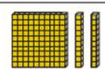
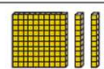


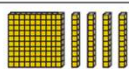




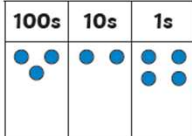
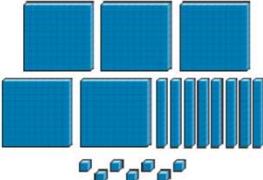
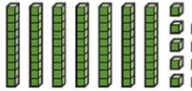
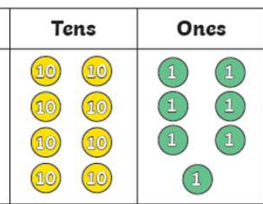









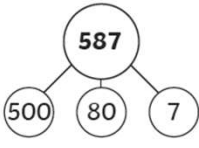


Blue Class

Number and Place Value

Value: Stage 3

Number and Place Value		Knowledge Organiser	
Key Vocabulary	3-Digit Numbers	10 and 100 More or Less	
hundreds	256	Ten Less	Ten More
tens	two hundred fifty six		
ones		120	140
zero			
place value	200 50 6		
greater than	Counting in 4s and 8s	One Hundred Less	One Hundred More
less than	0 4 8 12 16 20 24 28 32 36 40		
order	0 8 16 24 32 40 48 56 64 72 80	212	412
more	Counting in 50s and 100s		
less	0 50 100 150 200 250 300 350 400 450 500		
partition	0 100 200 300 400 500 600 700 800 900 1000		
digit			

Number and Place Value		Knowledge Organiser																							
Compare and Order		Represent Numbers to 1000																							
	324 > 243 greater than	587																							
	79 < 126 less than	<table border="1"> <thead> <tr> <th>Hundreds</th> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Hundreds	Tens	Ones																				
Hundreds	Tens	Ones																							
smallest	497 508 512 521 602	500 + 80 + 7	<table border="1"> <thead> <tr> <th>Hundreds</th> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Hundreds	Tens	Ones																			
Hundreds	Tens	Ones																							
																									
greatest																									
Numerals and Words to 1000																									
<table border="1"> <thead> <tr> <th>0</th> <th>100</th> <th>200</th> <th>300</th> <th>400</th> <th>500</th> <th>600</th> <th>700</th> <th>800</th> <th>900</th> <th>1000</th> </tr> </thead> <tbody> <tr> <td>zero</td> <td>one hundred</td> <td>two hundred</td> <td>three hundred</td> <td>four hundred</td> <td>five hundred</td> <td>six hundred</td> <td>seven hundred</td> <td>eight hundred</td> <td>nine hundred</td> <td>one thousand</td> </tr> </tbody> </table>				0	100	200	300	400	500	600	700	800	900	1000	zero	one hundred	two hundred	three hundred	four hundred	five hundred	six hundred	seven hundred	eight hundred	nine hundred	one thousand
0	100	200	300	400	500	600	700	800	900	1000															
zero	one hundred	two hundred	three hundred	four hundred	five hundred	six hundred	seven hundred	eight hundred	nine hundred	one thousand															

Addition and Subtraction: Stage 3

Addition and Subtraction		Knowledge Organiser																																																																										
Key Vocabulary	Addition and Subtraction Methods																																																																											
add	<p>3-digit and 1-digit numbers</p> <p>Not crossing 10s $268 - 4 = 264$</p> <table border="1"> <tr><th>Hundred</th><th>Ten</th><th>Ones</th></tr> <tr><td>●●</td><td>●●●●</td><td>●●●●●</td></tr> </table> <p>$343 + 6 = 349$</p> <p>Crossing 10s (Exchanging)</p> <table border="1"> <tr><th colspan="3">324</th></tr> <tr><td>300</td><td>20</td><td>4</td></tr> <tr><td>300</td><td>10</td><td>14</td></tr> </table> <p>$316 + 8 = 324$</p> <table border="1"> <tr><td>316</td><td>8</td></tr> </table> <p>$324 - 8 = 316$</p>	Hundred	Ten	Ones	●●	●●●●	●●●●●	324			300	20	4	300	10	14	316	8	<p>3-digit and 2-digit numbers</p> <p>Add and subtract tens</p> <table border="1"> <tr><th>Hundred</th><th>Ten</th><th>Ones</th></tr> <tr><td>●●●</td><td>●●●●</td><td>●</td></tr> </table> <p>$451 + 3 \text{ tens} = 481$ ($5 + 3 = 8$) $451 - 4 \text{ tens} = 411$ ($5 - 4 = 1$)</p> <p>Crossing 10s (Exchanging)</p> <p>$258 + 80 = 338$</p> <ul style="list-style-type: none"> Column method Count in 10s mentally Add 100, subtract 20 <p>Crossing 10 and 100</p> <table border="1"> <tr><td>368</td><td>368</td><td>368</td></tr> <tr><td>+73</td><td>+73</td><td>+73</td></tr> <tr><td>1</td><td>41</td><td>441</td></tr> <tr><td>1</td><td>10</td><td>101</td></tr> </table> <table border="1"> <tr><td>31</td><td>3131</td><td>3131</td></tr> <tr><td>441</td><td>441</td><td>441</td></tr> <tr><td>-73</td><td>-73</td><td>-73</td></tr> <tr><td>8</td><td>68</td><td>368</td></tr> </table>	Hundred	Ten	Ones	●●●	●●●●	●	368	368	368	+73	+73	+73	1	41	441	1	10	101	31	3131	3131	441	441	441	-73	-73	-73	8	68	368	<p>3-digit numbers</p> <p>Not crossing $679 - 351 = 328$</p> <table border="1"> <tr><th>Hundred</th><th>Ten</th><th>Ones</th></tr> <tr><td>●●●</td><td>●●●●</td><td>●●●</td></tr> </table> <p>Crossing 10s (Exchanging)</p> <table border="1"> <tr><td>?</td><td>269</td><td></td></tr> <tr><td>154</td><td>269</td><td></td></tr> </table> <p>$269 + 154 = 423$</p> <table border="1"> <tr><td>514</td><td>4101</td></tr> <tr><td>268</td><td>514</td></tr> <tr><td>?</td><td>-268</td></tr> <tr><td></td><td>246</td></tr> </table> <p>Add and Subtract 100s</p> <p>$284 + 300 = 584$</p> <table border="1"> <tr><th>Hundred</th><th>Ten</th><th>Ones</th></tr> <tr><td>●●●</td><td>●●●●</td><td>●</td></tr> </table>	Hundred	Ten	Ones	●●●	●●●●	●●●	?	269		154	269		514	4101	268	514	?	-268		246	Hundred	Ten	Ones	●●●	●●●●	●
Hundred		Ten	Ones																																																																									
●●		●●●●	●●●●●																																																																									
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+73		+73	+73																																																																									
1		41	441																																																																									
1		10	101																																																																									
31		3131	3131																																																																									
441		441	441																																																																									
-73		-73	-73																																																																									
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sum																																																																												
more																																																																												
altogether																																																																												
difference																																																																												
subtract																																																																												
less																																																																												
minus																																																																												
take away																																																																												
column addition																																																																												
column subtraction																																																																												
exchange																																																																												
estimate																																																																												
inverse operation																																																																												
solve problems																																																																												
number facts																																																																												
place value																																																																												

Addition and Subtraction	Knowledge Organiser																								
Estimate	Check Answers																								
<p>Estimate by dividing the hundred into 250 and 225. Estimate 10s (330, 340) between 325 and 350.</p> <p>Estimate $167 - 89$ Use near numbers $170 - 90 = 80$</p> <p>Near numbers:</p> <table border="1"> <tr><td>413</td><td>279</td><td>521</td><td>732</td></tr> <tr><td>↓</td><td>↓</td><td>↓</td><td>↓</td></tr> <tr><td>400</td><td>300</td><td>500</td><td>800</td></tr> </table>	413	279	521	732	↓	↓	↓	↓	400	300	500	800	<table border="1"> <tr><td colspan="2">347</td></tr> <tr><td>273</td><td>74</td></tr> </table> <p>$347 - 74 = 273$ can be checked using $273 + 74 = 347$</p> <p>This part whole shows the inverse calculations using these three numbers.</p> <table border="1"> <tr><td>423</td><td></td></tr> <tr><td>154</td><td>269</td></tr> </table> <table border="1"> <tr><td>$154 + 269 = 423$</td><td>$269 + 154 = 423$</td></tr> <tr><td>$423 - 154 = 269$</td><td>$423 - 269 = 154$</td></tr> </table>	347		273	74	423		154	269	$154 + 269 = 423$	$269 + 154 = 423$	$423 - 154 = 269$	$423 - 269 = 154$
413	279	521	732																						
↓	↓	↓	↓																						
400	300	500	800																						
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423																									
154	269																								
$154 + 269 = 423$	$269 + 154 = 423$																								
$423 - 154 = 269$	$423 - 269 = 154$																								

Addition and Subtraction: Stage 4

Addition and Subtraction		Knowledge Organiser	
Key Vocabulary	Addition and Subtraction Methods		
Add	Add 4-digit numbers No exchange $\begin{array}{r} 5162 \\ +3427 \\ \hline 8589 \end{array}$ Starting with the ones, add each column in turn. One exchange $\begin{array}{r} 5162 \\ +3497 \\ \hline 8659 \\ 1 \end{array}$ Starting with the ones, add each column in turn. When adding 6 tens + 9 tens = 15 tens = 1 hundred + 5 tens. Place 1 hundred under the hundreds answer and 5 tens in the answer. Multiple exchanges $\begin{array}{r} 5864 \\ +3497 \\ \hline 9361 \\ 111 \end{array}$ Starting with the ones, add each column in turn. Exchange tens, hundreds and/ or thousands as required.	Subtract 4-digit numbers No exchange $\begin{array}{r} 5789 \\ -3421 \\ \hline 2368 \end{array}$ Starting with the ones, subtract each column in turn. One exchange $\begin{array}{r} 61 \\ 5749 \\ -3471 \\ \hline 2278 \end{array}$ Starting with the ones, subtract each column in turn. When subtracting 4 tens - 7 tens, exchange 1 hundred to make: 14 tens - 7 tens = 7 tens Multiple exchanges $\begin{array}{r} 6131 \\ 5742 \\ -3476 \\ \hline 2266 \end{array}$ Starting with the ones, subtract each column in turn. Exchange tens, hundreds and/ or thousands as required.	Efficient subtraction
Total			
Plus			
Sum			
More			
Altogether			
Difference			
Subtract			
Less			
Minus			
Take away			
Mentally, Orally			
Column Addition			
Column Subtraction			
Exchange			
Estimate			
Inverse operation			
Solve problems			
Number facts			

Addition and Subtraction		Knowledge Organiser									
Add and Subtract 1s, 10s, 100s, 1000s	Round to Estimate										
<p>Here is the number 3124</p> <p>Add 2 thousands = 5124 Add 5 hundreds = 5624 Subtract 2 tens = 5604 Add 5 ones = 5609</p> <p>Here is the number 6708</p> <table border="1"> <thead> <tr> <th>Thousands</th> <th>Hundreds</th> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>7</td> <td>0</td> <td>8</td> </tr> </tbody> </table> <p>Add 3 thousands = 9708 Subtract 4 hundreds = 9308 Add 5 tens = 9358 Subtract 7 ones = 9351</p> <p>Crossing ones, tens or hundreds</p> <p>5392 + 4 tens = 5432 crossing tens 5126 - 600 = 4526 crossing hundreds</p> <p>When crossing ones, tens or hundreds, more than one digit will change.</p>	Thousands	Hundreds	Tens	Ones	6	7	0	8	$1635 + 386 = 2021$ Round to the nearest ten $1640 + 390 = 2030$ Round to the nearest hundred $1600 + 400 = 2000$ Both give a reasonable estimate, but rounding the nearest ten is more accurate.	$9362 - 5729 = 3622$ Round to the nearest hundred $9400 - 5700 = 3700$ Round to the nearest thousand $9000 - 6000 = 3000$ Rounding to the nearest hundred is much more accurate in this case.	Checking Strategies
Thousands	Hundreds	Tens	Ones								
6	7	0	8								
<p>Using Inverse</p> <table border="1"> <thead> <tr> <th colspan="2">3476</th> </tr> </thead> <tbody> <tr> <td>2732</td> <td>744</td> </tr> </tbody> </table> <p>$3476 - 744 = 2732$ can be checked using $2732 + 744 = 3476$</p> <p>This part whole shows the inverse calculations using these three numbers.</p> <table border="1"> <tbody> <tr> <td>$1549 + 2688 = 4237$</td> <td>$2688 + 1549 = 4237$</td> </tr> <tr> <td>$4237 - 1549 = 2688$</td> <td>$4237 - 2688 = 1549$</td> </tr> </tbody> </table>	3476		2732	744	$1549 + 2688 = 4237$	$2688 + 1549 = 4237$	$4237 - 1549 = 2688$	$4237 - 2688 = 1549$	Adding in a different order $420 + 372 + 280 =$ Change to $420 + 280 + 372 =$ As $420 + 280 = 700$ (because $42 + 28 = 70$) $420 + 280 + 372 = 700 + 372 = 1072$		
3476											
2732	744										
$1549 + 2688 = 4237$	$2688 + 1549 = 4237$										
$4237 - 1549 = 2688$	$4237 - 2688 = 1549$										

Multiplication and Division: Stage 3

Multiplication and Division		Knowledge Organiser																																																																																																																																																																											
Key Vocabulary times tables multiply by divide by array fact families regrouping	Multiplication and Division Facts (3, 4 and 8 multiplication tables)																																																																																																																																																																												
	<table border="1"> <tr><th>x</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th></tr> <tr><th>1</th><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><td>11</td><td>12</td></tr> <tr><th>2</th><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td><td>14</td><td>16</td><td>18</td><td>20</td><td>22</td><td>24</td></tr> <tr><th>3</th><td>3</td><td>6</td><td>9</td><td>12</td><td>15</td><td>18</td><td>21</td><td>24</td><td>27</td><td>30</td><td>33</td><td>36</td></tr> <tr><th>4</th><td>4</td><td>8</td><td>12</td><td>16</td><td>20</td><td>24</td><td>28</td><td>32</td><td>36</td><td>40</td><td>44</td><td>48</td></tr> <tr><th>5</th><td>5</td><td>10</td><td>15</td><td>20</td><td>25</td><td>30</td><td>35</td><td>40</td><td>45</td><td>50</td><td>55</td><td>60</td></tr> <tr><th>6</th><td>6</td><td>12</td><td>18</td><td>24</td><td>30</td><td>36</td><td>42</td><td>48</td><td>54</td><td>60</td><td>66</td><td>72</td></tr> <tr><th>7</th><td>7</td><td>14</td><td>21</td><td>28</td><td>35</td><td>42</td><td>49</td><td>56</td><td>63</td><td>70</td><td>77</td><td>84</td></tr> <tr><th>8</th><td>8</td><td>16</td><td>24</td><td>32</td><td>40</td><td>48</td><td>56</td><td>64</td><td>72</td><td>80</td><td>88</td><td>96</td></tr> <tr><th>9</th><td>9</td><td>18</td><td>27</td><td>36</td><td>45</td><td>54</td><td>63</td><td>72</td><td>81</td><td>90</td><td>99</td><td>108</td></tr> <tr><th>10</th><td>10</td><td>20</td><td>30</td><td>40</td><td>50</td><td>60</td><td>70</td><td>80</td><td>90</td><td>100</td><td>110</td><td>120</td></tr> <tr><th>11</th><td>11</td><td>22</td><td>33</td><td>44</td><td>55</td><td>66</td><td>77</td><td>88</td><td>99</td><td>110</td><td>121</td><td>132</td></tr> <tr><th>12</th><td>12</td><td>24</td><td>36</td><td>48</td><td>60</td><td>72</td><td>84</td><td>96</td><td>108</td><td>120</td><td>132</td><td>144</td></tr> </table>	x	1	2	3	4	5	6	7	8	9	10	11	12	1	1	2	3	4	5	6	7	8	9	10	11	12	2	2	4	6	8	10	12	14	16	18	20	22	24	3	3	6	9	12	15	18	21	24	27	30	33	36	4	4	8	12	16	20	24	28	32	36	40	44	48	5	5	10	15	20	25	30	35	40	45	50	55	60	6	6	12	18	24	30	36	42	48	54	60	66	72	7	7	14	21	28	35	42	49	56	63	70	77	84	8	8	16	24	32	40	48	56	64	72	80	88	96	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	3 x Tables $1 \times 3 = 3$ $2 \times 3 = 6$ $3 \times 3 = 9$ $4 \times 3 = 12$ $5 \times 3 = 15$ $6 \times 3 = 18$ $8 \times 3 = 24$ $9 \times 3 = 27$ $10 \times 3 = 30$ $11 \times 3 = 33$ $12 \times 3 = 36$	4 x Tables $1 \times 4 = 4$ $2 \times 4 = 8$ $3 \times 4 = 12$ $4 \times 4 = 16$ $5 \times 4 = 20$ $6 \times 4 = 24$ $7 \times 4 = 28$ $8 \times 4 = 32$ $9 \times 4 = 36$ $10 \times 4 = 40$ $11 \times 4 = 44$ $12 \times 4 = 48$	8 x Tables $1 \times 8 = 8$ $2 \times 8 = 16$ $3 \times 8 = 24$ $4 \times 8 = 32$ $5 \times 8 = 40$ $6 \times 8 = 48$ $7 \times 8 = 56$ $8 \times 8 = 64$ $9 \times 8 = 72$ $10 \times 8 = 80$ $11 \times 8 = 88$ $12 \times 8 = 96$
	x	1	2	3	4	5	6	7	8	9	10	11	12																																																																																																																																																																
	1	1	2	3	4	5	6	7	8	9	10	11	12																																																																																																																																																																
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	3	3	6	9	12	15	18	21	24	27	30	33	36																																																																																																																																																																
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	6	6	12	18	24	30	36	42	48	54	60	66	72																																																																																																																																																																
	7	7	14	21	28	35	42	49	56	63	70	77	84																																																																																																																																																																
8	8	16	24	32	40	48	56	64	72	80	88	96																																																																																																																																																																	
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																																																																																																																																																																	
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Write and Calculate Mathematical Statements		Related Calculations																																																																																																																																																																											
$4 \times 8 = 32$ $32 \div 8 = 4$	$8 \times 4 = 32$ $32 \div 4 = 8$	$5 \times 3 = 15$ $15 \div 3 = 5$	$3 \times 5 = 15$ $15 \div 5 = 3$																																																																																																																																																																										
$3 \times 4 = 12$ $4 \times 3 = 12$		$30 \times 4 = 120$ $40 \times 3 = 120$																																																																																																																																																																											

Multiplication and Division		Knowledge Organiser																																														
Written Multiplication Methods - No Regrouping		Written Multiplication Methods - With Regrouping																																														
<table border="1"> <tr><th>Tens</th><th>Ones</th></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </table>	Tens	Ones							$23 \times 3 = 69$ <table border="1"> <tr><td></td><td>T</td><td>O</td></tr> <tr><td></td><td>2</td><td>3</td></tr> <tr><td>x</td><td></td><td>3</td></tr> <tr><td></td><td>6</td><td>9</td></tr> </table>		T	O		2	3	x		3		6	9	<table border="1"> <tr><th>Tens</th><th>Ones</th></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </table>	Tens	Ones									$24 \times 4 = 96$ <table border="1"> <tr><td></td><td>T</td><td>O</td></tr> <tr><td></td><td>2</td><td>4</td></tr> <tr><td>x</td><td></td><td>4</td></tr> <tr><td></td><td>9</td><td>6</td></tr> <tr><td></td><td>1</td><td></td></tr> </table>		T	O		2	4	x		4		9	6		1	
Tens	Ones																																															
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Written Division Methods - No Regrouping		Written Division Methods - With Regrouping																																														
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	2	1																																														
4	8	4																																														
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	1	5																																														
3	4	5																																														

Multiplication and Division: Stage 4

Multiplication and Division		Knowledge Organiser	
Key Vocabulary	Multiplication and Division Facts	Use Place Value to Multiply and Divide Mentally	
multiply			$5 \times 1 = 5$ $5 \div 1 = 5$
groups of			$5 \times 10 = 50$ $50 \div 10 = 5$
lots of			$5 \times 100 = 500$ $500 \div 100 = 5$
times			
divide			
share			
remainder			
factor	Factor pairs and Commutativity 	Multiply Using Formal Written Methods	
multiple			
product			Remember to move any regrouped numbers into the next column. After the next multiplication, add the regrouped number to the answer.

Multiplication and Division		Knowledge Organiser	
Mental Calculations for Solving Problems		Integer Scaling Problems	
$(2 \times 3) \times 4 = 24$ 	$(2 \times 4) \times 3 = 24$ 	10 pencils 	$10 \times 4 = 40$ pencils
$(3 \times 4) \times 2 = 24$ 		75g 	$75g \times 2 = 150g$

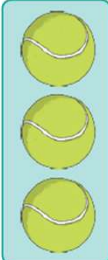
Short Division with Exact Answers

There are 69 tennis balls packed in tubes of 3.

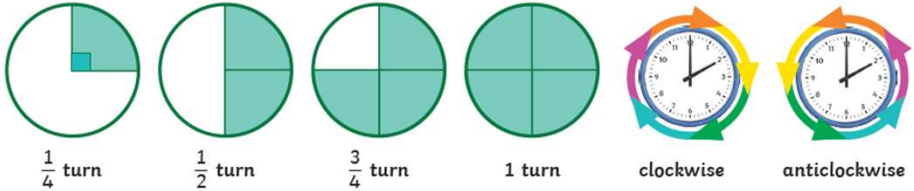
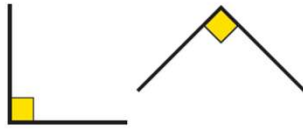
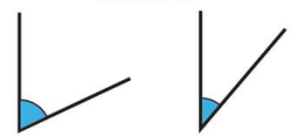
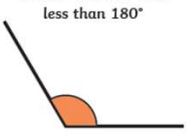



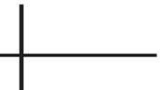

There are 23 tubes altogether.

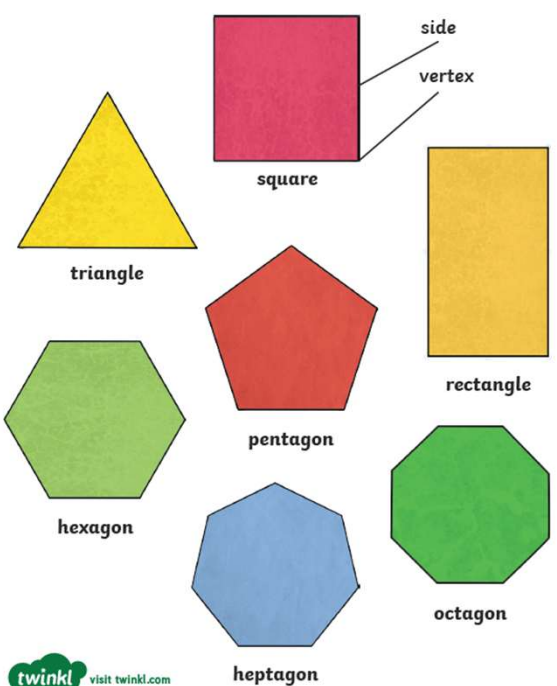
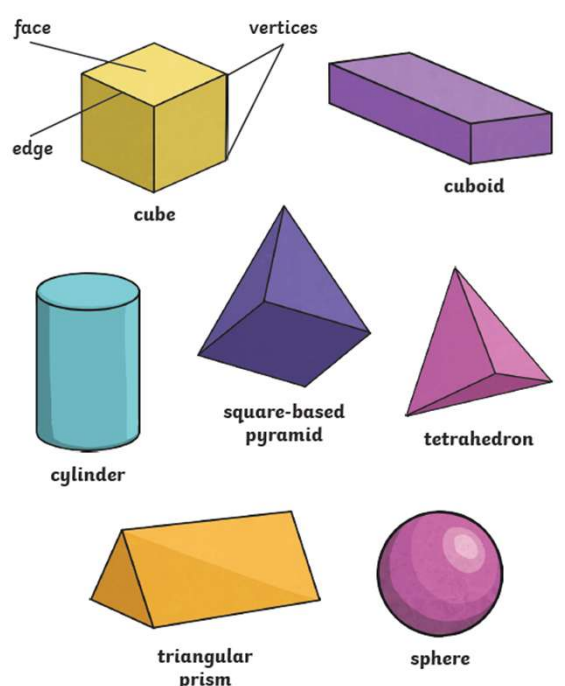

$69 \div 3 = 23$

		23
3	69	
	69	
23	23	23

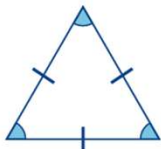
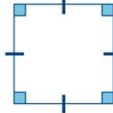

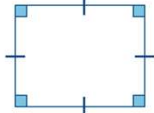

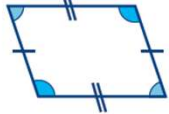

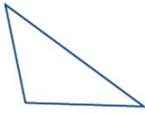





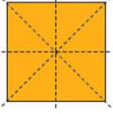

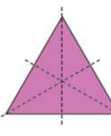
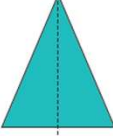
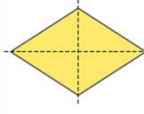
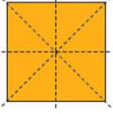

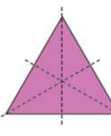
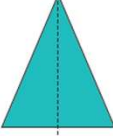
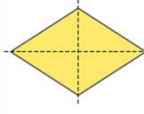
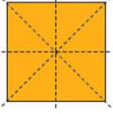

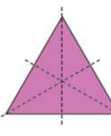
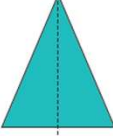
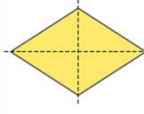

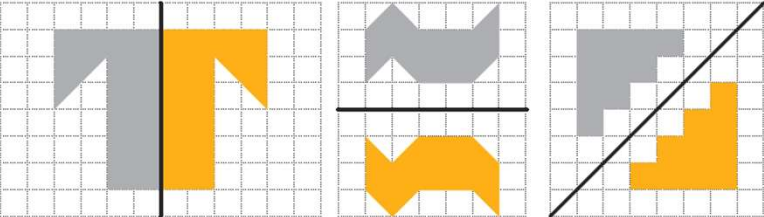


Properties of Shapes: Stage 3

Properties of Shapes	Knowledge Organiser							
Key Vocabulary quarter turn half turn three-quarter turn angle right angle acute obtuse horizontal vertical parallel perpendicular polygon two-dimensional three-dimensional flat face curved surface edge curved edge vertex vertices apex	Turns and Angles							
	Angles can be used as a description of a turn.							
								
	An angle is created when two straight lines meet at a point or intersect.							
	Right Angle 		Acute Angle Less than 90° 		Obtuse Angle Greater than 90° and less than 180° 			
	Type of Lines							
	horizontal 		vertical 		parallel 		perpendicular 	
								






Properties of Shapes	Knowledge Organiser	
Recognise and Describe 2D Shapes	Recognise and Describe 3D Shapes	
		
		






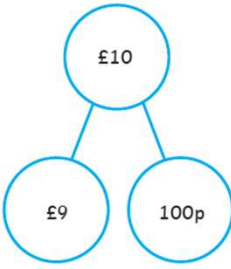
Properties of Shapes: Stage 4

Properties of Shape		Knowledge Organiser	
Key Vocabulary	Triangles	Quadrilaterals	
angle	Triangles have 3 sides and 3 vertices. The total of the angles in a triangle is 180°.  An equilateral triangle is a regular polygon. It has sides of equal length and each angle is 60°.	A quadrilateral is a polygon with four sides. 	
right angle		An isosceles triangle has two sides of equal length and two angles of equal size. 	A square has four sides of equal length and four right angles (90°). A square is also a rectangle, a rhombus and a parallelogram. 
acute	A right-angled triangle always has one 90° angle. It can be isosceles or scalene. 	A parallelogram has two pairs of parallel, equal sides and opposite equal angles. 	A rhombus has four sides of equal length and opposite equal angles. A rhombus is also a parallelogram. 
obtuse		A scalene triangle has no equal sides or angles. 	A trapezium only has one pair of opposite parallel sides. 
horizontal			
vertical			
diagonal			
parallel			
perpendicular			
two-dimensional			
polygon			
line of symmetry			
reflection			
mirror line			
isosceles			
equilateral			
scalene			
quadrilateral			
rhombus			
parallelogram			
trapezium			
			















Properties of Shape		Knowledge Organiser						
Angles	Lines of Symmetry							
An angle is created when two straight lines meet at a point or intersect. Right angle The intersection of perpendicular lines creates a right angle. 	Lines of symmetry may be horizontal, vertical or diagonal. Some 2D shapes will have no lines of symmetry and some 2D shapes will have multiple lines of symmetry. <table border="0" style="width: 100%;"> <tr> <td> A square has four lines of symmetry.  </td> <td> A rectangle has two lines of symmetry.  </td> <td> An equilateral triangle has three lines of symmetry.  </td> <td> An isosceles triangle has one line of symmetry.  </td> <td> A rhombus has two lines of symmetry.  </td> </tr> </table>			A square has four lines of symmetry. 	A rectangle has two lines of symmetry. 	An equilateral triangle has three lines of symmetry. 	An isosceles triangle has one line of symmetry. 	A rhombus has two lines of symmetry. 
A square has four lines of symmetry. 	A rectangle has two lines of symmetry. 	An equilateral triangle has three lines of symmetry. 	An isosceles triangle has one line of symmetry. 	A rhombus has two lines of symmetry. 				
Acute angle Any angle measuring more than 0 degrees and less than 90 degrees is acute. 	Symmetric Figures Patterns and shapes can be reflected in a mirror line. Mirror lines can be vertical, horizontal or diagonal. 							
Obtuse angle Any angle measuring more than 90 degrees but less than 180 degrees is obtuse. 								
								








Money: Stage 3

Money		Knowledge Organiser
Key Vocabulary	UK Coins	
amount		
change	1p 2p 5p 10p 20p 50p £1 £2	
coin	one penny coin two pence coin five pence coin ten pence coin twenty pence coin fifty pence coin one pound coin two pound coin	
combinations	UK Notes	
convert		
note	£5 £10 £20 £50	
pence	five pound note ten pound note twenty pound note fifty pound note	
penny		
pounds	Pounds and Pence	Convert Pounds and Pence
value	 <p>£3 and 25 pence</p>	 <p>£52 and 13 pence</p>
		 <p>120 pence 100 pence is £1 120 pence is £1 and 20 pence.</p>

Money		Knowledge Organiser		
Adding Amounts				
	<table border="1"> <tr> <td>£1 and 60p</td> <td>?</td> </tr> </table> 	£1 and 60p	?	<p>£1 and 60p + £1 and 52p There is £2 and 112p. 112p is £1 and 12p Altogether there is £3 and 12p.</p>
£1 and 60p	?			
Subtracting Amounts	Giving Change			
<p>£2 and 35p - £1 and 80p</p> 	   <p>£9 - £5 = £4 100p - 67p = 33p £4 and 33p change</p>			

Money: Stage 4

Money		Knowledge Organiser							
Key Vocabulary amount change combinations estimate decimal pence penny pounds round value convert	UK Coins								
									
	£0.01	£0.02	£0.05	£0.10	£0.20	£0.50	£1.00	£2.00	
	one penny coin	two pence coin	five pence coin	ten pence coin	twenty pence coin	fifty pence coin	one pound coin	two pound coin	
	UK Notes								
									
	£5	£10	£20	£50					
	five pound note	ten pound note	twenty pound note	fifty pound note					
	Pounds and Pence								
									
£3 and 25 pence		£3.25		£52 and 13 pence		£52.13			
				463 = £4.63					
				705p = £7.05					
				92p = £0.92					

Money		Knowledge Organiser	
Ordering Money			
We can compare or order amounts by changing all amounts to either pounds or pence.			
$£4.82$ <input type="text"/> $428p$ $£4.82 = 482p$ $482p > 428p$ $£4.82 > 428p$	Order in ascending order: $516p$ $156p$ $£1.65$ $£6.51$ $£1.65 = 165p$ and $£6.51 = 651p$ 156p, £1.65, 516p, £6.51		
Estimating Money			
 <p>That's about £8.</p> 	 <p>That's about £4.</p> 		
We can use estimates when calculating.			
 <p>They are about £3 and £7 so will be about £10 in total.</p>		 <p>They are about £4 and £3 so will be about £7 in total. I will have about £3 left.</p>	

Fractions: Stage 4

Fractions		Knowledge Organiser																											
Key Vocabulary	Fraction Families																												
numerator																													
denominator																													
unit fraction																													
non-unit fraction																													
equivalent																													
quantities																													
whole																													
halves																													
thirds																													
quarters																													
fifths																													
sixths																													
sevenths	Fractions of Quantities																												
eighths	<p>To find a fraction of a number, divide by the denominator and multiply by numerator.</p>																												
ninths	<p>To find quarters of 20:</p>																												
tenths	<p>To find eighths of 56:</p>																												
elevenths	<table border="1"> <tr> <td colspan="4">20</td> <td colspan="8">56</td> </tr> <tr> <td>5</td><td>5</td><td>5</td><td>5</td> <td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td> </tr> </table>			20				56								5	5	5	5	7	7	7	7	7	7	7	7	7	7
20				56																									
5	5	5	5	7	7	7	7	7	7	7	7	7	7																
twelfths	$\frac{1}{4}$ of 20 = 5 $\frac{2}{4}$ of 20 = 10 $\frac{3}{4}$ of 20 = 15 $\frac{4}{4}$ of 20 = 20																												
quantities	$\frac{1}{8}$ of 56 = 7 $\frac{2}{8}$ of 56 = 14 $\frac{3}{8}$ of 56 = 21 $\frac{4}{8}$ of 56 = 28 $\frac{5}{8}$ of 56 = 35 $\frac{6}{8}$ of 56 = 42 $\frac{7}{8}$ of 56 = 49 $\frac{8}{8}$ of 56 = 56																												

Fractions		Knowledge Organiser	
Adding Fractions	Subtracting fractions		
<p>Fractions can be added when the denominators are the same.</p>			
$\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$	$\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$		
$\frac{2}{8} + \frac{4}{8} + \frac{1}{8} = \frac{7}{8}$	$\frac{2}{8} + \frac{4}{8} + \frac{1}{8} = \frac{7}{8}$		
$\frac{4}{5} + \frac{2}{5} = \frac{6}{5}$ or $1\frac{1}{5}$	$\frac{4}{5} + \frac{2}{5} = \frac{6}{5}$ or $1\frac{1}{5}$		
<p>Fractions can be subtracted when the denominators are the same.</p>			
$\frac{3}{4} - \frac{2}{4} = \frac{1}{4}$	$\frac{3}{4} - \frac{2}{4} = \frac{1}{4}$		
$\frac{8}{6} - \frac{5}{6} = \frac{3}{6}$	$\frac{8}{6} - \frac{5}{6} = \frac{3}{6}$		