East Midlands Academy Trust

Calculation Policy 2022/2023

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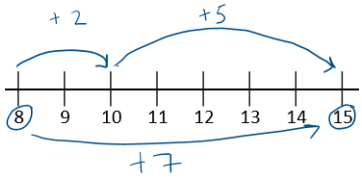
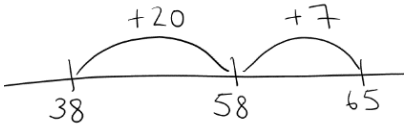
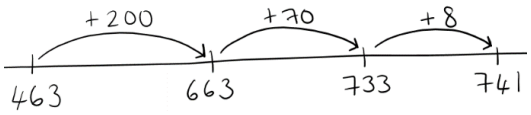
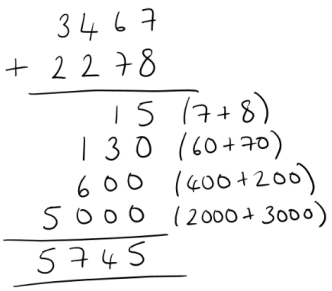
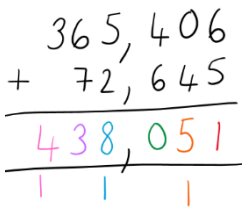
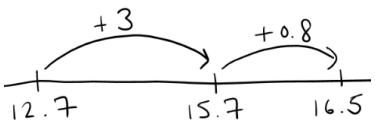
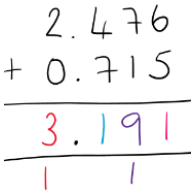
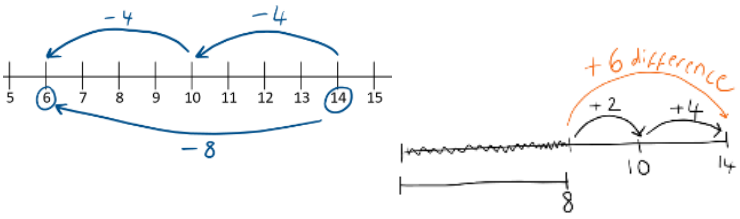
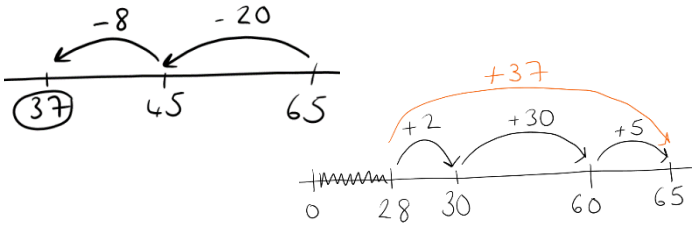
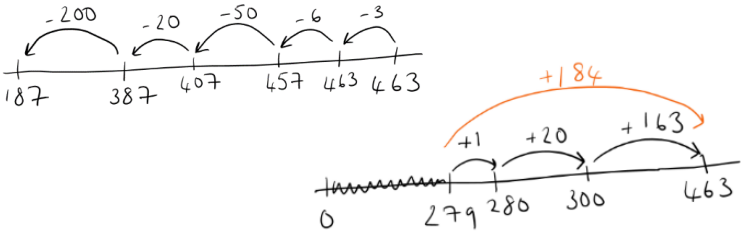
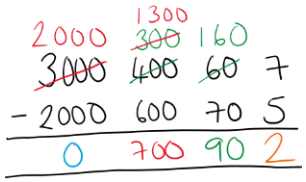
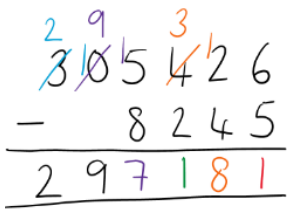
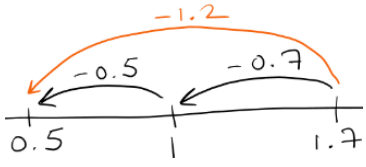
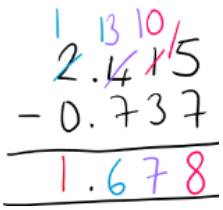
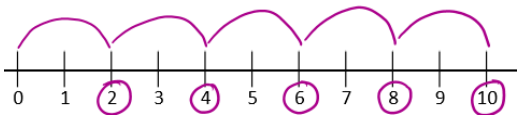
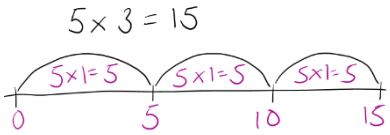
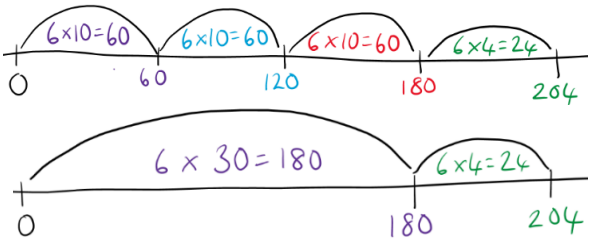
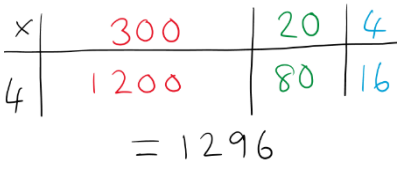
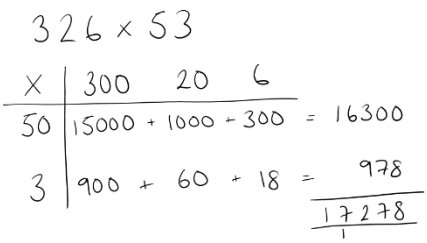
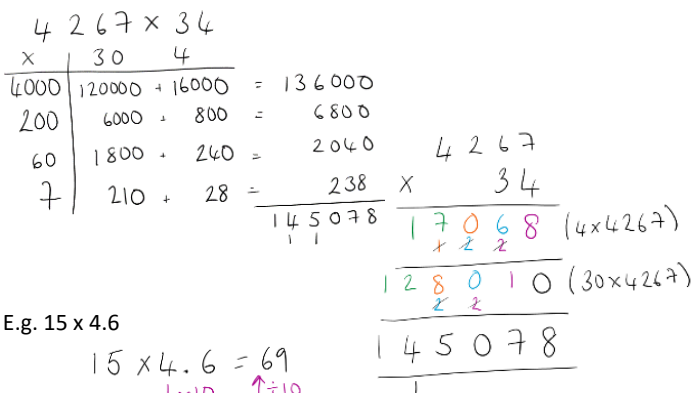
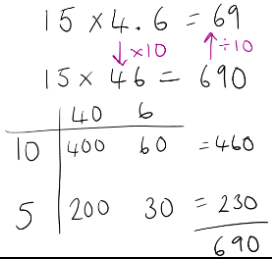
Addition

	End of Year Expectations and steps	Written Methods	End of Year Expectation Example
Year R	Understand the composition of numbers to 10 Automatically recall number bonds up to 5 (including subtraction facts) and some number bonds to 10 Compare quantities up to 10 recognising when one quantity is greater than, less than or the same as the other quantity	No formal written methods	No formal written methods
Year 1	**Add one-digit numbers to 20, including 0** 1) Add 1-digit numbers within ten (Aggregation) 2) Add 1-digit numbers within ten (Augmentation) 3) Add two 1-digit numbers	Number Lines	Example 8 + 7 
Year 2	**Add numbers including 3 one-digit numbers, a two-digit number and 1s, a two-digit number and 10s, 2 two-digit numbers** 1) Add three 1-digit numbers (with explicit number bonds to 10) 2) Add three 1-digit numbers (without explicit number bonds to 10) 3) Add 2-digit and 1-digit numbers 4) Add two 2-digit numbers	Number Lines	Example 38 + 27 
Year 3	**Add numbers with up to 4 digits** 1) Add multiples of 10 together 2) Add 3-digit numbers and ones 3) Add 3-digit numbers and tens 4) Add 3-digit numbers and hundreds 5) Add 3-digit numbers and 2-digit numbers 6) Add 3-digit numbers and 3-digit numbers	Number Lines	Example 463 + 278 
Year 4	**Add numbers with up to 5 digits** 1) Add multiples of 100 together 2) Add 4-digit numbers and ones 3) Add 4-digit numbers and tens 4) Add 4-digit numbers and hundreds 5) Add- 4-digit numbers and thousands 6) Add 4-digit numbers and 2-digit numbers 7) Add 4-digit numbers and 3-digit numbers 8) Add 4-digit numbers and 4-digit numbers	Expanded Column	Example 3467 + 2278 
Year 5	**Add whole numbers with more than 4 digits** 1) Add multiples of 1000 together 2) Add 5-digit numbers and ones 3) Add 5-digit numbers and tens 4) Add 5-digit numbers and hundreds 5) Add- 5-digit numbers and thousands 6) Add 5-digit numbers and ten-thousands 7) Add 3-digit numbers and 3-digit numbers (compact) 8) Add up to 4-digit and 4-digit numbers (compact) 9) Add numbers with more than 5-digits	Compact Column (integers) Number Line (decimals)	Example 365,406 + 72,645  Example 12.7 + 3.8 
Year 6	**Add decimal numbers** 1) Add tenths together 2) Add hundredths together 3) Add thousandths together 4) Add numbers with up to 3 decimal places	Compact Column	Example 2.476 + 0.715 

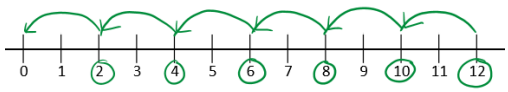
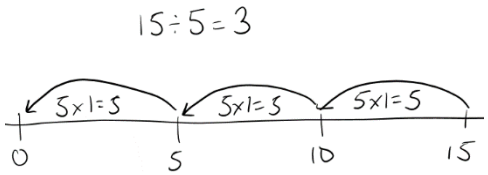
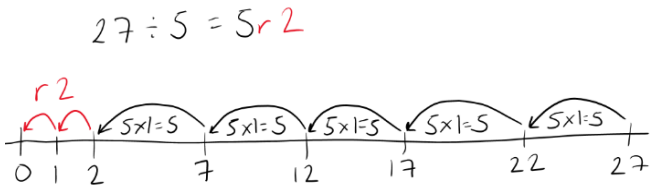
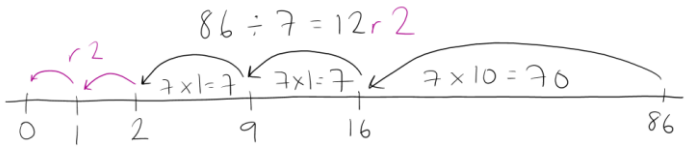
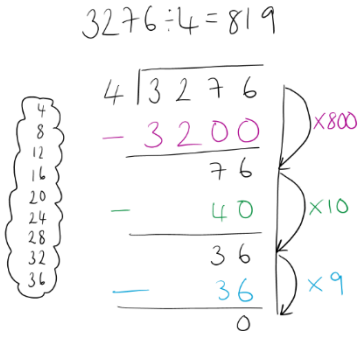
Subtraction

	End of Year Expectations and steps	Written Methods	End of Year Expectation Example
Year R	Automatically recall number bonds up to 5 (including subtraction facts) and some number bonds to 10	No formal written methods	No formal written methods
Year 1	**Subtract one-digit numbers to 20, including 0** 1) Physically taking away objects and counting 2) Subtract 1-digit from 1-digit numbers 3) Subtract 1-digit from 2-digit numbers to 20 (not bridging 10) 4) Subtract 1-digit from 2-digit numbers to 20 (bridging 10)	Number Lines	E.g., 14 - 8 
Year 2	**Subtract numbers including a two-digit number and 1s, a two-digit number and 10s, 2 two-digit numbers** 1) Subtract 1-digit from 2-digit numbers (not bridging 10) 2) Subtract 1-digit from 2-digit numbers (bridging 10) 3) Subtract two 2-digit numbers	Number Lines	E.g. 65 - 28 
Year 3	**Subtract numbers with up to 4 digits** 1) Subtract multiples of 10 (up to 4-digits) 2) Subtract ones from 3-digit numbers 3) Subtract tens from 3-digit numbers 4) Subtract hundreds from 3-digit numbers 5) Subtract 2-digit from 3-digit numbers 6) Subtract 3-digit from and 3-digit numbers	Number Lines	E.g., 463 - 279 
Year 4	**Subtract numbers with up to 5 digits** 1) Subtract multiples of 100 (up to 5-digits) 2) Subtract ones from 4-digit numbers 3) Subtract tens from 4-digit numbers 4) Subtract hundreds from 4-digit numbers 5) Subtract thousands from 4-digit numbers 6) Subtract 2-digit from 4-digit numbers 7) Subtract 3-digit from 4-digit numbers 8) Subtract 4-digit from 4-digit numbers	Expanded Column	E.g. 3467 - 2675 
Year 5	**Subtract whole numbers with more than 4 digits** 1) Subtract multiples of 1000 together 2) Subtract ones from 5-digit numbers 3) Subtract tens from 5-digit numbers 4) Subtract hundreds from 5-digit numbers 5) Subtract thousands from 5-digit numbers 6) Subtract ten-thousands from 5-digit numbers 7) Subtract 3-digit from 3-digit numbers (compact) 8) Subtract up to 4-digit from 4-digit numbers (compact) 9) Subtract numbers with more than 5-digits	Compact Column (integers) Number Line (decimals)	E.g. 305,426 - 8245  E.g. 1.7 – 1.2 
Year 6	**Subtract decimal numbers** 1) Subtract tenths together 2) Subtract hundredths together 3) Subtract thousandths together 4) Subtract numbers with tenths 5) Subtract numbers with hundredths 6) Subtract numbers with up to 3 decimal places	Column	E.g. 2.415 – 0.737 

Multiplication

	End of Year Expectations and steps	Written Method	End of Year Expectation Example
Year R	Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. Automatically recall number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.	No formal written methods	No formal written methods
Year 1	**Doubling numbers to 10** 1) Fluency counting in twos 2) Fluency counting in tens 3) Fluency counting in fives 4) Make arrays 5) Doubling numbers to 10	Number Lines	E.g. counting in twos 
Year 2	**Calculate mathematical statements for multiplication within the 2,5 and 10 multiplication tables** 1) Fluency in the x2 multiplication table 2) Fluency in the x10 multiplication table 3) Fluency in the x5 multiplication table 4) Write mathematical statements for the 2,5 and 10 multiplication tables	Number Lines	E.g. 5 x 3 
Year 3	**Multiply 2-digit by 1-digit numbers** 1) Fluency in the x4 multiplication table 2) Fluency in the x8 multiplication table 3) Fluency in the x3 multiplication table 4) Multiply 1-digit numbers together 5) Multiply 1-digit numbers by numbers between 10-20 6) Multiply multiples of 10 by ones 7) Multiply 2-digit by 1-digit numbers	Number Lines	E.g., 34 x 6 
Year 4	**Multiply 3-digit by 1-digit numbers** 1) Fluency in the x11 multiplication table 2) Fluency in the x6 multiplication table 3) Fluency in the x9 multiplication table 4) Fluency in the x12 multiplication table 5) Fluency in the x7 multiplication table 6) Multiply multiples of 100 by ones 7) Multiply 3-digit by 1-digit numbers	Grid Method	E.g.: 324 x 4 
Year 5	**Multiply up to 4-digit numbers by 1 and 2-digit number** 1) Multiply multiples of 1000 by 1-digit numbers 2) Multiply 4-digit by 1-digit numbers 3) Multiply 2-digit by 2-digit numbers 4) Multiply 3-digit by 2-digit numbers 5) Multiply 4-digit by 2-digit numbers	Grid Method	E.g. 326 x 53 
Year 6	**Multiply multi-digit numbers up to 4 digits by a two-digit whole number and multiply one-digit numbers with up to two decimal places by whole numbers** 1) Multiply up to 4-digit by 2-digit numbers 2) Multiply numbers with tenths by 1-digit numbers 3) Multiply numbers with tenths by 2-diigt numbers 4) Multiply numbers with hundredths by 1-digit numbers 5) Multiply numbers with hundredths by 2-digit numbers	Grid Method or Column	E.g. 4267 x 34  E.g. 15 x 4.6 

Division

	End of Year Expectations and steps	Written Method	End of Year Expectation Example
Year R	Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally	No formal written methods	No formal written methods
Year 1	**Doubling numbers to 10** 1) Fluency counting backwards in twos 2) Fluency counting backwards in tens 3) Fluency counting backwards in fives 4) Making equal groups – sharing 5) Making equal groups - grouping	Number Lines	E.g. Counting back in twos 
Year 2	**Calculate mathematical statements for division within the 2,5 and 10 multiplication tables** 1) Fluency in the inverse x2 multiplication table 2) Fluency in the inverse x10 multiplication table 3) Fluency in the inverse x5 multiplication table 4) Write mathematical division statements for the 2,5 and 10 multiplication tables	Number Lines	E.g. 15 ÷ 5 
Year 3	**Divide 2-digit by 1-digit numbers** 1) Fluency in the inverse x4 multiplication table 2) Fluency in the inverse x8 multiplication table 3) Fluency in the inverse x3 multiplication table 4) Make equal groups (sharing) 5) Make equal groups (grouping) 6) Divide 2-digit numbers by 2 7) Divide 2-digit number by 10 8) Divide 2-digit numbers by 5 9) Divide 2-digit by 1-digit numbers	Number Lines	E.g. 27 ÷ 
Year 4	**Divide 3-digit numbers by a 1-digit number** 1) Fluency in the inverse x11 multiplication table 2) Fluency in the inverse x6 multiplication table 3) Fluency in the inverse x9 multiplication table 4) Fluency in the inverse x12 multiplication table 5) Fluency in the inverse x7 multiplication table 6) Divide 2-digit by 1-digit numbers	Number Lines	E.g. 86 ÷ 7 
Year 5	**Divide numbers up to 4 digits by a one-digit number** 1) Divide 2-digit numbers by 1-digit (Long Div) 2) Divide 3-digit numbers by 1-digit (Long Div) 3) Divide 4-digit numbers by 1-digit (Long Div) 4) Divide with remainders	Long Division	E.g. 3276 ÷ 4 
Year 6	**Divide numbers up to 4-digits by a 2-digit number** 1) Divide multiples of 10 by 2-digit numbers 2) Divide multiples of 100 by 2-digit numbers 3) Divide 3-digit numbers by 2-digit numbers 4) Divide 4-digit numbers by 2-digit numbers	Long Division	E.g. 672 ÷21