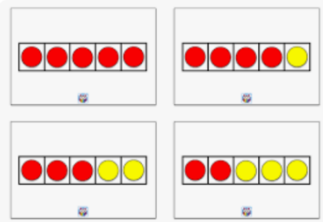
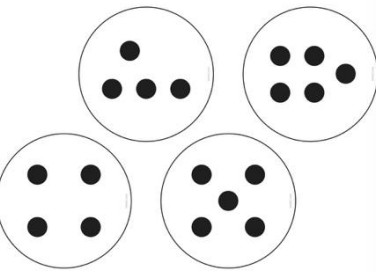
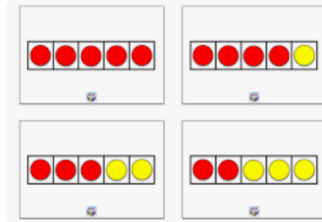
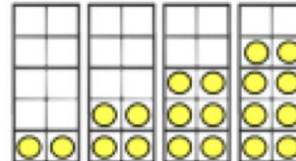
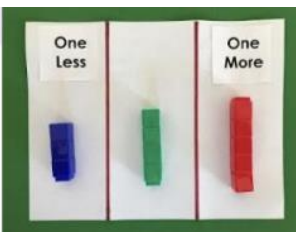
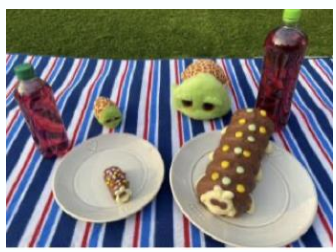
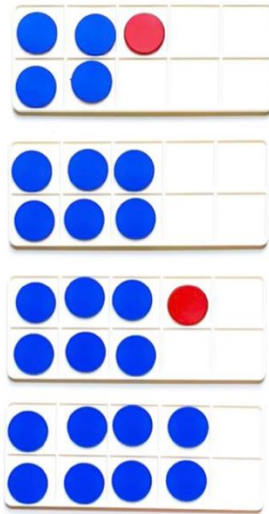
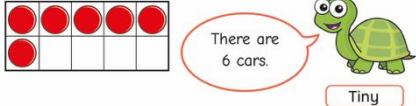
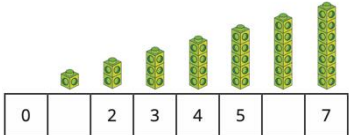
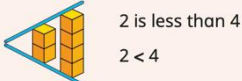
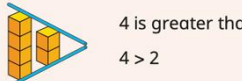
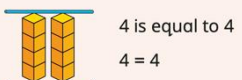
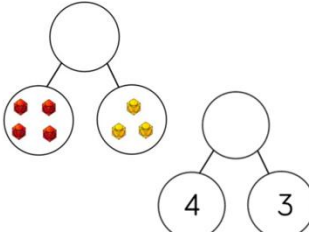
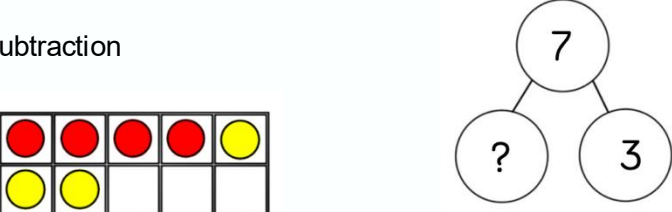
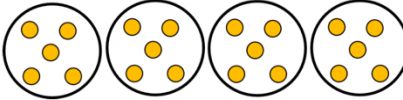
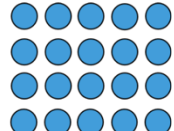
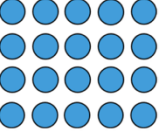
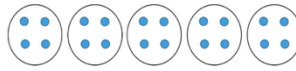
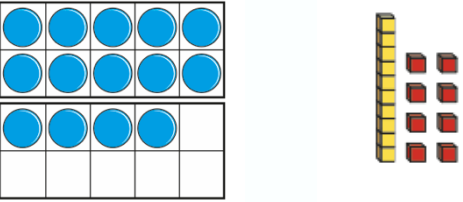
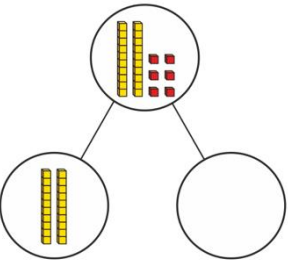
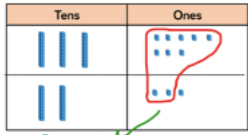
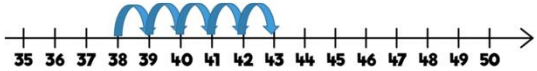
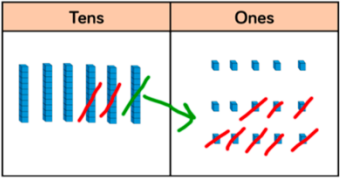
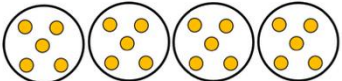
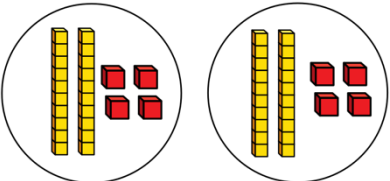
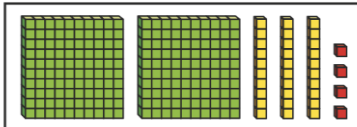
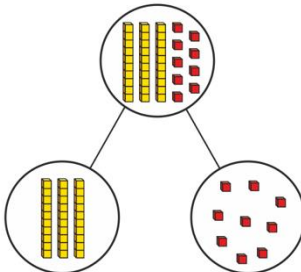


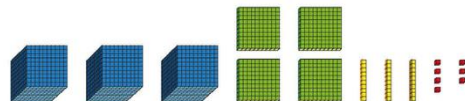
AHMAT Maths Calculation Policy

EYFS	Number Sense	Counting	Quantities	Number Patterns
ELG	- Have a deep understanding of number to 10, including the composition of each number. - Subitise (recognise quantities without counting) up to 5.	- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including doubling facts. - Verbally count beyond 20, recognising the pattern of the counting system.	Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.	Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.
Calculation Methods/Representations	5 frames and tens frames  Dot Plates  Objects 	5 frames and tens frames  Counting to 20 	Comparing quantities    Comparing sizes 	Doubling   Odds and Evens 

Year 1	Place Value	Addition & Subtraction	Multiplication and Division (Summer term)
National Curriculum Objectives	- Count to ten, forwards and backwards, beginning with 0 or 1, or from any given number. - Count, read and write numbers to 10 in numerals and words. - Given a number, identify one more or one less. - Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least	- Represent and use number bonds and related subtraction facts within 10. - Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. - Add and subtract one digit numbers to 10, including zero. - Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems.	- Count in multiples of twos, fives and tens. - Solve one step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.
Calculation Methods/ Representations	Concrete resources to find amounts   1 more/less  Greater than, less than and equal to   	Addition Concrete:  Pictorial  Abstract  Subtraction  	  $5 + 5 + 5 + 5 = 20$ $4 \times 5 = 20$ $5 \times 4 = 20$   $20 \div 5 = 4$

Year 2	Place Value	Addition & Subtraction	Multiplication and Division (Summer term)
National Curriculum Objectives	- Read and write numbers to at least 100 in numerals and in words. - Recognise the place value of each digit in a two digit number (tens, ones) Identify, represent and estimate numbers using different representations including the number line. - Compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs. - Use place value and number facts to solve problems. - Count in steps of 2, 3 and 5 from 0, and in tens from any number, forward and backward.	- Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. - Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers. - Show that the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. - Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods. - Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems	- Recall and use multiplication and division facts for the 2, 5 and 10 times tables, including recognising odd and even numbers. - Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ($\times$), division ($\div$) and equals ($=$) sign. - Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts. - Show that the multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.
Calculation Methods/ Representations	Concrete resources to find amounts – counters and dienes  Pictorial Base ten + part whole model 	Addition: Concrete/Pictorial  Abstract – number line and moving onto formal method  $\begin{array}{r} 38 \\ + 23 \\ \hline 61 \\ 1 \end{array}$ Subtraction - Abstract – numberline and moving onto formal method  Tens and Ones blocks for subtraction  $\begin{array}{r} 5 \text{ } 1 \\ 65 \\ - 28 \\ \hline 37 \end{array}$	Multiplication  $5 + 5 + 5 + 5 = 20$ $4 \times 5 = 20$ $5 \times 4 = 20$ Division  $20 \div 5 = 4$ $48 \div 2 = 24$ 

Year 3	Place Value	Addition & Subtraction	Multiplication and Division (Summer term)																																																																	
National Curriculum Objectives	- Identify, represent and estimate numbers using different representations. - Find 10 or 100 more or less than a given number. - Recognise the place value of each digit in a three-digit number (hundreds, tens, ones). - Compare and order numbers up to 1000. - Read and write numbers up to 1000 in numerals and in words. - Solve number problems and practical problems involving these ideas. - Count from 0 in multiples of 4, 8, 50 and 100	- Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens, a three digit number and hundreds. - Add and subtract numbers with up to three digits,using formal written methods of columnar addition and subtraction. - Estimate the answer to a calculation and use inverse operations to check answers. - Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	- Count from 0 in multiples of 4, 8, 50 and 100. - Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. - Write and calculate mathematical statements for multiplication and division using the multiplication tables they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. - Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objectives																																																																	
Calculation Methods/ Representations	Concrete resources - Base 10   Place value counters <table><tr><th>H</th><th>T</th><th>O</th></tr><tr><td>100 100</td><td>10</td><td>1 1 1 1 1 1</td></tr></table>	H	T	O	100 100	10	1 1 1 1 1 1	Addition <table><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr><tr><td>2</td><td>6</td><td>5</td></tr><tr><td>4</td><td>2</td><td>9</td></tr><tr><td></td><td></td><td>1</td></tr></table> Subtraction <table><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr><tr><td>4</td><td>3</td><td>5</td></tr><tr><td>2</td><td>7</td><td>3</td></tr><tr><td></td><td></td><td>2</td></tr></table>	Hundreds	Tens	Ones	2	6	5	4	2	9			1	Hundreds	Tens	Ones	4	3	5	2	7	3			2	Multiplication <table><tr><td></td><td>H</td><td>T</td><td>O</td><td></td></tr><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>1</td><td>7</td><td>0</td><td></td></tr><tr><td></td><td>1</td><td>2</td><td></td><td></td></tr></table> Division <table><tr><td></td><td></td><td>1</td><td>3</td><td></td></tr><tr><td></td><td>4</td><td>5</td><td>1 2</td><td></td></tr></table>		H	T	O				3	4		x			5			1	7	0			1	2					1	3			4	5	1 2	
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Year 4	Place Value	Addition & Subtraction	Multiplication and Division (Summer term)																																																					
National Curriculum Objectives	- Count in multiples of 6, 7, 9, 25 and 1000. - Find 1000 more or less than a given number. - Recognise the place value of each digit in a four digit number (thousands, hundreds, tens and ones). - Order and compare numbers beyond 1000. - Identify, represent and estimate numbers using different representations. - Round any number to the nearest 10, 100 or 1000. - Solve number and practical problems that involve all of the above and with increasingly large positive numbers. - Count backwards through zero to include negative number	- Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. - Estimate and use inverse operations to check answers to a calculation. - Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use	- Recall and use multiplication and division facts for multiplication tables up to 12 × 12. - Count in multiples of 6, 7, 9, 25 and 1000. - Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers. - Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects																																																					
Calculation Methods/ Representations	Concrete resources Base 10  Pictorial – Place value counters <table border="1"><thead><tr><th>Thousands</th><th>Hundreds</th><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td></td><td></td><td></td><td></td></tr></tbody></table>	Thousands	Hundreds	Tens	Ones					Addition <table border="1"><tr><td></td><td>1</td><td>3</td><td>7</td><td>8</td></tr><tr><td>+</td><td>2</td><td>1</td><td>4</td><td>8</td></tr><tr><td></td><td>3</td><td>5</td><td>2</td><td>6</td></tr></table> 1 1 Subtraction <table><tr><td>3 1</td></tr><tr><td>4357</td></tr><tr><td>– 2735</td></tr><tr><td>1622</td></tr></table>		1	3	7	8	+	2	1	4	8		3	5	2	6	3 1	4357	– 2735	1622	Multiplication <table border="1"><tr><td></td><td>H</td><td>T</td><td>O</td></tr><tr><td></td><td>2</td><td>4</td><td>5</td></tr><tr><td>×</td><td></td><td></td><td>4</td></tr><tr><td></td><td>9</td><td>8</td><td>0</td></tr></table> 1 2 Division <table border="1"><tr><td></td><td></td><td>2</td><td>1</td><td>4</td></tr><tr><td></td><td>4</td><td>8</td><td>5</td><td>16</td></tr></table>		H	T	O		2	4	5	×			4		9	8	0			2	1	4		4	8	5	16
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Encourage one another and build each other up

Year 5	Place Value	Addition & Subtraction	Multiplication and Division (Summer term)																																													
National Curriculum Objectives	• Read, write, order and compare numbers to at least 1000000 and determine the value of each digit. • Count forwards or backwards in steps of powers of 10 for any given number up to 1000000. • Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero. • Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000. • Solve number problems and practical problems that involve all of the above. • Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	• Add and subtract numbers mentally with increasingly large numbers. • Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). • Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	• Identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers. • Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. • Establish whether a number up to 100 is prime and recall prime numbers up to 19. • Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers. • Multiply and divide numbers mentally, drawing upon known facts. • Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context. • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000. • Recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³). • Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes. • Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. • Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.																																													
Calculation Methods/ Representations	Place value counters/chart <table><tr><th>TTh</th><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td> 10,000 10,000 10,000 10,000 </td><td> 1,000 </td><td> 100 100 100 </td><td> 10 10 </td><td> 1 1 </td></tr></table>	TTh	Th	H	T	O	10,000 10,000 10,000 10,000	1,000	100 100 100	10 10	1 1	Addition 3.65 + 2.41 6.06 1 Subraction 4 1 5.43 - 2.7 2.73	Multiplication <table><tr><td></td><td>Th</td><td>H</td><td>T</td><td>O</td></tr><tr><td></td><td>1</td><td>8</td><td>2</td><td>6</td></tr><tr><td>x</td><td></td><td></td><td></td><td>3</td></tr><tr><td></td><td>5</td><td>4</td><td>7</td><td>8</td></tr><tr><td></td><td>2</td><td></td><td>1</td><td></td></tr></table> Division <table><tr><td></td><td>4</td><td>2</td><td>6</td><td>6</td></tr><tr><td>2</td><td>8</td><td>5</td><td>13</td><td>12</td></tr></table>		Th	H	T	O		1	8	2	6	x				3		5	4	7	8		2		1			4	2	6	6	2	8	5	13	12
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Year 2	Place Value	Addition & Subtraction	Multiplication and Division (Summer term)																																																																																																										
National Curriculum Objectives	• Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit. • Round any whole number to a required degree of accuracy. • Use negative numbers in context, and calculate intervals across zero. • Solve number and practical problems that involve a	• Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why. • Multiply multi-digit number up to 4 digits by a 2-digit number using the formal written method of long multiplication. • Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding as appropriate for the context. • Divide numbers up to 4 digits by a 2-digit number using the formal written method of short division, interpreting remainders according to the context. • Perform mental calculations, including with mixed operations and large numbers. • Identify common factors, common multiples and prime numbers. • Use their knowledge of the order of operations to carry out calculations involving the four operations. • Solve problems involving addition, subtraction, multiplication and division. • Use estimation to check answers to calculations and determine in the context of a problem, an appropriate degree of accuracy	• Use common factors to simplify fractions; use common multiples to express fractions in the same denominator. • Compare and order fractions, including fractions >1. • Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. • Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. 1/4 × 1/2 = 1/8). • Divide proper fractions by whole numbers (e.g. 1/3 ÷ 2 = 1/6). • Associate a fraction with division to calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8). • Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places. • Multiply one digit numbers with up to two decimal places by whole numbers. • Use written division methods in cases where the answer has up to two decimal places. • Solve problems which require answers to be rounded to specified degrees of accuracy. • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.																																																																																																										
Calculation Methods/ Representations	Place value chart/counters <table><tr><td>M</td><td>HTh</td><td>TTh</td><td>Th</td><td>H</td><td>T</td><td>O</td></tr><tr><td>●</td><td></td><td>●●●●</td><td>●</td><td>●●●</td><td>●</td><td>●●</td></tr></table>	M	HTh	TTh	Th	H	T	O	●		●●●●	●	●●●	●	●●	Formal written methods Multiplication <table><tr><td>TTh</td><td>Th</td><td>H</td><td>T</td><td>O</td></tr><tr><td></td><td>2</td><td>7</td><td>3</td><td>9</td></tr><tr><td>x</td><td></td><td></td><td>2</td><td>8</td></tr><tr><td>2</td><td>1</td><td>9</td><td>1</td><td>2</td></tr><tr><td>2</td><td>5</td><td>3</td><td>7</td><td></td></tr><tr><td>5</td><td>4</td><td>7</td><td>8</td><td>0</td></tr><tr><td>1</td><td></td><td>1</td><td></td><td></td></tr><tr><td>7</td><td>6</td><td>6</td><td>9</td><td>2</td></tr><tr><td></td><td></td><td></td><td></td><td>1</td></tr></table> Division <table><tr><td></td><td></td><td></td><td>2</td><td>4</td><td>r</td><td>1</td><td>2</td></tr><tr><td>1</td><td>5</td><td>3</td><td>7</td><td>2</td><td></td><td></td><td></td></tr><tr><td>-</td><td>3</td><td>0</td><td>0</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>7</td><td>2</td><td></td><td></td><td></td><td></td></tr><tr><td>-</td><td></td><td>6</td><td>0</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>1</td><td>2</td><td></td><td></td><td></td><td></td></tr></table> 1 × 15 = 15 2 × 15 = 30 3 × 15 = 45 4 × 15 = 60 5 × 15 = 75 10 × 15 = 150	TTh	Th	H	T	O		2	7	3	9	x			2	8	2	1	9	1	2	2	5	3	7		5	4	7	8	0	1		1			7	6	6	9	2					1				2	4	r	1	2	1	5	3	7	2				-	3	0	0							7	2					-		6	0							1	2				
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