progressively larger throughout the keystage. Children will be able to subtract tens and ones using an empty number line.  43—21 = 22 Children will show their representations from the concrete method using pictures.	Children will record their calculation using a pictorial method along with a calculation using numbers and symbols. 25 - 12 = 13 Children will begin to mentally subtract multiples of tens. 25 - 10 25 - 10 = 15
Stage	Children will begin to use place value counters and dienes cubes to show how to exchange between units of number. They will be able to change 1 ten	**Empty number line** -Use an empty number line to count back in tens and then ones.	**Partitioning method** Children will begin to use the partitioning method. Tens and ones will be subtracted to form partial sums and then these partial sums will be added together to find the total.

3	and exchange it for 10 ones. 	 When confident:  	47 – 23 = 24 47 – 20 = 27 27 – 3 = 24 This will then lead to the introduction of column subtraction at the end of Year 2. The first stage will be without staging and then, when confident, children will move on to exchanging.

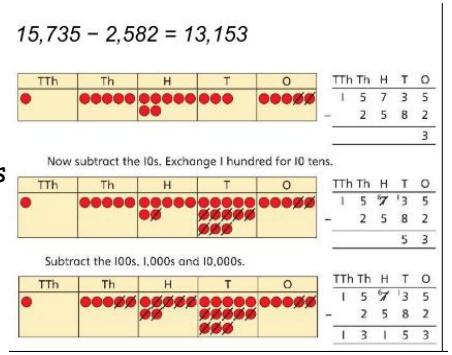
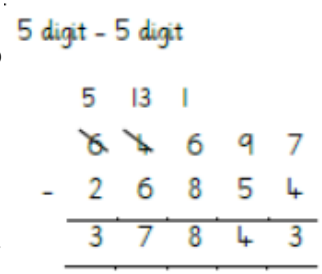
Calculation Policy

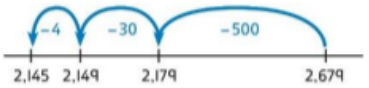
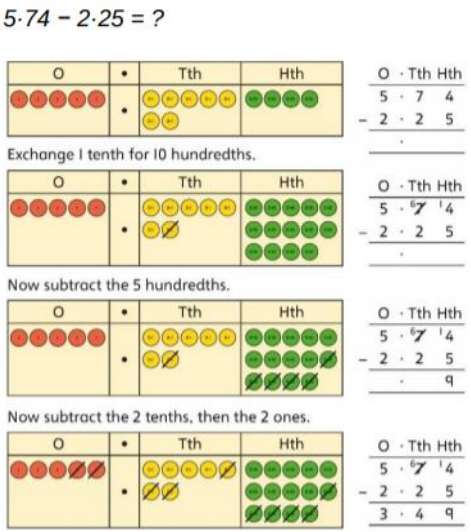
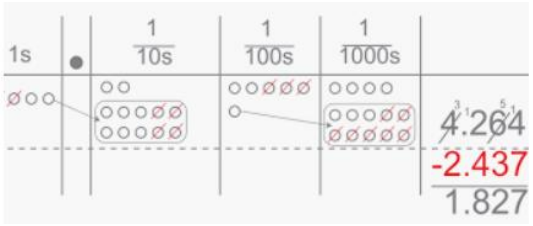
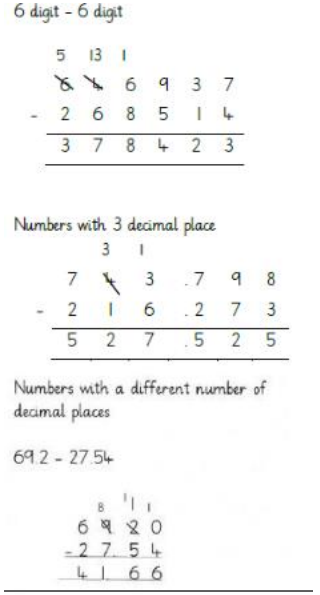
SUBTRACTION - Lower KS2 (Years 3 & 4)

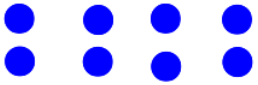
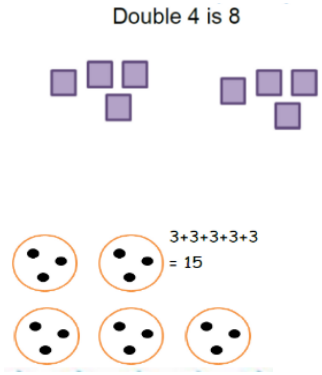
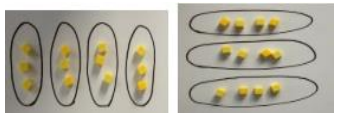
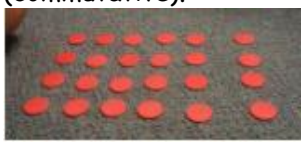
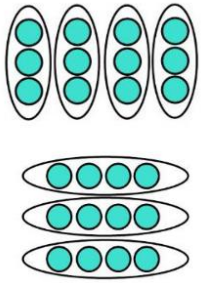
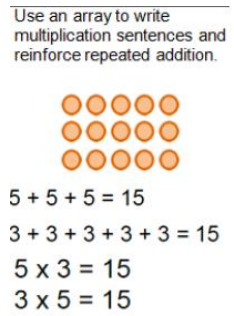
	Concrete	Pictorial	Abstract
Stage 1	Children consolidate and use place value counters and dienes cubes to show how to exchange between units of number.  They will be able to exchange ten ones for one ten. They will be able to begin to lay this out like the column method and removing counters or cubes away to represent taking away.  	Consolidate their learning from KS1 by using an empty number line to calculate larger numbers.  Children will also be able to draw representations of dienes cubes and place value counters by crossing out the number being taken away.  	  Children to further secure their knowledge using the **partitioning method** but will start to lay their work out using the column method approach. Tens and ones will be subtracted to form partial sums and then these partial sums will be added together to find the total.

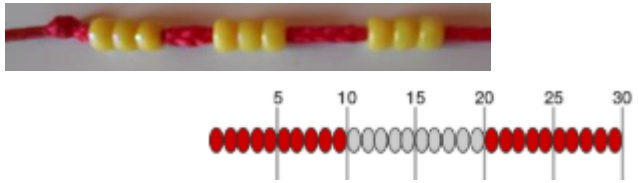
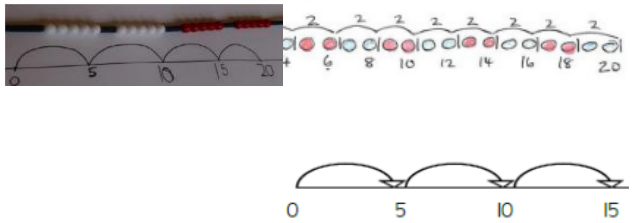
Stage 2	Children begin to set out HTO - HTO using dienes cubes and place value counters (that cross the tens boundary) in columns and record as column subtraction with decomposition. Teach children how to exchange units of numbers.  	Children may draw dienes cubes or place value counters and cross off showing their understanding of taking away. They will need to represent any exchanging that takes place.  	**Partitioning method - with exchanging** Children will use the partitioning method to show exchanging.  Once confident, children can start to use the column method. 
Stage 3	Children continue to develop their confidence in using dienes cubes and place value counters to show decomposition using the column method. 	Children draw representations from concrete activities using dienes cubes and place value counters. 	**Column Method** Children continue to use column method to subtract larger numbers. 

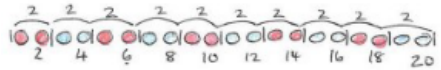
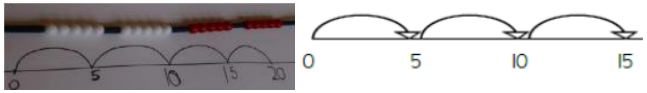
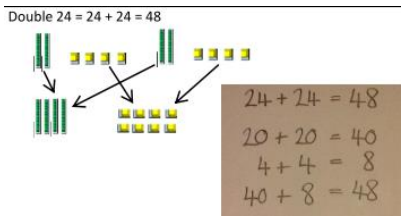
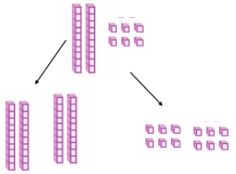
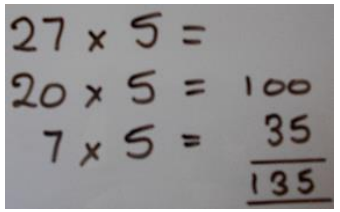
Calculation Policy

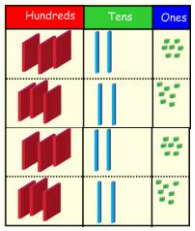
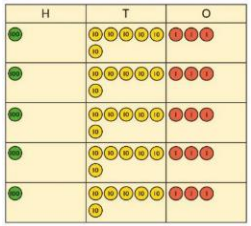
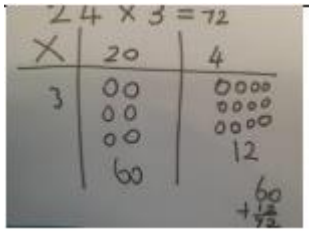
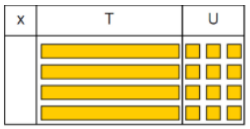
SUBTRACTION - Upper KS2 (Years 5 & 6)			
	Concrete	Pictorial	Abstract
Stage 1	Place value counters are revisited to model decomposition for all. Concrete apparatus and pictorial representations should still be used to support children who may be struggling with abstract concepts. Concrete apparatus should be readily available for lower achieving children and these with SEND.	Children can draw using place value counters showing how exchanging takes place between the units of numbers. 	**Column Method** Children will continue to develop their understanding of column method subtraction. Calculations will become larger. 

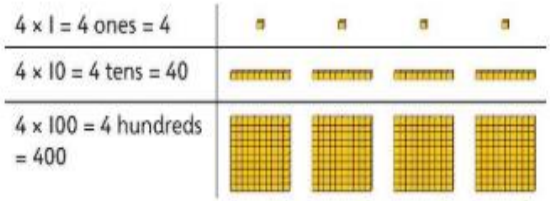
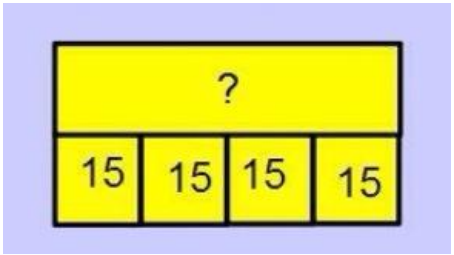
		Children also show subtraction on an empty number line using larger numbers. 	
Stage 2	Introduce decimal place value counters and model exchange for subtracting between units of numbers. 	Children will draw their representations showing where they have exchanged. 	Children will continue to develop their understanding of column method subtraction. Calculations will become larger, include decimal places and require 0 to be added as a placeholder. 
Mental	Mental methods will be encouraged heavily throughout the use of Key Stage 2 Such mental methods include: • Counting on (using place value) • Counting back (using place value) • Rounding and compensating (1,999+350 → 2,000 + 350 = 2,350 – 1 = 2,349)		

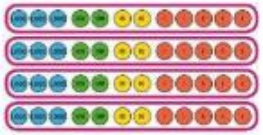
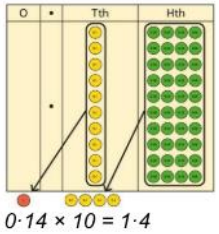
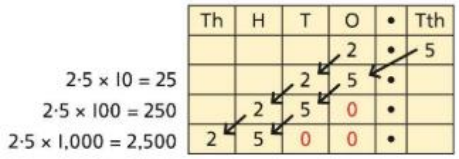
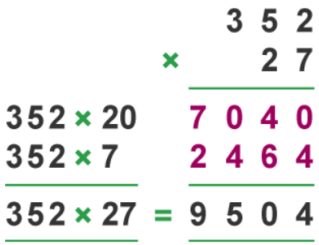
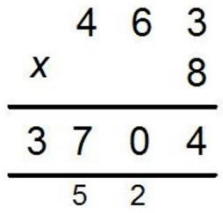
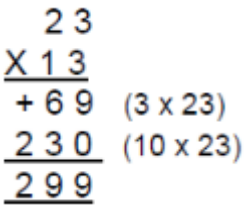
MULTIPLICATION - KS1 (Years 1&2)			
	Concrete	Pictorial	Abstract
Stage 1	**Repeated addition - Groups of multiple objects** Children will count groups of the same number of objects and add them together. The children learn about grouping in practical contexts and through pictorial representations.	Children draw representations to show counting in multiples and groups.  	Children show multiplication as repeated addition. Children may provide pictorial representations to support. 3 x 9 3 + 3 + 3 = 9
Stage 2	**Arrays** Children will be able to represent a multiplication calculation using an array and write the multiplication symbol within a number sentence. Children will also understand that multiplication can be carried out in any order (commutative).  3 x 5 = 15  5 x 3 = 15	Children draw representations to show arrays. 	Children use arrays to show how to solve multiplication calculations. Children are able to show that multiplication can be done in any order (commutative). 3 x 5 = 15 5 x 3 = 15 Introduce x sign and record as number sentence 7 x 10 = 70 4 x 5 = 20 
Stage	**Number line** Children will understand the operation of multiplication as repeated addition on a blank number line and will use practical resources to support this. Count the groups as children are skip	Children will be able to use an empty number line to show multiplication as repeated addition. The use of beadsting concrete resources may	Children show multiplication as repeated addition. 5 + 5 + 5 = 15 Introduce x sign and record as number sentence

3	counting, children may use their fingers as they are skip counting.  	be used to support conceptual understanding.  	7 x 10 = 70 4 x 5 = 20

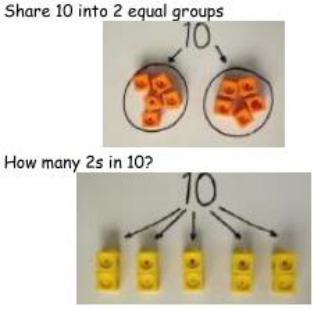
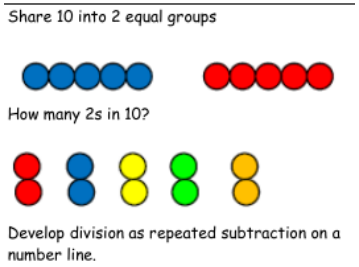
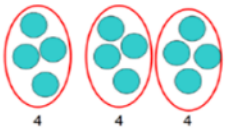
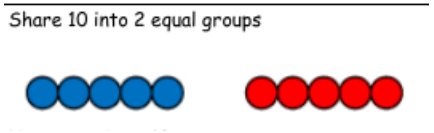
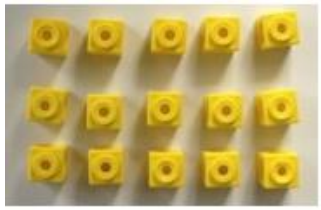
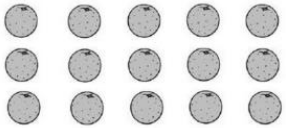
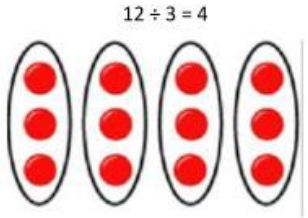
MULTIPLICATION - Lower KS2 (Years 3 & 4)			
	Concrete	Pictorial	Abstract
Stage 1	**Number line - Consolidation** Children will understand the operation of multiplication as repeated addition on a blank number line and will use practical resources to support this. Count the groups as children are skip counting, children may use their fingers as they are skip counting. Those that need it may use counters to group numbers when multiplying.	Children will be able to use an empty number line to show multiplication as repeated addition. The use of bead string concrete resources may be used to support conceptual understanding.   	Children show multiplication as repeated addition. 5 + 5 + 5 = 15 Introduce x sign and record as number sentence 7 x 10 = 70 4 x 5 = 20
Stage 2	**Partitioning** Children will learn to multiply ones and tens separately before recombing the numbers back together. They can use Dienes cube of place value counters to achieve this.  	Children can draw representations of the partitioning process to support their conceptual understanding. 26 x 2 =  40 + 12 = 52	Mentally partition a number and then multiply each part before recombining it back together. 27 x 5 = 

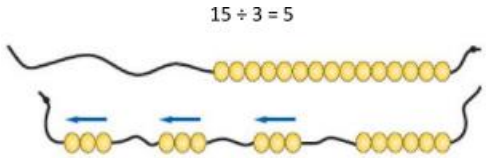
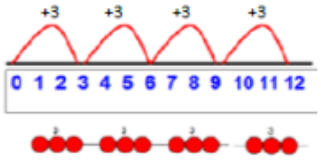
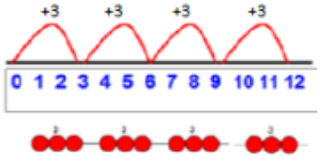
Stage 3	**Grid Method** Show the links with arrays to first introduce the grid method.  Move onto Dienes cubes to move towards a more compact method. Move on to place value counters to show how we are finding groups of a number. We are multiplying by 5 so we need 5 rows of that number.  	Pictorial representations can be made using their concrete manipulatives as visuals. They can draw the counters using colours to show different amounts or just use the circles in the different columns to show their thinking as shown.   13 x 4 = (10 x 4) + (3 x 4) = 40 + 12 = 52	Children should be able to draw the grid method for each multiplication. The grid method will be used to show how this relates to a formal written method. **Grid method** X | 30 | 6 4 | 120 | 24 Grid method may then lead to the expanded method. 36 x 4 24 (6 x 4) 120 (30 x 4) 144

	MULTIPLICATION - Upper KS2 (Years 5 & 6)		
	Concrete	Pictorial	Abstract
Stage 1	When multiplying by 10,100,1000 initial concrete resources will be used to support understanding.  	Number lines, bar models and other informal drawings may also be used to support workings out.  	The **grid method** may be used to show how this relates to a formal written method. Grid method will lead onto **expanded method** and then onto the **compact short multiplication.** **Grid method** X | 30 | 6 4 | 120 | 24 Leading to expanded method 36 x 4 24 (6 x 4) 120 (30 x 4) 144 → 36 x 4 = 144 (2) Children are also encouraged to use known facts and unitise to multiply. 5 × 4 = 20

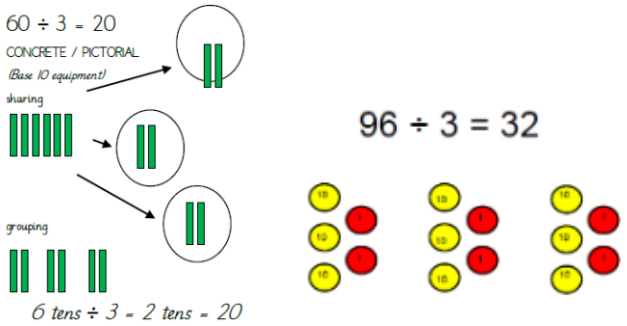
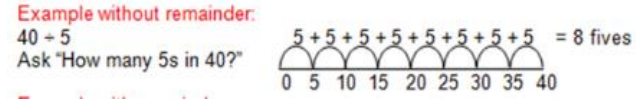
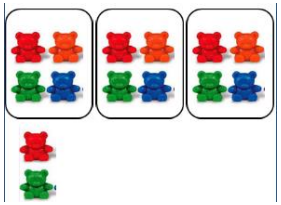
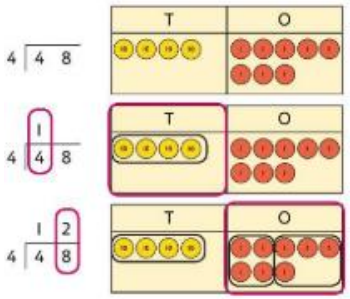
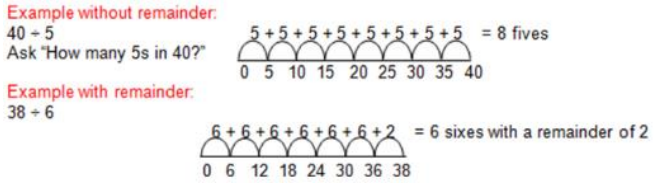
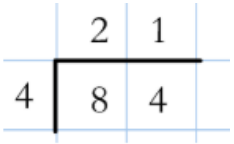
	When multiplying 3, 4 or more numbers, place value counters may also be used to follow on from previous repeated addition learning. 		5 × 40 = 200 5 × 400 = 2,000 5 × 4,000 – 20,000 5,000 × 4 = 20,000
Stage 2	When multiplying decimals by 10,100,1000 initial concrete resources will be used to support understanding to show how exchanging can take place.  *0·14 × 10 = 1·4*	This pictorial grid method will support children's understanding of multiplying by 10, 100, 1000.  	Once the children are secure, they will move on to mentally sliding all of the digits in a number to the left to make them 10, 100, 1000 times bigger etc. Please note, we **never** move the decimal place.
Formal written	**Partitioning** In this method the smaller number is partitioned.  	**Short multiplication** When multiplying 3, 4 or more digits by 1 digit, short multiplication is used.  	**Long multiplication** Children may wish to use 2 separate calculations to support their understanding. Reinforce language of place value when multiplying by multiples of 10. Extend to 3 or 4-digit numbers multiplied by a 2-digit number 

DIVISION - KS1 (Years 1&2)

	Concrete	Pictorial	Abstract
Stage 1	**Sharing and Grouping** Divide quantities into equal groups. Use cubes, counters, objects or place value counters to aid understanding. 	Use pictures to share objects. Use circles rather than dots to aid counting.   12 shared between 3 is 4	Children will be able to represent a division calculation using a pictorial method and write the division within a number sentence. 10 ÷ 2 = 5 
Stage 2	**Arrays** Link division to multiplication by creating an array and thinking about the number sentences that can be created.  Eg: 15 ÷ 3 = 5 5 x 3 = 15 15 ÷ 5 = 3 3 x 5 = 15	Draw arrays to show how pictures are divided. 	Children will be able to represent a division calculation using an array and write the division within a number sentence 
Stage	**Repeated addition and subtraction** Children will understand the operation and repeated addition or subtraction using bead strings and	Children will understand the operation of division as grouping using repeated addition or subtraction on a	Children will be able to represent a division calculation using a number line and write the division

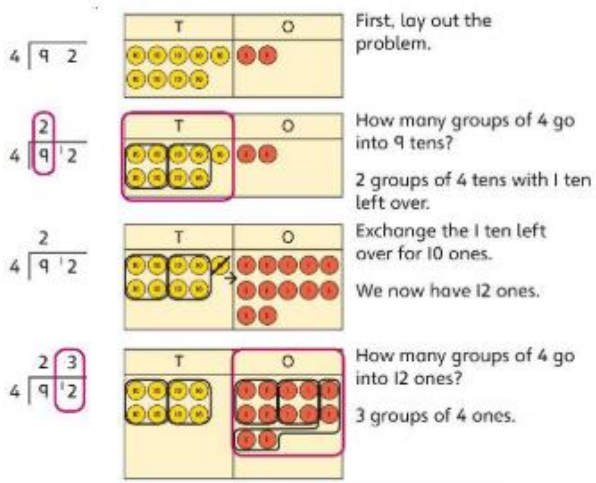
3	number lines. This will support the pictorial element. 	prepared number line.  12 ÷ 3 = 4	within a number sentence.  12 ÷ 3 = 4

DIVISION - Lower KS2 (Years 3 & 4)

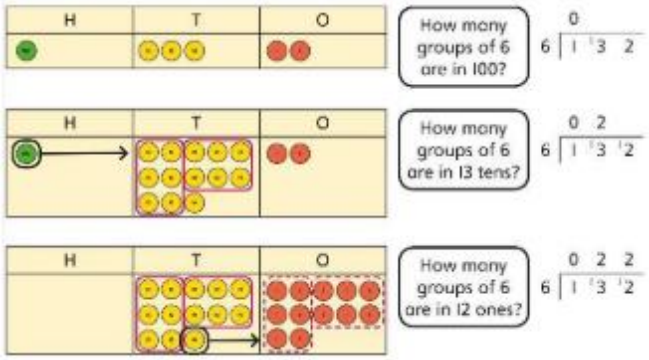
	Concrete	Pictorial	Abstract
Stage 1	**Division with no remainders through sharing.** Use concrete materials to share into groups. 	Consolidate learning from KS1 using diagrams of sharing and repeated subtraction and addition on a number line to make jumps  Concrete methods could be represented pictorially within books to show understanding.	How many groups of 6 in 24? 24 ÷ 6 = 4 Abstract methods may be supported with pictorial methods within the children's books.
Stage 2	**Division with remainder through sharing** 14 ÷ 3 = Divide objects between groups and see how much is left over.  **Beginnings of the bus stop method without remainders:** Use place value equipment on a place value grid alongside short division. The model uses grouping. 	Students can continue to use drawn diagrams with circles to help them divide numbers into equal groups. Remainders will be seen by not fitting into a whole group. Draw dots and group them to divide an amount and clearly show a remainder. 	 **Short division** Children will begin to use the formal written method of division without remainders. This will only come after a clear concept is understood using manipulatives.  Dividing by 2,3,4, and 5

Stage 3

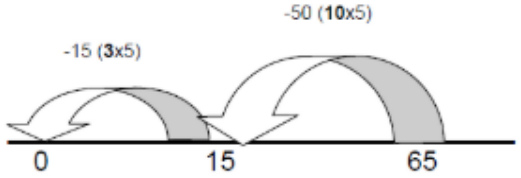
Division with remainders - Bus stop



Pictorial representations can be used to support any concrete manipulatives.

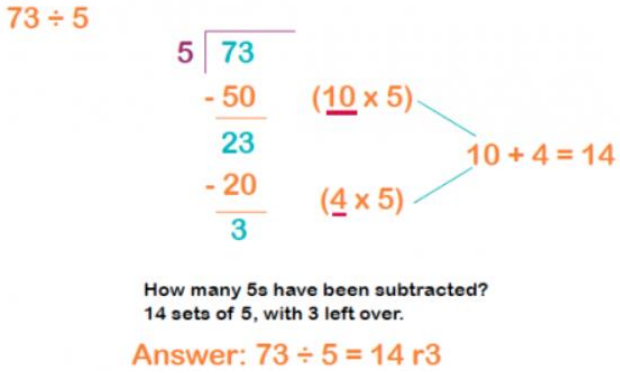


Continue to use blank number lines as appropriate, using multiples of the divisor.
65 ÷ 5 = 13



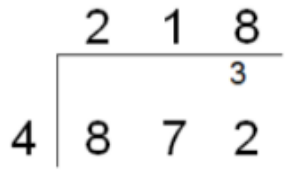
Chunking

Chunking is repeated subtraction of the divisor and multiples of the divisor.

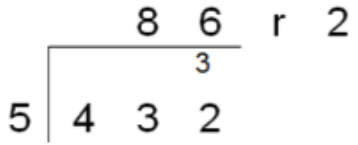


Bus Stop Method for division

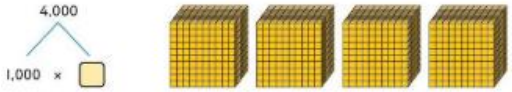
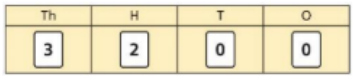
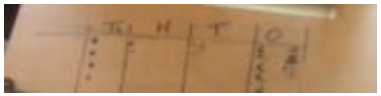
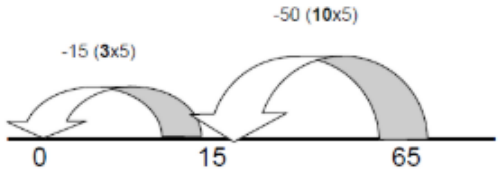
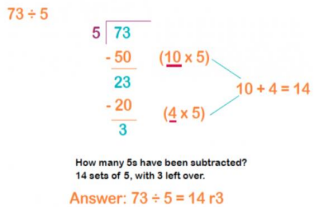
Begin with divisions that divide equally with no remainder.

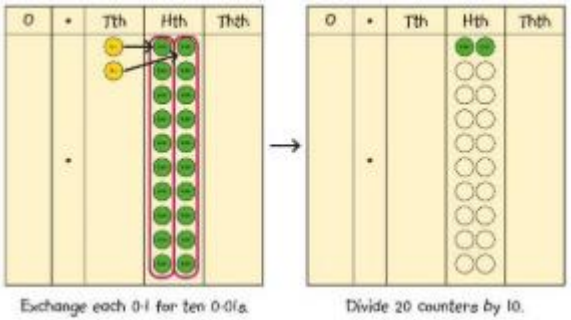
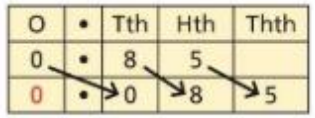
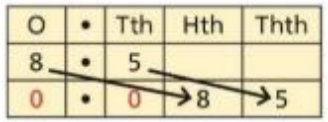
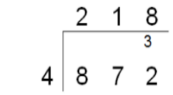
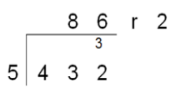
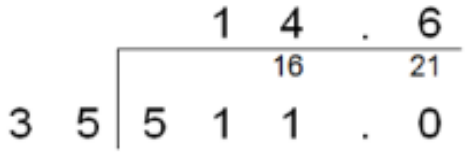


Move onto divisions with a remainder.



DIVISION - Upper KS2 (Years 5 & 6)

	Concrete	Pictorial	Abstract
Stage 1	**Dividing whole numbers by 10, 100 and 1,000** Use place value equipment to support unitising for division. *4,000 ÷ 1,000*  *4,000 is 4 thousands.* *4 × 1,000= 4,000* *So, 4,000 ÷ 1,000 = 4* **Use of a place value grid to show that you slide all of the digits to the right (1 place for 10, 2 for 100 etc) as the number is getting 10, 100, 1000 etc times smaller** 	Children may draw their own place value grids to support themselves when dividing. 	Children move on to mentally dividing whole numbers by 10, 100 and 1000.
Stage 2	**Standard division** **Continue to support those that need it with objects and resources similar to in KS1 and LKS2.**	Continue to use blank number lines as appropriate, using multiples of the divisor. 65 ÷ 5 = 13 	**Chunking** Chunking is repeated subtraction of the divisor and multiples of the divisor. 

Stage 3	**Dividing decimals by 10, 100 and 1,000** Use place value counters to represent dividing by 10, 100, 1000. Represent division using exchange on a place value grid.  Exchange each 0·1 for ten 0·01s. Divide 20 counters by 10. 0·2 is 2 tenths. 2 tenths is equivalent to 20 hundredths. 20 hundredths divided by 10 is 2 hundredths.	Represent division to show the relationship with multiplication. Understand the effect of dividing by 10, 100 and 1,000 on the digits on a place value grid.  $0{\cdot}85 \div 10 = 0{\cdot}085$  $8{\cdot}5 \div 100 = 0{\cdot}085$	Mentally dividing decimals using knowledge of digits moving to the right.
Stage 4	**Bus stop (short division) continued from LKS2 and moving on to dividing by 2-digit divisors and divisions with fractions and decimal answers.** **Place value counters may be used to show exchanging and remainders.** **Long Division - Abstract Method** Calculations will start with tens and ones and move onto more advanced division calculations.	Begin with divisions that divide equally with no remainder.  Move onto divisions with a remainder.  	

1. Divide.	2. Multiply & subtract.	3. Drop down the next digit.
t o 2 2)5 8	t o 2 2)5 8 - 4 1	t o 2 9 2)5 8 - 4 ↓ 1 8
Two goes into 5 two times, or 5 tens ÷ 2 = 2 whole tens -- but there is a remainder!	To find it, multiply 2 × 2 = 4, write that 4 under the five, and subtract to find the remainder of 1 ten.	Next, drop down the 8 of the ones next to the leftover 1 ten. You combine the remainder ten with 8 ones, and get 18.