



Maths Workshop

16th March 2022

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Maths workshop

Aims

- how we teach written methods in Maths
- how we progress recall of number facts
- top tips on how to help teach your child times tables and support maths at home

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Progression of topics

- Foundation
- Year 1/2
- Year 3/4
- Year 5/6

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Our curriculum

- White Rose Maths
- NCETM
- Nrich
- Maths No Problem
- Classroom secrets
- Test base
- Third space learning

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Number facts

Foundation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Count reliably to 10/20	Count to and across 100 forwards and backwards	Count on and back in steps of 2, 3 and 5 from a given number	Count on and back in multiples of 4, 8, 50 and 100 from a given number	Count on and back in multiples of 6, 7, 9, 25 and 1000 from a given number	Round decimals with 3dp to the nearest whole number and to 1dp	Round any whole number to a required degree of accuracy
Order numbers correctly to 10/20	Identify one more and one less	Compare and order up to 100	Compare and order up to 1000	Count backwards through zero to include negative numbers	5-digit + 5-digit	Add decimals (1, 2 and 3dp)
Identify one more and one less to 10/20	Number bonds to 10 and 20 (including inverse)	Recall and use +1 facts to 20 fluently	Identify 100 more or less	Round any number to nearest 10, 100 or 1000	3-digit x 1-digit	Missing box - 2-digit division
Add/subtract two single digit numbers	Add/subtract 1-digit and 1/2-digit	Missing box calculations involving inverse/commutative understanding	Round any number to nearest 10 or 100	Add and subtract 4-digit numbers	4-digit x 2-digit	Multiply 1-digit numbers with up to 2pds by whole numbers
Doubling and halving to 10/20	Add 2-digit and 1-digit including zero	Balancing equations	Add/subtract 3-digit and 1/2/3-digit	Subtract 10 crossing 100	Add and multiply decimals with 2dp	Divide fractions by 1-digit
Use language related to time	Add 3 numbers	Identify 10 more or less	Multiply 1-digit by 2-digit	Multiply 3 single numbers together	x and ÷ decimals by 10, 100 and 1000 (including decimals)	Long division with remainders
Solve problems involving sharing	Recognise, find and name a half and a quarter of an object, shape or quantity	Add/subtract 2-digit and 1-digit, 2-digit and 2-digit	2-digit ÷ 1-digit (inverse of times tables)	3 and 4-digit numbers x 1/2-digit	Add and subtract fractions with different denominators	Multiply fractions by fractions with different denominators
	Recall 2, 5 and 10 times tables	Add 3 1-digit numbers	Count up and down in tenths	x and ÷ by 10, 100 and 1000	Divide a decimal by 1-digit number	x = of (E.g.: 15% x 300 if the same as 15% of 300)
	Tell the time to the hour and half past	1/2-digit ÷ 1-digit	Add and subtract fractions - same denominator within one whole	Multiply by 0 and 1	Recall equivalent FDP	Find missing angles
		Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity	Fractions of amounts - $\frac{3}{4}$, $\frac{2}{5}$	Divide by 1	Solve problems involving percentages	
		Know simple equivalent fractions	Negative numbers	Division with remainders	Multiply fractions by whole numbers	
		Recall 2, 5, 10, 3 and 4 times tables	Recall times tables up to 10 x 10	Equivalent fractions and decimals	Multiply mixed number by 1-digit	
		Compare and sequence intervals of time	Roman numerals	Add/subtract fractions - same denominator (answer greater than a whole)	BODMAS	
		Tell the time to 5 min intervals	Recognise quarter, half and complete turns, greater and less than 90 degree angles	Fractions as mixed numbers or improper	Recall square and cube numbers	
				Recall times tables up to 12 x 12	Recall prime numbers up to 19	
				Read, write and convert digital and analogue time	Factor pairs and common factors	
				Identify obtuse and acute angles	Estimate and compare obtuse, acute and reflex angles	



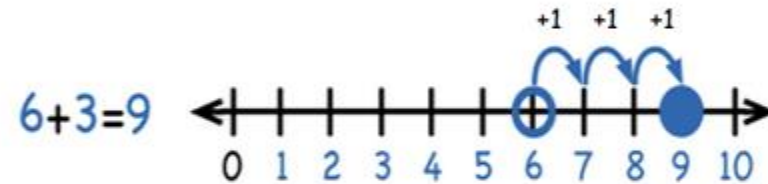
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Written methods - Addition

Addition

Year 1 Add with numbers up to 20

Use numbered number lines to add, by counting on in ones. Encourage children to start with the **larger** number and count on.



Children should:

- Have access to a wide range of counting equipment, everyday objects, number tracks and number lines, and be shown numbers in different contexts.
- Read and write the addition (+) and equals (=) signs within number sentences.
- Interpret addition number sentences and solve missing box problems, using concrete objects and number line addition to solve them: $8 + 3 = \square$
 $15 + 4 = \square$ $5 + 3 + 1 = \square$ $\square + \square = 6$

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Written methods - Addition

Have a go!

$$27,054 + 6,945 =$$

$$5.87 + 3.123 =$$

$$542 + 3,824 = 742 +$$

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Written methods - Subtraction

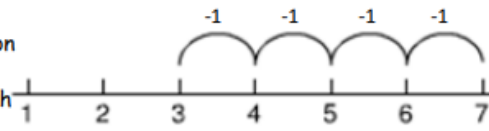
Subtraction

Year 1 Subtract from numbers up to 20

Children consolidate understanding of subtraction practically, showing subtraction on bead strings, using cubes etc. and in familiar contexts, and are introduced to more formal recording using number lines as below:

Subtract by taking away

Count back in ones on a numbered number line to take away, with numbers up to 20:



$$7 - 4 = 3$$

Read, write and interpret number sentences with - and = signs.

Find the 'difference'

Model subtraction using hundred squares and numbered number lines/tracks and practically.

between'

This will be introduced practically with the language 'find the difference between' and 'how many more?' in a range of familiar contexts.



'Seven is 3 more than four'

'I am 2 years older than my sister'



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Written methods - Subtraction

Have a go!

$$10,000 - 4,813 =$$

$$2,503 + \boxed{} = 5,000$$

$$357 = 457 - \boxed{}$$

Subtract one hundred and five from
three hundred and forty-two

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$$7 - 2.25 =$$





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Written methods - Multiplication

Multiplication

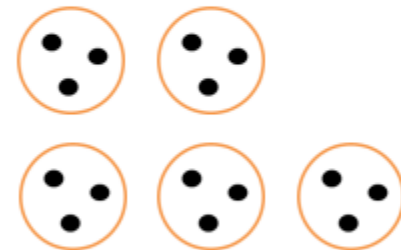
Year 1 Multiply with concrete objects, arrays and pictorial representations.

How many legs will 3 teddies have?



There are 3 sweets in one bag.
How many sweets are in 5 bags altogether?

$$3+3+3+3+3 = 15$$



- Give children experience of count-equal group of objects in 2s, 5s and 10s.
- Present practical problem solving activities involving counting equal sets or groups, as above.

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Written methods - Multiplication

Have a go!

$$9 \times 41 =$$

				3	4	6	8
x						6	2
<hr/>							

$$1,800 = 3 \times$$

$$\times 100$$

$$468 \times 15 =$$

				8	3	6
x					2	7
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Written methods - Division

Division

Year 1 Group and share small quantities

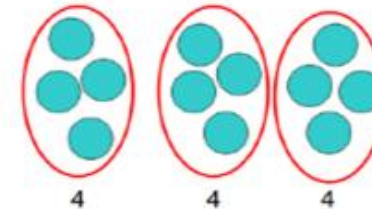
Using objects, diagrams and pictorial representations to solve problems involving both grouping and sharing.

How many groups of 4 can be made with 12 stars? = 3

Grouping:



Sharing:



Pupils should :

12 shared between 3 is 4

- use lots of practical apparatus, arrays and picture representations

Example division problem in a familiar context:

There are 6 pupils on this table and there are 18 pieces of fruit to share between us. If we share them equally, how many will we each get?

Can they work it out and give a division statement... ?

"18 shared between 6 people gives you 3 each."

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Written methods - Division

Have a go!

$= 299 \div 1$

3	7	8	8	8

$2,945,000 \div 1,000 =$

$741 \div 3 =$

$630 \div 7 =$

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$3,440 \div 16 =$





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Times tables support

- Number lines
- Counting on and back
- Chanting
- Rapid recall
- Inverse
- Missing number calculations
- Decimals
- Real life application - money...

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Any questions?

