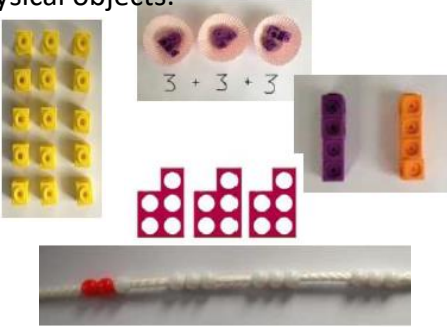
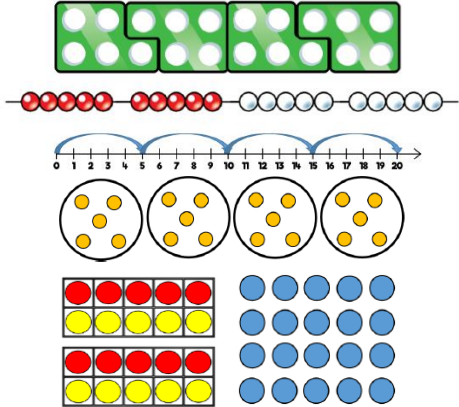
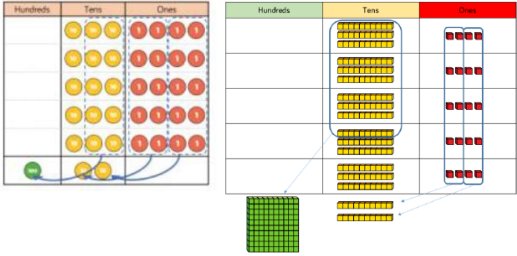
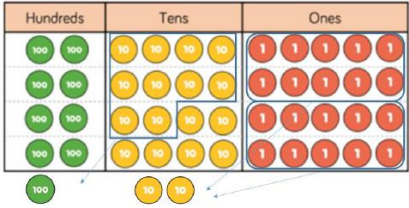


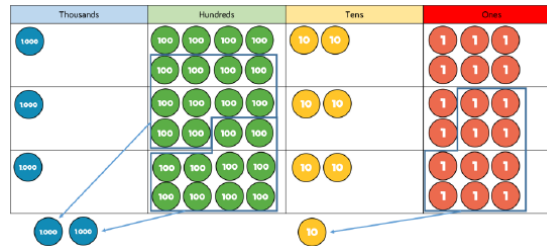
Calculations Policy – Multiplication

Year	Skill	Concrete examples	Pictorial examples	Abstract examples																																																									
1/2	Solve one step problems with multiplication.	Representing multiplication as repeated addition and arrays using physical objects. 	Variety of pictorial representations. 	<div style="border: 1px solid black; border-radius: 10px; padding: 10px; margin-bottom: 10px;"> One bag holds 5 apples. How many apples do 4 bags hold? </div> $5 + 5 + 5 + 5 = 20$ $4 \times 5 = 20$ $5 \times 4 = 20$																																																									
3/4	Multiply 2-digit by 1-digit numbers.	Use counters or Base 10 on place value grids.	Use representations of counters and Base 10 to show exchanges. 	<div style="border: 1px solid black; border-radius: 10px; padding: 10px; margin-bottom: 10px;"> $34 \times 5 = 170$ </div> <table border="1" style="display: inline-table; margin-right: 20px;"> <thead> <tr><th>H</th><th>T</th><th>O</th></tr> </thead> <tbody> <tr><td></td><td>3</td><td>4</td></tr> <tr><td>x</td><td></td><td>5</td></tr> <tr><td colspan="3" style="border-top: 1px solid black;"></td></tr> <tr><td></td><td>2</td><td>0</td></tr> <tr><td>+</td><td>1</td><td>5</td></tr> <tr><td colspan="3" style="border-top: 1px solid black;"></td></tr> <tr><td></td><td>1</td><td>7</td></tr> <tr><td></td><td></td><td>0</td></tr> </tbody> </table> <table border="1" style="display: inline-table;"> <thead> <tr><th>H</th><th>T</th><th>O</th></tr> </thead> <tbody> <tr><td></td><td>3</td><td>4</td></tr> <tr><td>x</td><td></td><td>5</td></tr> <tr><td colspan="3" style="border-top: 1px solid black;"></td></tr> <tr><td></td><td>1</td><td>7</td></tr> <tr><td></td><td></td><td>0</td></tr> </tbody> </table> <p style="text-align: center; margin-top: 5px;">1 2</p> <table border="1" style="display: inline-table; margin-top: 10px;"> <tbody> <tr><td>x</td><td>30</td><td>4</td></tr> <tr><td>5</td><td>150</td><td>20</td></tr> <tr><td colspan="3" style="border-top: 1px solid black;"></td></tr> <tr><td></td><td></td><td></td></tr> </tbody> </table> <p style="text-align: right; margin-top: 5px;">= 170</p>	H	T	O		3	4	x		5					2	0	+	1	5					1	7			0	H	T	O		3	4	x		5					1	7			0	x	30	4	5	150	20						
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4	Multiply 3-digit by 1-digit numbers.	As Year 3.	Use representations of counters or Base 10 to show exchanges. 	<div style="border: 1px solid black; border-radius: 10px; padding: 10px; margin-bottom: 10px;"> $245 \times 4 = 980$ </div> <table border="1" style="display: inline-table;"> <thead> <tr><th>H</th><th>T</th><th>O</th></tr> </thead> <tbody> <tr><td></td><td>2</td><td>4</td></tr> <tr><td>x</td><td></td><td>4</td></tr> <tr><td colspan="3" style="border-top: 1px solid black;"></td></tr> <tr><td></td><td>9</td><td>8</td></tr> <tr><td></td><td></td><td>0</td></tr> </tbody> </table> <p style="text-align: center; margin-top: 5px;">1 2</p>	H	T	O		2	4	x		4					9	8			0																																							
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5 Multiply 4-digit by 1-digit numbers.

As Year 4.

Use representations of counters or Base 10 to show exchanges.



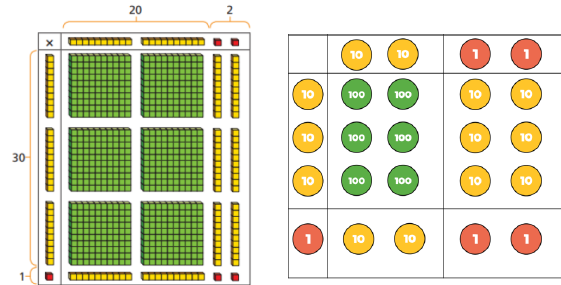
$$1,826 \times 3 = 5,478$$

	Th	H	T	O
	1	8	2	6
x				3
	5	4	7	8
		2		1

5 Multiply 2-digit by 2-digit numbers.

As Year 4/5.

Use Base 10 or counters for the area model to show the size of the numbers. This also links to the grid method.



$$22 \times 31 = 682$$

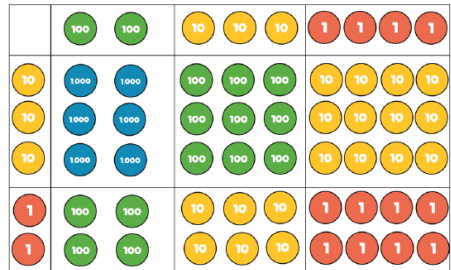
x	20	2
30	600	60
1	20	2

	H	T	O
		2	2
x		3	1
		2	2
	6	6	0
	6	8	2

5 Multiply 3-digit by 2-digit numbers.

Manipulatives may still be used with the corresponding long multiplication modelled alongside.

Use counters for efficiency with the area model.



$$234 \times 32 = 7,488$$

x	200	30	4
30	6,000	900	120
2	400	60	8

	Th	H	T	O
		2	3	4
x			3	2
		4	6	8
17	1	0	2	0
	7	4	8	8

5/6

Multiply 4-digit
by 2-digit
numbers.

Manipulatives may still be used with the
corresponding long multiplication
modelled alongside.

As above.

$$2,739 \times 28 = 76,692$$

TTh	Th	H	T	O
	2	7	3	9
×			2	8
2	1	9	1	2
₂	₅	₃	₇	
5	4	7	8	0
₁		₁		
7	6	6	9	2

Apply to decimal contexts.

$$\begin{array}{r} 3.19 \\ \times 8 \\ \hline 25.52 \end{array}$$