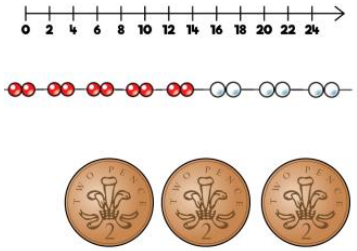
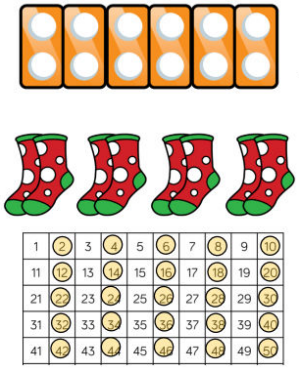
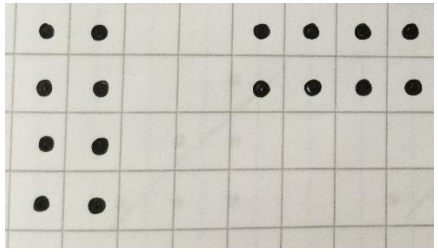
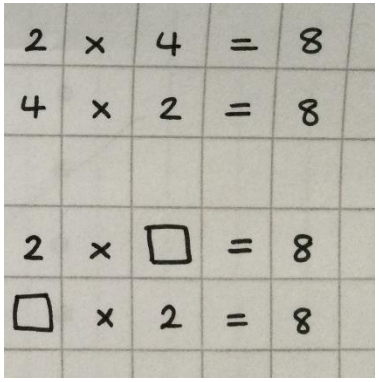
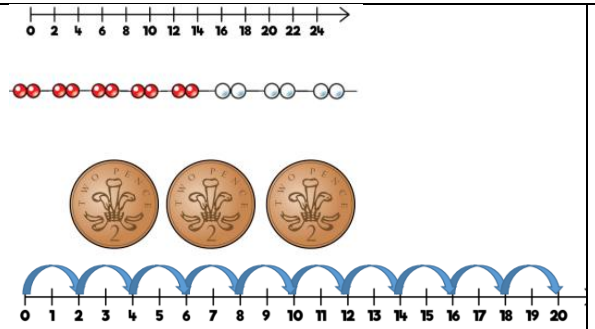
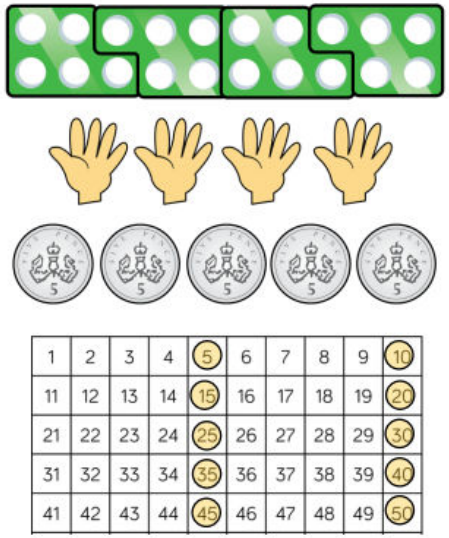
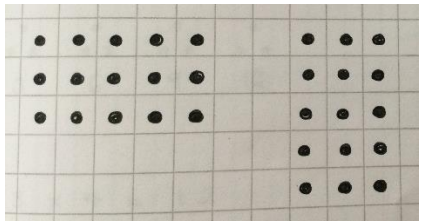
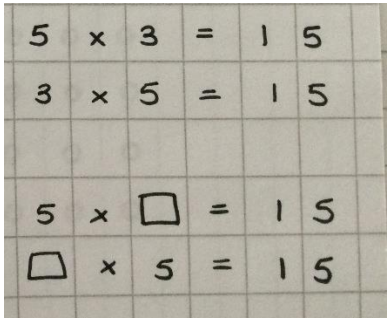
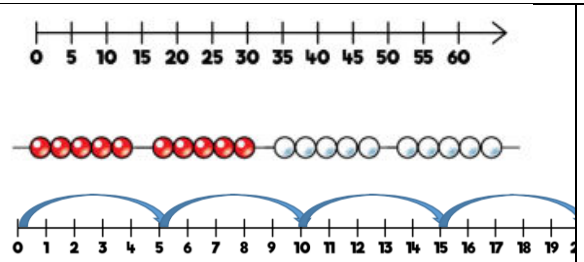
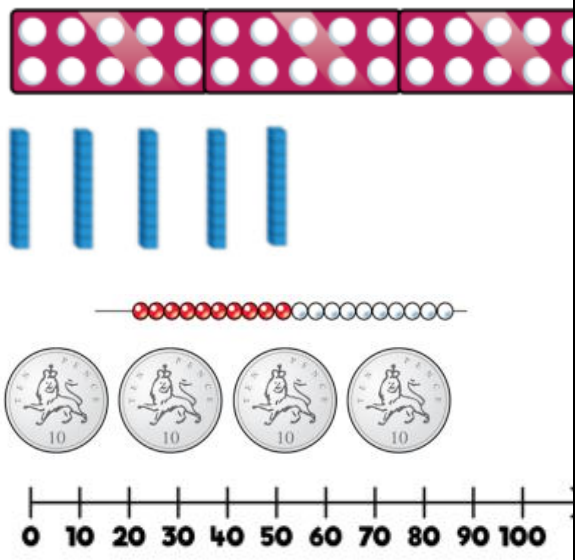
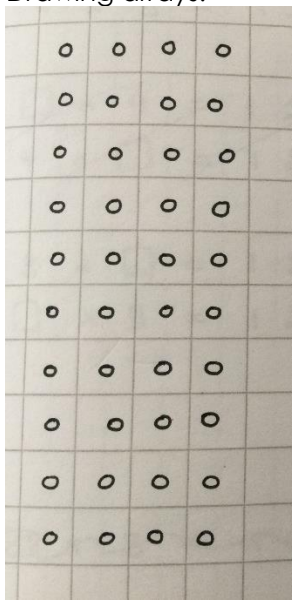
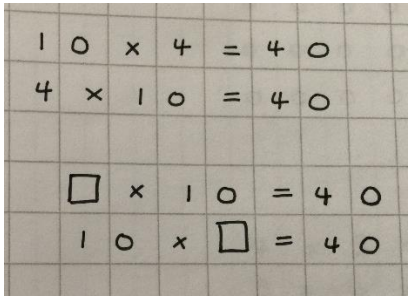
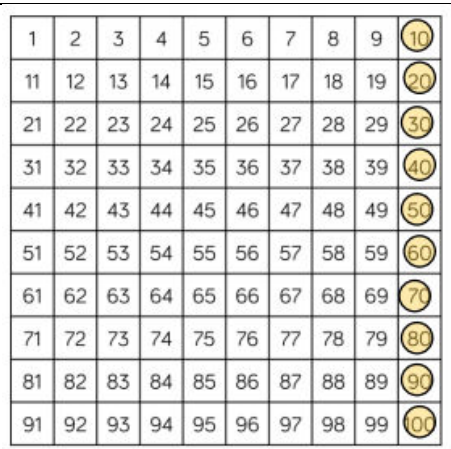
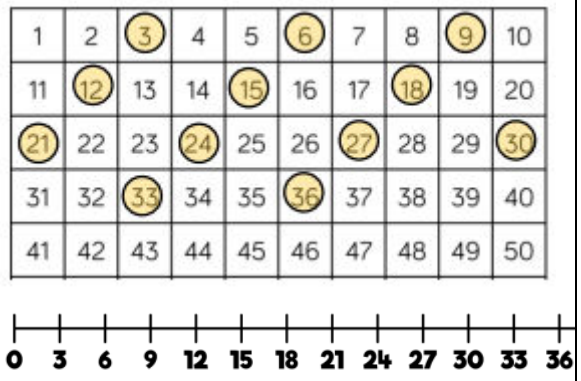
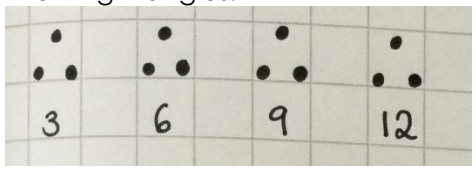
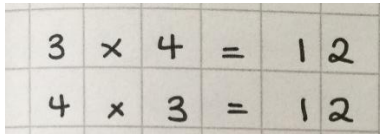
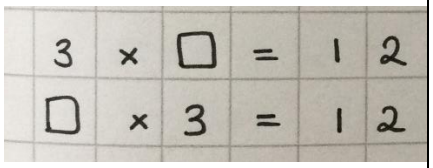
Calculation policy: Multiplication

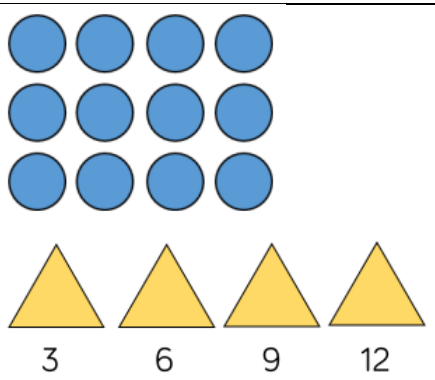
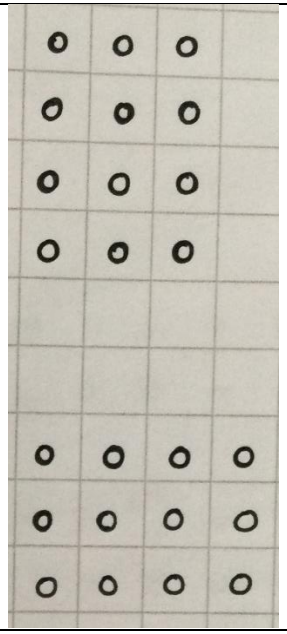
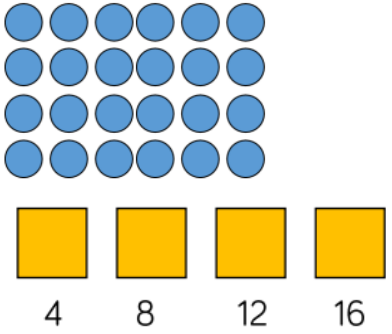
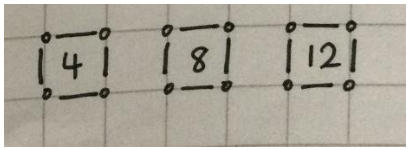
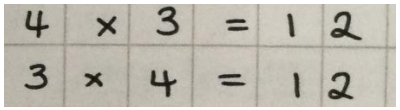
Key language: double, times, multiplied by, the product of, groups of, lots of, equal groups.

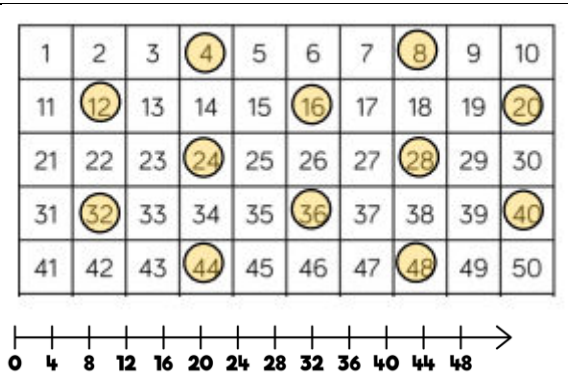
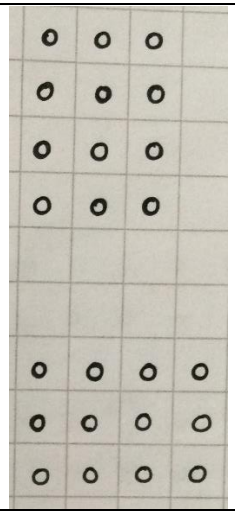
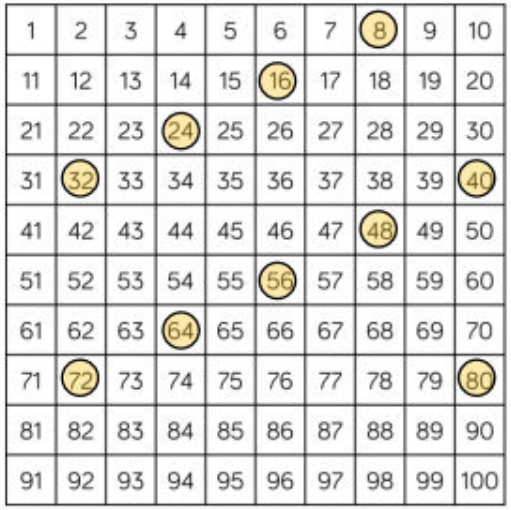
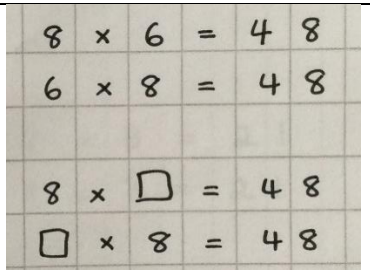
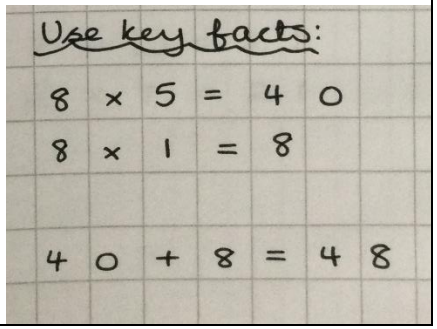
Year Group	Skill	Concrete	Pictorial	Abstract
Multiplication Tables				
F2	Counting in 2s, 5s and 10s	Counting sticks, number squares, number lines, number shapes, bead strings, everyday objects. 	Drawing arrays.	
1/2	Recall multiplication facts for the 2 times tables	Number shapes, everyday objects (pairs of socks, 2p coins, counters etc.), number lines, bead strings, number squares. 	Drawing arrays. 	Writing number sentences. 

				
1/2	Recall multiplication facts for the 5 times tables	Number shapes, everyday objects (fingers, 5p coins, counters etc.), number lines, bead strings, number squares. 	Drawing arrays. 	

				
1/2	Recall multiplication facts for the 10 times tables	Number shapes, everyday objects (fingers, 10p coins, counters etc.), number lines, bead strings, number squares, Base 10. 	Drawing arrays. 	

				
2/3/4	Recall multiplication facts for the 3 times tables	Everyday objects (cubes, triangles, counters etc.), number lines, number squares. 	Drawing arrays. Drawing triangles. 	 

				
2/3/4	Recall multiplication facts for the 4 times tables	Everyday objects (counters, square tiles etc.), number lines, number squares. 	Drawing arrays. Drawing squares. Drawing tables, noting number patterns. 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 	 4 x ? = 12 ? x 4 = 12

				
3/4	Recall multiplication facts for the 8 times tables	Everyday objects (octopus, octagons, counters etc.), number lines, number squares. 	Drawing arrays. Drawing tables to identify number patterns.	 

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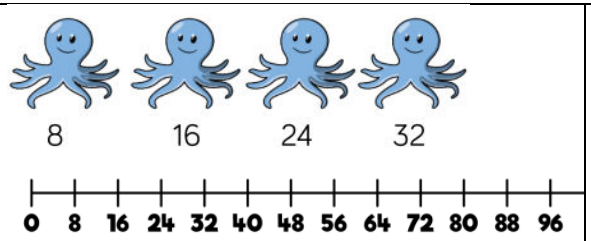
<td> 
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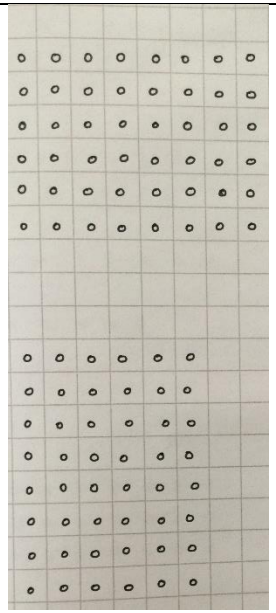
<td> 
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<tr>
<td>3/4</td>
<td>Recall multiplication facts for the 6 times tables</td>
<td>Everyday objects (dice, counters etc.), number lines, number squares.</td>
<td>Drawing arrays.
Drawing tables to identify number patterns.
<table>
<tr><td>6</td><td>12</td><td>18</td><td>24</td><td>30</td></tr>
<tr><td>36</td><td>42</td><td>48</td><td>54</td><td>60</td></tr>
<tr><td>66</td><td>72</td><td>78</td><td>84</td><td>90</td></tr>
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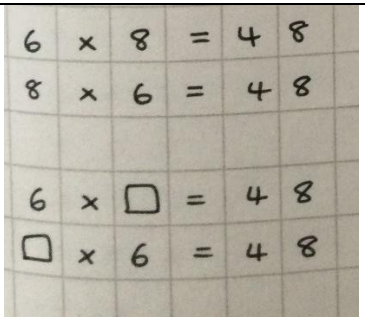
<td> 
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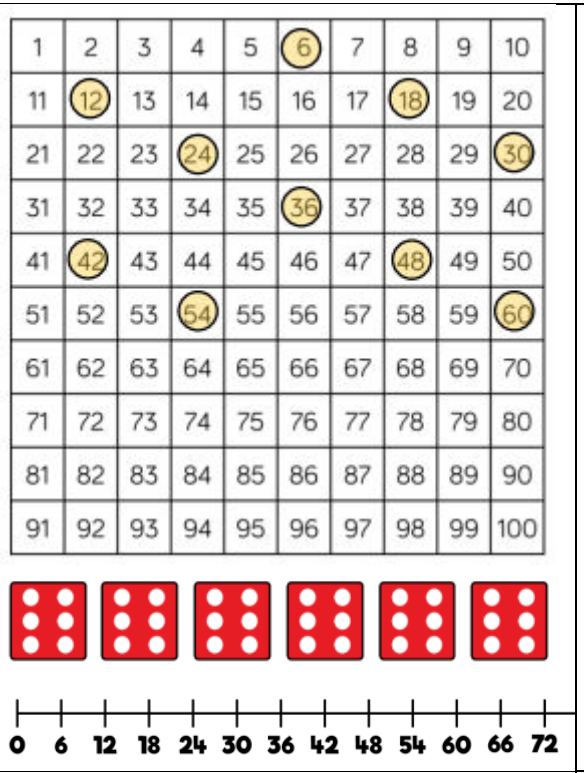
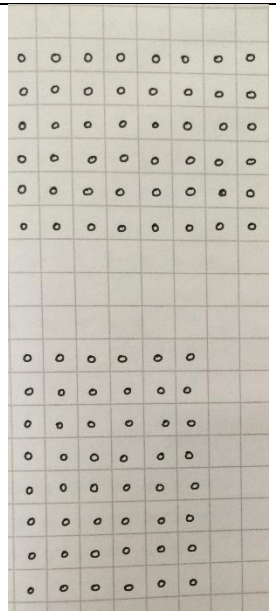
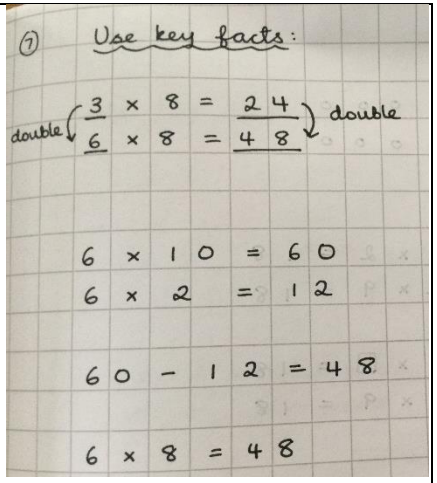
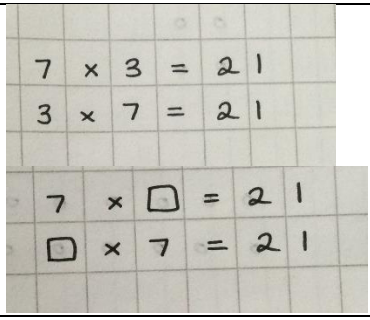
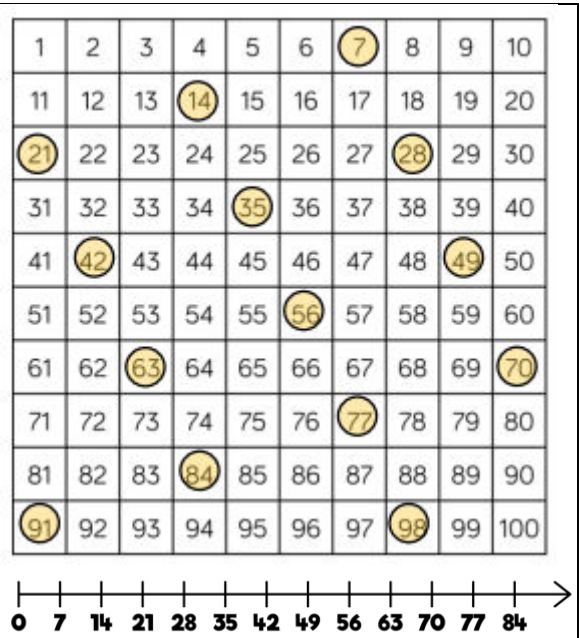
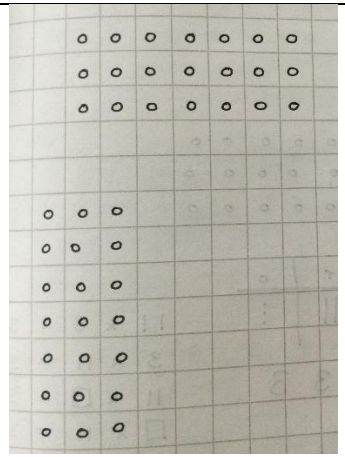
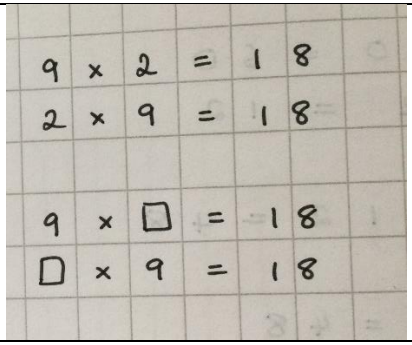
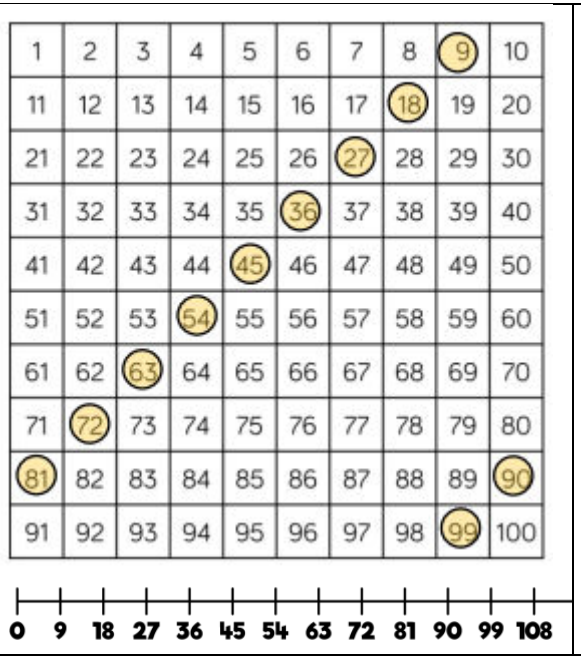
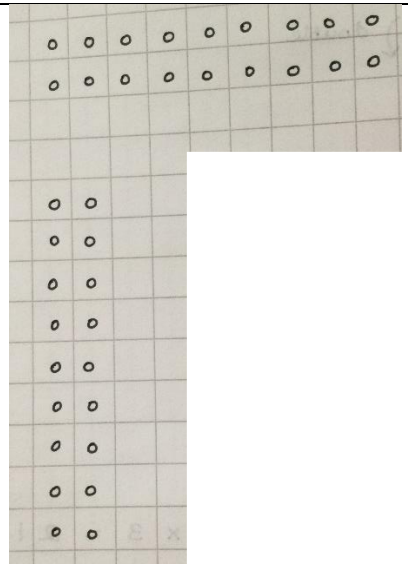
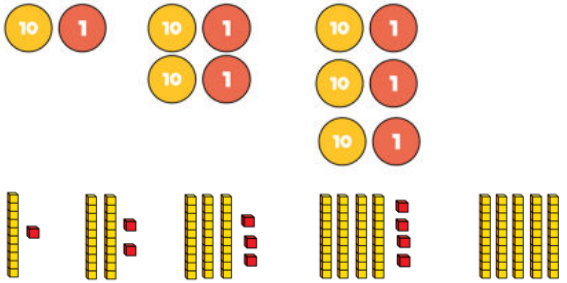
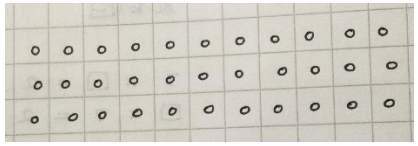
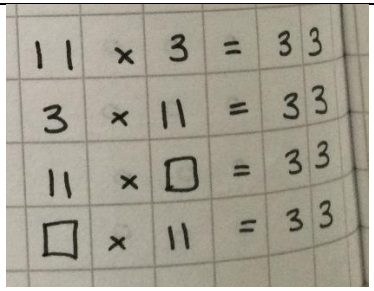
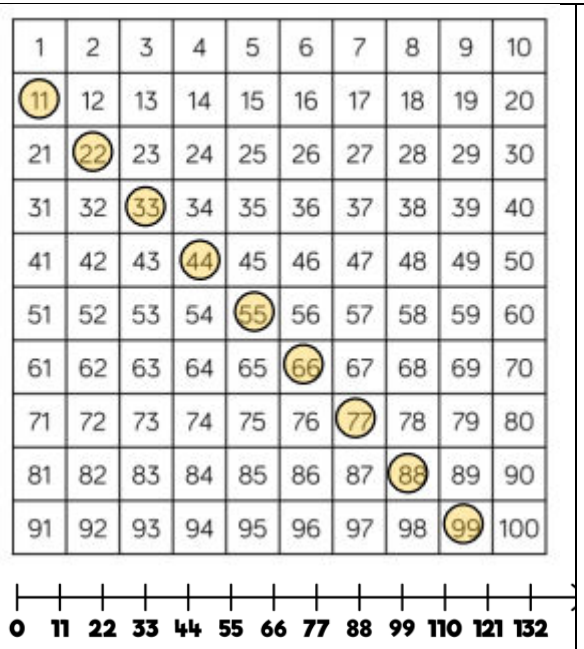
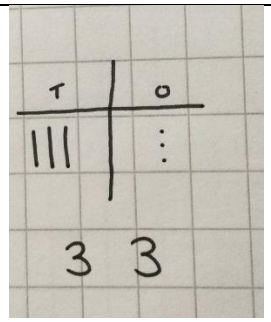
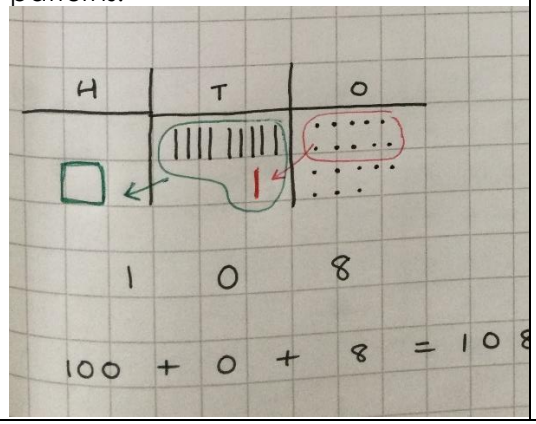
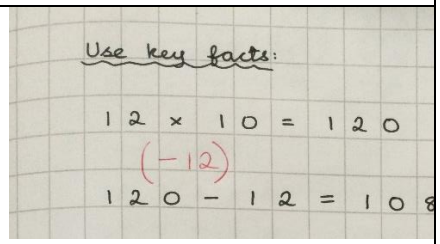
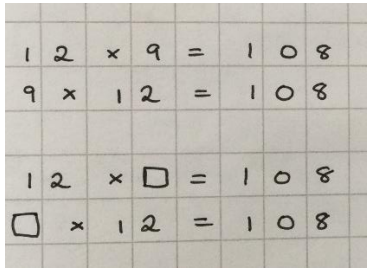
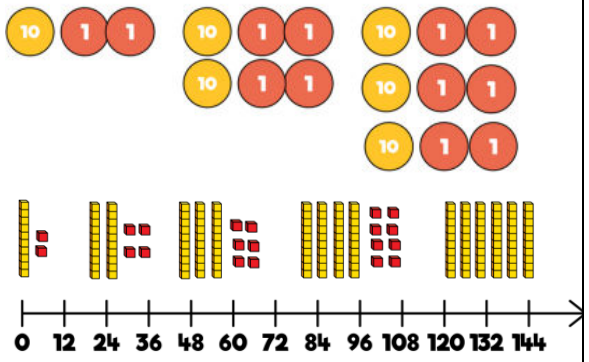
				
3/4	Recall multiplicati on facts for the 7 times tables	Everyday objects (counters etc.), number lines, number squares.	Drawing arrays.	

				
3/4	Recall multiplication facts for the 9 times tables	Everyday objects (counters etc.), number lines, number squares.	Drawing arrays.	

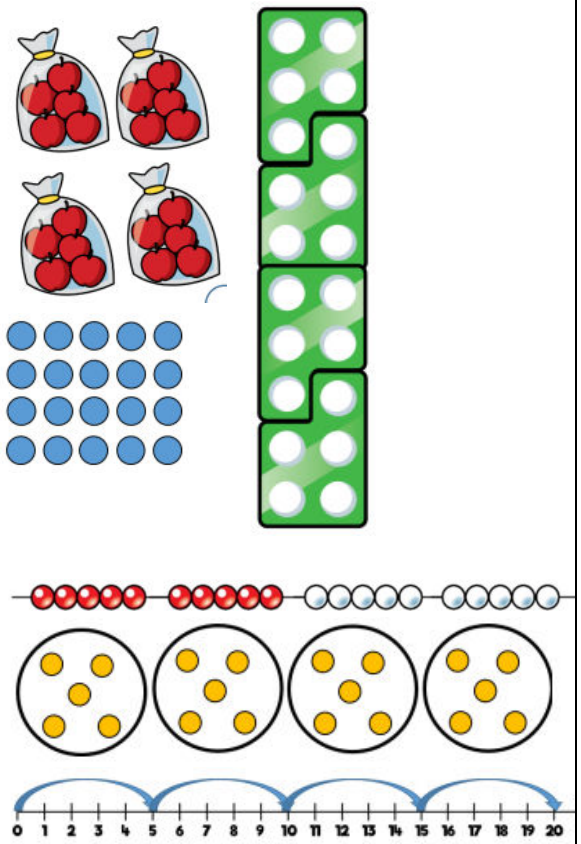
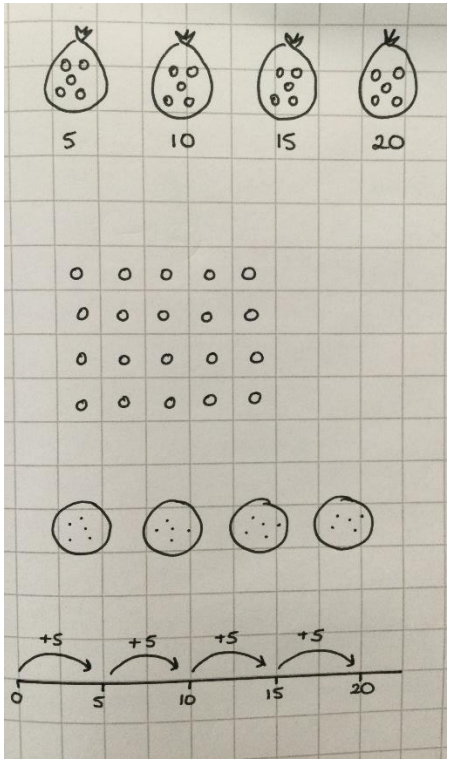
				
3/4	Recall multiplication facts for the 11 times tables	Everyday objects (counters etc.), number lines, number squares, Base 10. 	Drawing arrays. Drawing Base 10 as sticks and dots. 	 **<u>Use key facts:</u>** 10 x 3 = 30 1 x 3 = 3 30 + 3 = 33

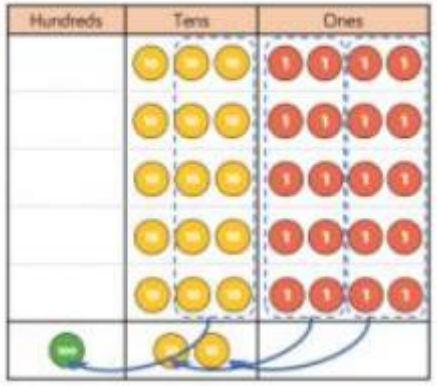
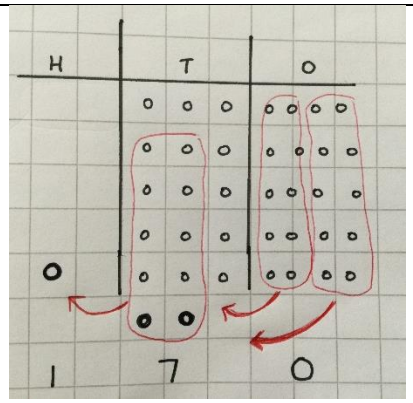
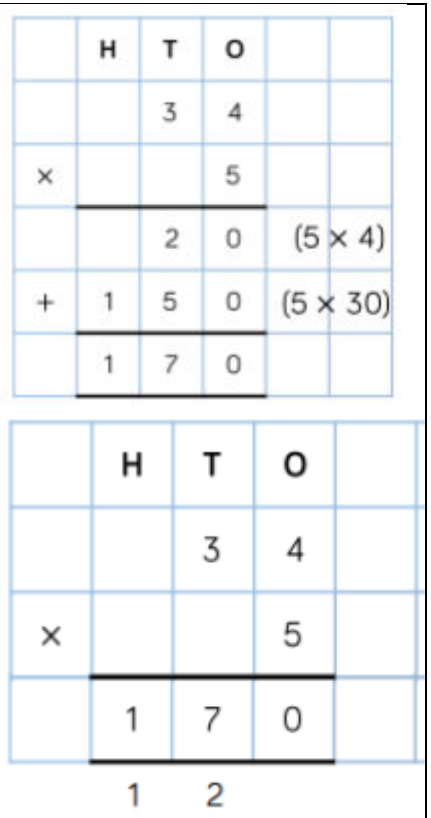
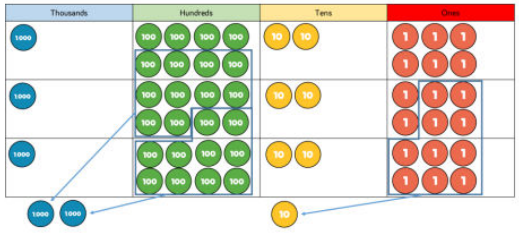
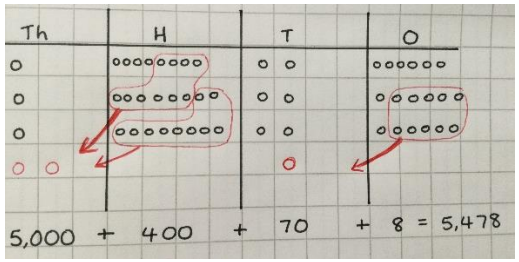
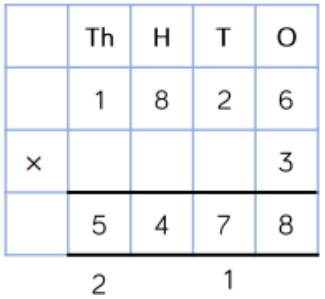
				
3/4	Recall multiplicati on facts for the 12 times tables	Everyday objects (Base 10, counters etc.), number lines, number squares.	Drawing place value charts with base 10 as dots, sticks and squares. Drawing tables to identify number patterns. 	 

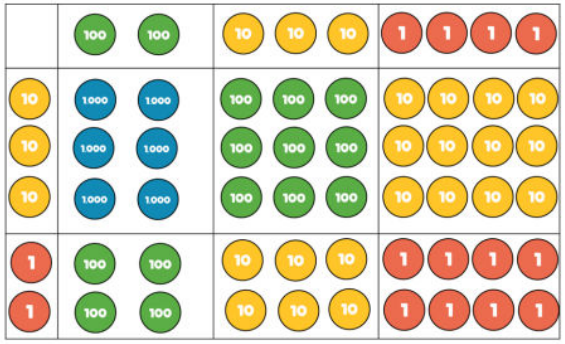
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



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

Multiplication				
1/2	**Solve one step problems.** **(e.g. one bag holds 5 apples, how many apples do 4 bags hold?)**	Everyday objects, number shapes, counters, number lines. 	Drawing arrays. Drawing pictures in groups. Drawing number lines. 	$5+5+5+5=20$ $4\times5=20$ $5\times4=20$
3/4	**Multiply 2-digit by 1-digit numbers.** **(e.g. 34 x 5)**	Place value counters in a place value chart.	Drawing place value charts and dots to represent counters.	Expanded written method first to help aid understanding, then followed by short written method.

				
4/5/6	**Multiply 3 and 4-digit numbers by 1-digit.** **(e.g. 1,826 x 3)**	Place value counters in a place value chart. 	Drawing place value charts and dots to represent counters. 	Formal written method for multiplication. 

5/6	**Multiply 2-digit by 2-digit numbers.** **(e.g. 22 x 31)**	Place value counters in a grid. 	Drawing the grid method. 	×	20	2
---	---	---
30	600	60
1	20	2		Formal written method. 		H	T	O
---	---	---	---
		2	2
×		3	1
		2	2
	6	6	0
	6	8	2
5/6	**Multiply 3 and 4-digit numbers by 2-digit numbers.** **(e.g. 234 x 32)**	Place value counters in a grid, though pupils should be using just the formal written method at this stage. If they are still struggling, it may be best to move back to 2-digit x 2-digit multiplication problems. 	Drawing the grid method. 	×	200	30	4
---	---	---	---
30	6,000	900	120
2	400	60	8		Formal written method. | Th	H	T	O
---	---	---	---
	2	3	4
×		3	2
	4	6	8
$^{1}7$	$^{1}0$	2	0
7	4	8	8