

'I WILL SHINE'

# Multiplication and division 1

## Prior learning

Let's activate my long-term memory!  
In Y4, I learnt to...

- remember multiplication and division facts for times tables up to  $12 \times 12$
- use place value and facts that I know to help me multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers
- use factor pairs and commutativity (multiplying in any order) in mental calculations
- multiply 2 and 3 digit numbers by a 1 digit number using a written method
- solve problems

## Key vocabulary

What words will I use in this unit?  
Have I heard any before?  
multiply times product  
lots/groups of divide share group  
factor pairs commutativity  
inverse estimate

## Tools and drawings

Which tools and drawing might I use to support my learning?

PV grid          Dienes  
counters          bar model

## Current learning

In this unit, I will learn how to...

- Multiply 4 digits by 1 digit
- Multiply 2 digits
- Multiply 2 digits by 2 digits
- Multiply 3 digits by 2 digits
- Multiply 4 digits by 2 digits
- Divide 4 digits by 1 digit
- Divide with remainders

## Knowledge Organiser

Short Multiplication	Long Multiplication																																																																																
$2543 \times 7 = 17801$ <table border="1" style="margin: 10px auto;"> <tr><td></td><td>2</td><td>5</td><td>4</td><td>3</td><td></td></tr> <tr><td>x</td><td></td><td></td><td></td><td>7</td><td></td></tr> <tr><td></td><td>1</td><td>7</td><td>8</td><td>0</td><td>1</td></tr> <tr><td></td><td>1</td><td>3</td><td>3</td><td>2</td><td></td></tr> </table> <p>Remember to move any regrouped digits into the next column. After the next multiplication, add the regrouped number to the answer.</p>		2	5	4	3		x				7			1	7	8	0	1		1	3	3	2		$2543 \times 67 = 170381$ <table border="1" style="margin: 10px auto;"> <tr><td></td><td></td><td>2</td><td>5</td><td>4</td><td>3</td><td></td></tr> <tr><td></td><td>x</td><td></td><td></td><td>6</td><td>7</td><td></td></tr> <tr><td></td><td>1</td><td>7</td><td>8</td><td>0</td><td>1</td><td></td></tr> <tr><td></td><td>1</td><td>3</td><td>3</td><td>2</td><td></td><td></td></tr> <tr><td>1</td><td>5</td><td>2</td><td>5</td><td>8</td><td>0</td><td></td></tr> <tr><td>1</td><td>3</td><td>2</td><td>1</td><td></td><td></td><td></td></tr> <tr><td>1</td><td>7</td><td>0</td><td>3</td><td>8</td><td>1</td><td></td></tr> <tr><td></td><td>1</td><td></td><td>1</td><td></td><td></td><td></td></tr> </table> <p>Before multiplying by the number in the tens column, remember to use zero as a placeholder because the 6 in 67 is 6 tens (60).</p>			2	5	4	3			x			6	7			1	7	8	0	1			1	3	3	2			1	5	2	5	8	0		1	3	2	1				1	7	0	3	8	1			1		1			
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## Short Division

		3	8
4	1	5	2

$15 \div 4 = 3$  remainder 3  
Remember to regroup any remainders and move them into the next column.

		4	5	5	r	3
5	2	2	7	8		

$28 \div 5 = 5$  remainder 3  
If your calculation has a remainder, remember to record it in the answer using the letter r.

## Related Calculations

$8 \times 9 = 72$	$9 \times 8 = 72$
$80 \times 9 = 720$	$90 \times 8 = 720$
$72 \div 9 = 8$	$72 \div 8 = 9$
$720 \div 9 = 80$	$720 \div 8 = 90$