

Year 4 Multiplication and Division Knowledge Organiser.

Multiplication and Division												Knowledge Organiser																																																																						
Key Vocabulary	Multiplication and Division Facts											Use Place Value to Multiply and Divide Mentally																																																																						
multiply	x	1	2	3	4	5	6	7	8	9	10	11	12	<div style="background-color: #f8d7da; padding: 10px; margin-bottom: 10px;"> <div style="background-color: #f1761d; color: white; padding: 5px; display: inline-block;"> $5 \times 1 = 5$ $5 \div 1 = 5$ </div> </div> <div style="background-color: #fff3cd; padding: 10px; margin-bottom: 10px;"> <div style="background-color: #ffc107; color: white; padding: 5px; display: inline-block;"> $5 \times 10 = 50$ $50 \div 10 = 5$ </div> </div> <div style="background-color: #d1ecf1; padding: 10px;"> <div style="background-color: #17a2b8; color: white; padding: 5px; display: inline-block;"> $5 \times 100 = 500$ $500 \div 100 = 5$ </div> </div>																																																																				
groups of	1	2	3	4	5	6	7	8	9	10	11	12																																																																						
lots of	2	4	6	8	10	12	14	16	18	20	22	24																																																																						
times	3	6	9	12	15	18	21	24	27	30	33	36																																																																						
divide	4	8	12	16	20	24	28	32	36	40	44	48																																																																						
share	5	5	10	15	20	25	30	35	40	45	50	55	60																																																																					
remainder	6	6	12	18	24	30	36	42	48	54	60	66	72																																																																					
factor	7	7	14	21	28	35	42	49	56	63	70	77	84																																																																					
multiple	8	8	16	24	32	40	48	56	64	72	80	88	96																																																																					
product	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																																																																					
Factor pairs and Commutativity						Multiply Using Formal Written Methods																																																																												
	<p style="text-align: center;">The factors of 20 are 1, 2, 4, 5, 10 and 20.</p> <p style="text-align: center;">The factor pairs are:</p> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> 1 and 20 2 and 10 4 and 5 </div>					<div style="display: flex; justify-content: space-around; margin-bottom: 10px;"> <div style="text-align: center;"> 20 $5 \times 4 = 20$ </div> <div style="text-align: center;"> $4 \times 5 = 20$ </div> </div>					<table style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #d1ecf1;"> <th style="padding: 5px;">Th</th><th style="padding: 5px;">H</th><th style="padding: 5px;">T</th><th style="padding: 5px;">O</th><th style="padding: 5px;"> </th><th style="padding: 5px;">Th</th><th style="padding: 5px;">H</th><th style="padding: 5px;">T</th><th style="padding: 5px;">O</th></tr> </thead> <tbody> <tr> <td style="padding: 5px;">5</td><td style="padding: 5px;">4</td><td style="padding: 5px;">3</td><td style="padding: 5px;"></td><td style="padding: 5px;"></td><td style="padding: 5px;"></td><td style="padding: 5px;">5</td><td style="padding: 5px;">4</td><td style="padding: 5px;">3</td></tr> <tr> <td style="padding: 5px;">x</td><td style="padding: 5px;"></td><td style="padding: 5px;">4</td><td style="padding: 5px;"></td><td style="padding: 5px;"></td><td style="padding: 5px;">x</td><td style="padding: 5px;"></td><td style="padding: 5px;"></td><td style="padding: 5px;">4</td></tr> <tr> <td style="padding: 5px;"></td><td style="padding: 5px;"></td><td style="padding: 5px;">1</td><td style="padding: 5px;">2</td><td style="padding: 5px;">(4 × 3)</td><td style="padding: 5px;"></td><td style="padding: 5px;"></td><td style="padding: 5px;"></td><td style="padding: 5px;">4</td></tr> <tr> <td style="padding: 5px;"></td><td style="padding: 5px;">1</td><td style="padding: 5px;">6</td><td style="padding: 5px;">0</td><td style="padding: 5px;">(4 × 40)</td><td style="padding: 5px;"></td><td style="padding: 5px;">2</td><td style="padding: 5px;">1</td><td style="padding: 5px;">7</td><td style="padding: 5px;">2</td></tr> <tr> <td style="padding: 5px;"></td><td style="padding: 5px;">2</td><td style="padding: 5px;">0</td><td style="padding: 5px;">0</td><td style="padding: 5px;">(4 × 500)</td><td style="padding: 5px;"></td><td style="padding: 5px;">2</td><td style="padding: 5px;">1</td><td style="padding: 5px;">7</td><td style="padding: 5px;">2</td></tr> <tr style="border-top: 1px solid black;"> <td style="padding: 5px;"></td><td style="padding: 5px;">2</td><td style="padding: 5px;">1</td><td style="padding: 5px;">7</td><td style="padding: 5px;">2</td><td style="padding: 5px;"></td><td style="padding: 5px;">1</td><td style="padding: 5px;">1</td><td style="padding: 5px;"></td><td style="padding: 5px;"></td></tr> </tbody> </table> <div style="background-color: #fff3cd; padding: 10px; margin-top: 10px; border-radius: 5px;"> <p>Remember to move any regrouped numbers into the next column. After the next multiplication, add the regrouped number to the answer.</p> </div>						Th	H	T	O		Th	H	T	O	5	4	3				5	4	3	x		4			x			4			1	2	(4 × 3)				4		1	6	0	(4 × 40)		2	1	7	2		2	0	0	(4 × 500)		2	1	7	2		2	1	7	2		1	1		
Th	H	T	O		Th	H	T	O																																																																										
5	4	3				5	4	3																																																																										
x		4			x			4																																																																										
		1	2	(4 × 3)				4																																																																										
	1	6	0	(4 × 40)		2	1	7	2																																																																									
	2	0	0	(4 × 500)		2	1	7	2																																																																									
	2	1	7	2		1	1																																																																											

Multiplication and Division

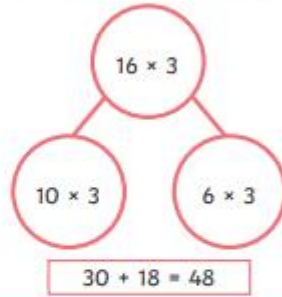
Knowledge Organiser

Mental Calculations for Solving Problems

$(2 \times 3) \times 4 = 24$

$(2 \times 4) \times 3 = 24$

$(3 \times 4) \times 2 = 24$



Integer Scaling Problems

10 pencils



$10 \times 4 = 40$ pencils



75g



$75g \times 2 = 150g$



Short Division with Exact Answers

There are 69 tennis balls packed in tubes of 3.

There are 23 tubes altogether.

$69 \div 3 = 23$

$$\begin{array}{r} 23 \\ 3 \overline{) 69} \end{array}$$

69		
23	23	23

