Ranelagh Primary School

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Calculation Policy

Reviewed on: 22nd September 2025

Next Review due: Autumn 2027

Signed by:  Chair of Committee

Signed by:  Acting Headteacher

Background to our calculation policy

At Ranelagh, we are following the White Rose scheme for Mathematics. Our calculation policy reflects and is in line with this scheme of work.

Although the focus of this policy is on pencil and paper procedures, it is important to recognise that the ability to calculate mentally lies at the heart of mathematics. Mental methods will be taught systematically from Reception onwards and pupils will be given regular opportunities to develop these necessary skills, through a number of methods. Children complete daily mental calculation activities (Magic 10 is completed daily in each class from Year 1 – 6, to support the development of fluency), counting stick, daily/weekly maths meetings and the use of tens frames for classroom routines. However, mental calculation is not at the exclusion of written recording and should be seen as complementary to and not as separate from it.

In KS1 and KS2, pupils will be given regular/weekly access to the online multiplication tool, TimesTables RockStars.

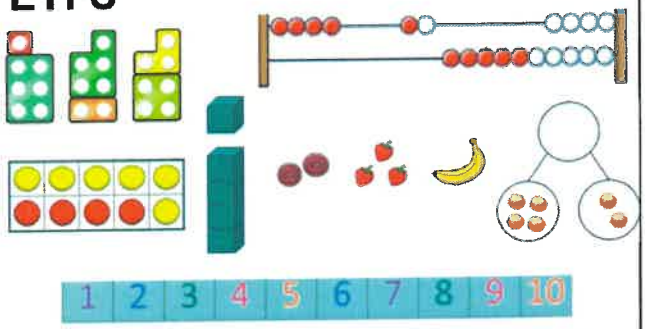
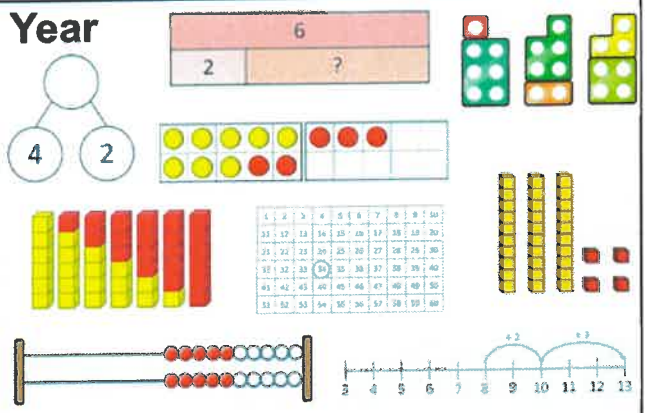
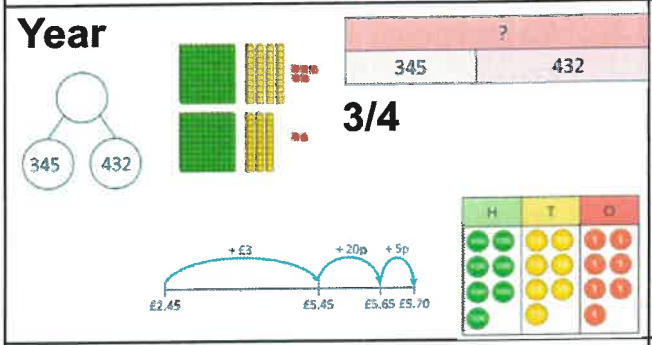
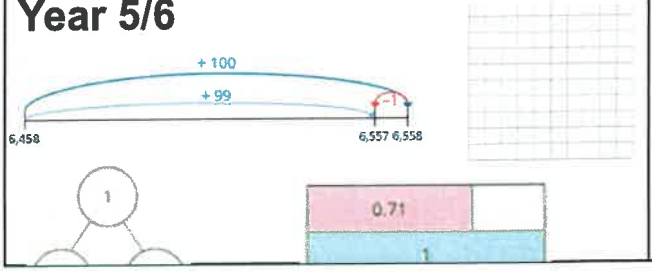
In KS2, daily open ended maths activities are also part of regular practice. These are open-ended investigations which support our pupils in their ability to apply their maths as well as encouraging development of their oracy skills.

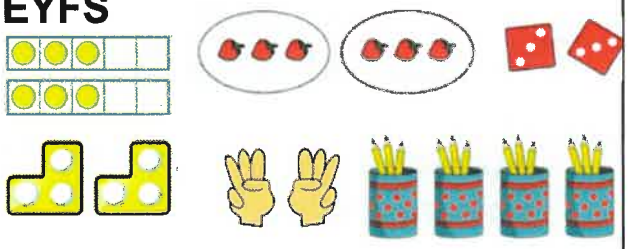
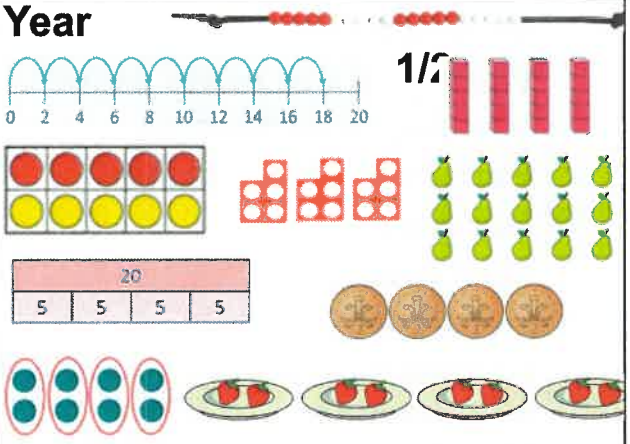
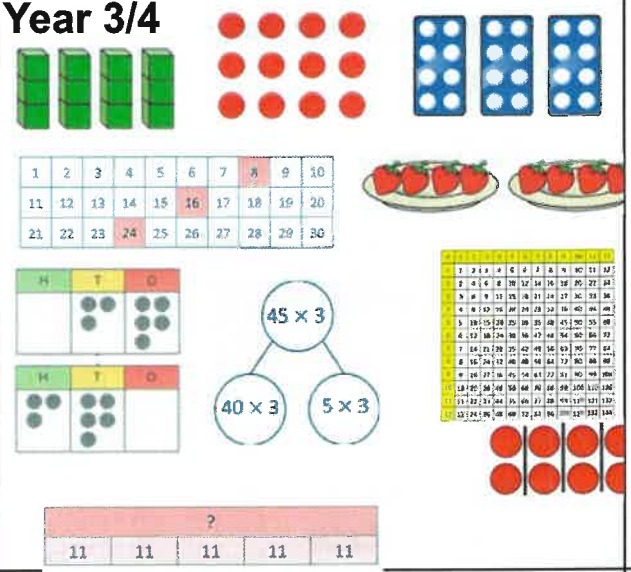
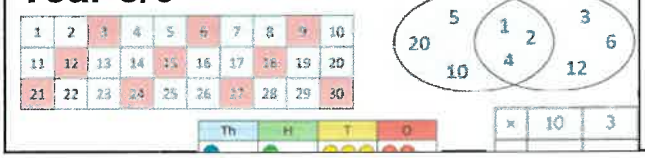
This policy concentrates on the introduction of standard symbols, the use of manipulatives and representations to aid and enhance children's understanding and on the introduction of pencil and paper procedures. It is important that children do not abandon jottings and mental methods once pencil and paper procedures are introduced. Therefore, children will always be encouraged to look at a calculation or problem and then decide which is the best method to choose – pictures, manipulatives, mental calculation (with or without jottings) or structured recording. Our long-term aim is for children to be able to select an efficient method that is appropriate for a given task. 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 calculation?

Representations and Manipulatives

(Including but not limited to...)

Representations/Manipulatives used for Addition & Subtraction	
EYFS 	**Part-part-whole model** **Tens frames** **Numicon** **Rekenreks** **Number tracks** **Multilink** **Variety of concrete objects and pictorial stimuli.**
Year 1/2 	**Part-part-whole model** **Bar model** **Multilink** **Numicon** **Rekenreks** **10's frames** **Number lines** **Hundred squares** **Dienes**
Year 3/4 	**Part-part-whole model** **Bar model** **Place value charts** **Number lines** **Dienes**
Year 5/6 	**Place value charts** **Bar models** **Part-part-whole models** **Empty hundred squares** **Number lines**

Representations/Manipulatives used for Multiplication & Division	
EYFS 	**Grouping** **Sharing** **Numicon (doubles)** **Tens frames (doubles)** **Variety of concrete objects & pictorial stimuli.**
Year  	**Bead strings** **Number lines** **Multilink** **Counters** **Numicon** **Coins** **Arrays** **Bar model** **Grouping** **Sharing**
Year 3/4  	**Multilink** **Counters/arrays** **Hundred squares** **Numicon** **Bar model** **Part-part-whole model** **Grouping** **Sharing** **Multiplication grids** **Place value charts**
Year 5/6  	**Hundred squares** **Arrays** **Venn diagrams** **Place value charts**

	**Multiplication grids** **Bar model**

Addition

EYFS

In Nursery, addition will be introduced in meaningful ways such as at snack time or through play. An example would be when choosing their snack and the adult may suggest "would you

like *another one*?" Similarly when the children come in in the morning and self-register the adult may say, "You'll make *one more* on the five frame."
Our enabling environment for Nursery and Reception both inside and outside, facilitates adults being able to observe children in their play and provide a teachable moment that is relevant to them there and then. We have maths 'grab boxes' so resources are to hand in that moment.
Stories and rhymes involving maths are also introduced and children may join in holding up their fingers and adding one/subtracting one dependent on the rhyme/story.

In Reception children are encouraged to build on their knowledge of subitising and construct visual concrete images of amounts when adding one or more.
Once children have a secure knowledge of abstract concepts such as the digits themselves and of concrete skills in physically adding/subtracting, they will be introduced to more formal recording of these methods. Practical resources are always used alongside this such as tens frames, counters, number tracks and objects to support their learning.

Addition is taught as the opposite (or inverse) to subtraction

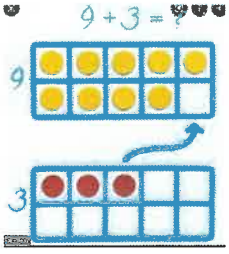
Children are taught that there are two different ways we can add things. These are 'joining' and 'increasing.' Addition may also be referred to as 'plus.'

Joining: Children are taught they can join two or more groups of things together. E.g. "There are two bananas in the bowl and there are 3 more in the shopping bag. How many bananas are there altogether?"

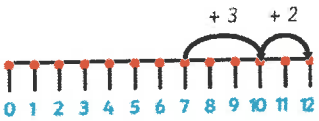
2 + 3 = 5

Increasing: Children are taught that they can make an amount more or increase the size of something e.g. "I added more water to my glass so now I have MORE water."

Adding using five/ten frames: Children are taught to use ten frames to combine two amounts. Formal calculation symbols are introduced when a child is developmentally ready to understand them.



Addition using a number line: This strategy is only taught when the child is ready. They are taught to find the larger number then jump on in steps to find the total (using their subitising knowledge).



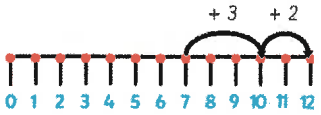
7 + 5 = 12

Solving problems involving addition: Children are given a wide range of opportunities to apply their understanding through everyday problem solving. E.g. We have 3 chairs at this table, if we bring over those 2, how many children can sit at the table?

Year 1

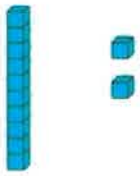
- Combining groups of objects such as cubes, counters or toy figures.
- Develop and build upon EYFS practice and continue use of tens frames to represent number and combine two amounts
- Pictorial representations – early stages of recording

- Structured number lines – counting on in steps (once secure with ones).



7 + 5 = 12

- Using the symbols + and = to record.
- Counting up to and over 100.
- Partitioning numbers into tens and ones.



12

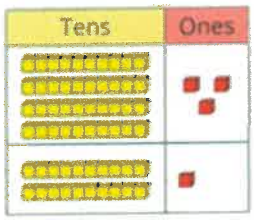
Vocabulary Year 1	
Put together Add Altogether	Plus How many more? Equals
Total More than Sum	Equal to Same as tens, ones Partitioning Place value

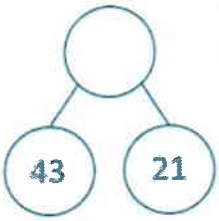
YEAR 2

Partitioning numbers into tens and ones using equipment such as base ten and combining these to find a total.

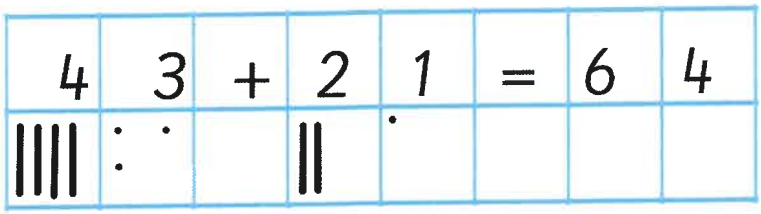
E.g. 32 + 24 =

- Adding two 2-digit numbers using dienes, part-part-whole models and bar models (not across a ten) and then recording more formally ('chips and peas').

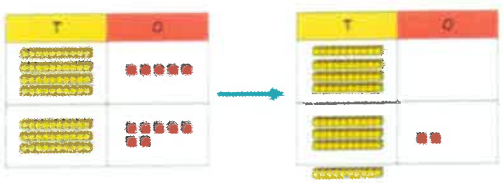




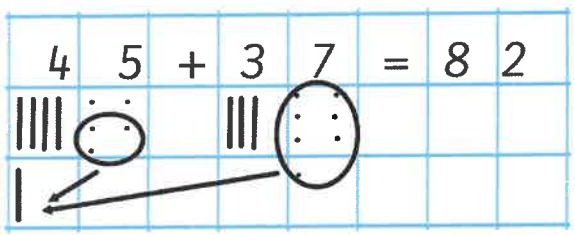
3 ones + 1 one = 4 ones
4 tens + 2 tens = 6 tens
6 tens + 4 ones = 64



- Adding two 2-digit numbers using dienes across a ten, physically exchanging ten ones for a ten and then recording more formally ('chips and peas').



45 + 37 = 82



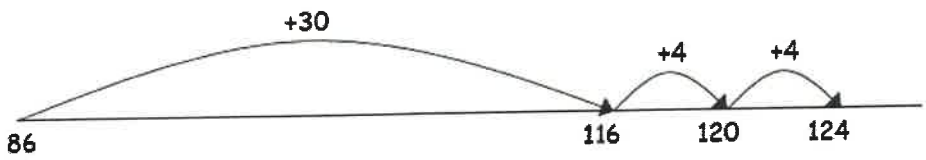
Vocabulary For Year 2

Put together Add Altogethe r Total More than Sum	Plus How many more? Equals Equal to Same as tens, ones Partitioning Place value

YEAR 3

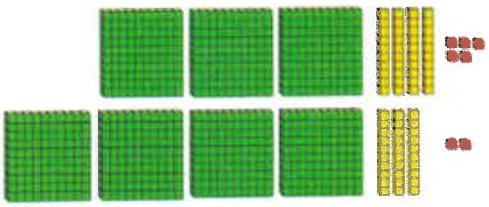
- Children will use empty number lines with increasingly large numbers, counting on

38 + 86 = 124

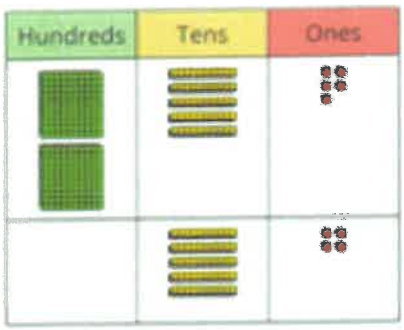


from the largest number irrespective of the order of the calculation.

- Begin to develop more formal written methods, using dienes or place value counters for example to add hundreds, tens and ones (and using these to bridge 10 and 100).

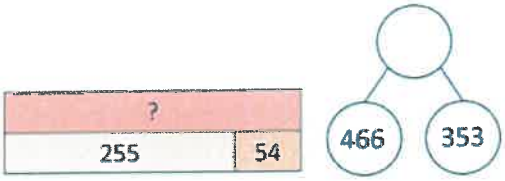


345 + 432 = 777 (not bridging)



255 + 54 = 309 (bridging)

- Representing in bar models/part-part whole models.



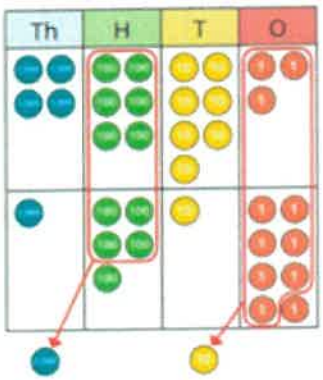
- Children will then begin to carry below the line

$$\begin{array}{r} 789 \\ +\,642 \\ \hline 1431 \\ \hline {\scriptstyle 1\,1} \end{array}$$

Vocabulary for Year 3	
Put together Add Altogether Total More than Sum Plus How many more? Increase Increase by	Equals Hundreds, tens, ones Partitioning Place value column carry carrying Equal to Same as

YEAR 4

- Extend to more formal written methods for 4-digit numbers, using dienes or place value counters for example to add thousands, hundreds, tens and ones (and using these to bridge 10, 100 and 1000).



	Th	H	T	O
	4	6	7	3
+	1	5	1	8
	6	1	9	1

- Extend written methods for addition to include numbers with one and two decimal places. They use their understanding that 10 tenths make one whole and 10 hundredths make one tenth.

$$\begin{array}{r} 72.8 \\ +\ 54.6 \\ \hline 127.4 \\ \hline 1 \end{array}$$

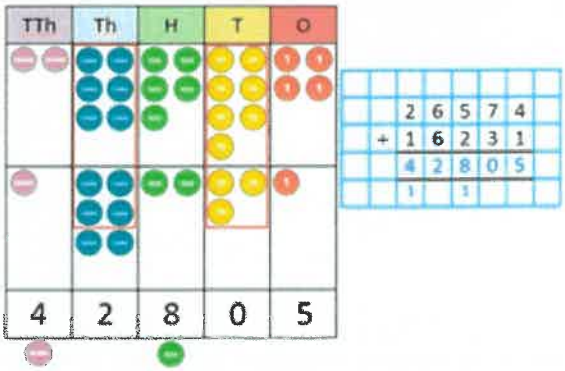
- Addition linked to measures and money for understanding place value.

$$\begin{array}{r} £5.60 \\ +\ 90p \\ \hline \\ \hline \end{array}$$

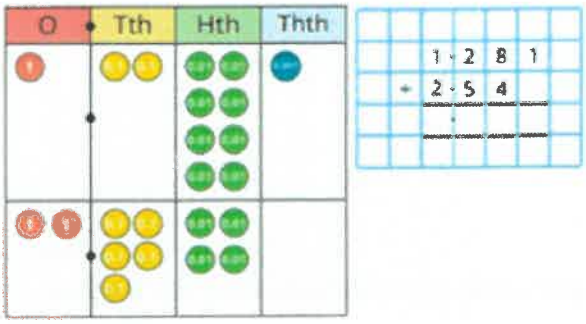
Vocabulary for Year 4	
Put together	Partitioning
Add	Increase
Altogether	Increase by
Total	Place value
More than	column
Sum	carry
Plus	carrying
How many more?	hundredths
Equals	tenths
Equal to	decimal/s place/s
Same as	Hundreds, tens, ones/unit

YEAR 5

- Know place value up to 1,000,000
- Children need to add several numbers together with different numbers of digits.
- Continuation of formal written methods for 5-digit numbers, using dienes or place value counters for example to add thousands, hundreds, tens and ones (and using these to bridge).



- Column method involving up to 3 decimal places.



Vocabulary For Year 5	
Put together	Partitioning
Add	Place value
Altogether	Increase by
Total	Increase
More than	column carry
Sum	carrying
Plus	thousandths
How many more?	hundredths
Equals	tenths decimal
Equal to	place/s
Same as	decimal/s
Hundreds, tens, ones/units	

YEAR 6

- Know place value up to 10,000,000
- To be secure with column method, adding more than 2 numbers
- See end of policy for additional methods of calculation for addition

Vocabulary	
Put together	Partitioning
Add	Place value
Altogether	Increase by
Total	increase
More than	column carry
Sum	carrying
Plus	thousandths
How many more?	hundredths
Equals	tenths decimal
Equal to	place/s
Same as	decimal/s
Hundreds, tens, ones/units	

Subtraction

EYFS

Pupils are asked to compare objects, to look at which set of objects is fewer than and more than. These opportunities are seized upon as adults interact with children inside, outside and in more directed times too. Number rhymes and stories offer many subtraction related activities.

As children move through reception, they will again draw on their knowledge of the images of amounts on the five/ten frame to practise subtraction. Initially the focus will be on knowing what is one less than another number.
They will be developing the language of more than and fewer than.
Practical, hands on activities such as props to support number rhymes e.g. 5 frogs, will be used to model subtraction concepts alongside questioning. For example "There are 4 frogs on the log, if 2 jump off, how many will be left?"

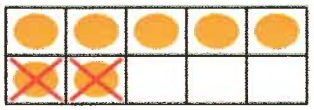
Subtraction is taught as the opposite (or inverse) to addition

Children are taught there are two different ways we can subtract things. These are partitioning and decreasing. Subtracting is also referred to as 'taking away'.

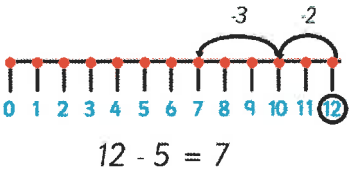
Partitioning: Children are taught they can take away a part or parts of a group. E.g. "Here are 7 elves, if we take away 2 elves, we'll only have 5 left."

Decreasing: Children are taught they can make an amount less than it was before. E.g. I have drunk some water, so now I have less water.

Subtracting using five/ten frames: Children are taught to use ten frames to take away part of a number. Formal calculation methods are introduced when a child is developmentally ready to understand them.



Subtracting using a numberline: This strategy is only taught when the child is ready. They are taught to find the larger number then count back in steps to find the total (using their subitising knowledge).



Solving problems involving subtraction: Children are given a wide range of opportunities to apply their understanding through everyday problem solving. E.g. 6 children are at the water tray, if two of them go to use the slide, how many are left at the water tray?

YEAR 1

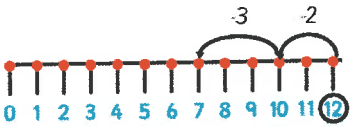
- Counting up to and beyond 100.
- Objects – practical taking away amounts

  10 – 2 = 8

- Develop and build upon EYFS practice through use of five/tens frame to represent number and take away a part of a number.
- Pictorial representations – early recording

  6 – 2 = 4

- Structured number lines – counting back in steps (once secure with ones).



12 - 5 = 7

- Using the symbols - and = to record.

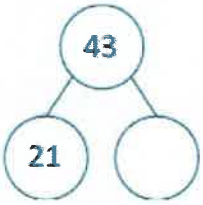
Vocabulary for Year 1	
Put together Add Altogether Total More than Sum	Subtraction Minus Distance between Fewer Take away Difference Between Less than Subtract

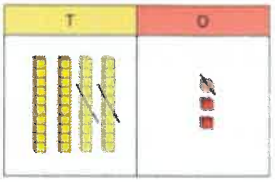
YEAR 2

- Partitioning numbers into tens and ones using equipment such as base ten and subtracting first the ones and the tens.

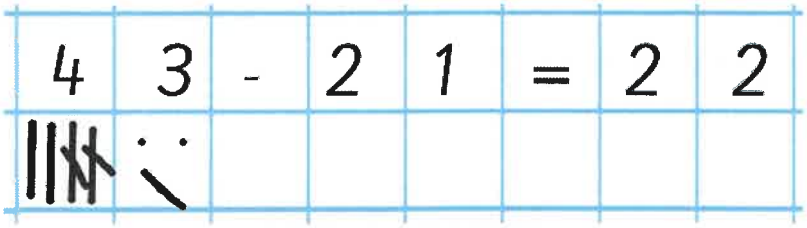
- Subtracting a 2-digit number from a 2-digit number using dienes, part-part-whole models and bar models (not across a ten) and then recording more formally ('chips and peas').

... ones − ... ones = ... ones
... tens − ... tens = ... tens

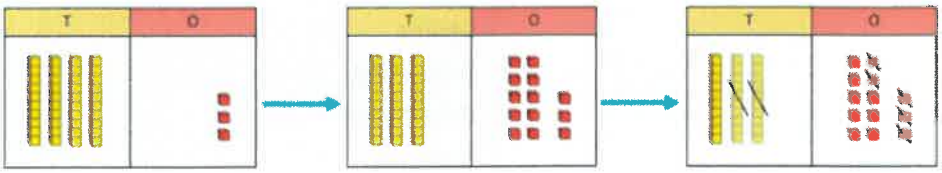


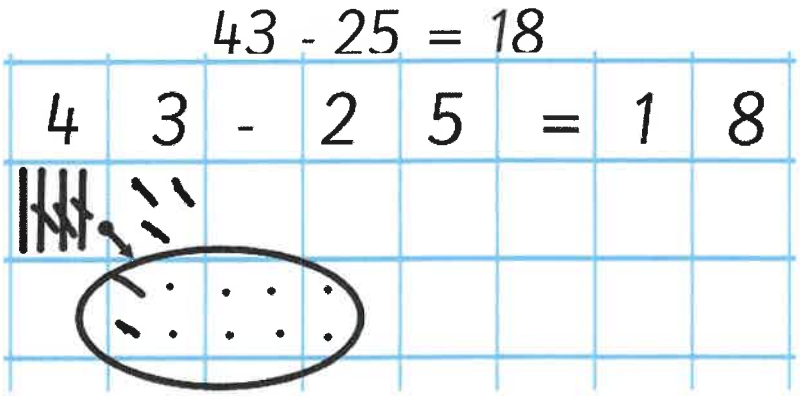


3 ones − 1 one = 2 ones
4 tens − 2 tens = 2 tens
2 tens and 2 ones = 22



- Subtracting a 2-digit number from a 2-digit number using dienes across a ten, physically exchanging a ten for ten ones and then recording more formally ('chips and peas').





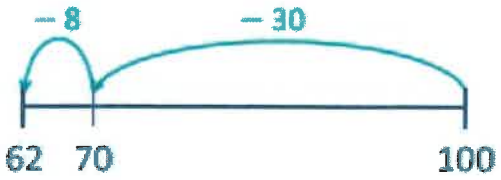
Vocabulary for Year 2

Take away Difference Between Less than Subtract Subtraction Minus Distance between Fewer	Partitioning Place value Tens, ones Equals Equal to Decrease reduce

YEAR 3

- To understand place value up to 1000.
- Children will use empty number lines with increasingly large numbers, counting back.

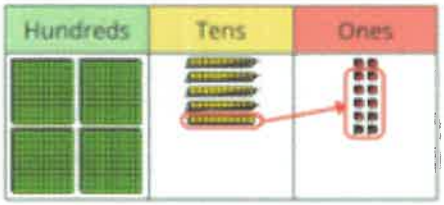
100 – 38 = 62



- Begin to develop more formal written methods, using dienes or place value counters for example to subtract hundreds, tens and ones (and using these to bridge 10 and 100).

345 – 143 = 202 (not bridging)

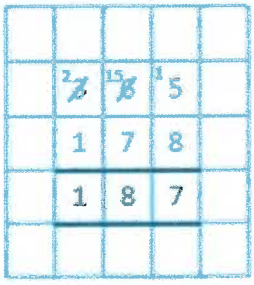
452 – 43 = 409 (bridging)



- Representing in bar models/part-part whole models.

- Begin to set calculations out in a column if secure with above.

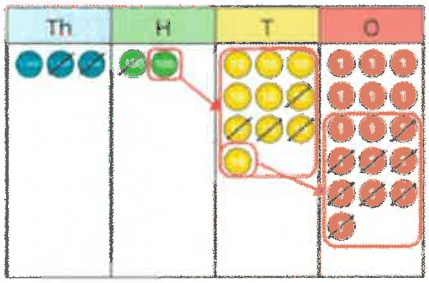
ThHTU
- ThHTU
_____



Vocabulary for Year 3	
Take away Difference Between Less than Subtract Subtraction Minus Distance between Fewer	Partitioning Place value Hundreds, tens, ones/units Equals Equal to Decrease Column reduce

YEAR 4

- Extend to more formal written methods for4-digit numbers, using dienes or place value counters for example to subtract thousands, hundreds, tens and ones (and using these to bridge 10, 100 and 1000).



	Th	H	T	O
	3	2	0	6
-	2	1	4	8
	1	0	5	8

- Extend written methods for subtraction to include numbers with one and two decimal places. They use their understanding that one whole is made up of 10 tenths and one tenth is made up of 10 hundredths.

TU.TthHth
- TU.TthHth

- Subtraction linked to measures and money for understanding place value.

£5.60 3.6km – 500m
- £0.90 3.6km – 0.5km

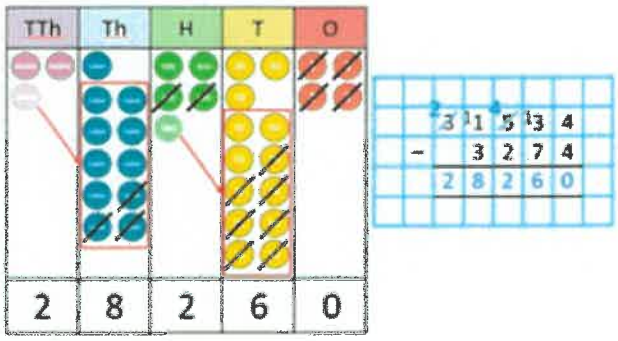
- Children should be able to convert between units here so their calculations are the same units.

Vocabulary for Year 4	
Take away Difference Between Less than Subtract Subtraction Minus Distance between Fewer Hundredths tenths	Partitioning Place value Hundreds, tens, ones/units Equals Equal to Decrease Column reduce Exchange Reduce Decimal/s place/s

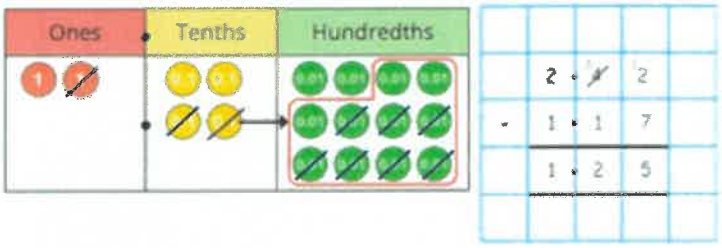
YEAR 5

- Know place value up to 1,000,000

- Continuation of formal written methods for 5-digit numbers, using dienes or place value counters for example to add thousands, hundreds, tens and ones (and using these to bridge).



- To solve subtraction involving up to 3 decimal places.

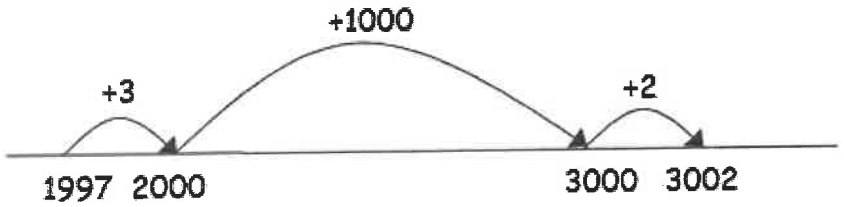


Vocabulary for Year 5	
Take away	Partitioning
Difference	Place value
Between	Hundreds, tens, ones/units
Less than	Equals
Subtract	Equal to
Subtraction	Decrease
Minus	Column
Distance between	reduce
Fewer Hundredths	Exchange
tenths	Reduce
	Decimal/s place/s

YEAR 6

- Know place value up to 10,000,000
- Secure in column subtraction as in year 5
- Where numbers are close together or near to multiples of 10, 100, 1000 etc. counting on mentally or an empty number line should be used.

3002 - 1997 = 1005



- See end of policy for additional methods of calculation for subtraction

Vocabulary for Year 6	
Take away Difference Between Less than Subtract Subtraction Minus Distance between Fewer Hundredths tenths	Partitioning Place value Hundreds, tens, ones/units Equals Equal to Decrease Column reduce Exchange Reduce Decimal/s place/s

Multiplication

EYFS

Pupils are asked to group sets of, lots of, etc. They are asked to line up in two's, to line up in pairs - They are asked to pair wellies, etc.

Children will experience equal groups of objects and teachers will begin to model counting in 2s and 10s. They will work on practical problem solving activities involving finding equal sets or groups etc, based where possible in real life situations. They will be involved in other practical activities like passing the ball and counting in 2's and 10's.

Multiplication is taught as the opposite (inverse) to Division

Children are taught that multiplying is a way of adding together lots of the same number, which is called repeated addition. The second definition of multiplying, which is scaling meaning to increase the size of something lots of times is not a concept taught in EYFS but it is taught later on.

Repeated addition:

A group of 6 shells can be made up of 3 groups of 2 shells, or 2 groups of 3 shells

2 x 3 = 6 and 3 x 2 = 6

The word 'groups' may be interchanged with 'lots of.'

Year 1

- Count forwards and backwards in 2s, 5s and 10s.
- Concrete objects – counting groups of
- Pictorial representation.

4 x 3 = 12 is the same as 4 groups of 3

Or 3 groups of 4

- Arrays – with objects and pictorally.

3 x 2=6

2 x 3=6

- Using the symbols x and = to record
- Learning doubles from 1 to 10.

Vocabulary for Year 1
Multiply Lots of Groups Times Multiplying Array/s Equal/s

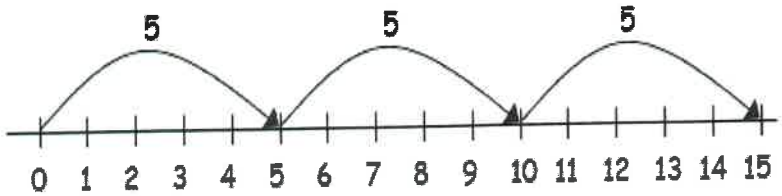
YEAR 2

- Recall multiplication facts for 2, 5 and 10 times table
- Repeated addition on a structured number line

  3 times 5 is 5 + 5 + 5 = 15 or 3 lots of 5 or 5 x 3

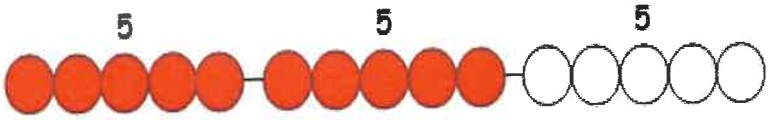
  Repeated addition can be shown easily on a number line:

  5 x 3 = 5 + 5 + 5

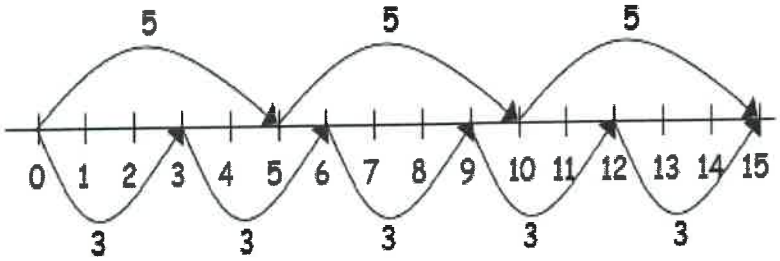


- This can also be shown on a bead bar

  5 x 3 = 5 + 5 + 5



- Children should know that 3 x 5 has the same answer as 5 x 3. This can also be shown on the number line. (commutative)



Vocabular / for Year 2

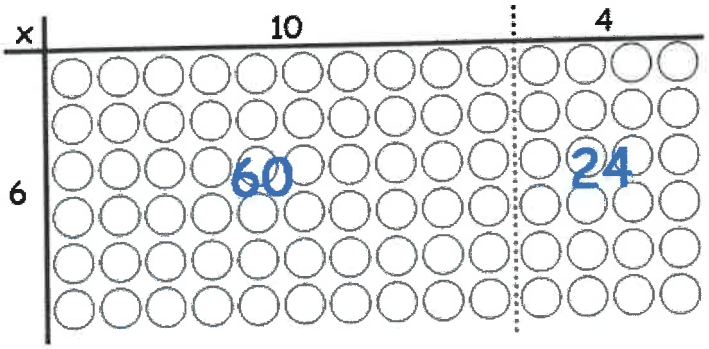
Partitioning Place value Multiply Lots of Groups Times Multiplying Array/s Equal/s	Repeated addition Number line Tens and ones/units Multiples

YEAR 3

- Recall multiplication facts for 3, 4 and 8 times table including inverses

E.g. 3 x 8 = 24 so 24 ÷ 8 = 3 and 24 ÷ 3 = 8

- Continue to use arrays, leading onto partitioning numbers into a grid



(6 x 10) + (6 x 4)

60 + 24

84

- Moving onto a more formal grid to solve TU x U

23 x 8 =

x	20	3
8	160	24

160
+ 24
184

Vocabulary for Year 3	
Partitioning Place value Multiply Lots of Groups Times Multiplying Array/s Equal/s Repeated addition	Number line Hundreds Tens and ones/units Multiples Column Carry/ing

YEAR 4

- Solving HTU x U using the grid method

E.g. 346 x 9 =

x	300	40	6
9	2700	360	54

2700
+ 360
+ 54
3114
1 1

Vocabulary for Year 4	
Partitioning	Number line
Place value	thousands
Multiply	Hundreds
Lots of	Tens and ones/units
Groups	Multiples
Times	Column
Multiplying	Carry/ing
Array/s	
Equal/s	
Repeated addition	

YEAR 5

- Multiplying decimals by a whole number

£4.90 x 3 =

×	4	0.9
3	12	2.7

12.0

+ 2.7

14.7

Children can also take the decimal place out (multiply the number by 10 in this case) for multiplication and put it back into the answer (divide the answer by 10)

- Multiplying TU x TU

E.g. 72 x 38 =

x	70	2
30	2100	60
8	560	16

2100
+ 560
+ 60
+ 16
2736
1

- Multiplying ThHTU x U

E.g. 4346 x 8 =

x	4000	300	40	6
8	32000	2400	320	48

32000
+ 2400
+ 320
+ 48
34768

- When children are secure with the grid method of multiplication, they can begin to move onto long multiplication in a column as below:

324	300 + 20 + 4
x 6	
24	6 x 4
120	6 x 20
1,800	6 x 300
1,944	

Vocabulary for Year 5	
Partitioning	Number line
Place value	thousands
Multiply	Hundreds
Lots of	Tens and ones/units
Groups	Multiples
Times	Column
Multiplying	Carry/ing
Repeated addition	Decimal/s place/s
Array/s	hundredths
Equal/s	tenths

YEAR 6

- When children are secure with the grid method of multiplication, they can move on to a column method as below

```
  3 2 4
X     7
2 2 6 8
  1 2
```

- Column method – 2-digit x 2 digit *

```
   3 7
  X 6 5
  1 8 5
 2 2 2 0
 2 4 0 5
   1
```

Note – Teach children to multiply with the units first. Numbers carried forward should be on the same row as the answer. As they are used (added) they should be crossed out to avoid confusion when calculating final total.

· See end of policy for additional methods of calculation for multiplication

Vocabulary for Year 6	
Partitioning	Number line
Place value	thousands
Multiply	Hundreds
Lots of	Tens and ones/units
Groups	Multiples
Times	Column
Multiplying	Carry/ing
Repeated addition	Decimal/s place/s
Array/s	hundredths
Equal/s	tenths

Division

EYFS

Pupils will be asked to practically group objects, and share out objects equally.

The children will build on the practical activities experienced in the Nursery. They will be sharing and grouping objects in play based and problem solving situations. They will begin to count in 2s and 10s.

Division is taught as the opposite (inverse) to Multiplication

Children are taught that dividing is splitting up an amount into smaller, equal amounts. If you know how many you want in each of the smaller groups, this is called 'grouping'. If you know how many smaller groups you want it is called 'sharing'.

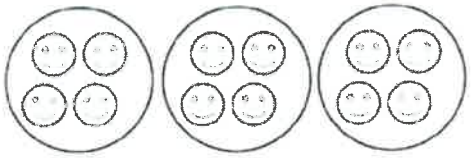
Grouping: Children are taught that if they want to split an amount into groups they can do this practically e.g. I have 9 shells and decide to split them into groups of 4. I have 2 groups of 4 and one left over.

Sharing: Children are taught if they want to share an amount into 2 equal amounts, this is sharing e.g. I have 10 shells and I want to share them with my friend. We each get 5 shells. Sharing into two groups is also called halving.

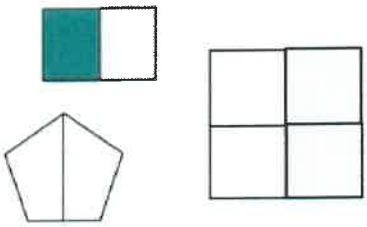
Year 1

- Concrete objects used for sharing into a number of groups

12 ÷ 3 =

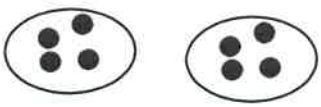


- Using the symbols ÷ and = to record
- Count forwards and backwards in 2s, 5s and 10.
- Doubling and halving of shapes and numbers.



- Begin to use their own pictorial representations to solve sharing problems

8 ÷ 2 = 4



- Begin to understand the relationship between multiplication and division.

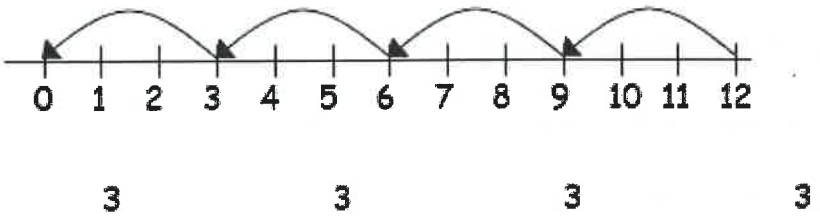
3 x 2 = 6 so 6 ÷ 3 = 2 (fact families)

Vocabulary for Year 1	
Division Divide Arrays Sharing Share Share equally Grouping Group How many...?	one each, two each, three each... group in pairs, threes... tens equal groups of divided by divided into

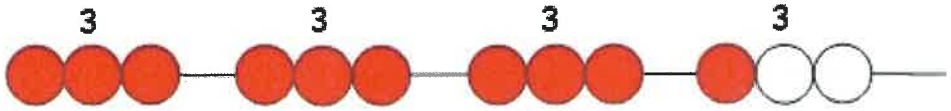
YEAR 2

- Recall multiplication facts for the 2, 5 and 10 times table.
- Repeated subtraction on a structured number line

$12 \div 3 = 4$



- Children use bead strings and jottings to solve division

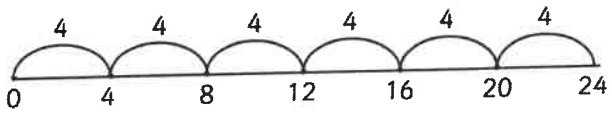


Vocabulary for Year 2	
Division Divide Arrays Sharing Share Share equally Grouping Group How many...?	one each, two each, three each... group in pairs, threes... tens equal groups of divided by divided into repeated subtraction Number line Left Left over remainder

YEAR 3

- Children continue to use an empty number line to solve division with remainders

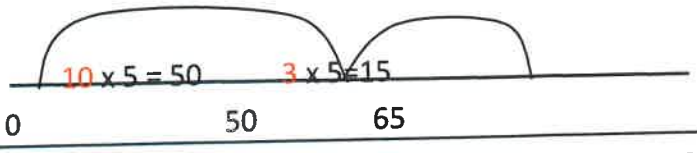
26 ÷ 4 = 6 r 2



r 2

26

- Begin to chunk larger numbers on an empty number line using multiplication 65 ÷ 5 = 13



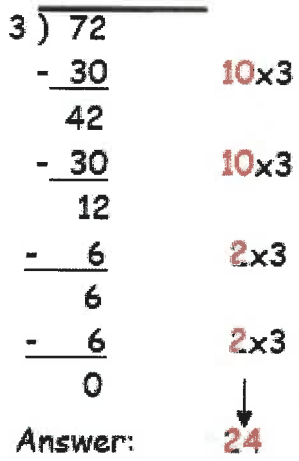
Vocabulary for Year 3

Division	one each, two each, three each... group in pairs, threes...
Divide	tens equal groups of divided by
Arrays	divided into
Sharing	repeated subtraction
Share	Number line
Share equally	Left
Grouping	Left over remainder
Group	
How many...?	

YEAR 4

- Begin to move onto chunking method as below

72 ÷ 3



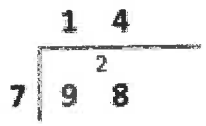
- If children are confident with the chunking method, begin to move onto short division

Vocabulary for Year 4	
Division	equal groups of
Divide	divided by
Arrays	divided into
Sharing	repeated subtraction
Share	Number line
Share equally	Left
Grouping	Left over
Group	Remainder
How many...?	Chunking
one each, two each, three each...	Chunks
	group in pairs, threes... tens
	Short division

YEAR 5

- Children to begin to solve short division as below

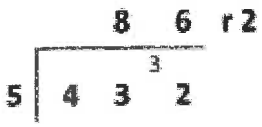
98 ÷ 7 becomes



Answer: 14

- Children to use short division to solve division with remainders

432 ÷ 5 becomes



Answer: 86 remainder 2

Vocabulary for Year 5	
Division	equal groups of
Divide	divided by
Arrays	divided into
Sharing	repeated subtraction
Share	Number line
Share equally	Left
Grouping	Left over
Group	Remainder
How many...?	Chunking
one each, two each, three each...	Chunks
Short division	group in pairs, threes... tens

YEAR 6

- Solving division with remainder as a decimal

E.g. 432 ÷ 5 =

```
      0 8 6 . 4
   5 | 4 3 ³2 . ²0
```

Answer: 86.4

- Solving HTU ÷ TU

```
      0 2 8 . 8
   15 | 4 3 2 . 0
      -3 0
       1 3 2
      -1 2 0
         1 2 0
        -1 2 0
            0
```

Key facts
2x15=30
6x15=90
8x15=120

- See end of policy for additional methods of calculation in division

Vocabulary for Year 6	
Division Divide Arrays Sharing Share Share equally Grouping Group How many...? one each, two each, three each...	equal groups of divided by divided into repeated subtraction Number line Left Left over Remainder Chunking Chunks group in pairs, threes... tens Short division

By Spring term year six, pupils will have had experience of the following methods in all four operations. They will have developed confidence and become proficient in particular areas - choosing their preferred methods to solve and apply to calculation.
These examples have been taken directly from the National Curriculum Mathematics programmes of study – Appendix A. They do not intend to show progression in formal written methods.

Addition and subtraction

789 + 642 becomes

$$\begin{array}{r} {\scriptstyle 1\ 1} \\ 789 \\ +\ 642 \\ \hline 1431 \end{array}$$

Answer: 1431

874 – 523 becomes

$$\begin{array}{r} 874 \\ -\ 523 \\ \hline 351 \end{array}$$

Answer: 351

932 – 457 becomes

$$\begin{array}{r} {\scriptstyle 8\ 12\ 1} \\ 9\not{3}\ \not{2} \\ -\ 457 \\ \hline 475 \end{array}$$

Answer: 475

932 – 457 becomes

$$\begin{array}{r} {\scriptstyle 1\ 1} \\ 932 \\ -\ \not{4}\not{5}\ 7 \\ {\scriptstyle 5\ 6} \\ \hline 475 \end{array}$$

Answer: 475

Short multiplication

24 × 6 becomes

$$\begin{array}{r} 24 \\ \times\ 6 \\ \hline 144 \\ {\scriptstyle 2} \end{array}$$

Answer: 144

342 × 7 becomes

$$\begin{array}{r} 342 \\ \times\ 7 \\ \hline 2394 \\ {\scriptstyle 2\ 1} \end{array}$$

Answer: 2394

2741 × 6 becomes

$$\begin{array}{r} 2741 \\ \times\ 6 \\ \hline 16446 \\ {\scriptstyle 4\ 2} \end{array}$$

Answer: 16 446

Long multiplication

24 × 16 becomes

$$\begin{array}{r} {\scriptstyle 2} \\ 24 \\ \times\ 16 \\ \hline 240 \\ 144 \\ \hline 384 \end{array}$$

Answer: 384

124 × 26 becomes

$$\begin{array}{r} {\scriptstyle 1\ 2} \\ 124 \\ \times\ 26 \\ \hline 2480 \\ 744 \\ \hline 3224 \\ {\scriptstyle 1\ 1} \end{array}$$

Answer: 3224

124 × 26 becomes

$$\begin{array}{r} {\scriptstyle 1\ 2} \\ 124 \\ \times\ 26 \\ \hline 744 \\ 2480 \\ \hline 3224 \\ {\scriptstyle 1\ 1} \end{array}$$

Answer: 3224

Short division

98 ÷ 7 becomes

$$7\overline{)\,98} = 14$$

Answer: 14

432 ÷ 5 becomes

$$5\overline{)\,432} = 86\ \text{r}\,2$$

Answer: 86 remainder 2

496 ÷ 11 becomes

$$11\overline{)\,496} = 45\ \text{r}\,1$$

Answer: $45\frac{1}{11}$

Long division

432 ÷ 15 becomes

```
      2  8   r 12
   ┌──────
15 │ 4  3  2
     3  0  0
   ──────
     1  3  2
     1  2  0
   ──────
        1  2
```

Answer: 28 remainder 12

432 ÷ 15 becomes

```
      2  8
   ┌──────
15 │ 4  3  2
     3  0  0      15×20
   ──────
     1  3  2
     1  2  0      15×8
   ──────
        1  2
```

$\frac{\cancel{12}}{\cancel{15}} = \frac{4}{5}$

Answer: $28\frac{4}{5}$

432 ÷ 15 becomes

```
      2  8 · 8
   ┌──────
15 │ 4  3  2 · 0
     3  0  ↓
   ──────
     1  3  2
     1  2  0   ↓
   ──────
        1  2  0
        1  2  0
   ──────
              0
```

Answer: 28·8