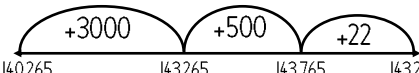
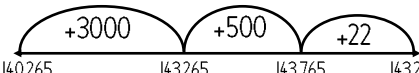
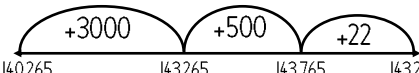


Year 6 Maths

Addition

Concrete	Pictorial	Abstract																																					
Selecting efficient methods for adding																																							
Represent 7-digit numbers on a place value grid, using this to support thinking and mental methods. $2,441,351 + 250,010 = ?$ <table border="1"><tr><th>M</th><th>HTh</th><th>TTh</th><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> When we add 200,000, there will be 2 more counters in the HTh column. When we add 50,000, there will be 5 more counters in the TTh column. When we add 10, there will be 1 more counter in the T column.	M	HTh	TTh	Th	H	T	O								Use bar models to support thinking in addition problems. $257,000 + 99,000 = ?$ <table border="1"><tr><td>257,000</td><td>100,000</td></tr></table> $257,000 + 100,000 = 357,000$ $357,000 - 1,000 = 356,000$ Partition flexibly to add on number lines. $140,265 + 3,522 = ?$ <table><tr><td></td></tr></table>	257,000	100,000		Use the formal written method of column addition, when mental methods are not efficient. Include decimal numbers. <table><tr><th>H</th><th>T</th><th>O</th><th>Tth</th><th>Hth</th></tr><tr><td>1</td><td>4</td><td>0</td><td>0</td><td>9</td></tr><tr><td>+</td><td>4</td><td>9</td><td>8</td><td>9</td></tr><tr><td>1</td><td>8</td><td>9</td><td>9</td><td>8</td></tr></table>	H	T	O	Tth	Hth	1	4	0	0	9	+	4	9	8	9	1	8	9	9	8
M	HTh	TTh	Th	H	T	O																																	
																																							
257,000	100,000																																						
																																							
H	T	O	Tth	Hth																																			
1	4	0	0	9																																			
+	4	9	8	9																																			
1	8	9	9	8																																			

Subtraction

Concrete	Pictorial	Abstract																																																							
Selecting efficient methods for subtracting																																																									
Represent 7-digit numbers on a place value grid, using this to support thinking and mental methods. $5,342,436 - 320,100 = ?$ <table><tr><th>M</th><th>HTh</th><th>TTh</th><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> When we subtract 300,000, there will be 3 less counters in the HTh column. When we subtract 20,000, there will be 2 less counters in the TTh column. When we subtract 100, there will be 1 less counter in the H column.	M	HTh	TTh	Th	H	T	O								Use bar models to represent calculations, including find the difference problems with 2 bars as comparison. A computer game costs £12.50 more than a puzzle book. Zac buys 1 computer game and 2 puzzle books for £35. How much does each item cost? computer game puzzle book ← £12.50 → £35 <table><tr><td>puzzle book</td><td>puzzle book</td><td>puzzle book</td><td>£12.50</td></tr><tr><td colspan="4">computer game</td></tr></table> £22.50 <table><tr><td>puzzle book</td><td>puzzle book</td><td>puzzle book</td></tr></table>	puzzle book	puzzle book	puzzle book	£12.50	computer game				puzzle book	puzzle book	puzzle book	Use the formal written method of column subtraction, when mental methods are not efficient. Include decimal numbers. <table><tr><td></td><td>3</td><td>11</td><td>1</td><td></td><td></td></tr><tr><td>3</td><td>4</td><td>2</td><td>5</td><td>6</td><td></td></tr><tr><td>-</td><td>1</td><td>2</td><td>3</td><td>8</td><td>2</td></tr><tr><td colspan="6"> </td></tr><tr><td>2</td><td>1</td><td>8</td><td>7</td><td>4</td><td></td></tr></table>		3	11	1			3	4	2	5	6		-	1	2	3	8	2							2	1	8	7	4	
M	HTh	TTh	Th	H	T	O																																																			
																																																									
puzzle book	puzzle book	puzzle book	£12.50																																																						
computer game																																																									
puzzle book	puzzle book	puzzle book																																																							
	3	11	1																																																						
3	4	2	5	6																																																					
-	1	2	3	8	2																																																				
2	1	8	7	4																																																					

Year 6 Maths

Multiplication

Concrete	Pictorial	Abstract																																						
Select efficient strategies for multiplying																																								
Use a range of practical activities and jottings to explore multiple strategies that will produce the same answer. 5000 200 <table border="1" style="border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">20</td> <td style="padding: 2px 5px;">5000 × 20</td> <td style="padding: 2px 5px;">200 × 20</td> </tr> <tr> <td style="padding: 2px 5px;">5</td> <td style="padding: 2px 5px;">5000 × 5</td> <td style="padding: 2px 5px;">200 × 5</td> </tr> </table> 5000 200 <table border="1" style="border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">25</td> <td style="padding: 2px 5px;">5000 × 25</td> <td style="padding: 2px 5px;">200 × 25</td> </tr> </table> 5,200 × 25	20	5000 × 20	200 × 20	5	5000 × 5	200 × 5	25	5000 × 25	200 × 25	Use the formal written long multiplication method to multiply 4-digit number by 2 digit numbers. Remember the place holder zero! <table border="1" style="border-collapse: collapse; text-align: center; margin: 10px auto;"> <tr> <td></td> <td></td> <td>3</td> <td>1</td> <td>1</td> <td>2</td> </tr> <tr> <td>x</td> <td></td> <td></td> <td></td> <td>1</td> <td>7</td> </tr> <tr> <td></td> <td>2</td> <td>1</td> <td>7</td> <td>8</td> <td>4</td> </tr> <tr> <td></td> <td>3</td> <td>1</td> <td>1</td> <td>2</td> <td>0</td> </tr> <tr> <td></td> <td>5</td> <td>2</td> <td>9</td> <td>0</td> <td>4</td> </tr> </table> place holder zero			3	1	1	2	x				1	7		2	1	7	8	4		3	1	1	2	0		5	2	9	0	4
20	5000 × 20	200 × 20																																						
5	5000 × 5	200 × 5																																						
25	5000 × 25	200 × 25																																						
		3	1	1	2																																			
x				1	7																																			
	2	1	7	8	4																																			
	3	1	1	2	0																																			
	5	2	9	0	4																																			

Division

Long division																																																																														
Identify key number facts about your divisor that might help you with chunking. Key Facts 2 × 16 = 32 10 × 16 = 160 20 × 16 = 320 Set out the long division method and decide how many chunks of 16 to subtract first. Record this in brackets and subtract it from the larger number. <table border="1" style="border-collapse: collapse; text-align: center; margin: 10px auto;"> <tr> <td>1</td> <td>6</td> <td>3</td> <td>6</td> <td>4</td> <td>9</td> <td></td> </tr> <tr> <td></td> <td></td> <td>3</td> <td>2</td> <td>0</td> <td>0</td> <td>(x200)</td> </tr> <tr> <td></td> <td></td> <td></td> <td>4</td> <td>4</td> <td>9</td> <td></td> </tr> </table> Calculate how many more chunks of 16 you can take away, until you no longer can. Record all of these.	1	6	3	6	4	9				3	2	0	0	(x200)				4	4	9		Your answer is formed from totalling the chunks of the divisor in brackets, along with any remainders. <table border="1" style="border-collapse: collapse; text-align: center; margin: 10px auto;"> <tr> <td></td> <td></td> <td>0</td> <td>2</td> <td>2</td> <td>8</td> <td>r1</td> </tr> <tr> <td>1</td> <td>6</td> <td>3</td> <td>6</td> <td>4</td> <td>9</td> <td></td> </tr> <tr> <td></td> <td></td> <td>3</td> <td>2</td> <td>0</td> <td>0</td> <td>(x 200)</td> </tr> <tr> <td></td> <td></td> <td></td> <td>4</td> <td>4</td> <td>9</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>3</td> <td>2</td> <td>0</td> <td>(x 20)</td> </tr> <tr> <td></td> <td></td> <td></td> <td>1</td> <td>2</td> <td>9</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>1</td> <td>2</td> <td>8</td> <td>(x 8)</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> </tr> </table>			0	2	2	8	r1	1	6	3	6	4	9				3	2	0	0	(x 200)				4	4	9					3	2	0	(x 20)				1	2	9					1	2	8	(x 8)						1	
1	6	3	6	4	9																																																																									
		3	2	0	0	(x200)																																																																								
			4	4	9																																																																									
		0	2	2	8	r1																																																																								
1	6	3	6	4	9																																																																									
		3	2	0	0	(x 200)																																																																								
			4	4	9																																																																									
			3	2	0	(x 20)																																																																								
			1	2	9																																																																									
			1	2	8	(x 8)																																																																								
					1																																																																									