



# SARUM HALL SCHOOL

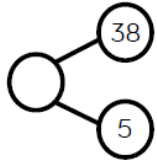
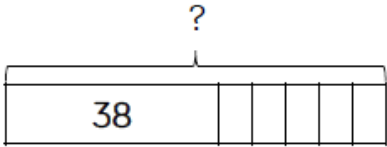

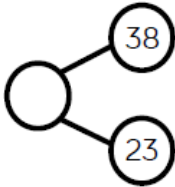
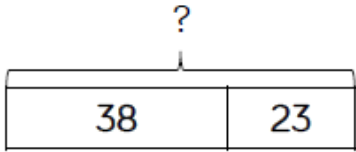
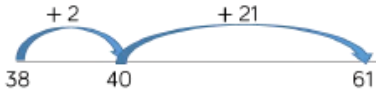
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## MATHS CALCULATION POLICY (Year 3)

**Date:** July 2024  
**Next Review Due:** September 2025  
**Reviewed by:** Chen Lee

This policy has been largely adapted from the White Rose Maths Calculation Policy with further material added.  
It is a working document and will be revised and amended as necessary.

# ADDITION

Skill	Representations and Models	Vocabulary
<b>Add 1-digit and 2-digit numbers to 100</b>	<b>Example:</b> $38 + 5 = 43$	<ul style="list-style-type: none"> <li>• Multiples</li> <li>• Partitioning</li> <li>• Ones</li> <li>• Tens</li> <li>• Hundreds</li> <li>• Place value</li> <li>• Compare</li> <li>• Numbers to 100/1000</li> <li>• 10 or 100 more</li> <li>• Count in steps</li> <li>• Count in multiples</li> <li>• Estimate</li> <li>• Addition/add</li> <li>• Equals</li> <li>• Facts</li> <li>• Missing number</li> <li>• Number bonds</li> <li>• 2-digit number</li> <li>• 3-digit number</li> <li>• Commutative</li> <li>• Column addition</li> </ul>
	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <b>Part-whole model</b>   </div> <div style="text-align: center;"> <b>Bar Model</b>   </div> <div style="text-align: center;"> <b>Number lines (labelled)</b>   </div> </div>	
<b>Add two 2-digit numbers to 100</b>	<b>Example:</b> $38 + 23 = 61$	
	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <b>Part-whole model</b>   </div> <div style="text-align: center;"> <b>Bar Model</b>   </div> <div style="text-align: center;"> <b>Number lines (blank)</b>   </div> </div>	

	<p><b>Straws</b></p>	<p><b>Base 10/Dienes</b></p> $\begin{array}{r} 38 \\ + 23 \\ \hline 61 \\ 1 \end{array}$	<p><b>Place value counters</b></p> $\begin{array}{r} 38 \\ + 23 \\ \hline 61 \\ 1 \end{array}$	
<p><b>Add numbers with up to 3 digits</b></p>	<p><b>Example:</b> <math>265 + 164 = 429</math></p>			
<p><b>Part-whole model</b></p>		<p><b>Bar Model</b></p>		
<p><b>Base 10/Dienes</b></p> $\begin{array}{r} 265 \\ + 164 \\ \hline 429 \\ 1 \end{array}$		<p><b>Place value counters</b></p> $\begin{array}{r} 265 \\ + 164 \\ \hline 429 \\ 1 \end{array}$		

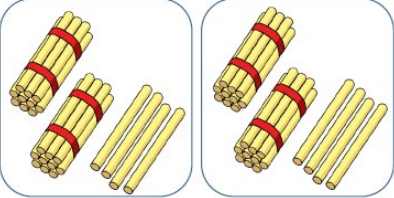
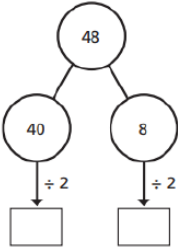
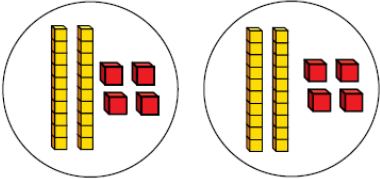
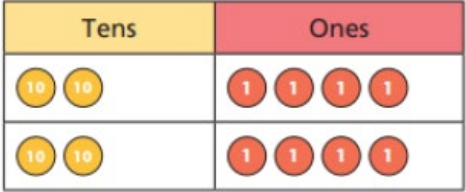
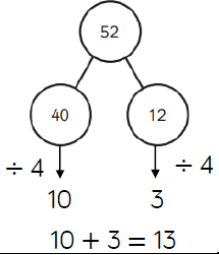
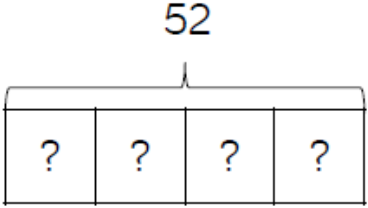
# SUBTRACTION

Skill	Representations and Models	Vocabulary
<b>Subtract 1 and 2-digit numbers to 100</b>	<p><b>Example:</b> <math>65 - 28 = 37</math></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><b>Part-whole model</b></p> </div> <div style="text-align: center;"> <p><b>Bar Model</b></p> </div> <div style="text-align: center;"> <p><b>Number lines (blank)</b></p> </div> </div>	<ul style="list-style-type: none"> <li>• Partitioning</li> <li>• Ones</li> <li>• Tens</li> <li>• Hundreds</li> <li>• Place value</li> <li>• Compare</li> <li>• Numbers to 100/1000</li> <li>• 10 or 100 less</li> <li>• Count in steps</li> <li>• Count in multiples</li> <li>• Estimate</li> <li>• Subtraction/subtract</li> <li>• Take away</li> <li>• Equals</li> <li>• Facts</li> <li>• Missing number</li> <li>• Number bonds</li> <li>• 2-digit number</li> <li>• 3-digit number</li> <li>• Commutative</li> <li>• Column subtraction</li> <li>• Exchange</li> </ul>
	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><b>Straws</b></p> </div> <div style="text-align: center;"> <p><b>Base 10/Dienes</b></p> </div> <div style="text-align: center;"> <p><b>Place value counters</b></p> </div> </div>	
<b>Subtract numbers with up to 3 digits</b>	<p><b>Example:</b> <math>435 - 273 = 162</math></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><b>Part-whole model</b></p> </div> <div style="text-align: center;"> <p><b>Bar Model</b></p> </div> </div>	
	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><b>Base 10/Dienes</b></p> </div> <div style="text-align: center;"> <p><b>Place value counters</b></p> </div> </div>	

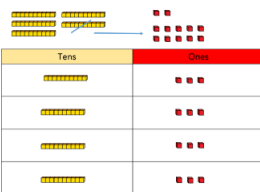
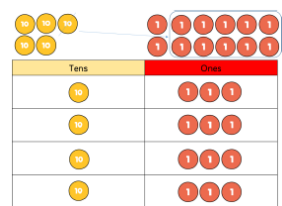
# MULTIPLICATION

Skill	Representations and Models	Vocabulary																																																		
<p><b>Multiply 2-digit numbers by 1-digit numbers</b></p>	<p><b>Example:</b> <math>34 \times 5 = 170</math></p> <div style="display: flex; justify-content: space-around;"> <div> <p><b>Place value counters</b></p> </div> <div> <p><b>Base 10</b></p> </div> </div> <div style="display: flex; justify-content: space-around;"> <div> <p><b>Expanded written method</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>H</th> <th>T</th> <th>O</th> <th></th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>3</td> <td>4</td> <td></td> </tr> <tr> <td>x</td> <td></td> <td></td> <td>5</td> <td></td> </tr> <tr> <td></td> <td></td> <td>2</td> <td>0</td> <td>(5 × 4)</td> </tr> <tr> <td>+</td> <td>1</td> <td>5</td> <td>0</td> <td>(5 × 30)</td> </tr> <tr> <td></td> <td>1</td> <td>7</td> <td>0</td> <td></td> </tr> </tbody> </table> </div> <div> <p><b>Short written method</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>H</th> <th>T</th> <th>O</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>3</td> <td>4</td> </tr> <tr> <td>x</td> <td></td> <td></td> <td>5</td> </tr> <tr> <td></td> <td>1</td> <td>7</td> <td>0</td> </tr> <tr> <td></td> <td>1</td> <td>2</td> <td></td> </tr> </tbody> </table> </div> </div>		H	T	O				3	4		x			5				2	0	(5 × 4)	+	1	5	0	(5 × 30)		1	7	0			H	T	O			3	4	x			5		1	7	0		1	2		<ul style="list-style-type: none"> <li>• Multiples</li> <li>• Partitioning</li> <li>• Ones</li> <li>• Tens</li> <li>• Hundreds</li> <li>• Place value</li> <li>• Compare</li> <li>• Numbers to 100/1000</li> <li>• Count in steps</li> <li>• Count in multiples</li> <li>• Estimate</li> <li>• Multiplication</li> <li>• Multiply</li> <li>• Arrays</li> <li>• Row</li> <li>• Column</li> <li>• Count in...</li> <li>• Groups of...</li> <li>• Times</li> <li>• Repeated addition</li> <li>• Factors</li> <li>• Product</li> <li>• Facts</li> <li>• Missing number</li> <li>• 2-digit number</li> <li>• 3-digit number</li> </ul>
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# DIVISION

Skill	Representations and Models	Vocabulary
<b>Divide 2-digits by 1-digit (sharing with no exchange)</b>	<b>Example:</b> $48 \div 2 = 24$	
	<b>Straws</b> 	<b>Part-whole model</b> 
	<b>Base 10</b> 	<b>Place value counters</b> 
	<b>Divide 2-digits by 1-digit (sharing with exchange)</b>	<b>Example:</b> $52 \div 4 = 13$
<b>Part-whole model</b> 		<b>Bar model</b> 

- Multiples
- Partitioning
- Ones
- Tens
- Hundreds
- Place value
- Compare
- Numbers to 100/1000
- Estimate
- Division
- Divide
- Share
- Exchange
- Remainders
- Arrays
- Row
- Column
- Facts
- Missing number
- Inverse
- 2-digit number
- 3-digit number

	<b>Base 10</b> 	<b>Place value counters</b> 	
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**Divide 2-digits by 1-digit (sharing with remainders)**

**Example:**  $53 \div 4 = 13 \text{ r}1$

