Stratford-sub-Castle CE (VC) Primary School

Calculation Progression

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Review Date:	July 2024
To be read in conjunction with	Maths Vocabulary Progression Maths Knowledge and Skills Progression Maths 'How to' guide Maths Long Term Plan National Curriculum Unit plans & knowledge organisers
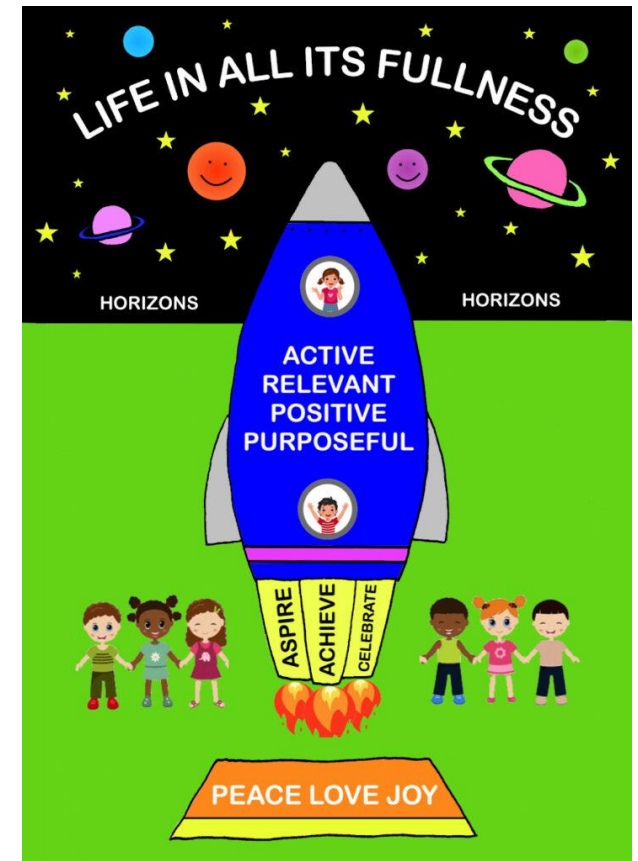
Stratford-sub-Castle Church of England VC Primary School

Calculation Progression

Introduction

The following calculation progression has been updated to link to the *White Rose Scheme of Work* that Stratford-sub-Castle Primary School has been following since September 2017. This *White Rose Calculation Policy* has been used as a basis for this calculation progression.

Mastery Teaching Approach

At Stratford-sub-Castle CE Primary School we use a mastery teaching approach to teaching to Mathematics which follows the 'Five Big Ideas in Teaching for Mastery'.

ncetm - *https://www.ncetm.org.uk/resources/50042*

Concrete Pictorial Abstract (CPA) Approach

An essential part of teaching for mastery is the CPA Approach (concrete, pictorial, abstract). The calculation progression focuses on the links between, and also the progression through, Concrete, Pictorial and Abstract. Teachers go between the three different stages to reinforce concepts.
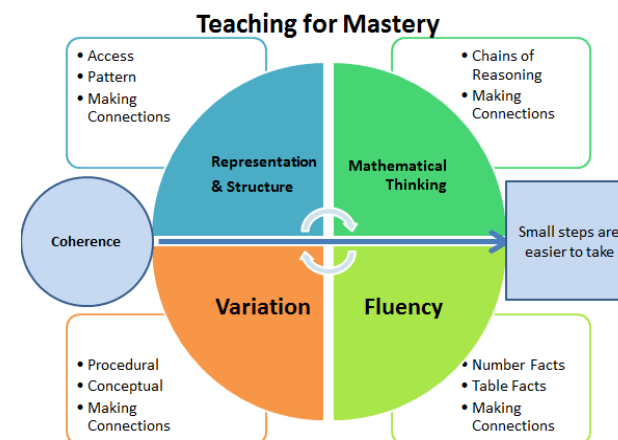
Concrete is the 'active' stage, using concrete objects/manipulatives to solve problems. Manipulatives are chosen for the pupils by the teacher. Manipulatives are selected upon the most appropriate for the concept. Teachers may vary which manipulatives are used for a concept.

Pictorial is the 'seeing' stage, using representations of the objects involved in maths problems. This stage encourages children to make a mental connection between the physical object and abstract levels of understanding, by drawing or looking at pictures, circles, diagrams or models which represent the objects in the problem.
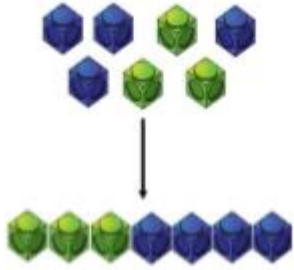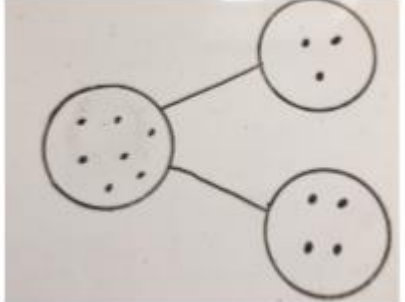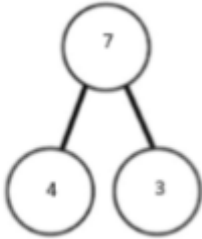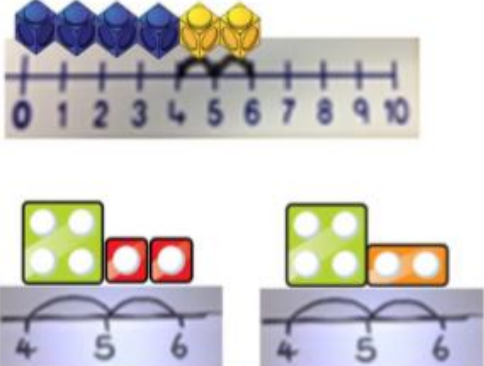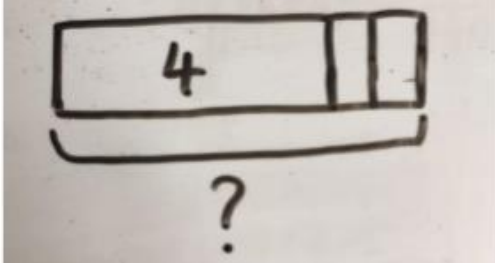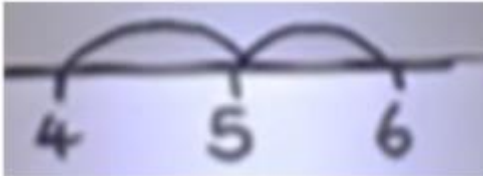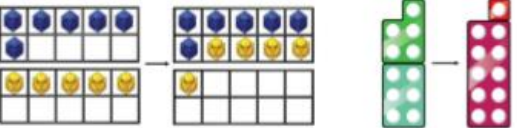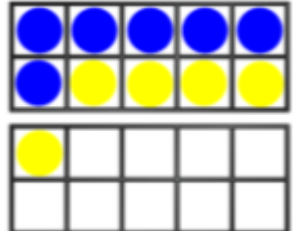
Abstract is the 'symbolic' stage, where children are able to use abstract symbols to model and solve maths problems. The 'abstract' concept is introduced when children has a firm understanding of the 'concrete' and 'pictorial.

Language

The calculation progression also includes vocabulary and stem sentences pupils are expected to use. This is to help reinforce concepts being learnt to result in greater understanding.
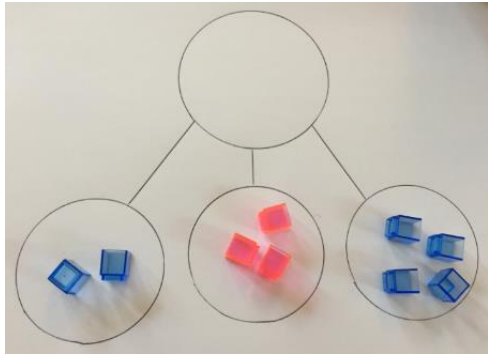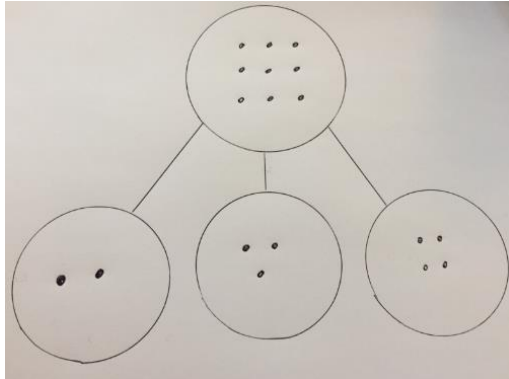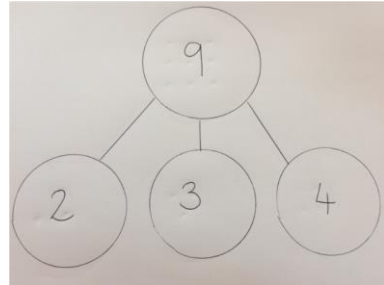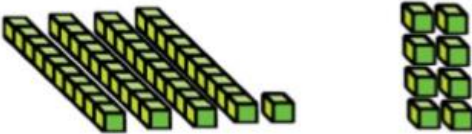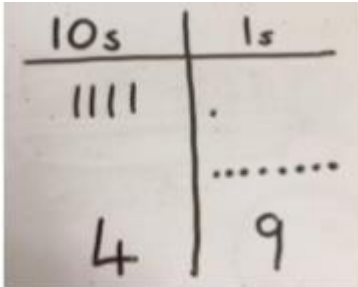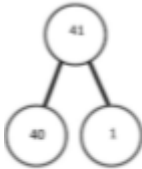
YEAR 1 – ADDITION

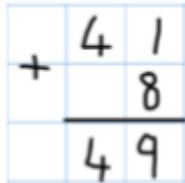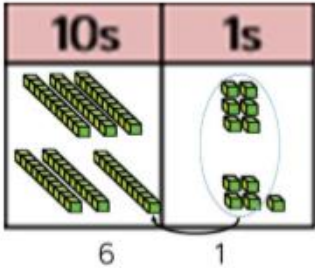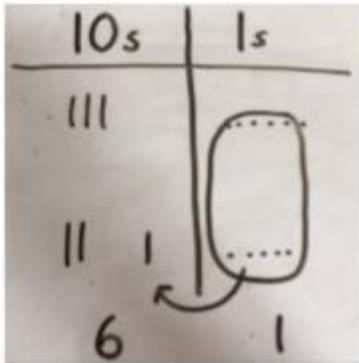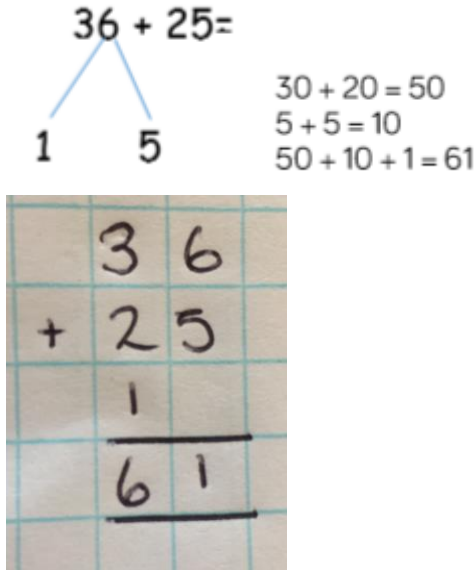|	CONCRETE	PICTORIAL	ABSTRACT
Combining two parts to make a whole	Use a range of manipulatives (e.g. cubes, shells, teddy bears)	Children to represent the cubes using dots or crosses. They could put each part on a part whole model too	$4 + 3 = 7$. Four is a part, three is a part and the whole is seven.
Counting on using number lines	Using cubes or Numicon	A bar model which encourages the children to count on, rather than count all.	The abstract number line: What is 2 more than 4? What is the sum of 2 and 4? What is the total of 4 and 2? $4 + 2$
Regrouping to make 10	Using tens frames and counters/ cubes or using Numicon $6 + 5$	Children to draw the ten frame and counters/cubes.	Children to develop and understanding of equality. $6 + \square = 11$ $6 + 5 = 5 + \square$ $6 + 5 = \square + 4$

YEAR 1 – ADDITION

VOCABULARY *(new vocab in bold/italic)*	STEM SENTENCES *(new vocab in bold/italic)*
part *whole* *total* *sum* *add* *counting* *tens* *ones* *equal* *same value* *plus* *more than*	*The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4)* *A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10)* *The total of _____ and _____ is _____ (The total of 6 and 4 is 10).*

YEAR 2 – ADDITION
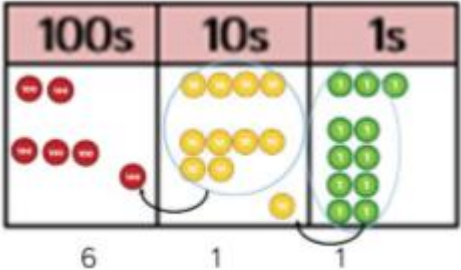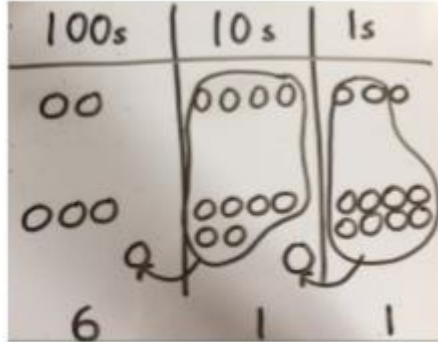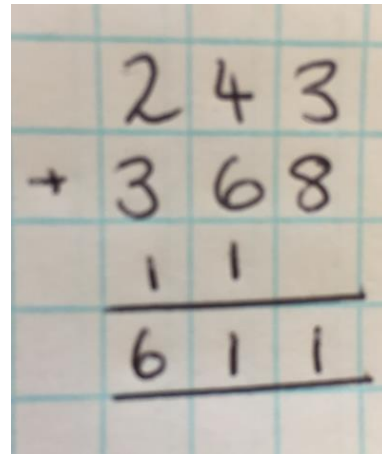
	CONCRETE	PICTORIAL	ABSTRACT
Adding 3 single digit numbers	Using manipulatives	Children to represent the cubes using dots or crosses. They could put each part on a part whole model too	2 + 3 + 4= 9. Four is a part, three is a part, two is a part and the whole is nine. | 9		
2	3	4	
TO + O using base 10.	Continue to develop understanding of partitioning and place value 41 + 8	Children to represent the base 10 (e.g. lines of tens and dot/crosses for ones).	41 +8 $1 + 8 = 9$ $40 + 9 = 49$

	CONCRETE	PICTORIAL	ABSTRACT
TO + TO using base 10.	Continue to develop understanding of partitioning and place value. 36 + 25 	Children to represent the base 10 in a place value chart. 	Looking for ways to make 10. 36 + 25= 30 + 20 = 50 5 + 5 = 10 50 + 10 + 1 = 61

YEAR 2 – ADDITION

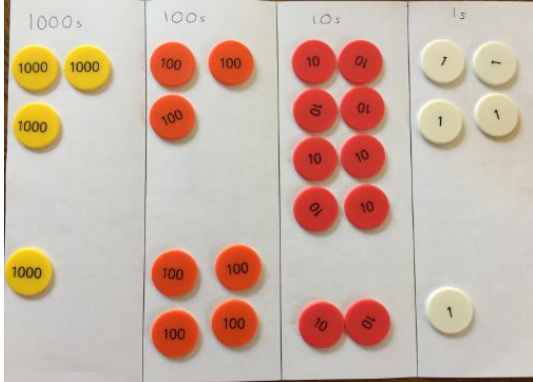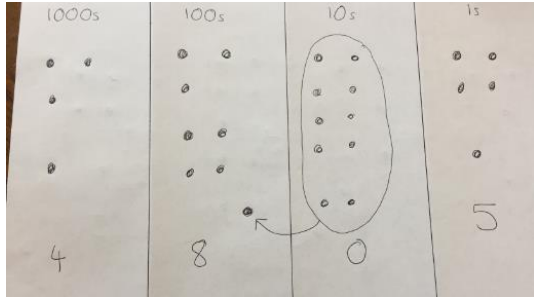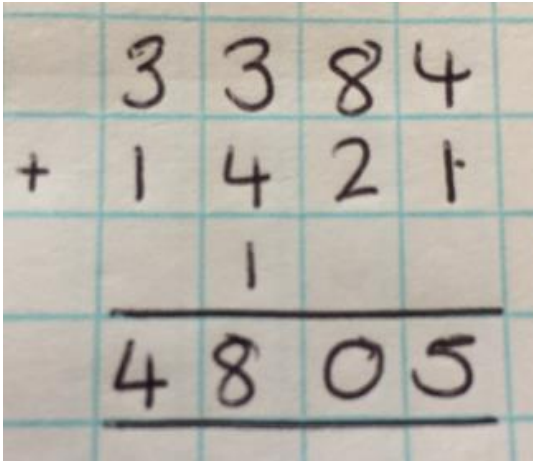| VOCABULARY *(new vocab in bold/italic)*	STEM SENTENCES *(new vocab in bold/italic)*
part whole total sum add counting tens ones equal same value plus more than	The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4) A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10) The total of _____ and _____ is _____ (The total of 6 and 4 is 10). *The sum of _____ and _____ is _____* (The sum of 6 and 4 is 10).

YEAR 3 – ADDITION

	CONCRETE	PICTORIAL	ABSTRACT
Use of place value counters to add HTO + TO, HTO + HTO etc	When there are 10 ones in the 1s column – we exchange for 1 ten; when there are 10 tens in the 10s column – we exchange for 1 hundred.	Children to represent the counters in a place value chart, circling when they make an exchange.	Formal method

YEAR 3 – ADDITION

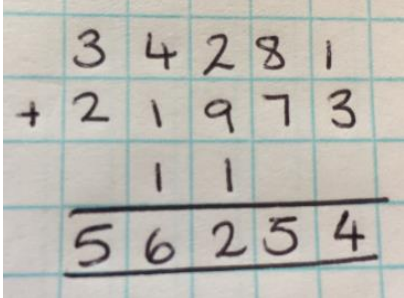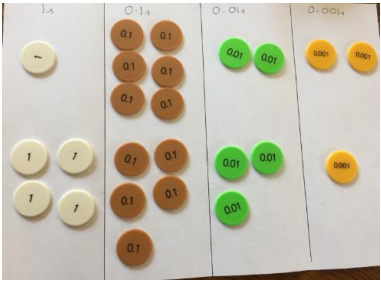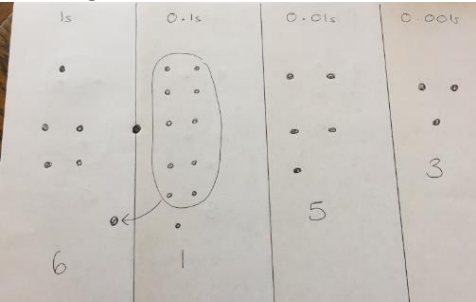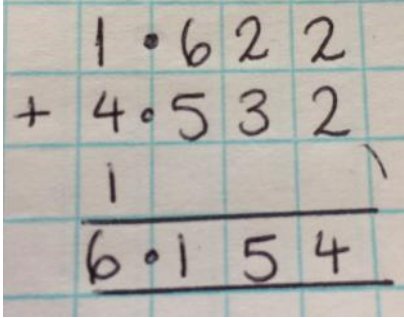| VOCABULARY (new vocab in bold/italic)						STEM SENTENCES (new vocab in bold/italic)
part	whole	total	sum	add	counting	The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4)
tens	ones	equal	same value		plus	
more than		*column*	*hundreds*		*exchange*	A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10)
						The total of _____ and _____ is _____ (The total of 6 and 4 is 10).
						The sum of _____ and _____ is _____ (The sum of 6 and 4 is 10).

YEAR 4 – ADDITION

	CONCRETE	PICTORIAL	ABSTRACT
Use of place value counters to add ThHTO + TO, ThHTO + HTO, ThHTO + ThHTO etc	When there are 10 ones in the 1s column – we exchange for 1 ten; when there are 10 tens in the 10s column – we exchange for 1 hundred; when there are 10 hundreds in the 100s column – we exchange for 1 thousand. 	Children to represent the counters in a place value chart, circling when they make an exchange. 	Formal method

YEAR 4 – ADDITION

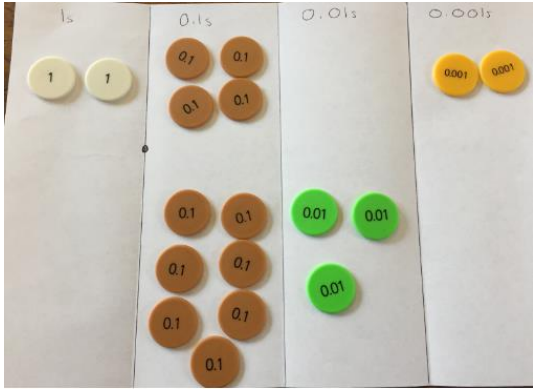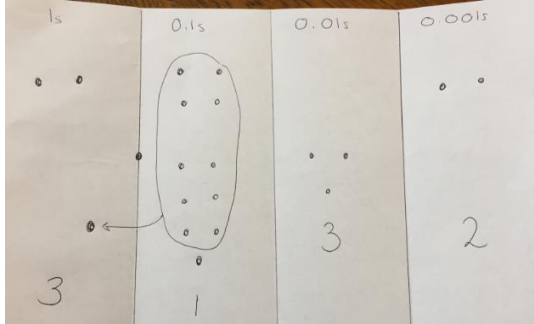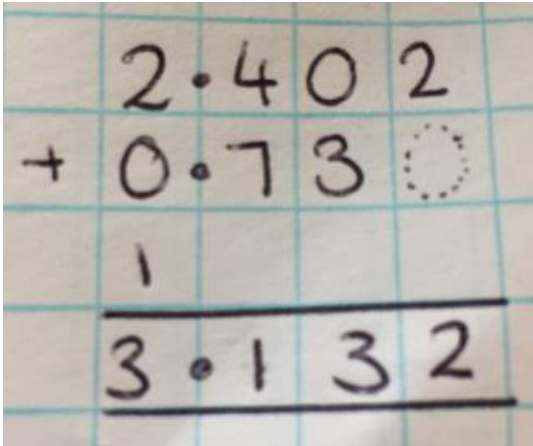| VOCABULARY *(new vocab in bold/italic)*	STEM SENTENCES *(new vocab in bold/italic)*
part　　whole　　total　　sum　　add　　counting tens　　ones　　equal　　same value　　plus 　more than　　column　　hundreds　　exchange 　　***thousands***	The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4) A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10) The total of _____ and _____ is _____ (The total of 6 and 4 is 10). The sum of _____ and _____ is _____ (The sum of 6 and 4 is 10).

YEAR 5 – ADDITION

	CONCRETE	PICTORIAL	ABSTRACT
Use of place value counters to add integers			Formal method
Use of place values to add decimals up to 3 d.p (same number of decimal places.	Exchange counters for the next base 10 unit.	Children to represent the counters in a place value chart, circling when they make an exchange.	Formal method

YEAR 5 – ADDITION

VOCABULARY *(new vocab in bold/italic)*	STEM SENTENCES *(new vocab in bold/italic)*
part whole total sum add counting tens ones equal same value plus more than column hundreds exchange thousands *decimal* *tenth* *hundredth* *thousandth*	The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4) A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10) The total of _____ and _____ is _____ (The total of 6 and 4 is 10). The sum of _____ and _____ is _____ (The sum of 6 and 4 is 10).

YEAR 6 – ADDITION

	CONCRETE	PICTORIAL	ABSTRACT
Use of place values to add decimals up to 3 d.p (different number of decimal places.	Exchange counters for the next base 10 unit.	Children to represent the counters in a place value chart, circling when they make an exchange.	Formal method

YEAR 6 – ADDITION

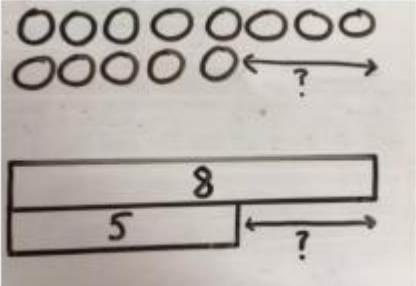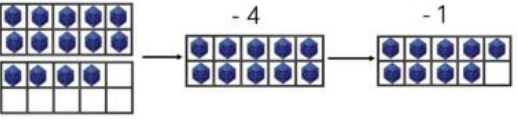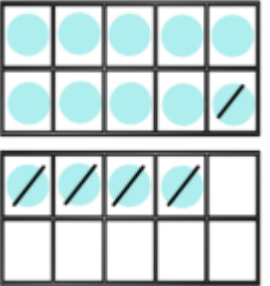| VOCABULARY (new vocab in bold/italic)						STEM SENTENCES (new vocab in bold/italic)
part	whole	total	sum	add	counting	The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4)
tens	ones	equal	same value		plus	
more than		column	hundreds		exchange	A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10)
thousands		decimal	tenth		hundredth	
thousandth						The total of _____ and _____ is _____ (The total of 6 and 4 is 10).
						The sum of _____ and _____ is _____ (The sum of 6 and 4 is 10).

YEAR 1 – SUBTRACTION

	CONCRETE	PICTORIAL	ABSTRACT
Physically taking away and removing objects from a whole.	Tens frame, Numicon, cube and other items such as bean bags could be used. $4 - 3 = 1$	Children to draw the concrete resources they are using and cross out the correct amount. The bar model can also be used. Using the part whole model –drawing dots	$4 - 3 =$ $\square = 4 - 3$ 4 3 ? 4 ? 3

	CONCRETE	PICTORIAL	ABSTRACT
Counting back	Using number lines or number tracks – children start with 6 and count back 2 $$6 - 2 = 4$$	Children to represent what they see pictorially	Children to represent the calculation on a number line or number track and show their jumps. Encourage children to use an empty number line.
Finding the difference.	Using cubes, Numicon or Cuisinaire rods, other objects can also be used. Calculate the difference between 8 and 5.	Children to draw the cubes/ other concrete objects which they have used or the bar model to illustrate that they need to calculate.	Find the difference between 8 and 5. $8 - 5$, the difference is ☐ Children to explore why $9 - 6 = 8 - 5 = 7 - 4$ have the same difference.
Making 10	Using ten frames $14 - 5$	Children to present the ten frame pictorially and discuss what they did to make 10.	Children to show how they can make 10 by partitioning the subtrahend. $$14 - 5 = 9$$ 4 1 $14 - 4 = 10$ $10 - 1 = 9$

YEAR 1 – SUBTRACTION

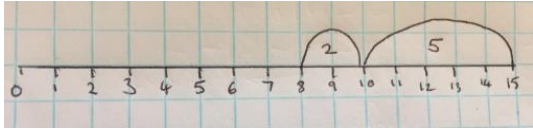| VOCABULARY *(new vocab in bold/italic)*	STEM SENTENCES *(new vocab in bold/italic)*
take away ***less than*** ***the difference*** ***subtract*** ***minus*** ***fewer*** ***decrease***	The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4) A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10) ***The difference between _____ and _____ is _____*** *(The difference between 12 and 4 is 8).*
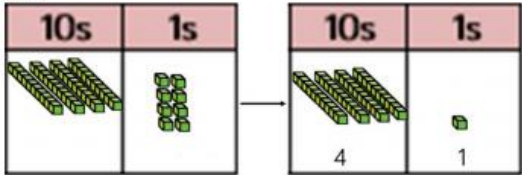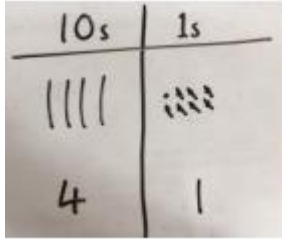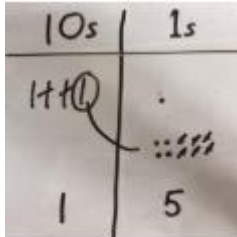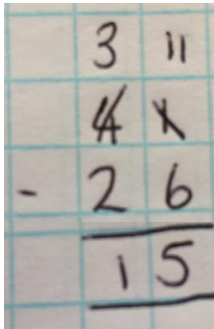
YEAR 2 – SUBTRACTION

	CONCRETE	PICTORIAL	ABSTRACT
2-digit – 1s	Using a bead string Tens frame	Bead string drawing Tens frame – cross outing	Number line
2-digit – 10s	Using dienes or place value counters	Using place value grid with circles labelled with units	Using part whole model

YEAR 2 – SUBTRACTION

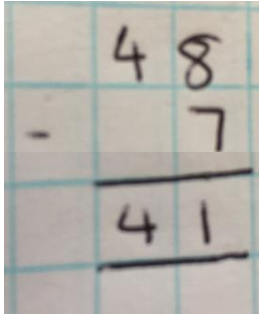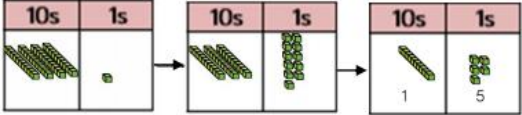| VOCABULARY *(new vocab in bold/italic)*				STEM SENTENCES *(new vocab in bold/italic)*
take away	less than	the difference	subtract	The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4)
minus fewer	decrease	***Partitioning***	***place value***	A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10)
tens	***ones***			The difference between _____ and _____ is _____ (The difference between 12 and 4 is 8).

YEAR 3 – SUBTRACTION
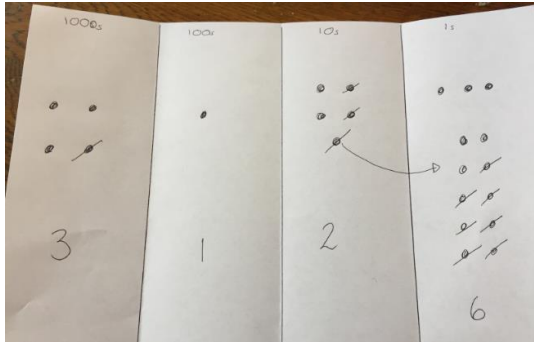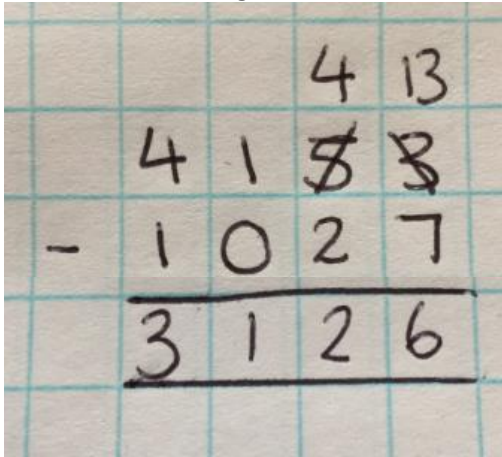
	CONCRETE	PICTORIAL	ABSTRACT
Column method TO - O	Using base 10 48-7	Children to represent the base 10 pictorially.	Column method or children could count back 7.
Column method TO - TO	Using base 10 and having to exchange 41 – 26	Represent the base 10 pictorially, remembering to show the exchange.	Formal column method. Children must understand that when they have exchanged the 10 they still have 41 because 41 = 30 +11
Column method HTO - TO	Using place value counters.	Represent the place value counters pictorially; remembering to show what has been exchanged.	Formal column method. Children must understand what has happened when they have crossed out digits.

CONCRETE	PICTORIAL	ABSTRACT
234 – 88		

YEAR 3 – SUBTRACTION

VOCABULARY (new vocab in bold/italic)				STEM SENTENCES (new vocab in bold/italic)
take away	less than	the difference	subtract	The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4)
minus fewer	decrease	partitioning	ones	A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10)
place value	tens	*column*	*exchange*	The difference between _____ and _____ is _____ (The difference between 12 and 4 is 8).
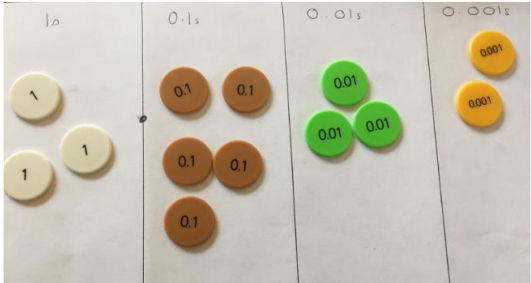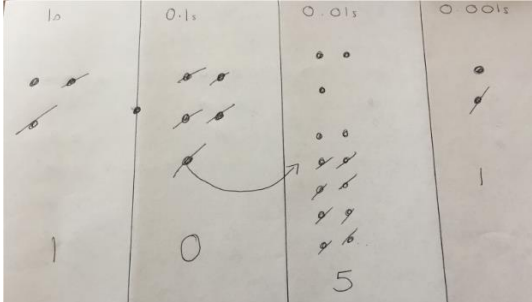
YEAR 4 – SUBTRACTION

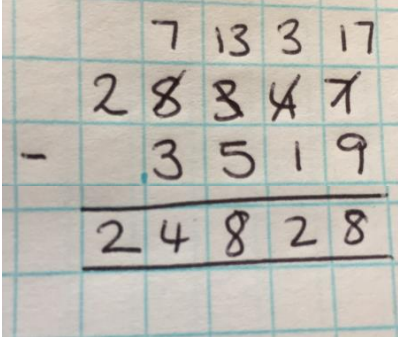|	CONCRETE	PICTORIAL	ABSTRACT
Column method 4-digit – up to 4-digit	Using place value counters.	Represent the place value counters pictorially; remembering to show what has been exchanged.	Formal column method. Children must understand what has happened when they have crossed out digits.

YEAR 4 – SUBTRACTION

VOCABULARY (new vocab in bold/italic)				STEM SENTENCES (new vocab in bold/italic)
take away	less than	the difference	subtract	The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4)
minus fewer	decrease	partitioning	ones	
place value	tens	column	exchange	A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10)
thousands				
				The difference between _____ and _____ is _____ (The difference between 12 and 4 is 8).

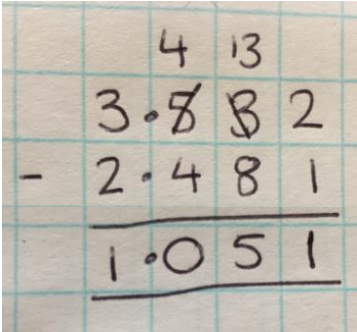# YEAR 5 – SUBTRACTION

	CONCRETE	PICTORIAL	ABSTRACT
Column method - integers			Formal column method. Children must understand what has happened when they have crossed out digits.
Column method – decimals (same number up to 3 d.p)	Using place value counters	Children to represent the counters in a place value chart, circling when they make an exchange.	Formal column method. Children must understand what has happened when they have crossed out digits.

YEAR 5 – SUBTRACTION

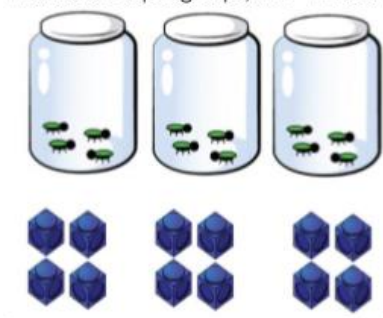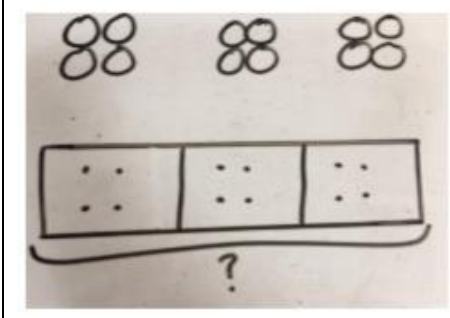| VOCABULARY *(new vocab in bold/italic)*				STEM SENTENCES *(new vocab in bold/italic)*
take away	less than	the difference	subtract	The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4) A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10) The difference between _____ and _____ is _____ (The difference between 12 and 4 is 8).
minus	fewer	decrease	partitioning	Ones	
place value		tens	column	Exchange	
thousands		*decimal*	*tenth*	*Hundredth*	
thousandth					
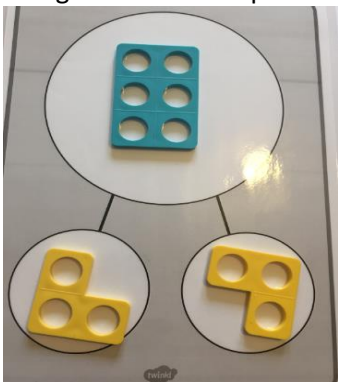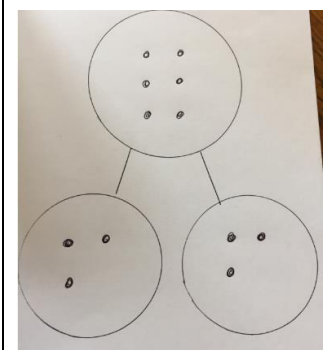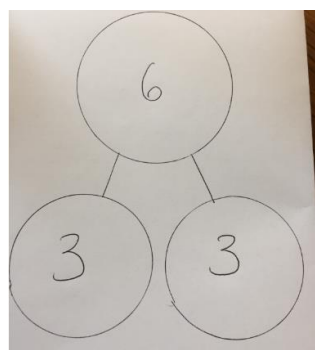
YEAR 6 – SUBTRACTION

	CONCRETE	PICTORIAL	ABSTRACT
Column method – decimals (different number up to 3 d.p)	Using place value counters	Children to represent the counters in a place value chart, circling when they make an exchange.	Formal column method. Children must understand what has happened when they have crossed out digits.

YEAR 6 – SUBTRACTION

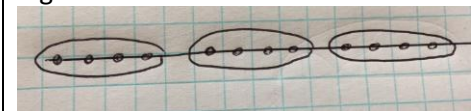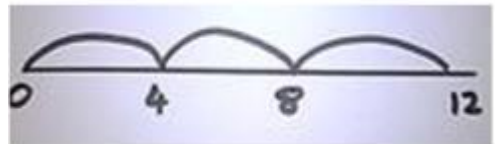| VOCABULARY *(new vocab in bold/italic)*				STEM SENTENCES *(new vocab in bold/italic)*
take away	less than	the difference	subtract	The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4)
minus fewer	decrease	partitioning	ones	
place value	tens	column	exchange	A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10)
thousands	decimal	tenth	hundredth	
thousandth				The difference between _____ and _____ is _____ (The difference between 12 and 4 is 8).

YEAR 1 – MULTIPLICATION

	CONCRETE	PICTORIAL	ABSTRACT
Repeated grouping/ repeated addition	3×4 $4 + 4 + 4$ There are 3 equal groups, with 4 in each group. 	Children to represent the practical resources in a picture and use a bar model. 	***TEACHER MODEL*** *Use alongside concrete/pictorial representation* $3 \times 4 = 12$ $4 + 4 + 4 = 12$
Numberlines to show repeated groups	Using a beadstring 3x4 	Represent this pictorially alongside a number line e.g 	***TEACHER MODEL*** *Use alongside concrete/pictorial representation* Abstract number line showing three jumps of four
Doubling	Using Numicon with part-whole model 	Using dots with part-whole model 	Using numbers with part-whole model

YEAR 1 – MULTIPLICATION

VOCABULARY *(new vocab in bold/italic)*				STEM SENTENCES *(new vocab in bold/italic)*
repeated addition	*grouping*	*equal groups of*	*double*	The whole is _____ there are _____equal parts of _____ (The whole is 24 there are 4 equal parts of 6)
multiply	*times*	*lots of*		

YEAR 2 – MULTIPLICATION

N.B. Similar strategies to Y1

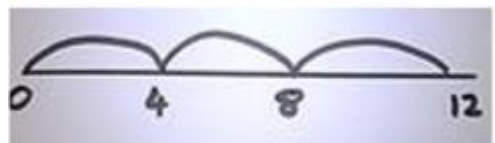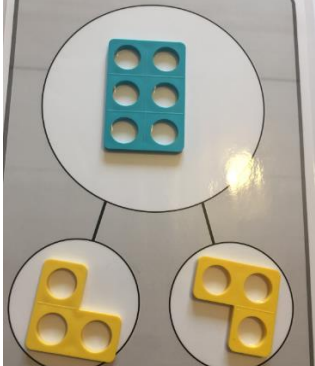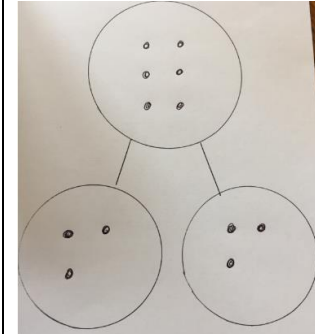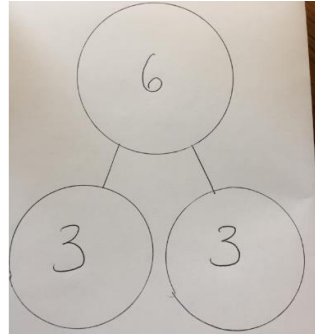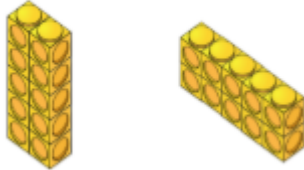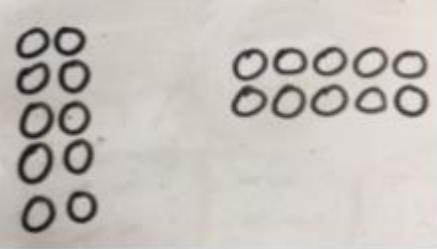|	CONCRETE	PICTORIAL	ABSTRACT
Repeated grouping/ repeated addition	3×4 $4 + 4 + 4$ There are 3 equal groups, with 4 in each group.	Children to represent the practical resources in a picture and use a bar model.	Use alongside concrete/pictorial representation $3 \times 4 = 12$ $4 + 4 + 4 = 12$
Numberlines to show repeated groups	Using a beadstring 3x4	Represent this pictorially alongside a number line e.g	Abstract number line showing three jumps of four
Doubling	Using Numicon with part-whole model	Using dots with part-whole model	Using numbers with part-whole model

	CONCRETE	PICTORIAL	ABSTRACT
Using arrays to illustrate commutativity	Counters and other objects can also be used. $2 \times 5 = 5 \times 2$ 2 lots of 5 5 lots of 2	Children to represent the arrays pictorially.	Children to be able to use an array to write a range of calculations. $10 = 2 \times 5$ $5 \times 2 = 10$ $2 + 2 + 2 + 2 + 2 = 10$ $10 = 5 + 5$

YEAR 2 – MULTIPLICATION

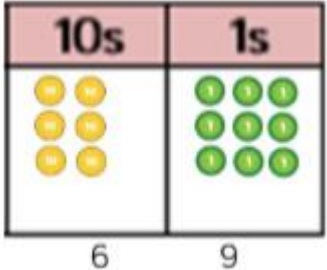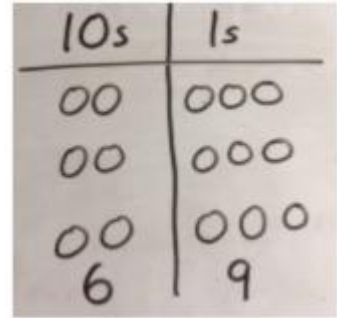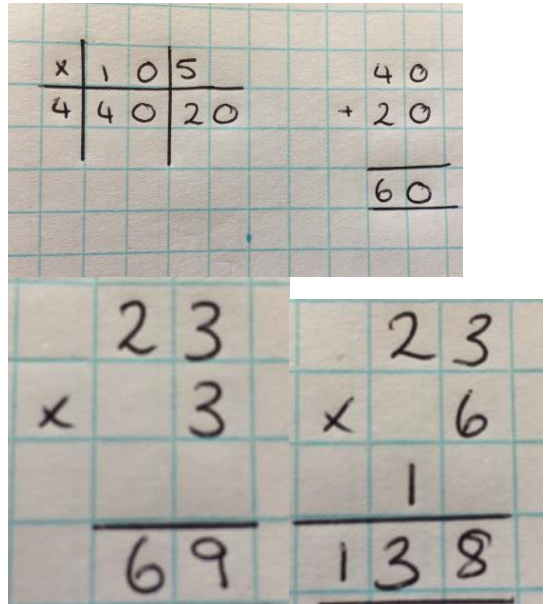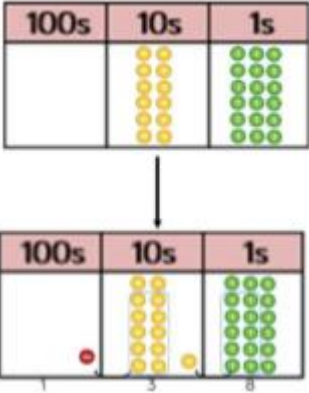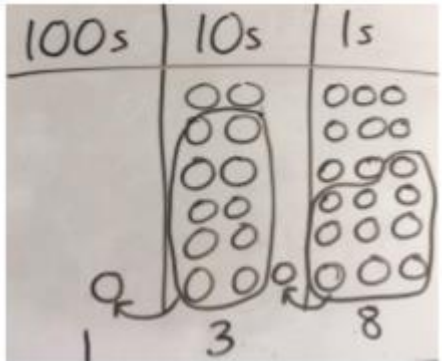| VOCABULARY (new vocab in bold/italic)	STEM SENTENCES (new vocab in bold/italic)
repeated addition grouping equal groups of double multiply times lots of *array*	The whole is _____ there are _____equal parts of _____ (The whole is 24 there are 4 equal parts of 6)

YEAR 3 – MULTIPLICATION

	CONCRETE	PICTORIAL	ABSTRACT
Partition to multiply (moving to formal method)	With place value counters 3 x 23 	Children to represent the counters pictorially 	Using grid method moving onto formal method.

YEAR 3 – MULTIPLICATION

VOCABULARY *(new vocab in bold/italic)*				STEM SENTENCES *(new vocab in bold/italic)*
repeated addition	grouping	equal groups of	double	The whole is _____ there are _____equal parts of _____ (The whole is 24 there are 4 equal parts of 6) ***The product is _____ there are _____equal groups of _____ (The product is 24 there are 4 equal groups of 6)***
multiply times	lots of	array	***partitioning***	
grid method	***product***	***short multiplication***		

YEAR 4 – MULTIPLICATION

	CONCRETE	PICTORIAL	ABSTRACT
Formal column method (including exchanging) **TO x O** **HTO x O**	With place value counters *(place value counters diagram showing 100s, 10s, 1s and exchange below)*	Children to represent the counters pictorially *(pictorial representation of counters in 100s, 10s, 1s columns)*	Using formal method. (see table below)

		2	3	5
x				6
1	2	3	
1	4	1	0

YEAR 4 – MULTIPLICATION

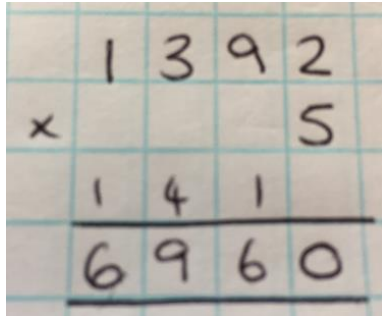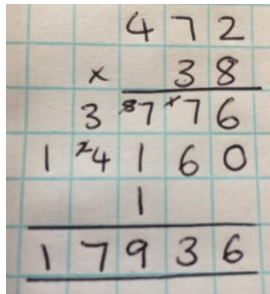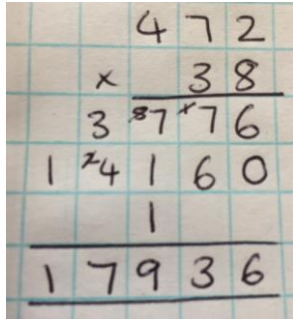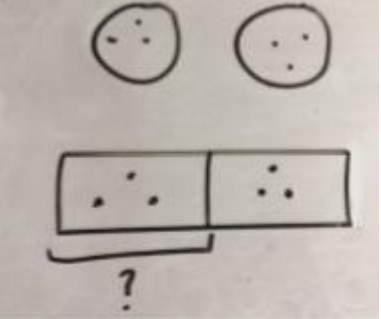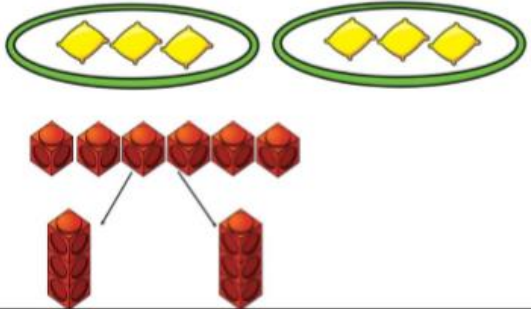| VOCABULARY *(new vocab in bold/italic)*	STEM SENTENCES *(new vocab in bold/italic)*
repeated addition grouping equal groups of double multiply times lots of array partitioning grid method product short multiplication *column* *exchange*	The whole is _____ there are _____equal parts of _____(The whole is 24 there are 4 equal parts of 6) The product is _____ there are _____equal groups of _____ (The product is 24 there are 4 equal groups of 6)

YEAR 5 – MULTIPLICATION

	CONCRETE	PICTORIAL	ABSTRACT
Short multiplication **ThHTO x O**			Using formal method.
Long multiplication **ThHTO x O**	*When children start to multiply 3d × 3d and 4d × 2d etc., they should be confident with the abstract*		Using formal method.

YEAR 5 – MULTIPLICATION

VOCABULARY *(new vocab in bold/italic)*				STEM SENTENCES *(new vocab in bold/italic)*
repeated addition	grouping	equal groups of	double	The whole is _____ there are _____equal parts of _____ (The whole is 24 there are 4 equal parts of 6)
multiply times	lots of	array	partitioning	
grid method	product	short multiplication	column	The product is _____ there are _____equal groups of _____ (The product is 24 there are 4 equal groups of 6)
exchange	*long multiplication*			

YEAR 6 – MULTIPLICATION

	CONCRETE	PICTORIAL	ABSTRACT
Long multiplication **ThHTO x O**			Using formal method.
Using known number facts			7 x 3 = 21 0.7 x 3 = 2.1 0.7 x 0.3 = 0.21 70 x 3 = 210 70 x 30 = 2100

YEAR 6 – MULTIPLICATION

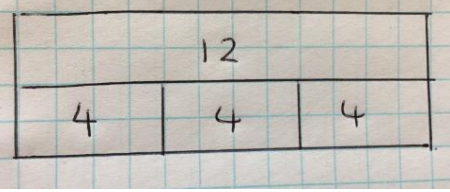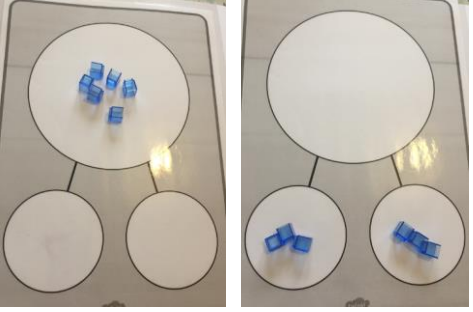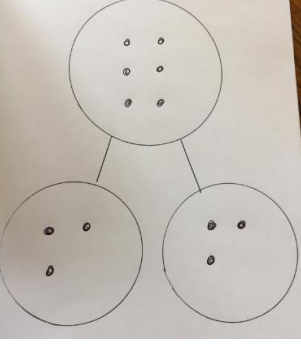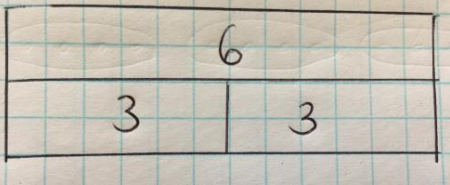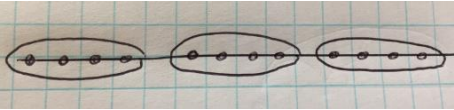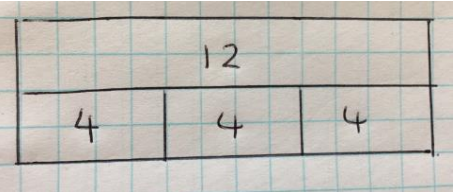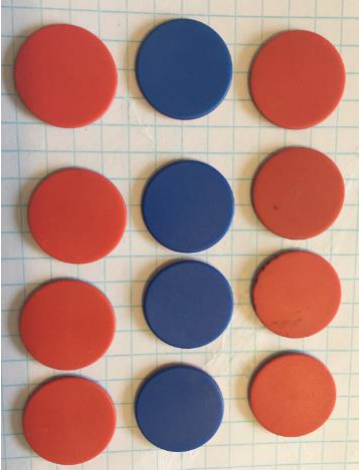| VOCABULARY *(new vocab in bold/italic)*	STEM SENTENCES *(new vocab in bold/italic)*
repeated addition grouping equal groups of double multiply times lots of array partitioning grid method product short multiplication column exchange long multiplication	The whole is _____ there are _____equal parts of _____ (The whole is 24 there are 4 equal parts of 6) The product is _____ there are _____equal groups of _____ (The product is 24 there are 4 equal groups of 6)
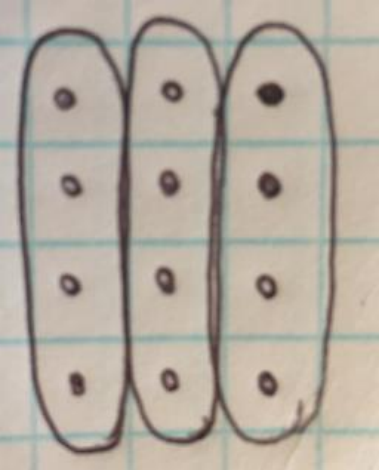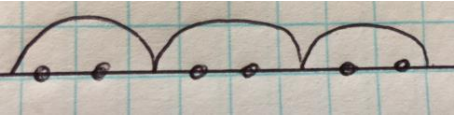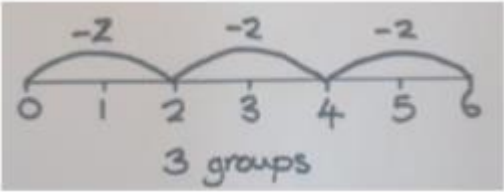
YEAR 1 –DIVISION

	CONCRETE	PICTORIAL	ABSTRACT
Sharing	Using a range of objects $6 \div 2$ 	Represent the sharing pictorially 	Using bar model $6 \div 2 = 3$ Children should also be encouraged to use their 2 times tables facts.
Grouping	Using a beadstring 	Represent the bead string pictorially 	Using bar model
Halving of even number	Using cubes 	Represent the halving pictorially 	Using bar model

YEAR 1 - DIVISION

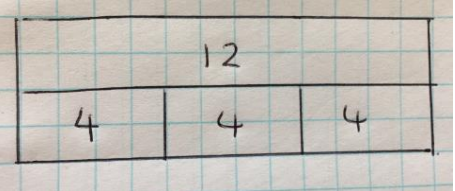| VOCABULARY (new vocab in bold/italic)				STEM SENTENCES (new vocab in bold/italic)
sharing *halving*	*divide*	*grouping*	*half*	*The whole is _____ there are _____equal parts of _____ (The whole is 24 there are 4 equal parts of 6)*
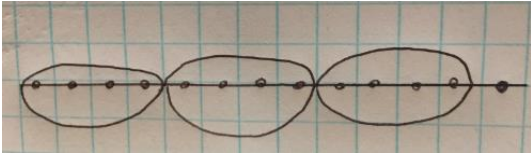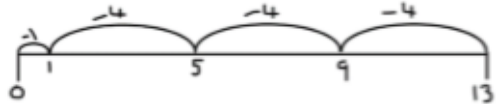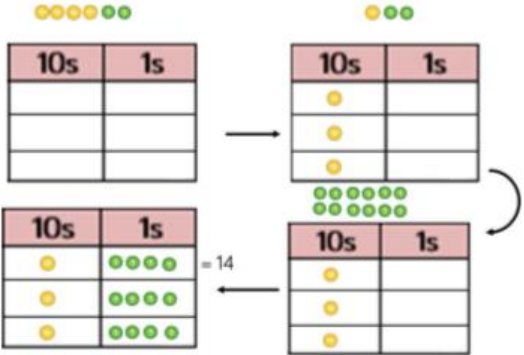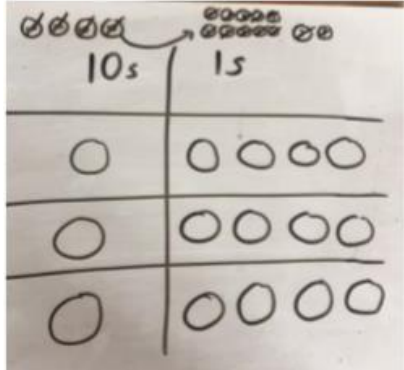
YEAR 2 –DIVISION

	CONCRETE	PICTORIAL	ABSTRACT
Grouping *Same as Y1*	Using a bead string	Represent the bead string pictorially	Using bar model
Arrays	Using cubes or counters	Represent the array pictorially	Using bar model
Repeated subtraction	Using a bead string	Children to represent the bead string pictorially	Abstract number line to represent the equal groups that have been subtracted.

YEAR 2 - DIVISION

VOCABULARY *(new vocab in bold/italic)*	STEM SENTENCES *(new vocab in bold/italic)*
sharing divide grouping half halving ***arrays*** ***repeated subtraction***	The whole is _____ there are _____equal parts of _____ (The whole is 24 there are 4 equal parts of 6)

YEAR 3 –DIVISION

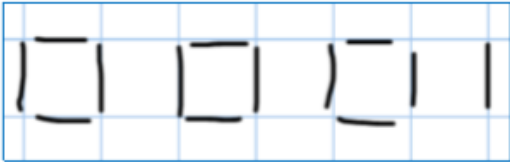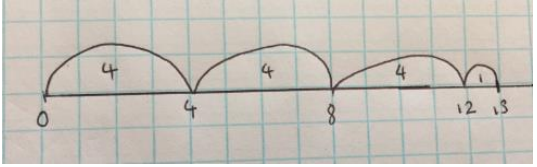|	CONCRETE	PICTORIAL	ABSTRACT
TO÷O with remainders	Using a bead string Using lollipop sticks. 13 ÷ 4 Use of lollipop sticks to form wholes- squares are made because we are dividing by 4. There are 3 whole squares, with 1 left over.	Represent the bead string pictorially Represent the lollipop sticks pictorially There are 3 whole squares, with 1 left over.	Using number line 13 ÷ 4 – 3 remainder 1 Children should be encouraged to use their times table facts; they could also represent repeated addition on a number line. '3 groups of 4, with 1 left over' <u>Times tables Facts</u> <u>Repeated Subtraction</u>
Sharing	Using place value counters 42 ÷ 3 = 14	Children to represent the place value pictorially	Write calculation to show steps 42 ÷ 3 42 = 30 + 12 30 ÷ 3 = 10 12 ÷ 3 = 4 10 + 4 = 14

YEAR 3 - DIVISION

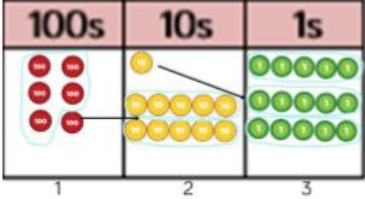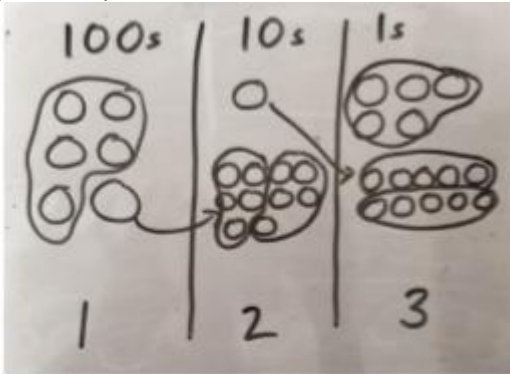| VOCABULARY *(new vocab in bold/italic)*	STEM SENTENCES *(new vocab in bold/italic)*
sharing divide grouping half halving arrays repeated subtraction ***remainders***	The whole is _____ there are _____equal parts of _____ (The whole is 24 there are 4 equal parts of 6) ***The whole is _____ there are _____equal parts of _____ and _____ remainders** (The whole is 26 there are 4 equal parts of 6 and 2 remainders)*

YEAR 4 –DIVISION

	CONCRETE	PICTORIAL	ABSTRACT
Short division	Using place value counters to group. 615 ÷ 5 1. Make 615 with place value counters. 2. How many groups of 5 hundreds can you make with 6 hundred counters? 3. Exchange 1 hundred for 10 tens. 4. How many groups of 5 tens can you make with 11 ten counters? 5. Exchange 1 ten for 10 ones. 6. How many groups of 5 ones can you make with 15 ones?	Represent the place value counters pictorially.	Use the short division scaffold to calculate

YEAR 4 - DIVISION

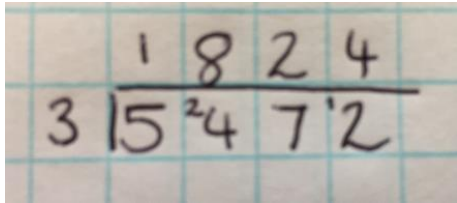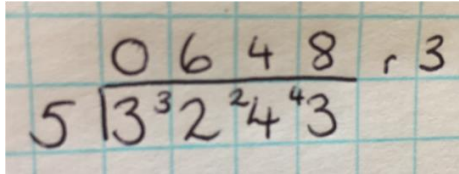| VOCABULARY (new vocab in bold/italic)	STEM SENTENCES (new vocab in bold/italic)
sharing divide grouping half halving arrays repeated subtraction remainders *short division* *bus shelter*	The whole is _____ there are _____equal parts of _____ (The whole is 24 there are 4 equal parts of 6) The whole is _____ there are _____equal parts of _____ and _____ remainders (The whole is 26 there are 4 equal parts of 6 and 2 remainders)

YEAR 5 –DIVISION
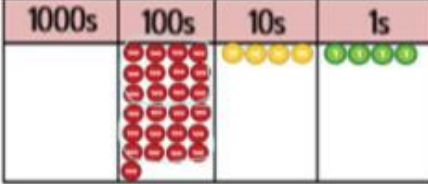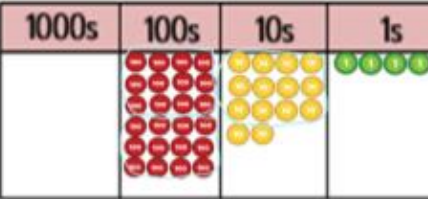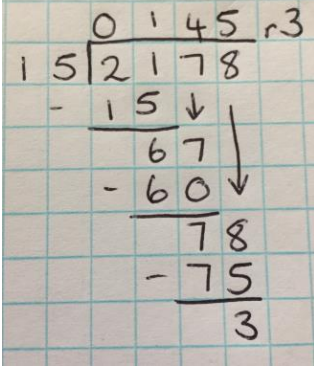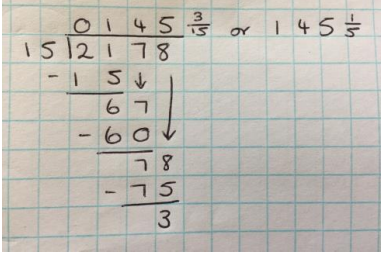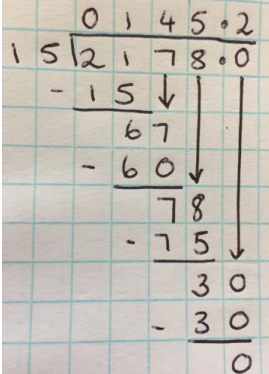
	CONCRETE	PICTORIAL	ABSTRACT
Short division **Up to** **ThHTO ÷O**			Using formal method $\begin{array}{r} {}^{1}8\;2\;4 \\ \hline 3\,)\,5\,{}^{2}4\;7\,{}^{1}2 \end{array}$

YEAR 5 - DIVISION

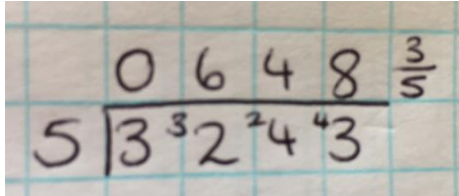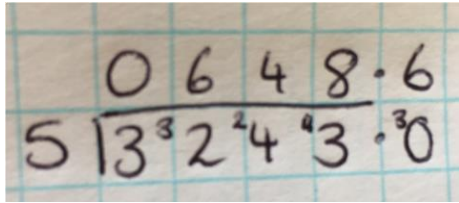| VOCABULARY *(new vocab in bold/italic)*	STEM SENTENCES *(new vocab in bold/italic)*
sharing divide grouping half halving arrays repeated subtraction remainders short division bus shelter	The whole is _____ there are _____equal parts of _____ (The whole is 24 there are 4 equal parts of 6) The whole is _____ there are _____equal parts of _____ and _____ remainders (The whole is 26 there are 4 equal parts of 6 and 2 remainders) ***The quotient of _____ and _____ is _____*** *(The quotient of 24 and 6 is 4)*

YEAR 6 –DIVISION

	CONCRETE	PICTORIAL	ABSTRACT
Short division **Interpret remainders as whole numbers, fractions or decimals**			Using formal method <u>Whole Number Remainder</u> <u>Fraction Remainder</u> <u>Decimal Remainder</u>

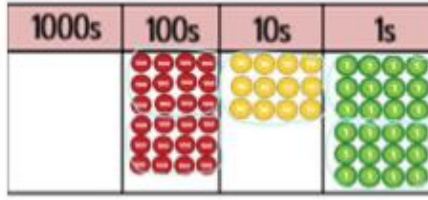|	CONCRETE	PICTORIAL	ABSTRACT
Long division **Interpret remainders as whole numbers, fractions or decimals**	$2544 \div 12$ 	1000s, 100s, 10s, 1s We can't group 2 thousands into groups of 12 so will exchange them. 1000s, 100s, 10s, 1s We can group 24 hundreds into groups of 12 which leaves with 1 hundred. After exchanging the hundred, we have 14 tens. We can group 12 tens into a group of 12, which leaves 2 tens. After exchanging the 2 tens, we have 24 ones. We can group 24 ones into 2 group of 12, which leaves no remainder.	Using formal method Whole Number Remainder Fraction Remainder Decimal Remainder

YEAR 6 - DIVISION

VOCABULARY *(new vocab in bold/italic)*	STEM SENTENCES *(new vocab in bold/italic)*
sharing divide grouping half halving arrays repeated subtraction remainders short division bus shelter ***long divsion***	The whole is _____ there are _____equal parts of _____ (The whole is 24 there are 4 equal parts of 6) The whole is _____ there are _____equal parts of _____ and _____ remainders (The whole is 26 there are 4 equal parts of 6 and 2 remainders) The quotient of _____ and _____ is _____ (The quotient of 24 and 6 is 4)