THE ORATORY PREP SCHOOL

Maths Information

Year 4

We will cover

- Scheme of work
- Assessment
- Vocabulary
- Key methods taught and equipment used
- Useful websites and apps

Scheme of work

As a school we use White Rose Maths as a guide for our maths teaching.

This is then supported by:

- times tables revision where we use TTRockstars* and each child has a login
- MyMaths* and Maths Shed* which have pupil logins
- regular Mental Maths tests
- problem solving sessions
- ATOM Learning - Maths

- the children also have Primary Maths Challenge (PMC) homework to prepare for the PMC later in this term - (Mrs. Phillips only)

*=homework/assignment tasks

In Year 4, the children learn

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
	Times tables, MyMaths, Maths Shed, Mental Maths Tests, TT Rockstars etc. ongoing.												
	Number- Place Value	CAT Tests – Year 4 (2 to 3 days)	Number- Place Value	Number- Place Value	Number- Place Value	Number- Addition and Subtraction	Number- Addition and Subtraction	Number- Addition and Subtraction	Measurement – Area	Number- Multiplication and Division	Number- Multiplication and Division	Number- Multiplication and Division	Consolidation
	Number- Multiplication and Division	Number- Multiplication and Division	Number- Multiplication and Division	Measurement -Length and Perimeter	Measurement -Length and Perimeter	Number- Fractions	Number- Fractions	Number- Fractions	Number- Decimals	Number- Decimals			
	Number- Decimals	Number- Decimals	Measurement -Money	Measurement -Money	Measurement -Time	Measurement -Time	Geometry- Shape	Geometry- Shape	Statistics	Geometry- Position and Direction			

Assessment

To monitor the children's progress they will have assessments at the end of each block - assessing their understanding of the areas covered and providing us with a clear picture of their knowledge.

They will complete a Progress Test in Maths (**PTM**) in May 2024, giving a standardised score (a score indicating where they stand nationally, against their age).We also had a short assessment to start the year off.

The children will complete **CAT4** testing to give us a quantitative (Q) standardised score. We will feedback this information at Parents' Evening.

Vocabulary

+	-	×	÷	Other
Add Addition Plus Total Sum of Calculate Commutative *(numbers can be added in any order)* *Complement* *(a number and its complement make a total)* *Other* Translation First quadrant Symmetry Isosceles, Equilateral and Scalene Quadrilaterals (e.g.Parallelogram, Rhombus, Trapezium Polygon Regular and Irregular	Subtract Minus Take away Difference Reduce	Multiply Multiple Times Double Product	Halve Group Share Divide Division Factor (a number that multiplies with another to make a product) Remainder Equivalent	Hundreds Tens Ones Partition Tenths Hundredths Exchange (change a number with another of equal value) Array (an ordered collection of counters in rows and columns) Denominator Integer Perimeter Area Capacity Analogue Roman Numerals Horizontal Vertical Perpendicular Parallel Negative

Key methods

During your child's OPS journey in Maths, they are introduced and taught a variety of methods and approaches. These range from the use of tactile items such as blocks through to mental and written methods to perform calculations.

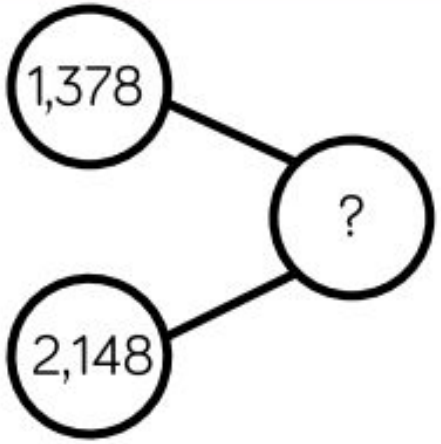

KEEP
CALM
BUT IT'S
OVER
TO YOU

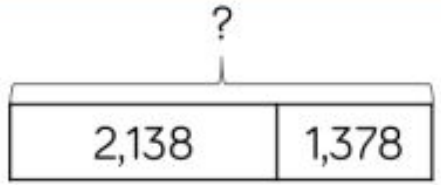
dashboard.blooket.com/play

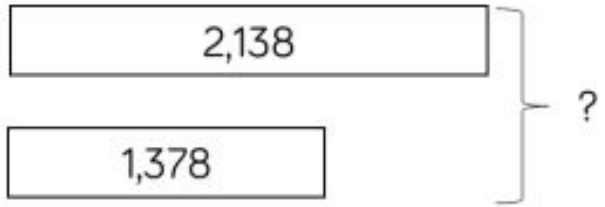
Choose the name of a TV or film character as your nickname! (James Bond, Miss Marple…)

Skill: Add numbers with up to 4 digits

Year: 4

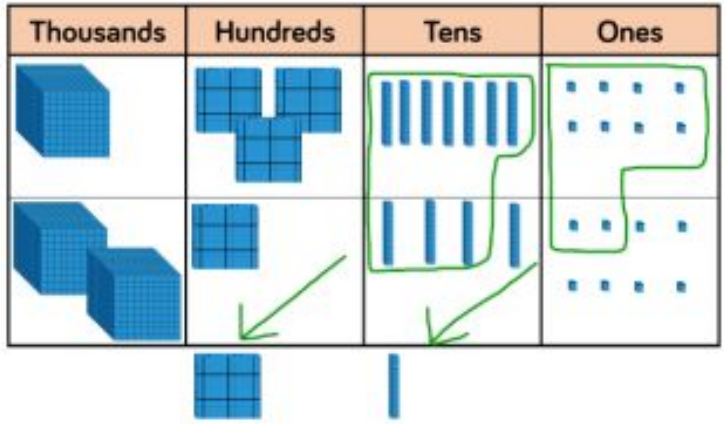


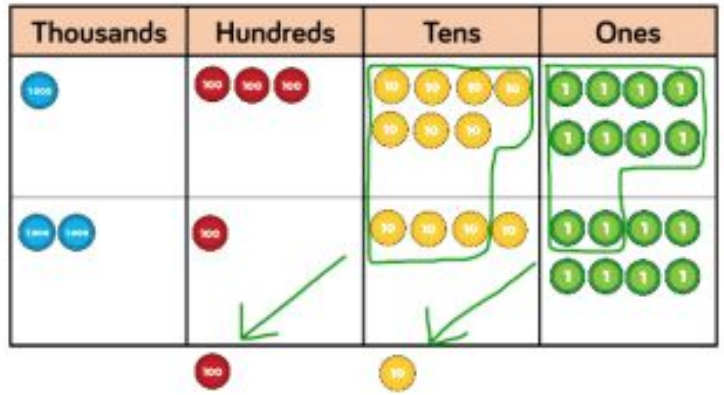




	1	3	7	8
+	2	1	4	8
	3	5	2	6
		1	1	

$$1{,}378 + 2{,}148 = 3{,}526$$





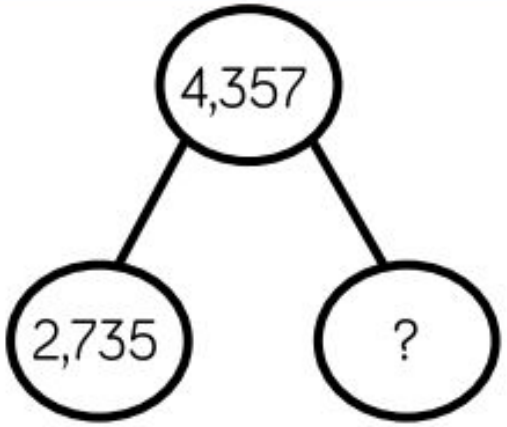
Base 10 and place value counters are the most effective manipulatives when adding numbers with up to 4 digits.

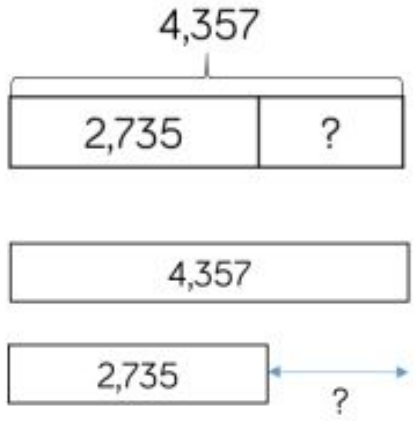
Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method.

Plain counters on a place value grid can also be used to support learning.

Skill: Subtract numbers with up to 4 digits

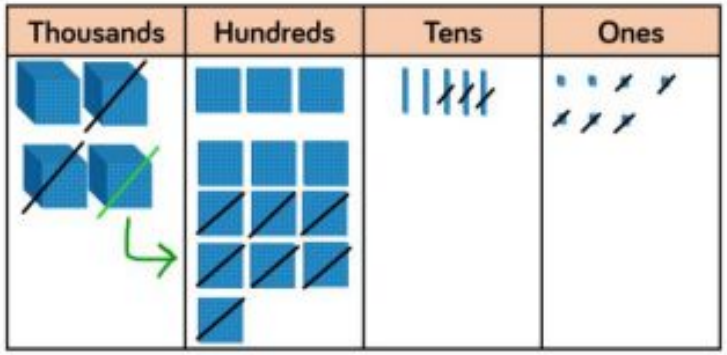
Year: 4

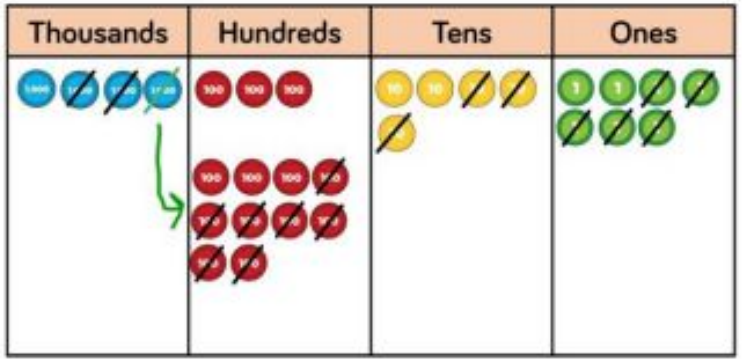




$$\begin{array}{r} {}^{3}\cancel{4}{}^{1}357 \\ -\ 2735 \\ \hline 1622 \end{array}$$

$$4{,}357 - 2{,}735 = 1{,}622$$





Base 10 and place value counters are the most effective manipulatives when subtracting numbers with up to 4 digits.

Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method.

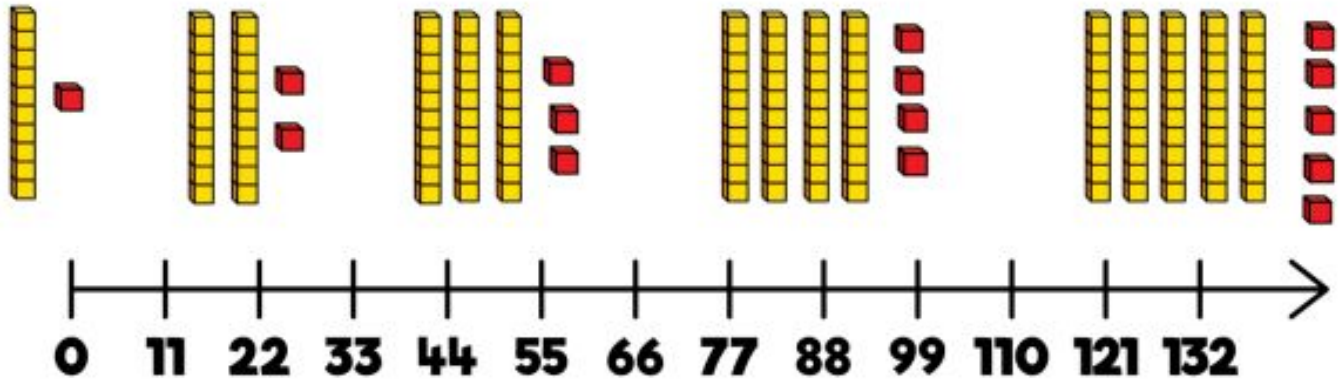
Plain counters on a place value grid can also be used to support learning.

Skill: 11 times table

Year: 4

11	22	33	44	55	66
77	88	99	110	121	132

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



Encourage daily counting in multiples both forwards and backwards. This can be supported using a number line or a hundred square.

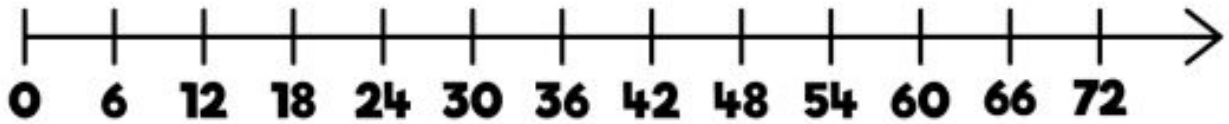
Look for patterns in the eleven times table, using concrete manipulatives to support. Notice the pattern in the tens and ones using the hundred square to support. Also consider the pattern after crossing 100

Skill: 6 times table

Year: 4

6	12	18	24	30
36	42	48	54	60
66	72	78	84	90

1	2	3	4	5	(6)	7	8	9	10
11	(12)	13	14	15	16	17	(18)	19	20
21	22	23	(24)	25	26	27	28	29	(30)
31	32	33	34	35	(36)	37	38	39	40
41	(42)	43	44	45	46	47	(48)	49	50
51	52	53	(54)	55	56	57	58	59	(60)
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



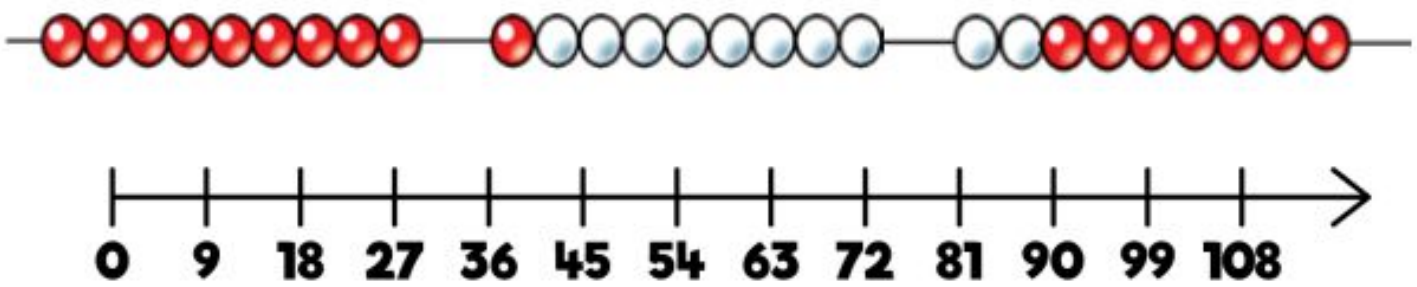
Encourage daily counting in multiples, supported by a number line or a hundred square. Look for patterns in the six times table, using manipulatives to support. Make links to the 3 times table, seeing how each multiple is double the threes. Notice the pattern in the ones within each group of five multiples. Highlight that all the multiples are even using number shapes to support.

Skill: 9 times table

Year: 4

9	18	27	36	45
54	63	72	81	90

1	2	3	4	5	6	7	8	(9)	10
11	12	13	14	15	16	17	(18)	19	20
21	22	23	24	25	26	(27)	28	29	30
31	32	33	34	35	(36)	37	38	39	40
41	42	43	44	(45)	46	47	48	49	50
51	52	53	(54)	55	56	57	58	59	60
61	62	(63)	64	65	66	67	68	69	70
71	(72)	73	74	75	76	77	78	79	80
(81)	82	83	84	85	86	87	88	89	(90)
91	92	93	94	95	96	97	98	(99)	100



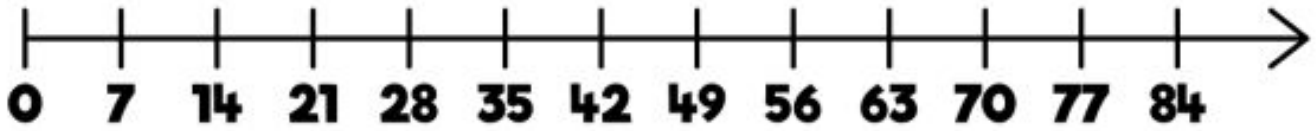
Encourage daily counting in multiples both forwards and backwards. This can be supported using a number line or a hundred square. Look for patterns in the nine times table, using concrete manipulatives to support. Notice the pattern in the tens and ones using the hundred square to support as well as noting the odd, even pattern within the multiples.

Skill: 7 times table

Year: 4

7	14	21	28	35
42	49	56	63	70

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



Encourage daily counting in multiples both forwards and backwards, supported by a number line or a hundred square.

The seven times table can be trickier to learn due to the lack of obvious pattern in the numbers, however they already know several facts due to commutativity.

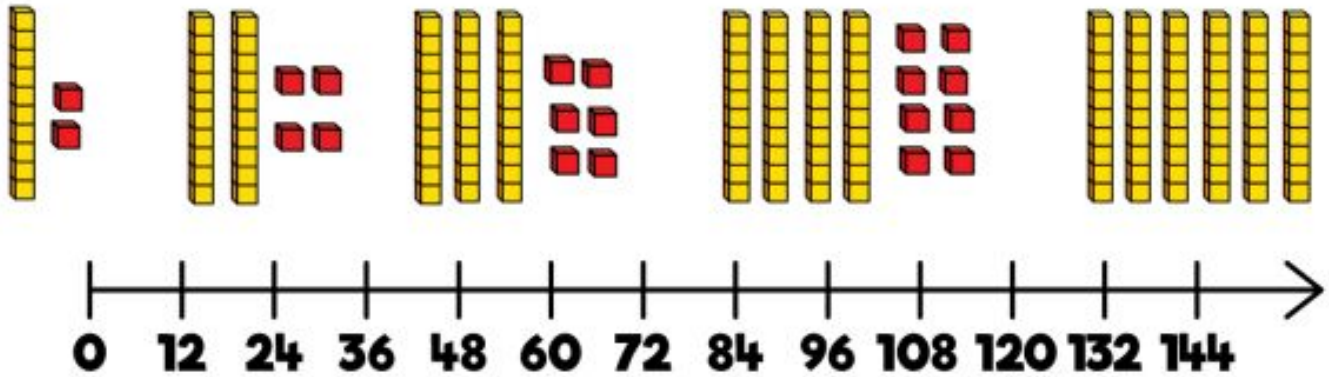
Children can still see the odd, even pattern in the multiples using number shapes to support.

Skill: 12 times table

Year: 4

12	24	36	48	60
72	84	96	108	120
132	144			

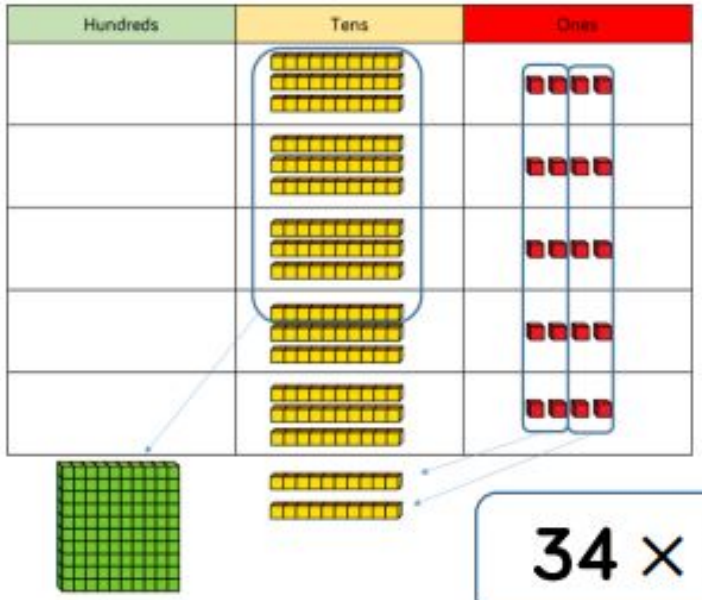
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



Encourage daily counting in multiples, supported by a number line or a hundred square. Look for patterns in the 12 times table, using manipulatives to support. Make links to the 6 times table, seeing how each multiple is double the sixes. Notice the pattern in the ones within each group of five multiples. The hundred square can support in highlighting this pattern.

Skill: Multiply 2-digit numbers by 1-digit numbers

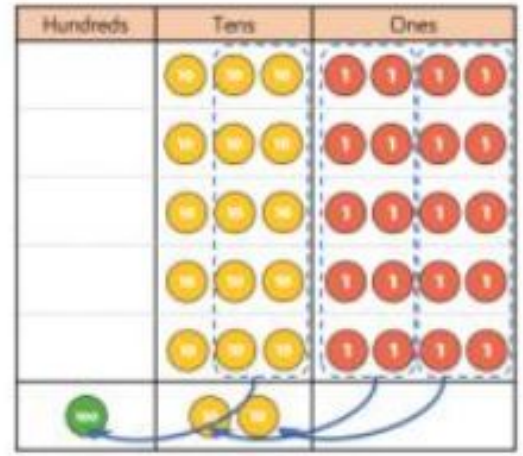
Year: 3/4



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

$$34 \times 5 = 170$$

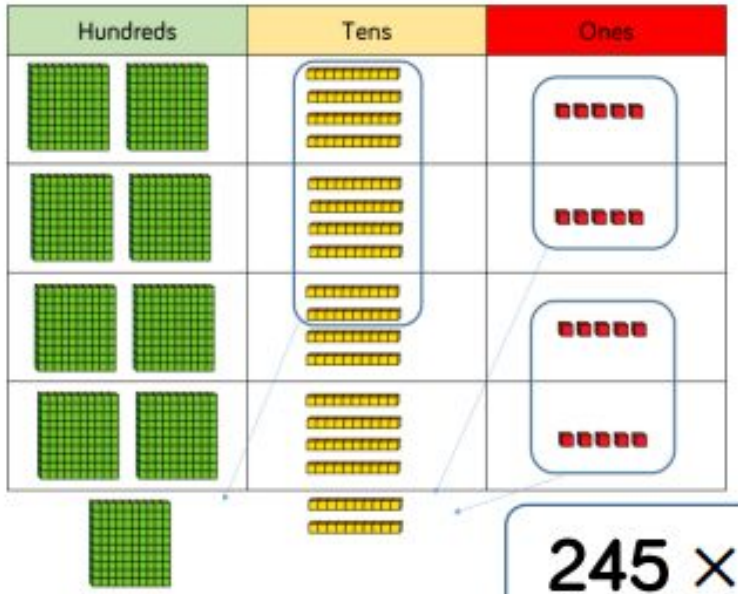
	H	T	O	
		3	4	
×			5	
	1	7	0	
	1	2		



Teachers may decide to first look at the expanded column method before moving on to the short multiplication method.
The place value counters should be used to support the understanding of the method rather than supporting the multiplication, as children should use times table knowledge.

Skill: Multiply 3-digit numbers by 1-digit numbers

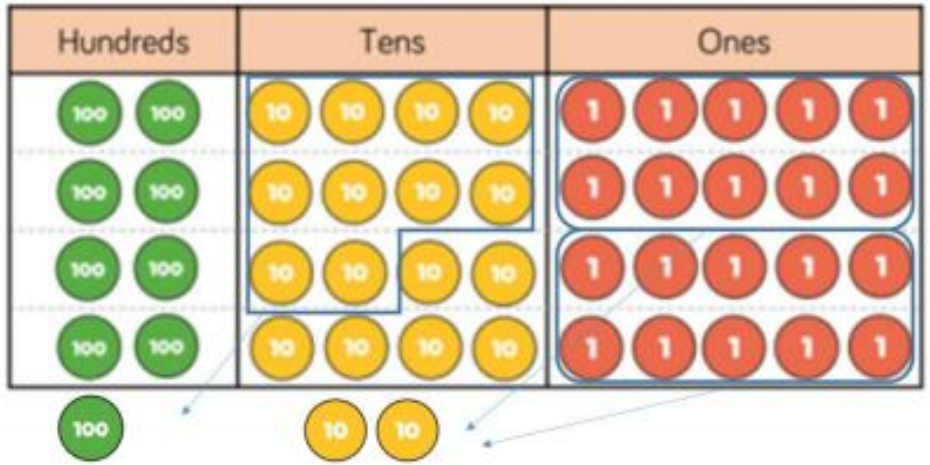
Year: 3/4



	H	T	O
	2	4	5
×			4
	9	8	0
	1	2	

$$245 \times 4 = 980$$

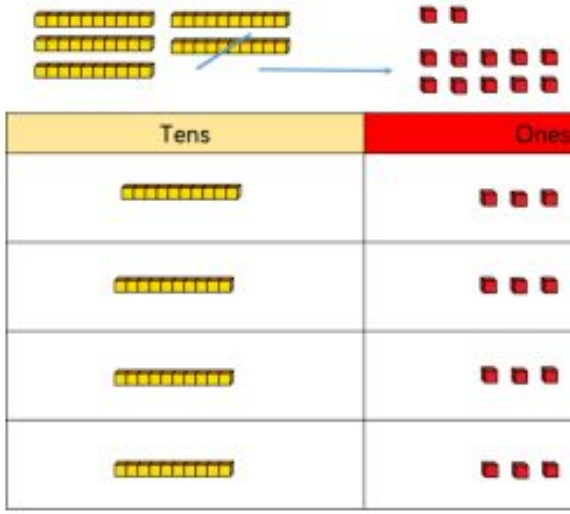
And the GRID METHOD!

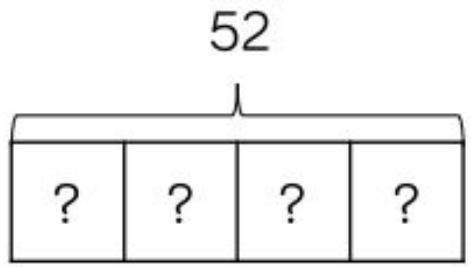


When moving to 3-digit by 1-digit multiplication, encourage children to move towards the short, formal written method.
Base 10 and place value counters continue to support the understanding of the written method.
Limit the number of exchanges needed in the questions and move children away from resources when multiplying larger numbers.

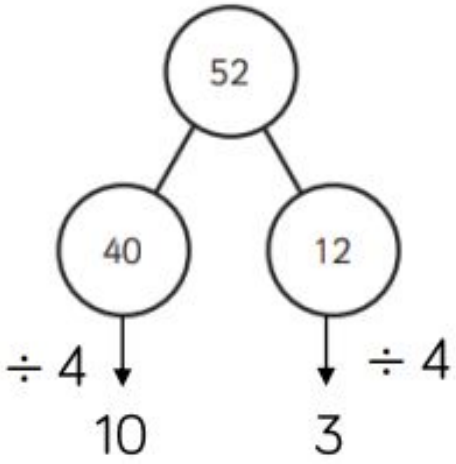
Skill: Divide 2-digits by 1-digit (sharing with exchange)

Year: 3/4

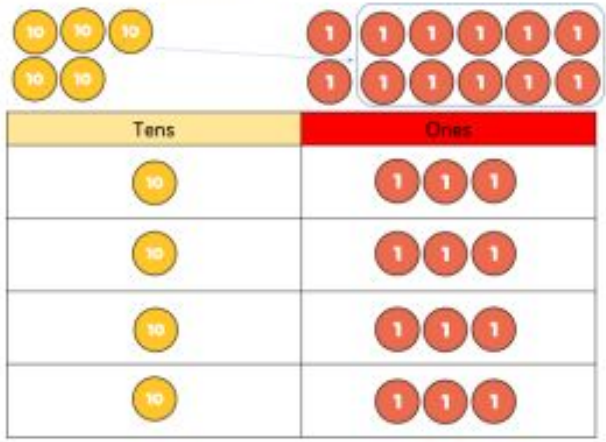




52 ÷ 4 = 13



10 + 3 = 13

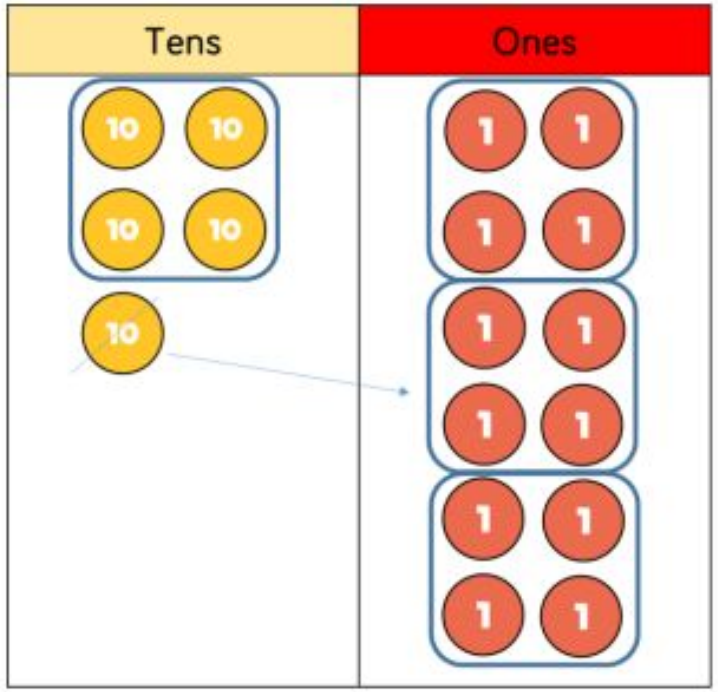


When dividing numbers involving an exchange, children can use Base 10 and place value counters to exchange one ten for ten ones.
Children should start with the equipment outside the place value grid before sharing the tens and ones equally between the rows.

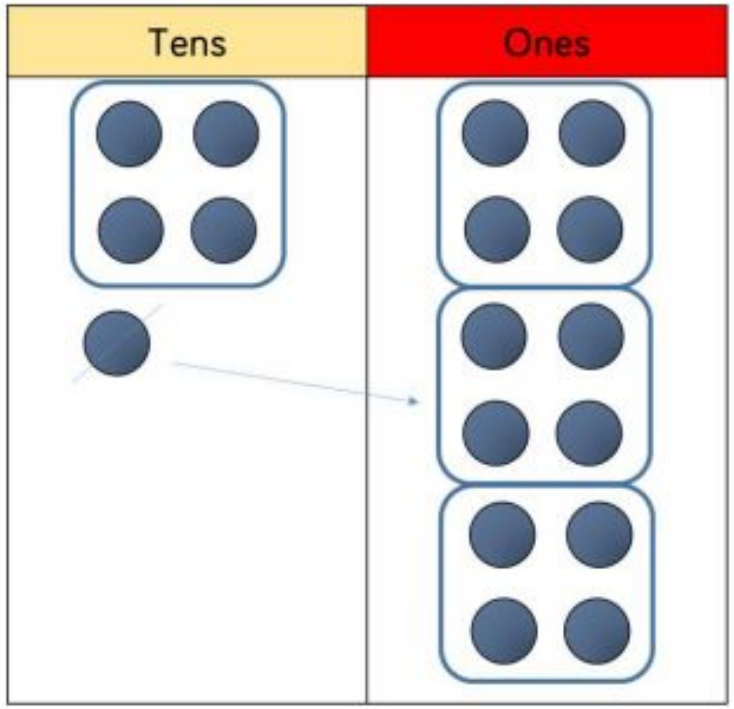
Flexible partitioning in a part-whole model supports this method.

Skill: Divide 2-digits by 1-digit (grouping)

Year: 4/5



		1	3	
	4	5	12	

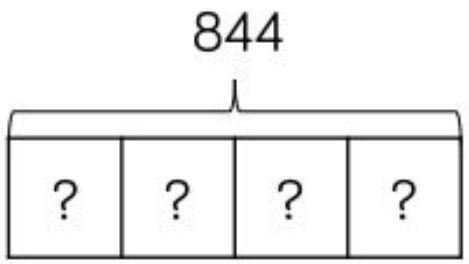
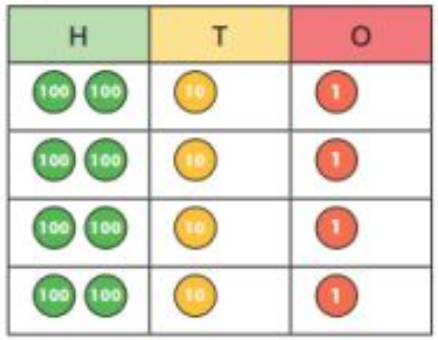
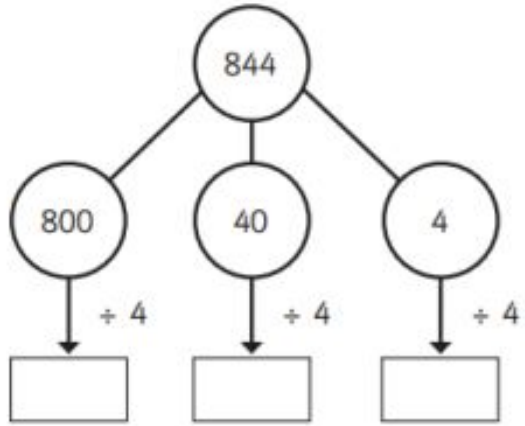
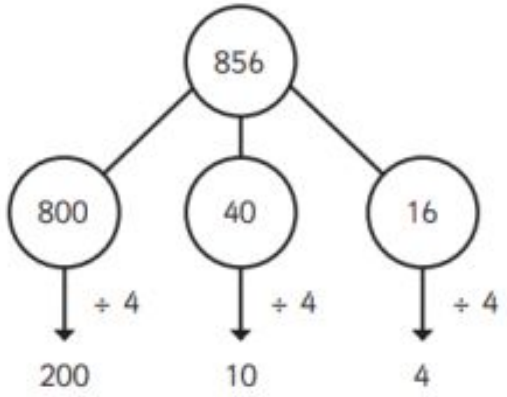


$$52 \div 4 = 13$$

When using the short division method, children use grouping. Starting with the largest place value, they group by the divisor.

Language is important here. Children should consider 'How many groups of 4 tens can we make?' and 'How many groups of 4 ones can we make?'

Remainders can also be seen as they are left ungrouped.

Skill: Divide 3-digits by 1-digit (sharing)	Year: 4
844 ÷ 4 = 211    **844 ÷ 4 = 211** 	Children can continue to use place value counters to share 3-digit numbers into equal groups. Children should start with the equipment outside the place value grid before sharing the hundreds, tens and ones equally between the rows. This method can also help to highlight remainders. Flexible partitioning in a part-whole model supports this method.

School Equipment

- Number line
- Number square
- Dienes blocks
- Games
- Problem solving cards
- Mini clocks (please support with telling the time)
- Protractor
- Shapes 2D and 3D
- Scales
- Length measuring
- Weights

- Calculator
- Compass
- Fraction tiles
- Decimals
- Whiteboards
- Place value grid sliders
- Geoboards
- Digit cards
- Dice
- Money

Websites and Apps

Websites

- TT Rockstars – website and app available
- Maths Shed
- Topmarks e.g. Hit the Button
- MyMaths
- BBC Bitesize
- Parent resources | Maths workbooks | White Rose Maths
- Mathsframe
- Teachwire - 9 Free Online Maths Games
- NRICH **Games and Interactives**
- White Rose 1-Minute Maths App
- ATOM Learning

Let's talk about homework - optional!

Year 4	Every night - please sign the reading record when you've heard your child read. Online Reading Record on the Tutor Google Classroom to review books read.	Weekly spellings given on Friday for a test the following Friday. **Please bring the spelling folder in every Friday.** Weekly spellings can also be found on Spelling Shed assignments.	KTP - Maths Set are expected to know tables up to and including 12. We have weekly PMC (Primary Maths Challenge) homework-goes home on a Thursday/ returned following Monday (this ends when the PMC happens). CS - Maths Set are expected to know tables to 10 by the end of year 4. Regular tests.	MyMaths homework, Maths Shed assignments and TTRockstars posted on a regular basis. ATOM Learning too. (NB To be completed at the weekends or school nights, in prep sometimes - **whichever is convenient for you.**)

Do not hesitate to ask us questions now and in the future!

Please have your child's chromebook.
We hope your children have settled into Year 4.

Your child needs the Stop Motion Animator extension for November please for Computing.

Do you know where to look for:

Maths Shed?
MyMaths?
TTRockstars?
Atom Learning?
Google Classrooms?
Bookmark them to your child's bar across the top for easy access.

https://assets.whiterosemaths.com/new-schemes/Symbols.pdf

Why Multiple Methods is the Way Forward | News | White Rose Maths

Glossary

Array – An ordered collection of counters, cubes or other item in rows and columns.

Commutative – Numbers can be multiplied in any order.

Dividend – In division, the number that is divided.

Divisor – In division, the number by which another is divided.

Exchange – Change a number or expression for another of an equal value.

Factor – A number that multiplies with another to make a product.

Multiplicand – In multiplication, a number to be multiplied by another.

Partitioning – Splitting a number into its component parts.

Product – The result of multiplying one number by another.

Quotient – The result of a division

Remainder – The amount left over after a division when the divisor is not a factor of the dividend.

Scaling – Enlarging or reducing a number by a given amount, called the scale factor

Glossary

Addend - A number to be added to another.

Aggregation - combining two or more quantities or measures to find a total.

Augmentation - increasing a quantity or measure by another quantity.

Commutative – numbers can be added in any order.

Complement – in addition, a number and its complement make a total e.g. 300 is the complement to 700 to make 1,000

Difference – the numerical difference between two numbers is found by comparing the quantity in each group.

Exchange – Change a number or expression for another of an equal value.

Minuend – A quantity or number from which another is subtracted.

Partitioning – Splitting a number into its component parts.

Reduction – Subtraction as take away.

Subitise – Instantly recognise the number of objects in a small group without needing to count.

Subtrahend - A number to be subtracted from another.

Sum - The result of an addition.

Total – The aggregate or the sum found by addition.