

eat.uk.com

@EthosAcadTrust

Company Registration Number: 10745840 (England and Wales)

Engage Academy

Maths

2025



Nurturing inclusive learning communities

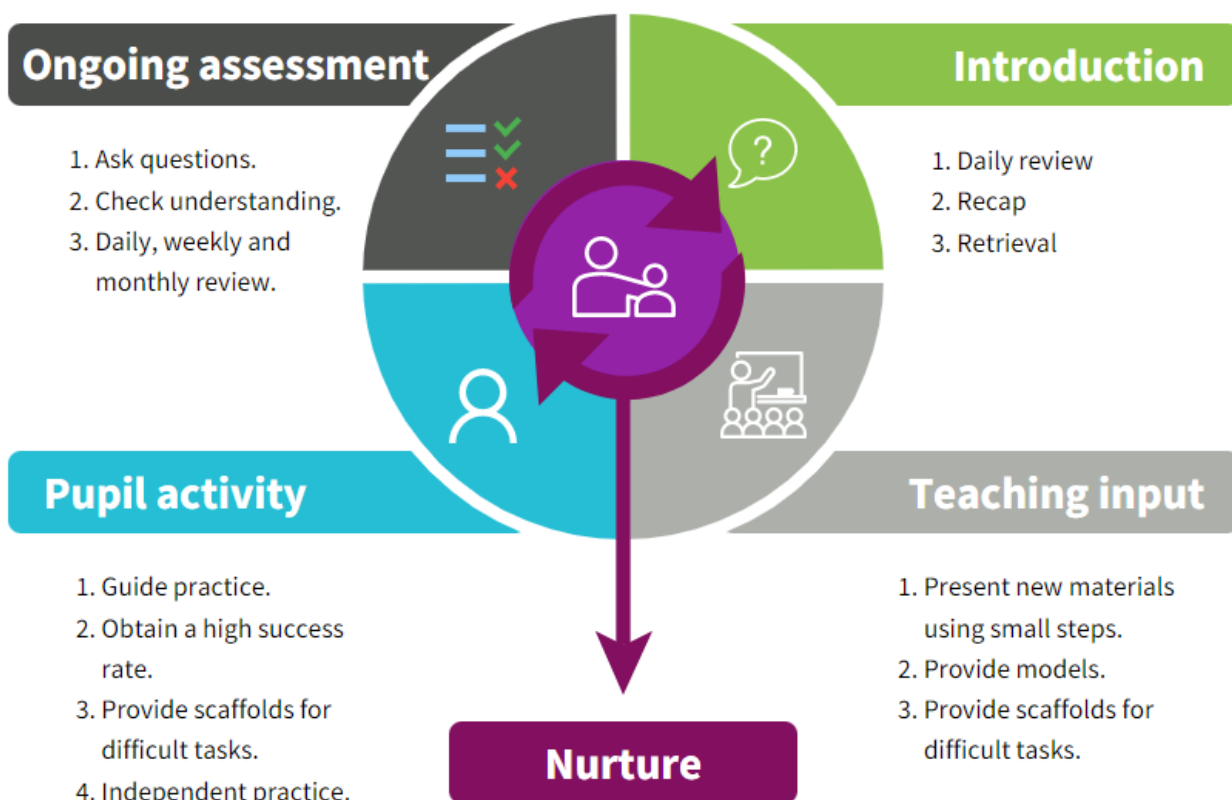


THE CURRICULUM INTENT AND SEQUENCE

1	THE INTENT OF THE CURRICULUM
	Maths is a core subject which pupils will access daily to recall, develop and build on the knowledge and skills they require to prepare them for the opportunities and experiences ahead of them. Mathematical skill is an aspect which pupils will need when they move on from the academy and the curriculum aim to have them engaged in mathematical skill within their learning capacity, that challenges their learning level and to understand maths can be fun. The curriculum will address the pupil's specific needs in maths and be built around the understanding of the pupils SEMH needs. This means maths will be practised daily, in one format or another for every pupil which is suited to their needs. The strand pupils are placed in means that the curriculum will be ambitious to those who need to be challenged further but also include all pupils who need to be challenged at their level. The curriculum has three priorities; • To engage pupils in daily maths learning, • Challenge pupils mathematically at the appropriate level, • Build and develop on pupils mental maths skill and speed of recall.
2	THE IMPLEMENTATION OF THE CURRICULUM
	Maths will be taught to a level in class that meets the specific level of the pupils and will follow the outline of strand 1, 2 or 3 below. This will follow an adapted Long-Term Plan (LTP) which is underpinned using WRMH (White Rose Maths Hub) learning steps for pupils who can access the appropriate year groups learning for their knowledge. It may be that certain pupils have to move below their year group learning step in certain areas of the LTP so that gaps in knowledge can be addressed. This means that the curriculum can be fluid and address the needs of the pupil their and then. The Long-Term Plan allows pupils to revisit and build upon existing knowledge for core areas across the academic year and allows for a personalised maths learning path to ensure they have appropriate building blocks prior to moving onto new concepts. This means teachers will have to know pupils learning levels thoroughly to make sure the pupil is following the correct learning strand and appropriate learning step.
3	THE IMPACT OF THE CURRICULUM

As a result of a curriculum which holds individuals pupils needs at heart that can be fluid, pupils will be able to either re-engage in maths learning, build and develop on prior knowledge or be challenged to attain further in their maths when they join Engage academy. The learning pupils will be taking part in will flow from day to day and enable pupils to see the maths learning journey they have been on. This could be from being able to write the numbers 1-5 to writing up to 20 or from knowing only addition and subtraction methods to being confident with all three. In any way, the journey will be personal and the pupils will be able to reflect on this. As the pupils develop through the strands, the daily mental math develops for them to continue to practice areas specific to them and continue to practice elements they have been learning in class. This then cements their knowledge so they are prepared for opportunities, and experiences ahead.

What do our lessons look like?



All lessons are underpinned by the 6 principles of nurture ensuring that:

1. Children's learning is understood developmentally.
2. The classroom offers a safe base.
3. Nurture is important for the development of self-esteem.
4. Language is understood as a vital means of communication.
5. All behaviour is communication.
6. Transitions are significant in the lives of children.

Strategies	What do we expect to see in lessons?
Daily review	Pupils given immediate feedback by supporting adult. AFL by the teacher.
Present new materials using small steps	Teacher to guide pupils through new materials in small steps, asking for feedback and allowing pupils to attempt alongside an adult.
Provide models	Teacher to model examples to pupils. Follow concrete, pictorial and abstract learning.
Provide scaffolds for difficult tasks	Access to manipulatives and maths resources for adults to suggest or pupils to independently retrieve. Provide appropriate framework, guidance or materials for pupil to succeed with

	calculation. Follow concrete, pictorial and abstract learning.
Guided practice	Adult and pupil to work in tandem to answer questions to allow pupil to build confidence in learning before moving on to independent learning.
Obtain a high success rate	Supporting adult to provide instant feedback, intervention and address misconceptions so pupil can answer question successfully there and then.
Independent practice	Pupil to work without adult support once teacher has provided input.
Weekly and monthly review	Teacher to use AFL to support and guide learning that week and review short term planning.

SKILLS PROGRESSION

The skills progression of the pupils in mathematics depends on each individual pupil and the progress strand they are assessed on whilst at Engage academy. Outlined below is what is expected to be seen in progress of the pupil within the strand they are on.

1	2	3
The learners on strand one will be able to access the WRMH scheme at either ARE or a year below. This will mean they will be able to closely follow the skill progression of the WRMS learning steps and teachers should refer to the scheme guidance for each unit to support them. There will possibly be some gaps in their learning in other areas which go further below this level. When accessing the maths lesson, the pupils will follow a structure of the lesson (as outlined in the scheme) and in each lesson, for the skill taught, move from concrete to pictorial to abstract. They then will	The learners on strand two may be able to access some of the WRMH scheme within their Key Stage. The pupil may exceed in some areas of maths but have large gaps in others. This will mean that the pupils won't be able to constantly follow the same year group of learning and at times may have to dip into learning which is 2/3 years below their own year group. Pupils will be comfortable with concrete and pictorial learning and may need support with abstract. The pupils in this strand needs the teacher to understand the pupils' strengths and weakness and use of constant AFL	The learners on strand 4 will be working on re-engaging with maths learning and enjoying maths learning. The pupils might be able to access some of the WRMH within or outside their Key Stage for some aspects of maths or need to complete maths work using concrete learning only and play based learning. Some pupils will be able to move onto pictorial and abstract in some areas but potentially struggle in others due to large gaps or knowledge. Pupils on this strand will need to have daily mental maths to help secure their maths learning. This will need to progress as follows:

be able to attempt reasoning and problem solving, with some pupils needing support to achieve success. Mental maths should be assessment of previous learning, addressing gaps in knowledge and recall of maths facts and times tables rapid recall.	to be able to make sure they are accessing the correct content to make skills progression. If this is done correctly, it could provide opportunity for the pupil to make accelerated learning and plug the gaps in their learning. Teachers will have to refer to different year group starting points and understand the calculation policy. Teachers should still be referring to the scheme guidance for support and look at different year groups. Pupils will need to access mental maths skills as outlined in strand 3.	• Daily counting up and back • Number bonds to 10, • Number bonds to 20, • Addition within 10, • Single digit fact families • Addition within 20, • Counting in 2, 5 and 10's, • Number bonds to 50 and 100. When pupils progress beyond these mental maths skills, the teacher should address areas which they have found during their teaching. This could be along the lines of fact families for larger numbers, times tables, adding/subtracting multiples of 10, 100, 1000 etc. The learning for the 4 methods will be addressing phase 1-3 in the calculation policy.
--	--	---

The calculation policy (Appendix A) for Engage academy outlines the skills progression for addition, subtraction, multiplication and division. This document is to support and help staff and parents to support the pupils when calculation and the methods being taught are the same in all classes across school and at home. This will need to be referred to in addition to WRMH scheme when teaching methods to the pupils.

Curriculum overview

LTP

Autumn Term

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Autumn 1	Place Value	Place Value	Place Value	Addition	Addition/subtraction	Subtraction
Autumn 2	Subtraction	Multiplication	Multiplication	Shape	Money	Length

Spring Term

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Spring 1	Place Value	Place Value	Addition	Addition/Subtraction	Addition/ Subtraction	Multiplication
Spring 2	Multiplication/Division	Division	Division	Shape	Money (Addition and Subtraction)	Length (Addition and Subtraction)

Summer Term

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Summer 1	Place Value	Addition/subtraction	Multiplication/Division	Shape	Money (Addition and Subtraction)	Length (Addition and Subtraction)
Summer 2	Mass/Volume (Addition and Subtraction)	Fractions (Multiplication and Division)	Fractions (Multiplication and Division)	Practical Application of Maths to project-based work or activities	Practical Application of Maths to project-based work or activities	Practical Application of Maths to project-based work or activities

Learning Steps - Place Value

Reception

Step 1	Find 1, 2 and 3
Step 2	Subitise 1, 2 and 3
Step 3	Represent 1, 2 and 3
Step 4	1 more
Step 5	1 less
Step 6	Composition of 1, 2 and 3

Step 1	Find 4 and 5
Step 2	Subitise 4 and 5
Step 3	Represent 4 and 5
Step 4	1 more
Step 5	1 less
Step 6	Composition of 4 and 5
Step 7	Composition of 1-5

Step 1	Introduce zero
Step 2	Find 0 to 5
Step 3	Subitise 0 to 5
Step 4	Represent 0 to 5
Step 5	1 more
Step 6	1 less
Step 7	Composition
Step 8	Conceptual subitising to 5

Step 1	Find 6, 7 and 8
Step 2	Represent 6, 7 and 8
Step 3	1 more
Step 4	1 less
Step 5	Composition of 6, 7 and 8
Step 6	Make pairs - odd and even
Step 7	Double to 8 (find a double)
Step 8	Double to 8 (make a double)
Step 9	Combine two groups
Step 10	Conceptual subitising

Step 1	Find 9 and 10
Step 2	Compare numbers to 10
Step 3	Represent 9 and 10
Step 4	Conceptual subitising to 10
Step 5	1 more
Step 6	1 less
Step 7	Composition to 10
Step 8	Bonds to 10 (2 parts)

Step 9	Make arrangements of 10
Step 10	Bonds to 10 (3 parts)
Step 11	Doubles to 10 (find a double)
Step 12	Doubles to 10 (make a double)
Step 13	Explore even and odd

Step 1	Build numbers beyond 10 (10–13)
Step 2	Continue patterns beyond 10 (10–13)
Step 3	Build numbers beyond 10 (14–20)
Step 4	Continue patterns beyond 10 (14–20)
Step 5	Verbal counting beyond 20
Step 6	Verbal counting patterns

Year 1

Step 1	Sort objects
Step 2	Count objects
Step 3	Count objects from a larger group
Step 4	Represent objects
Step 5	Recognise numbers as words
Step 6	Count on from any number
Step 7	1 more
Step 8	Count backwards within 10

Step 9	1 less
Step 10	Compare groups by matching
Step 11	Fewer, more, same
Step 12	Less than, greater than, equal to
Step 13	Compare numbers
Step 14	Order objects and numbers
Step 15	The number line

Year 2

Step 1	Numbers to 20
Step 2	Count objects to 100 by making 10s
Step 3	Recognise tens and ones
Step 4	Use a place value chart
Step 5	Partition numbers to 100
Step 6	Write numbers to 100 in words
Step 7	Flexibly partition numbers to 100
Step 8	Write numbers to 100 in expanded form

Step 9	10s on the number line to 100
Step 10	10s and 1s on the number line to 100
Step 11	Estimate numbers on a number line
Step 12	Compare objects
Step 13	Compare numbers
Step 14	Order objects and numbers
Step 15	Count in 2s, 5s and 10s
Step 16	Count in 3s

Year 3

Step 1	Represent numbers to 100
Step 2	Partition numbers to 100
Step 3	Number line to 100
Step 4	Hundreds
Step 5	Represent numbers to 1,000
Step 6	Partition numbers to 1,000
Step 7	Flexible partitioning of numbers to 1,000
Step 8	Hundreds, tens and ones

Step 9	Find 1, 10 or 100 more or less
Step 10	Number line to 1,000
Step 11	Estimate on a number line to 1,000
Step 12	Compare numbers to 1,000
Step 13	Order numbers to 1,000
Step 14	Count in 50s

Year 4

Step 1	Represent numbers to 1,000
Step 2	Partition numbers to 1,000
Step 3	Number line to 1,000
Step 4	Thousands
Step 5	Represent numbers to 10,000
Step 6	Partition numbers to 10,000
Step 7	Flexible partitioning of numbers to 10,000
Step 8	Find 1, 10, 100, 1,000 more or less

Step 9	Number line to 10,000
Step 10	Estimate on a number line to 10,000
Step 11	Compare numbers to 10,000
Step 12	Order numbers to 10,000
Step 13	Roman numerals
Step 14	Round to the nearest 10
Step 15	Round to the nearest 100
Step 16	Round to the nearest 1,000

Year 5

Step 1	Roman numerals to 1,000
Step 2	Numbers to 10,000
Step 3	Numbers to 100,000
Step 4	Numbers to 1,000,000
Step 5	Read and write numbers to 1,000,000
Step 6	Powers of 10
Step 7	10/100/1,000/10,000/100,000 more or less
Step 8	Partition numbers to 1,000,000

Step 9	Number line to 1,000,000
Step 10	Compare and order numbers to 100,000
Step 11	Compare and order numbers to 1,000,000
Step 12	Round to the nearest 10, 100 or 1,000
Step 13	Round within 100,000
Step 14	Round within 1,000,000

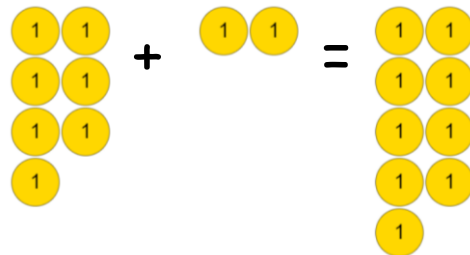
Year 6

Step 1	Numbers to 1,000,000
Step 2	Numbers to 10,000,000
Step 3	Read and write numbers to 10,000,000
Step 4	Powers of 10
Step 5	Number line to 10,000,000
Step 6	Compare and order any integers
Step 7	Round any integer
Step 8	Negative numbers

Addition

Phase 1: Using manipulatives (practical equipment). Biggest number first.

$$7 + 2 = 9$$



Phase 2: Counting on and 10 frames.



Counting on

Eva found 12 eggs.

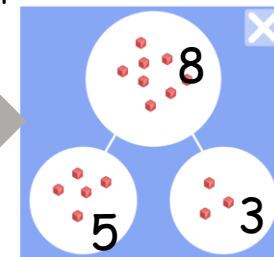
Her mum bought 6 more.

How many eggs do they have now?



$$5 + 3 = 8$$

Phase 3: Part part whole models (pictorial first then using numbers) and bar models (representing the two parts that make a whole).



10	
6	4

$$6 + 4 = 10$$

$$4 + 6 = 10$$

Phase 6: Column method. Place value counters can be used to support this and show the exchange.

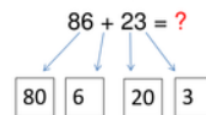
Non-exchange

	Th	H	T	O
	3	1	2	3
+	3	0	7	5
	6	1	9	8

Exchange

Th	H	T	O
2	7	3	5
		3	1
3	0	5	1
1	1		

Phase 5: Place value partitioning. Separating the numbers into their place value you to add before bringing it together.



$$80 + 20 = 100$$

$$6 + 3 = 9$$

$$100 + 9 = 109$$

$$500 + 100 = 600$$

$$60 + 90 = 150$$

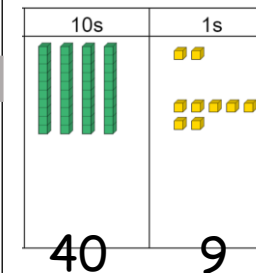
$$7 + 9 = 16$$

$$600 + 150 + 16 = 766$$

Phase 4: Place value charts - use base 10 to support. (TO + O and TO + TO)

No re-grouping

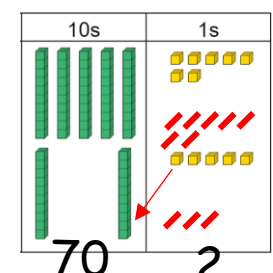
$$42 + 7 = 49$$



49

Re-grouping

$$57 + 15 = 72$$

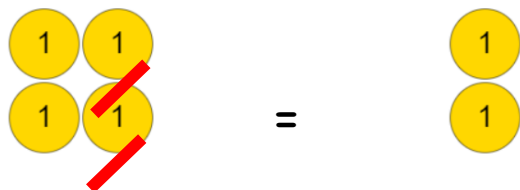


72

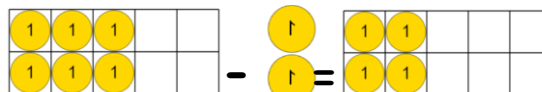
Subtraction

Phase 1: Manipulatives (practical equipment).

$$4 - 2 = 2$$

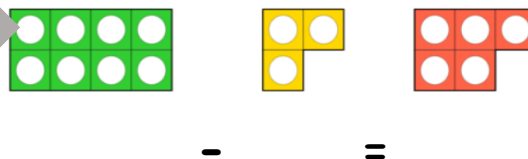


Phase 2: Pictorial and ten frame

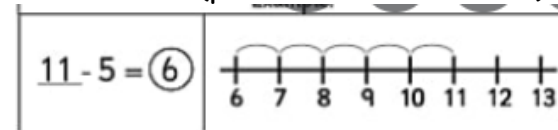


$$6 - 2 = 4$$

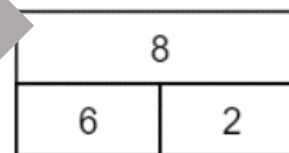
$$8 - 3 = 5$$



Phase 3: Numberline (counting back) & bar model (parts to make a whole).



$$8 - 6 = 2 \text{ and } 8 - 2 = 6$$



Phase 6: Column method

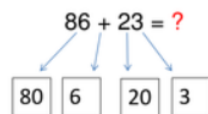
No exchange

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

With exchange

Th	H	T	O
3	4 ³	3 ⁹	8 ¹²
1	3	0	9
2	0	9	3

Phase 5: Place value partitioning



$$80 + 20 = 100$$

$$6 + 3 = 9$$

$$100 + 9 = 109$$

$$425 - 143$$

Hundreds Tens Units

$$\begin{array}{r} 3400 \\ -100 \\ \hline 200 \end{array}$$

$$\begin{array}{r} 120 \\ -40 \\ \hline 80 \end{array}$$

$$\begin{array}{r} 5 \\ -3 \\ \hline 2 \end{array}$$

$$200 + 80 + 2 = 282$$

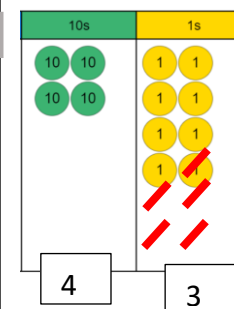
No exchange

With

Phase 4: Place value frame use manipulatives to support (TO - O and TO - TO)

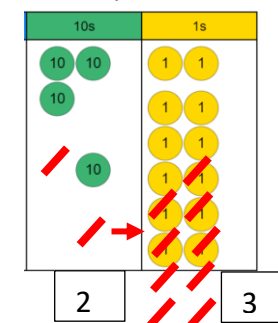
No exchange

$$48 - 5 = 43$$



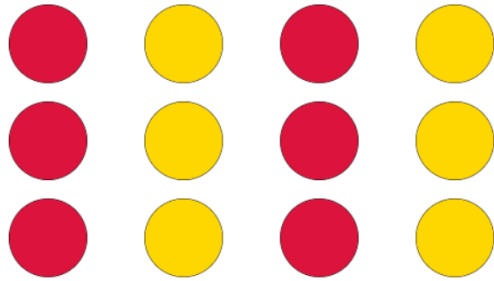
Exchange

$$42 - 19 = 23$$



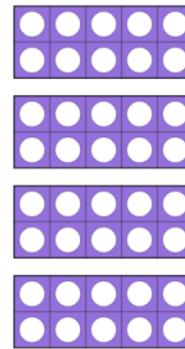
Multiplication

Phase 1: Recognising and making equal groups.
4 groups of 3

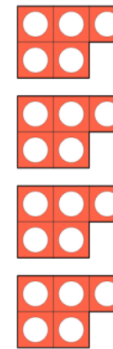


Phase 2: Counting in multiples (2's, 5's, 10's) with manipulatives if needed.

$$4 \times 10 = 40$$



$$4 \times 5 = 20$$



Phase 3: Repeat addition

$$3 \times 3$$



$$3 + 3 + 3 = 9$$

$$3 \times 3 = 9$$

$$2 \times 4$$



$$2 + 2 + 2 + 2 = 8$$

$$2 \times 4 = 8$$

$$4 \times 3$$



$$4 + 4 + 4 = 12$$

$$4 \times 3 = 12$$

$$5 \times 4$$



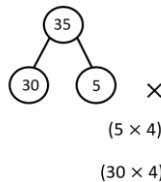
$$5 + 5 + 5 + 5 = 20$$

$$5 \times 4 = 20$$

Phase 6: Formal method

$$367 \times 25 =$$

$$4 \times 35 = 140$$



	H	T	O
35		3	5
25		2	5
		2	0
	1	2	0
	1	4	0

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

Phase 5: Grid method - partitioning the numbers. (TOxO, HTOxO and TOxTO)

		40	2
6	240	12	

$$42 \times 6 = 262$$

$$240 + 12 = 262$$

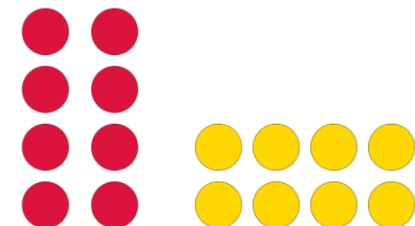
	30	4
20	600	80
3	90	12

$$600 + 90 + 80 + 12 = 782$$

$$23 \times 34 =$$

Phase 4: Arrays showing commutative law.

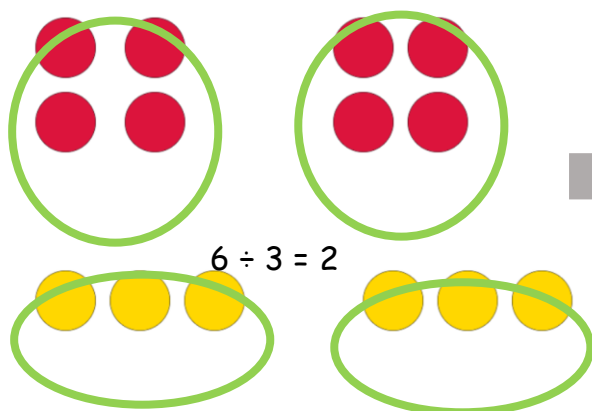
2 lots of 4 and 4 lots of 2.



Division

Phase 1: Sharing using manipulatives and pictorially.

$$8 \div 4 = 2$$

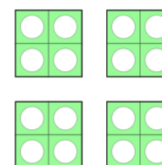
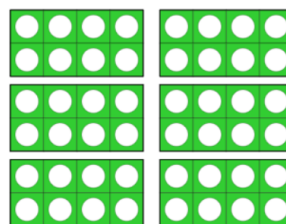


$$6 \div 3 = 2$$

Phase 2: Using multiple to count (eg 2's, 10's, 8's etc.)

$$48 \div 8 = 6$$

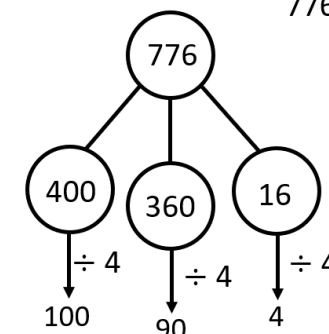
$$16 \div 4 = 4$$



Phase 3: Place value grouping without remainders

$$776 \div 4 = 194$$

$$776 - 400 = 376$$



Phase 6: Long division

$$4,320 \div 32 = 135$$

32	64	96	128	160	192						
						1	3	5			
32	4	3	2	0							
-	3	2									
	1	1	2								
-		9	6								
		1	6	0							
-			1	6	0						
					0						

No

$$1,000 \div 16 = 62 \text{ r}8$$

16	32	48	64	80	96						
						0	6	2			
16	1	0	0	0							
-		9	6								
			4	0							
-			3	2							
					8						

With

Phase 5: Short division (place value as support)

$$4,324 \div 2$$

Thousands	Hundreds	Tens	Ones
4	3	2	4
2	1	6	2
2	4	3	12
		4	

No

$$5,291 \div 4 = 1,322 \text{ r}3$$

Thousands	Hundreds	Tens	Ones
5	2	9	1
1	3	2	2
1	5	12	9
		11	

With

Phase 4: Place value grouping with remainders

$$317 \div 5 = 63 \text{ r}2$$

$$300 \div 10 = 30$$

$$30 \times 2 = 60$$

