



# SARUM HALL SCHOOL

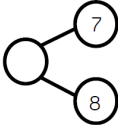
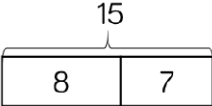
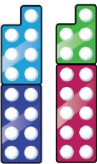
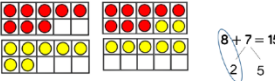


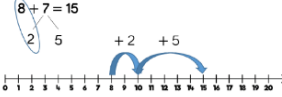
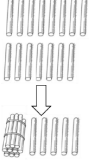
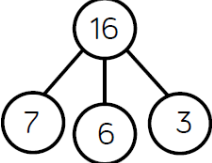
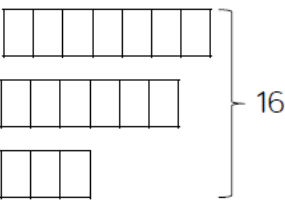
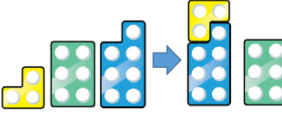
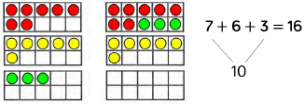
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## MATHS CALCULATION POLICY (Year 2)

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

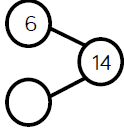
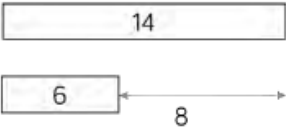
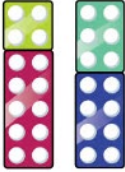
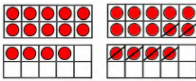

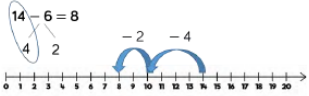
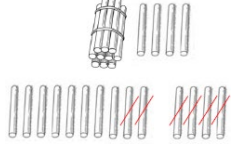
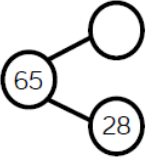
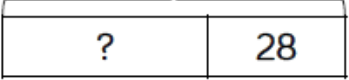
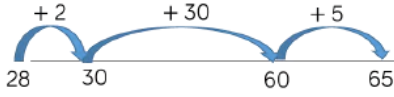
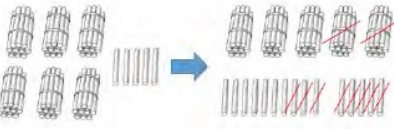
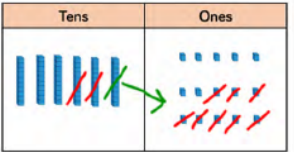
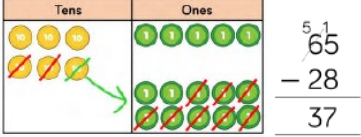
This policy has been largely adapted from the White Rose Maths Calculation Policy with further material added.  
It is a working document and will be revised and amended as necessary.

# ADDITION

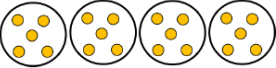

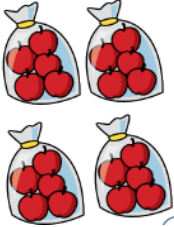
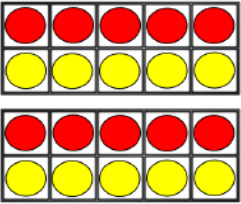
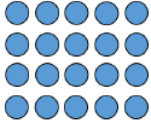


Skill	Representations and Models				Vocabulary
<b>Add 1 and 2-digit numbers to 20</b>	<b>Example:</b> $8 + 7 = 15$				<ul style="list-style-type: none"> <li>• Sort</li> <li>• Represent</li> <li>• Multiples</li> <li>• Partitioning</li> <li>• Ones</li> <li>• Tens</li> <li>• Place value</li> <li>• Compare</li> <li>• Numbers to 100</li> <li>• Hundreds</li> <li>• Count in steps</li> <li>• Count in multiples</li> <li>• Estimate</li> <li>• More</li> <li>• Addition/add</li> <li>• Equals</li> <li>• Facts</li> <li>• Problems</li> <li>• Missing number</li> <li>• Number bonds</li> <li>• 2-digit number</li> <li>• 3-digit number</li> <li>• Commutative</li> </ul>
	<b>Part-whole model</b> 	<b>Bar Model</b> 	<b>Number shapes</b> 	<b>Ten frames (within 20)</b> 	
<b>Bead strings (20)</b> 	<b>Number tracks</b> 	<b>Number lines (labelled)</b> 	<b>Straws</b> 		
<b>Add three 1-digit numbers</b>	<b>Example:</b> $7 + 6 + 3 = 16$				
	<b>Part-whole model</b> 	<b>Bar Model</b> 	<b>Number shapes</b> 	<b>Ten frames (within 20)</b> 	

<b>Add 1-digit and 2-digit numbers to 100</b>	<b>Example:</b> $38 + 5 = 43$																																																																																																					
	<b>Part-whole model</b> 	<b>Bar Model</b> 	<b>Number lines (labelled)</b> 																																																																																																			
<b>Number links (blank)</b> 	<b>Straws</b> 	<b>Hundred square</b> <table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr> <tr><td>31</td><td>32</td><td>33</td><td>34</td><td>35</td><td>36</td><td>37</td><td>38</td><td>39</td><td>40</td></tr> <tr><td>41</td><td>42</td><td>43</td><td>44</td><td>45</td><td>46</td><td>47</td><td>48</td><td>49</td><td>50</td></tr> <tr><td>51</td><td>52</td><td>53</td><td>54</td><td>55</td><td>56</td><td>57</td><td>58</td><td>59</td><td>60</td></tr> <tr><td>61</td><td>62</td><td>63</td><td>64</td><td>65</td><td>66</td><td>67</td><td>68</td><td>69</td><td>70</td></tr> <tr><td>71</td><td>72</td><td>73</td><td>74</td><td>75</td><td>76</td><td>77</td><td>78</td><td>79</td><td>80</td></tr> <tr><td>81</td><td>82</td><td>83</td><td>84</td><td>85</td><td>86</td><td>87</td><td>88</td><td>89</td><td>90</td></tr> <tr><td>91</td><td>92</td><td>93</td><td>94</td><td>95</td><td>96</td><td>97</td><td>98</td><td>99</td><td>100</td></tr> </table>	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
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<b>Add two 2-digit numbers to 100</b>	<b>Example:</b> $38 + 23 = 61$																																																																																																					
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<b>Straws</b> 	<b>Base 10/Dienes</b> <table border="1"> <thead> <tr> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td>    </td> <td>.....</td> </tr> <tr> <td>    </td> <td>.....</td> </tr> <tr> <td> </td> <td>.....</td> </tr> </tbody> </table> $\begin{array}{r} 38 \\ + 23 \\ \hline 61 \\ 1 \end{array}$	Tens	Ones		.....		.....		.....	<b>Place value counters</b> <table border="1"> <thead> <tr> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td>●●●●</td> <td>●●●●●</td> </tr> <tr> <td>●●●●</td> <td>●●●●●</td> </tr> <tr> <td>●</td> <td>●●●●●</td> </tr> </tbody> </table> $\begin{array}{r} 38 \\ + 23 \\ \hline 61 \\ 1 \end{array}$	Tens	Ones	●●●●	●●●●●	●●●●	●●●●●	●	●●●●●																																																																																				
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# SUBTRACTION

Skill	Representations and Models	Vocabulary
<b>Subtract 1 and 2-digit numbers to 20</b>	<b>Example:</b> $14 - 6 = 8$	<ul style="list-style-type: none"> <li>• Sort</li> <li>• Represent</li> <li>• Partitioning</li> <li>• Ones</li> <li>• Tens</li> <li>• Place value</li> <li>• Numbers to 100</li> <li>• Hundreds</li> <li>• Estimate</li> <li>• Less</li> <li>• Subtraction/ subtract</li> <li>• Take away</li> <li>• Minus</li> <li>• Difference</li> <li>• Equals</li> <li>• Facts</li> <li>• Problems</li> <li>• Missing number</li> <li>• Inverse</li> <li>• Number bonds</li> <li>• 2-digit number</li> <li>• 3-digit number</li> </ul>
	<div style="width: 22%;"> <b>Part-whole model</b>   </div> <div style="width: 22%;"> <b>Bar Model</b>   </div> <div style="width: 22%;"> <b>Number shapes</b>   </div> <div style="width: 22%;"> <b>Ten frames (within 20)</b>   </div>	
<div style="width: 22%;"> <b>Number tracks</b>   </div> <div style="width: 22%;"> <b>Number lines (labelled)</b>   </div> <div style="width: 22%;"> <b>Straws</b>   </div>		
<b>Subtract 1 and 2-digit numbers to 100</b>	<b>Example:</b> $65 - 28 = 37$	
	<div style="width: 22%;"> <b>Part-whole model</b>   </div> <div style="width: 22%;"> <b>Bar Model</b>   </div> <div style="width: 22%;"> <b>Number lines (blank)</b>   </div>	
<div style="width: 22%;"> <b>Straws</b>   </div> <div style="width: 22%;"> <b>Base 10/Dienes</b>   </div> <div style="width: 22%;"> <b>Place value counters</b>   </div>		

# MULTIPLICATION

Skill	Representations and Models	Vocabulary
<p><b>Solve 1-step problems using multiplication</b></p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>One bag holds 5 apples. How many apples do 4 bags hold?</p> </div> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <p><b>Bar model</b></p>  <p><math>5 + 5 + 5 + 5 = 20</math> <math>4 \times 5 = 20</math> <math>5 \times 4 = 20</math></p> </div> <div style="width: 50%;"> <p><b>Number shapes</b></p>  </div> <div style="width: 50%;"> <p><b>Counters</b></p>  </div> <div style="width: 50%;"> <p><b>Ten frames</b></p>  </div> </div> <div style="display: flex; flex-wrap: wrap; margin-top: 20px;"> <div style="width: 33%;"> <p><b>Arrays</b></p>  <p><math>5 + 5 + 5 + 5 = 20</math> <math>4 \times 5 = 20</math> <math>5 \times 4 = 20</math></p> </div> <div style="width: 33%;"> <p><b>Bead strings</b></p>  </div> <div style="width: 33%;"> <p><b>Number lines</b></p>  </div> </div>	<ul style="list-style-type: none"> <li>• Sort</li> <li>• Represent</li> <li>• Multiples</li> <li>• Partitioning</li> <li>• Ones</li> <li>• Tens</li> <li>• Place value</li> <li>• Numbers to 100</li> <li>• Hundreds</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>• Lots of...</li> <li>• Groups of...</li> <li>• Times</li> <li>• Repeated addition</li> <li>• Equals</li> <li>• Facts</li> <li>• Problems</li> <li>• Missing number</li> <li>• 2-digit number</li> <li>• 3-digit number</li> </ul>

# DIVISION

Skill	Representations and Models	Vocabulary							
<b>Solve one-step problems with division (sharing)</b>	<div style="border: 1px solid gray; border-radius: 10px; padding: 5px; margin-bottom: 10px; text-align: center;">                     There are 20 apples altogether.                      They are shared equally between 5 bags.                      How many apples are in each bag?                 </div> <p><b>Example:</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px; vertical-align: top;"> <p style="text-align: center;"><b>Bar model</b></p> <p style="text-align: center;">20</p> <div style="text-align: center;"> </div> </td> <td style="width: 50%; padding: 5px; vertical-align: top;"> <p style="text-align: center;"><b>Real life objects</b></p> <div style="text-align: center;"> </div> </td> </tr> <tr> <td style="padding: 5px; vertical-align: top;"> <p style="text-align: center;"><b>Arrays</b></p> <div style="text-align: center;"> </div> <p style="text-align: center;"><math>20 \div 5 = 4</math></p> </td> <td style="padding: 5px; vertical-align: top;"> <p style="text-align: center;"><b>Counters</b></p> <div style="text-align: center;"> </div> <p style="text-align: center;"><math>20 \div 5 = 4</math></p> </td> </tr> </table>	<p style="text-align: center;"><b>Bar model</b></p> <p style="text-align: center;">20</p> <div style="text-align: center;"> </div>	<p style="text-align: center;"><b>Real life objects</b></p> <div style="text-align: center;"> </div>	<p style="text-align: center;"><b>Arrays</b></p> <div style="text-align: center;"> </div> <p style="text-align: center;"><math>20 \div 5 = 4</math></p>	<p style="text-align: center;"><b>Counters</b></p> <div style="text-align: center;"> </div> <p style="text-align: center;"><math>20 \div 5 = 4</math></p>	<ul style="list-style-type: none"> <li>• Sort</li> <li>• Represent</li> <li>• Multiples</li> <li>• Partitioning</li> <li>• Ones</li> <li>• Tens</li> <li>• Place value</li> <li>• Numbers to 100</li> <li>• Hundreds</li> <li>• Estimate</li> <li>• Division</li> <li>• Divide</li> <li>• Arrays</li> <li>• Row</li> <li>• Column</li> <li>• Count in...</li> <li>• Lots of...</li> <li>• Groups of...</li> <li>• Share</li> <li>• Equals</li> <li>• Facts</li> <li>• Problems</li> <li>• Missing number</li> <li>• Inverse</li> <li>• 2-digit number</li> <li>• 3-digit number</li> </ul>			
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<b>Solve one-step problems with division (grouping)</b>	<div style="border: 1px solid gray; border-radius: 10px; padding: 5px; margin-bottom: 10px; text-align: center;">                     There are 20 apples altogether.                      They are put in bags of 5.                      How many bags are there?                 </div> <p><b>Example:</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; padding: 5px; vertical-align: top;"> <p style="text-align: center;"><b>Bar model</b></p> <div style="text-align: center;"> </div> <p style="text-align: center;"><math>20 \div 5 = 4</math></p> </td> <td style="width: 25%; padding: 5px; vertical-align: top;"> <p style="text-align: center;"><b>Number shapes</b></p> <div style="text-align: center;"> </div> </td> <td style="width: 25%; padding: 5px; vertical-align: top;"> <p style="text-align: center;"><b>Counters</b></p> <div style="text-align: center;"> </div> </td> <td style="width: 25%; padding: 5px; vertical-align: top;"> <p style="text-align: center;"><b>Ten frames</b></p> <div style="text-align: center;"> </div> </td> </tr> <tr> <td style="padding: 5px; vertical-align: top;"> <p style="text-align: center;"><b>Arrays</b></p> <div style="text-align: center;"> </div> <p style="text-align: center;"><math>20 \div 5 = 4</math></p> </td> <td style="padding: 5px; vertical-align: top;"> <p style="text-align: center;"><b>Bead strings</b></p> <div style="text-align: center;"> </div> </td> <td style="padding: 5px; vertical-align: top;"> <p style="text-align: center;"><b>Number lines</b></p> <div style="text-align: center;"> </div> </td> </tr> </table>	<p style="text-align: center;"><b>Bar model</b></p> <div style="text-align: center;"> </div> <p style="text-align: center;"><math>20 \div 5 = 4</math></p>	<p style="text-align: center;"><b>Number shapes</b></p> <div style="text-align: center;"> </div>	<p style="text-align: center;"><b>Counters</b></p> <div style="text-align: center;"> </div>	<p style="text-align: center;"><b>Ten frames</b></p> <div style="text-align: center;"> </div>	<p style="text-align: center;"><b>Arrays</b></p> <div style="text-align: center;"> </div> <p style="text-align: center;"><math>20 \div 5 = 4</math></p>	<p style="text-align: center;"><b>Bead strings</b></p> <div style="text-align: center;"> </div>	<p style="text-align: center;"><b>Number lines</b></p> <div style="text-align: center;"> </div>	
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