



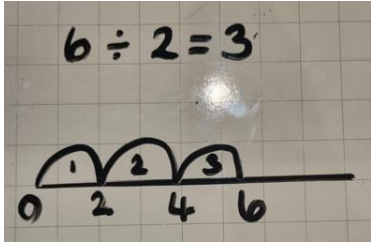
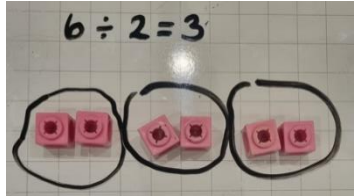
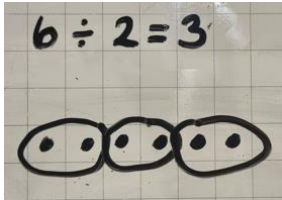
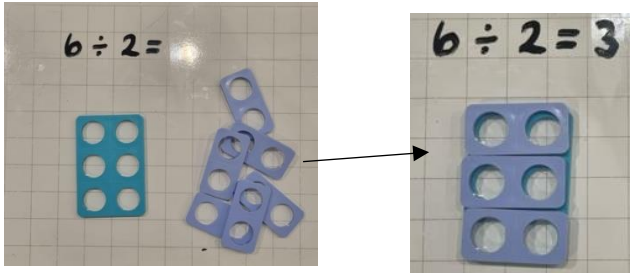
FINHAM PARK
MULTI ACADEMY TRUST



Pearl Hyde Primary School Calculation Policy - Division

Year Group	Small step of Learning	Examples
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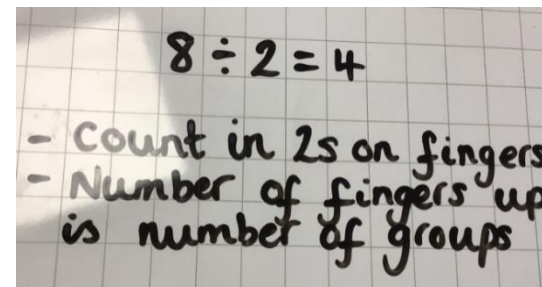
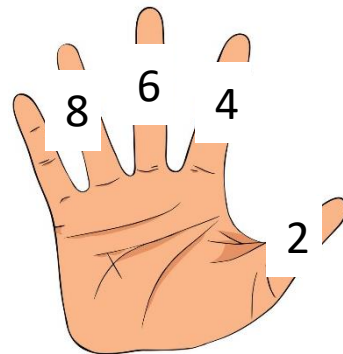
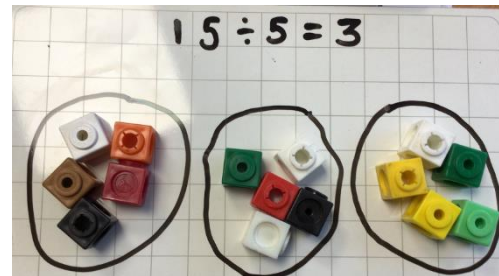
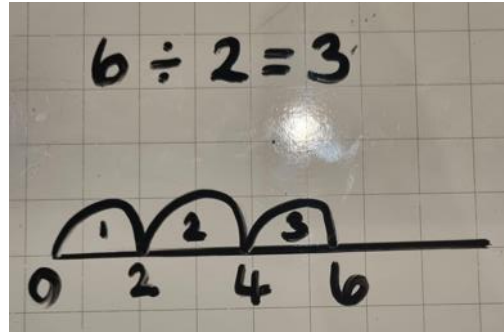
Objective: To solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations, and arrays with the support of the teacher.

1	Make equal groups – grouping	<p>Images of numberlines - How many 2's are in 6?</p>  <p>Cubes and pictures</p>   <p>Numicon</p> 
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1	Make equal groups – sharing	
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Objective: To calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs.
 To solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

2	Make equal groups – grouping and sharing	<p>See Year 1 grouping and sharing</p> <p>Bar model</p>
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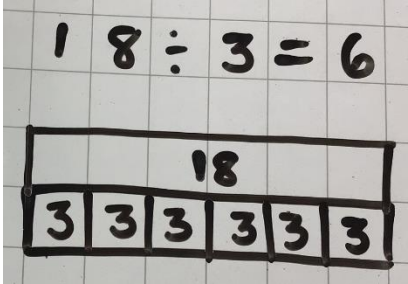


Objective: To write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.

3
Divide by 3, 4 and 8

See Year 2 - Divide by 2,5 and 10s

Bar Model

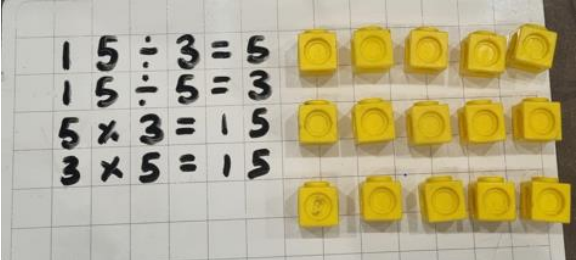


The image shows a handwritten division equation $18 \div 3 = 6$ on a grid background. Below the equation is a bar model representing the division. A large rectangle is divided into six equal smaller rectangles. The number '18' is written in the center of the large rectangle, and the number '3' is written in each of the six smaller rectangles, illustrating that 18 is divided into 6 groups of 3.

3
Sharing and Grouping

See Year 1 and 2 – Make equal groups – grouping and sharing

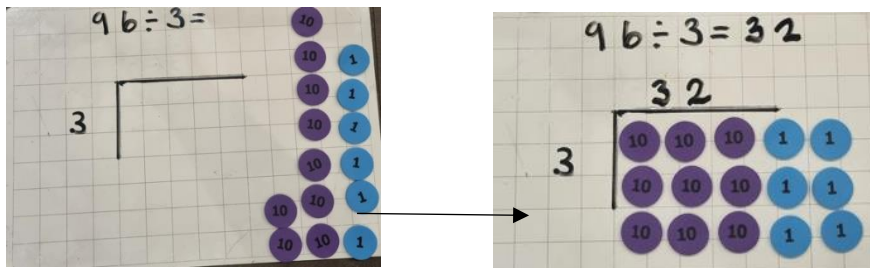
3
Linking multiplication and division



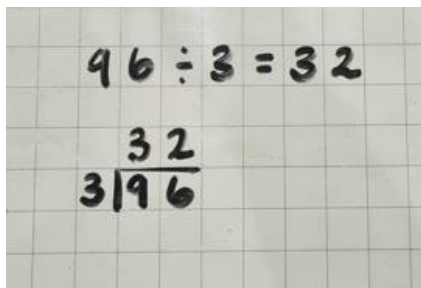
The image shows four mathematical statements written on a grid background, with yellow base ten blocks used to represent the numbers. The statements are:
 $15 \div 3 = 5$
 $15 \div 5 = 3$
 $5 \times 3 = 15$
 $3 \times 5 = 15$
The blocks are arranged to show the relationships: five tens rods and five ones units for 15, and how they are grouped into five groups of three or three groups of five.

3 Divide a 2-digit number by a 1-digit number – no exchange

Practical with counters

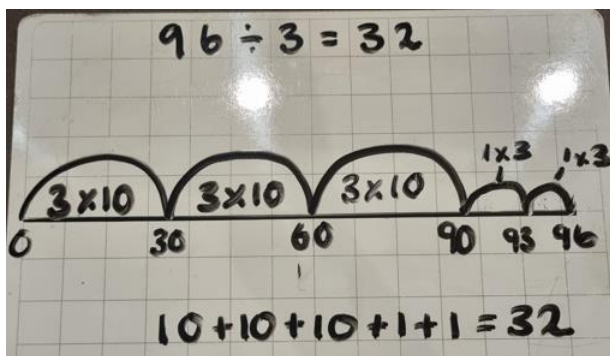


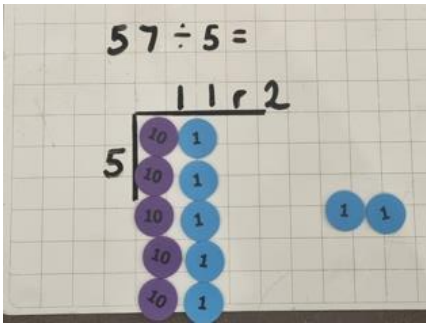
Compact method



3 Divide a 2-digit number by a 1-digit number – flexible partitioning

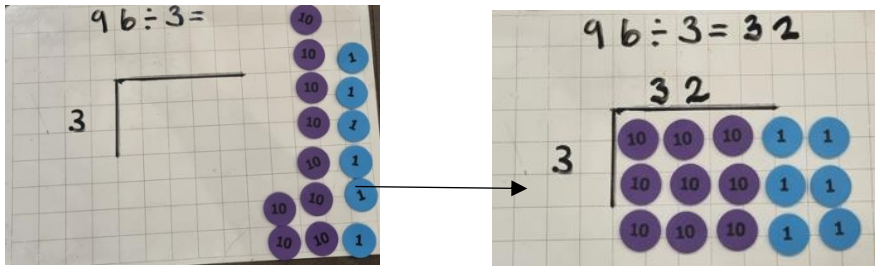
Using known facts/ how many 3's in 96?



3	Divide a 2-digit number by a 1-digit number – with remainders	<p>Practical with counters</p> 
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Objective: To divide two-digit and three-digit numbers by a one-digit number using formal written layout.

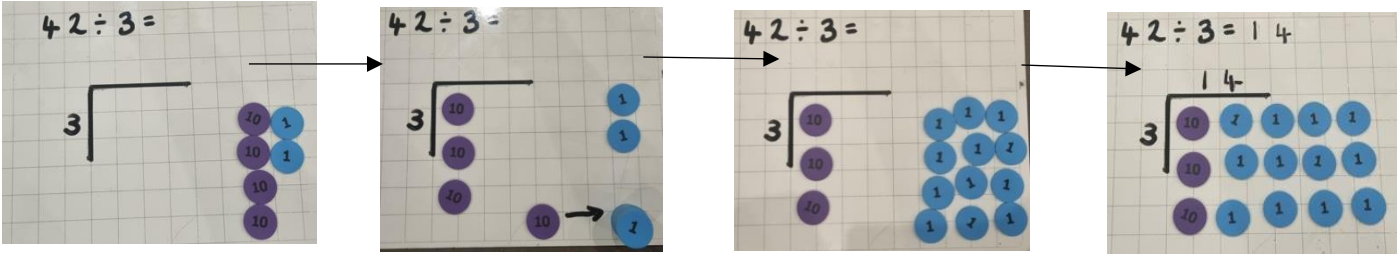
4	Divide by 6, 7, 9, 11 and 12	See Year 2 – Divide by 2,5 and 10s
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4	Divide a 2-digit number by a 1-digit number	<p>Practical with counters</p> <p>Without an exchange</p> 
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$$96 \div 3 = 32$$

$$\begin{array}{r} 32 \\ 3 \overline{)96} \end{array}$$

With an exchange



$$42 \div 3 = 14$$

$$\begin{array}{r} 14 \\ 3 \overline{)42} \end{array}$$

4

Divide a 3-digit number by a 1-digit number

Without an exchange

$$\begin{array}{r} 213 \\ 3 \overline{)639} \end{array}$$

With an exchange

$$\begin{array}{r} 112 \\ 6 \overline{)672} \end{array}$$

Objective: divide numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers

5

Divide up to a 4-digit number by a 1-digit number

Compact method

$$\begin{array}{r} 3138 \\ 3 \overline{)94124} \end{array}$$

with an exchange

$$\begin{array}{r} 1304 \\ 6 \overline{) 7824} \end{array}$$

5

Divide with remainders

$$\begin{array}{r} 205 \text{ r}2 \\ 3 \overline{) 617} \end{array}$$

$$\begin{array}{r} 2340 \text{ r}3 \\ 4 \overline{) 9363} \end{array}$$

Objective: add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction

6

Divide up to a 4-digit number by a 2-digit number

Long division method

$7335 \div 15 = 489$

Fact box

0489	15
<u>15</u> 7335	30
- 60 ↓	45
<u>133</u>	60
- 120 ↓	75
<u>0135</u>	90
	105
	120
	135
	150

6

Long division with
remainders

$$1426 \div 13 = 109r9$$

Fact box

0	1	0	9	r9	13
1	3	1	4	2	6
-	1	3			39
		1	2	6	52
-		1	1	7	65
				9	78
					91
					104
					117
					130