

Have a go at these questions.

How would you help a child to understand them?

Write the next number sentence in the pattern.

$$1 + 2 + 3 = 6$$


$$2 + 3 + 4 = 9$$

$$3 + 4 + 5 = 12$$

$$4 + 5 + 6 = 15$$

$$\square + \square + \square = \square$$

Sam plays a maths game.

Each  is equal to **2** points.

$$\text{leaf} + \text{acorn} + \text{acorn} = 10 \text{ points}$$

How many points is **one**  equal to?

points



GILES BROOK SCHOOL

# Mathematics Workshop

## Years 1-3



# Mathematics Workshop

## Years 1-3

### Aims

- For you to feel more knowledgeable and confident about the what, why and how of your child's learning in Maths
- To know how you can support your child at home with Maths

Our curriculum intent...

**We want children to be **secure** in their **knowledge** and **understanding** of maths and **fluent in their application** of it, so that they can find **enjoyment** in solving mathematical problems with growing **confidence** and have the necessary skills to move on successfully to the next stage of their education.**

# A Mastery approach to teaching Mathematics....

- Secure in knowledge of number
- Able to apply knowledge when solving calculations
- Can make connections between concepts
- Can recognise and explain patterns



*Value*

**Belief**

**EFFORT**



# Helpful Videos...

Addition	Subtraction	Multiplication	Division	Fractions, Decimals & Percentage		
Concrete and pictorial resources <a href="https://www.youtube.com/watch?v=KNt2uP8VBM0&amp;list=PLApB0B2txnj7v3Is-KXwwpIDX511kNo_I&amp;index=8">https://www.youtube.com/watch?v=KNt2uP8VBM0&amp;list=PLApB0B2txnj7v3Is-KXwwpIDX511kNo_I&amp;index=8</a>	Subtraction using a 10 frame <a href="https://www.youtube.com/watch?v=Cc4wrkXsKj8">https://www.youtube.com/watch?v=Cc4wrkXsKj8</a>	Repeated addition on a number line <a href="https://www.youtube.com/watch?v=wksK99VN7Cs">https://www.youtube.com/watch?v=wksK99VN7Cs</a>	Sharing equally using arrays <a href="https://www.youtube.com/watch?v=mwig70aQuHI&amp;list=PLZXaB-dpg4g0v8JWmtV1hYleAOp0GAPQ&amp;index=2">https://www.youtube.com/watch?v=mwig70aQuHI&amp;list=PLZXaB-dpg4g0v8JWmtV1hYleAOp0GAPQ&amp;index=2</a>	What are fractions? <a href="https://www.youtube.com/watch?v=Cy2qMba9ruk">https://www.youtube.com/watch?v=Cy2qMba9ruk</a>	Finding fractions of amounts of objects and numbers <a href="https://www.youtube.com/watch?v=TXJOls7vXMs">https://www.youtube.com/watch?v=TXJOls7vXMs</a>	Equivalent fractions <a href="https://www.youtube.com/watch?v=qcHHhd6HizI">https://www.youtube.com/watch?v=qcHHhd6HizI</a>
Number line <a href="https://www.youtube.com/watch?v=6i1XG26XgKQ&amp;list=PLApB0B2txnj7v3Is-KXwwpIDX511kNo_I&amp;index=11">https://www.youtube.com/watch?v=6i1XG26XgKQ&amp;list=PLApB0B2txnj7v3Is-KXwwpIDX511kNo_I&amp;index=11</a>	Number line <a href="https://www.youtube.com/watch?v=hES1mvRqvp4">https://www.youtube.com/watch?v=hES1mvRqvp4</a>	Arrays <a href="https://www.youtube.com/watch?v=XOyOVDmIUdo">https://www.youtube.com/watch?v=XOyOVDmIUdo</a>	Short division <a href="https://www.bbc.co.uk/bitesize/topics/z36tyrd/articles/zgxdfcw">https://www.bbc.co.uk/bitesize/topics/z36tyrd/articles/zgxdfcw</a>	Adding and subtracting fractions <a href="https://www.bbc.co.uk/bitesize/topics/zhdwxnb/articles/z9n4k7h">https://www.bbc.co.uk/bitesize/topics/zhdwxnb/articles/z9n4k7h</a>	Multiplying fractions <a href="https://farmboroughprimary.co.uk/wp-content/uploads/2020/04/Multiplying-Fractions-Landscape.mp4?_af=3">https://farmboroughprimary.co.uk/wp-content/uploads/2020/04/Multiplying-Fractions-Landscape.mp4?_af=3</a>	Dividing fractions by integers <a href="https://www.bbc.co.uk/bitesize/articles/zhw8wfy">https://www.bbc.co.uk/bitesize/articles/zhw8wfy</a>
Formal written method <a href="https://www.youtube.com/watch?v=iwNA3uEC14I">https://www.youtube.com/watch?v=iwNA3uEC14I</a>	Formal written method <a href="https://www.bbc.co.uk/bitesize/topics/zy2mn39/articles/zc78srd">https://www.bbc.co.uk/bitesize/topics/zy2mn39/articles/zc78srd</a>	Short multiplication (x a single digit) <a href="https://www.youtube.com/watch?v=k68CPfehTE">https://www.youtube.com/watch?v=k68CPfehTE</a>	Long Division <a href="https://www.youtube.com/watch?v=ZFYLSouMYs4&amp;t=93s">https://www.youtube.com/watch?v=ZFYLSouMYs4&amp;t=93s</a>	Converting improper fractions to mixed numbers <a href="https://www.bbc.co.uk/bitesize/articles/z4ypscw">https://www.bbc.co.uk/bitesize/articles/z4ypscw</a>	Decimals explained <a href="https://www.youtube.com/watch?v=t9vqm2eM5mk">https://www.youtube.com/watch?v=t9vqm2eM5mk</a>	Compare and order decimals <a href="https://www.bbc.co.uk/bitesize/articles/zqn7wnb">https://www.bbc.co.uk/bitesize/articles/zqn7wnb</a>
		Long multiplication (x by 2 digits or more) <a href="https://farmboroughprimary.co.uk/wp-content/uploads/2020/04/Long-Multiplication-Trim.mp4?_af=2">https://farmboroughprimary.co.uk/wp-content/uploads/2020/04/Long-Multiplication-Trim.mp4?_af=2</a>	Multiplying and dividing by 0, 1, 10 and 100 <a href="https://www.bbc.co.uk/bitesize/topics/z36tyrd/articles/z2fkwx">https://www.bbc.co.uk/bitesize/topics/z36tyrd/articles/z2fkwx</a>	Fractions to decimals <a href="https://www.youtube.com/watch?v=mtX8mhHtqrc&amp;list=PLZXaB-dpg4g03cgU7eOGVfz9iQkAhtK9X&amp;index=3">https://www.youtube.com/watch?v=mtX8mhHtqrc&amp;list=PLZXaB-dpg4g03cgU7eOGVfz9iQkAhtK9X&amp;index=3</a>	Adding and subtracting decimals <a href="https://www.bbc.co.uk/bitesize/articles/zyhcbqj">https://www.bbc.co.uk/bitesize/articles/zyhcbqj</a>	Multiplying decimals by a whole number <a href="https://www.youtube.com/watch?v=BAwkn4hGGyg">https://www.youtube.com/watch?v=BAwkn4hGGyg</a>
				Percentages explained <a href="https://www.bbc.co.uk/bitesize/topics/znjqlfr/articles/z8ws3k7">https://www.bbc.co.uk/bitesize/topics/znjqlfr/articles/z8ws3k7</a>	Equivalent fractions, decimals and percentages <a href="https://www.youtube.com/watch?v=0AItcfW7nFo&amp;list=">https://www.youtube.com/watch?v=0AItcfW7nFo&amp;list=</a>	Finding percentage of an amount <a href="https://www.bbc.co.uk/bitesize/articles/zvxnv82">https://www.bbc.co.uk/bitesize/articles/zvxnv82</a>



# Key Knowledge

# Number Facts - number bonds and times tables

## Addition and subtraction facts

The full set of addition calculations that pupils need to be able to solve with automaticity are shown in the table below. Pupils must also be able to solve the corresponding subtraction calculations with automaticity.

+	0	1	2	3	4	5	6	7	8	9	10
0	0+0	0+1	0+2	0+3	0+4	0+5	0+6	0+7	0+8	0+9	0+10
1	1+0	1+1	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+9	1+10
2	2+0	2+1	2+2	2+3	2+4	2+5	2+6	2+7	2+8	2+9	2+10
3	3+0	3+1	3+2	3+3	3+4	3+5	3+6	3+7	3+8	3+9	3+10
4	4+0	4+1	4+2	4+3	4+4	4+5	4+6	4+7	4+8	4+9	4+10
5	5+0	5+1	5+2	5+3	5+4	5+5	5+6	5+7	5+8	5+9	5+10
6	6+0	6+1	6+2	6+3	6+4	6+5	6+6	6+7	6+8	6+9	6+10
7	7+0	7+1	7+2	7+3	7+4	7+5	7+6	7+7	7+8	7+9	7+10
8	8+0	8+1	8+2	8+3	8+4	8+5	8+6	8+7	8+8	8+9	8+10
9	9+0	9+1	9+2	9+3	9+4	9+5	9+6	9+7	9+8	9+9	9+10
10	10+0	10+1	10+2	10+3	10+4	10+5	10+6	10+7	10+8	10+9	10+10

X	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

[EYFS Curriculum](#)

[Multiplication Check Year 4](#)





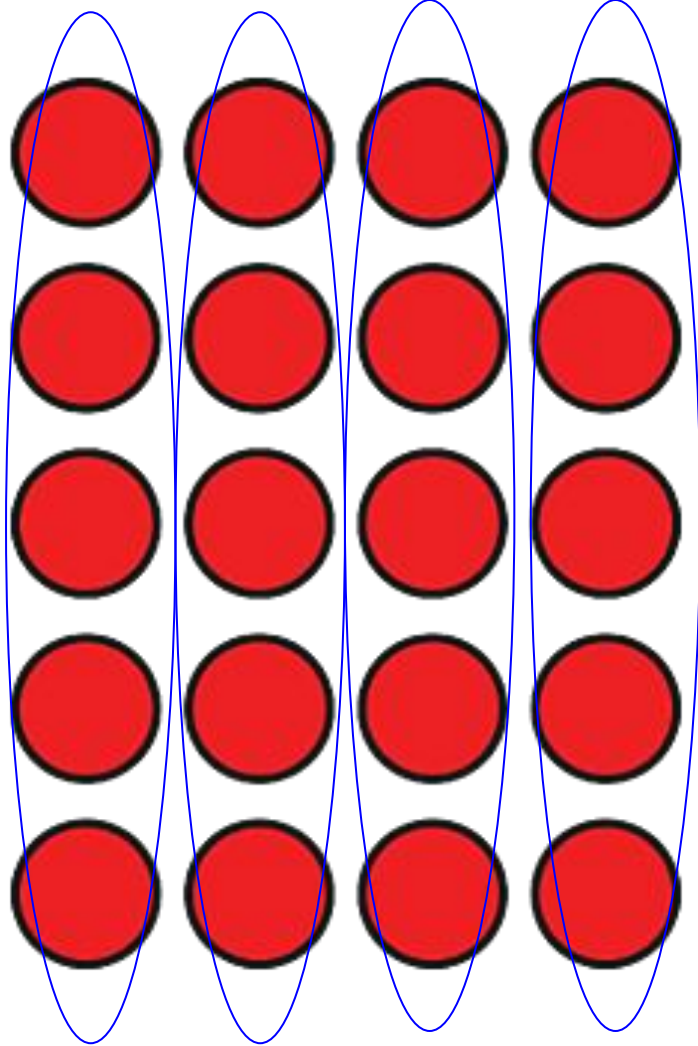
$$5 + 7 = 12$$

$$5 + \_ = 12$$

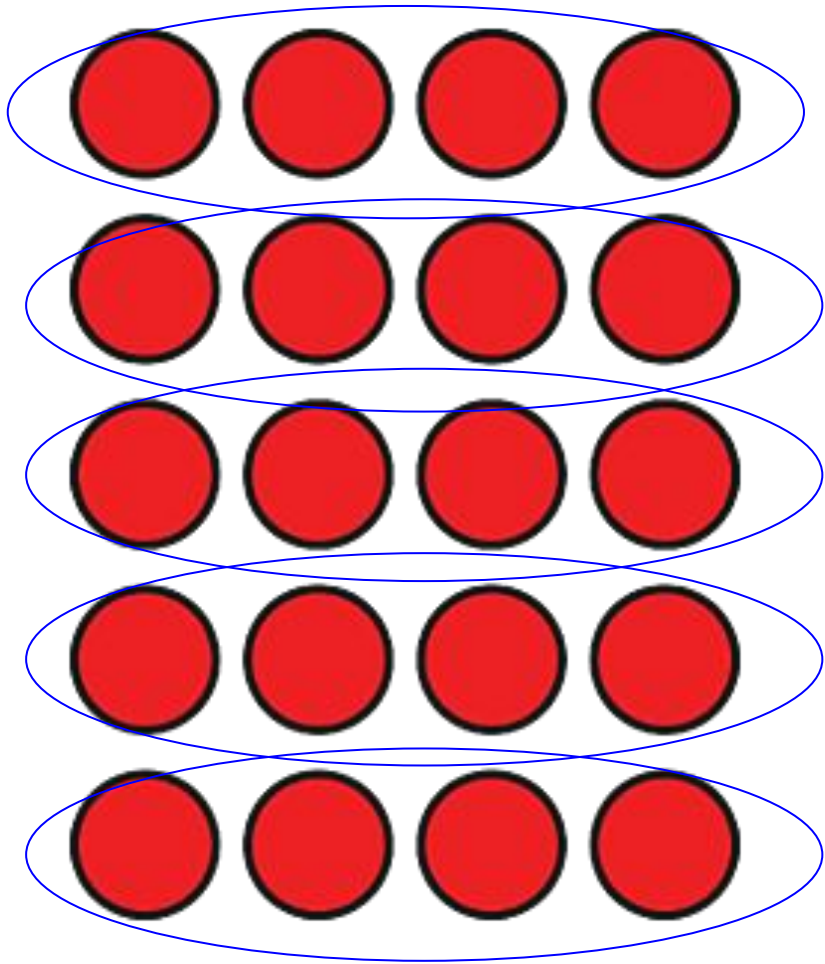
$$7 + \_ = 12$$

$$12 = 7 + \_$$

By end of Year 1  
children need to know  
number bonds to and  
within 20.



$$4 \times 5 = 20$$



$$4 \times 5 = 20$$

$$5 \times 4 = 20$$

$$20 \div 5 = 4$$

$$20 \div 4 = 5$$

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>
<b>Unit 1</b>	-Number bonds within and to 5  -Number bonds within and to 10  -Number bonds within and to 20  -Experience of counting in 1s, 2s, 5s, and 10s (forwards and backwards).	Number bonds within and to 10 and 20.	Number bonds within and to 10 and 20.	4x, 8x	4x, 8x	3x, 6x, 9x
<b>Unit 2</b>		1x, 2x	2x, 4x	6x, 12x	3x, 6x	11x, 12x
<b>Unit 3</b>		5x	4x, 8x,	x9	6x, 12x	7x, 8x
<b>Unit 4</b>		10x	3x	x7	x7	Data Informed
<b>Unit 5</b>		SATS	3x, 6x	x11/Practise MTC	x9	SATS
<b>Unit 6</b>		Revision	Revision	Revision/MTC	Revision	Revision



# Number Facts - number bonds and times tables

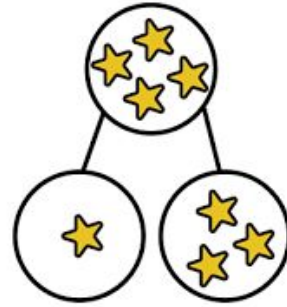


<https://play.numbots.com/#/intro>

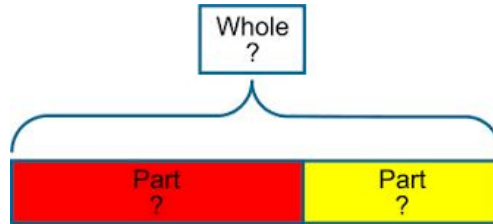


<https://play.ttrockstars.com/>

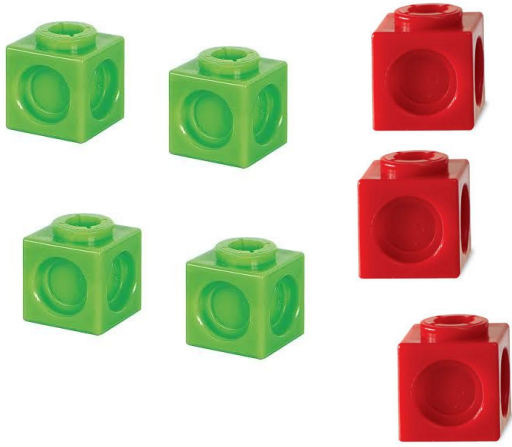
# Concrete, Pictorial, Abstract - The CPA approach



$$\begin{array}{r} 6 \cancel{7} 12 \\ 56 - \\ \hline 16 \end{array}$$

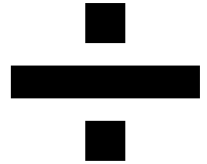


# Concrete, Pictorial, Abstract - The CPA approach

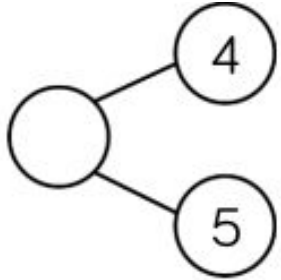
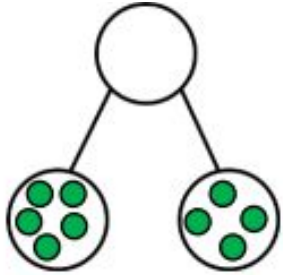


$$4 + 3 = 7$$

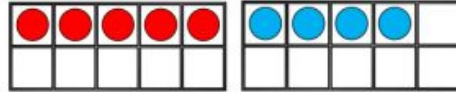
# The Four Operations...



# The Four Operations... Addition and Subtraction



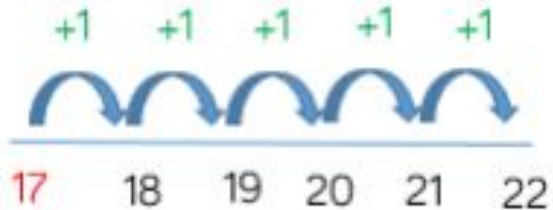
There are 5 red cars and 4 blue cars. How many cars are there altogether?



$$\square + \square = \square$$

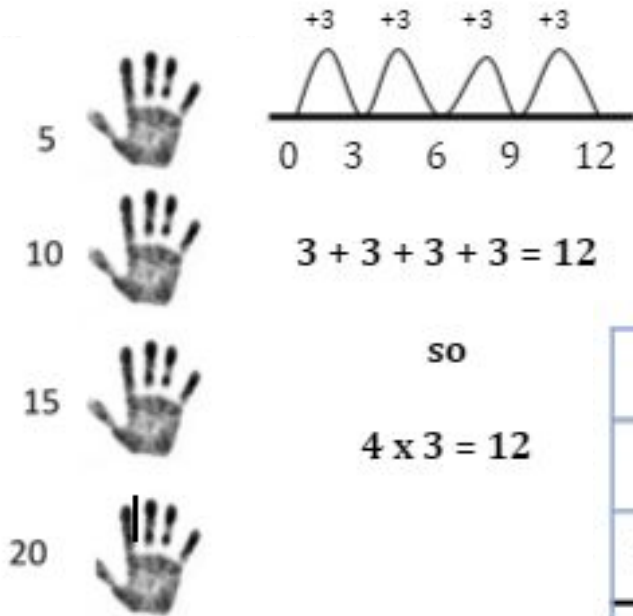
$$\square = \square + \square$$

$$17 + 5 =$$



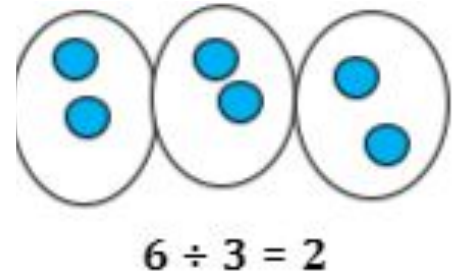
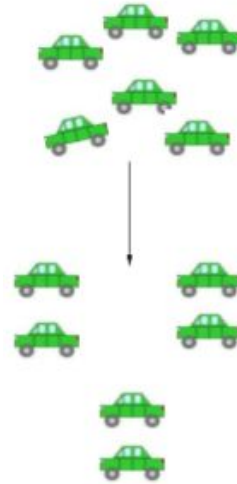
$$\begin{array}{r} 129 \\ +145 \\ \hline 274 \\ \hline 1 \end{array}$$

# The Four Operations... Multiplication and Division



so  
 $4 \times 3 = 12$

	T	O
	3	4
x		5
1	7	0
1	2	



$$48 \div 4$$

$$52 \div 4$$

$$60 \div 3$$

## Supporting Maths learning at home

- Be positive
- Encourage practise of facts whenever possible
- Use our calculation policy and bank of videos to help with homework
- If unsure, contact the class teacher or encourage your child to ask their teacher