

Beech Maths MTPs

Term 1 – Y4 Multiplication / Decimal Fractions

Unit	Objective	Ready to Progress Criteria	Assessment
Y4 Unit 14	3. Use place value to explain placing a zero after the final digit when we multiply whole numbers by 10	4MD–1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size 4NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)	
	5. Use place value to explain removing the zero in the ones from a multiple of ten when we divide by 10		
	7. Explain the use of placeholders when multiplying whole numbers by 100		
	8. Explain the removal of placeholders when dividing whole numbers by 100		
	10. Explain how making a factor 10 times the size affects the product		
	11. Explain how making the dividend 10 times the size affects the quotient		
	12. Explain how making a factor 100 times the size affects the product		
	13. Explain how making the dividend 100 times the size affects the quotient		
	14. Scale known multiplication facts by 100		
	15. Scale division facts derived from multiplication facts by 100		
Y5 Unit 1	Identify tenths as part of a whole	5NPV–1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1 Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01 Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01 5NPV–2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non- standard partitioning 5NPV–3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each 5NPV–4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts 5NF–2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth)	
	Describe and represent tenths as a decimal number		
	Count tenths in different ways		
	Describe and write decimal numbers with tenths in different ways		
	Compare and order decimal numbers with tenths		
Y5 Unit 2	Explain that decimal numbers with tenths can be composed additively		
	Explain that decimal numbers with tenths can be composed multiplicatively		
	Use known facts and mental strategies to calculate with decimal numbers within and across a whole		
	Use knowledge of column addition and subtraction to calculate with decimal numbers		
	Use representations to round a decimal number with tenths to the nearest whole number		
Y5 Unit 3	Identify hundredths as part of a whole		
	Describe and represent hundredths as a decimal number		
	Describe and write decimal numbers with hundredths in different ways		
	Compare and order decimal numbers with hundredths		
	Explain that decimal numbers with hundredths can be partitioned in different ways		
Y5 Unit 4	Use knowledge of decimal place value to convert between and compare metres and centimetre		
	Explain that different lengths can be composed additively and multiplicatively		
	Use knowledge of decimal place value to solve problems in different contexts		
	Use knowledge of place value to calculate with decimal numbers up to and bridging one tenth		
	Use knowledge of column addition and subtraction to calculate with decimals: tenths and hundredths		
	Round a decimal number with hundredths to the nearest tenth		
	Round a decimal number with hundredths to the nearest whole number		
	Read and write numbers with up to 3 decimal places		

	Compare and order numbers with up to 3 decimal places		
	Solve problems with numbers with up to 3 decimal places		

Term 2 – Negative Numbers / Short Multiplication

Unit	Objective	Ready to Progress Criteria	Assessment
Y5 Unit 5	Represent a change story using addition and subtraction symbols		
	Interpret numbers greater than and less than zero in different contexts		
	Read and write negative numbers		
	Explain how the value of a number relates to its position from zero		
	Identify and place negative numbers on a number line		
	Interpret sets of negative and positive numbers in a range of contexts		
	Use knowledge of positive and negative numbers to calculate intervals		
	Explain how negative numbers are used on a coordinate grid		
	Use knowledge of positive and negative numbers to interpret graphs		
	Solve problems involving positive and negative numbers in a range of contexts		
Y5 Unit 6	Multiply a 2-digit number by a 1-digit number using partitioning and representations (one regroup)	5MD–3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method	
	Multiply a 2-digit number by a 1-digit number using partitioning and representations (two regroups)		
	Multiply a 2-digit number by a 1-digit number using partitioning		
	Multiply a 2-digit number by a 1-digit number using expanded multiplication (no regroups)		
	Multiply a 2-digit number by a 1-digit number using short multiplication (no regroups)		
	Multiply a 2-digit number by a 1-digit number using expanded multiplication (regrouping 1s to 10s)		
	Multiply a 2-digit number by a 1-digit number using short multiplication (regrouping 1s to 10s)		
	Multiply a 2-digit number by a 1-digit number using expanded multiplication (regrouping 10s to 100s)		
	Multiply a 2-digit number by a 1-digit number using short multiplication (regrouping 10s to 100s)		
	Estimate and multiply a 2-digit by a 1-digit number using expanded and short multiplication		
Y5 Unit 7	Multiply a 3-digit by a 1-digit number using partitioning		
	Multiply a 3-digit by a 1-digit number with no regroups		
	Multiply a 3-digit by a 1-digit number with one or two regroups		
	Multiply a 3-digit by a 1-digit number with multiple regroups		
	Use estimation to support accurate calculation		

Term 3 – Short Division / Calculating with Decimal Fractions

Unit	Objective	Ready to Progress Criteria	Assessment
Y5 Unit 8	Divide a 2-digit by a 1-digit number using partitioning and representations (no remainders)	5MD–4 Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context	
	Divide a 2-digit by a 1-digit number using partitioning (with regrouping)		
	Divide a 2-digit by a 1-digit number using representations with exchanging and remainders		
	Divide a 2-digit by a 1-digit number using short division (no regrouping)		
	Divide a 2-digit by a 1-digit number using short division (with regrouping)		
	Divide a 2-digit number using short division (with regrouping and remainders)		
	Divide a 3-digit by a 1-digit number using partitioning and representations (no remainders)		
	Divide a 3-digit number using partitioning and representations (one regroup)		
	Divide using partitioning and representations (multiple regroups and remainder)		
	Divide a 3-digit by a 1-digit number using short division		
	Divide using short division with regrouping and remainders		
	Use short division when the hundreds digit is smaller than the divisor		
	Use efficient division strategies to solve problems		
	Solve problems involving multiplication and division		
	Solve problems involving multiplication and division in a range of contexts		
Y5 Unit 11	Compare and describe lengths using knowledge of multiplication		
	Solve comparison and change problems using multiplication		
	Compare and describe lengths using knowledge of division		
	Solve comparison and change problems using division		
	Solve problems involving comparison and change		
	Compare and describe measurements involving mass and capacity		
	Compare and describe measurements involving time and money		
	Describe changes in measurement using knowledge of multiplication and division		
	Use knowledge of multiplication and division to solve comparison and change problems		
	Solve comparison and change problems in a range of contexts		
Y5 Unit 12	Multiplying and dividing a number by 10, 100 and 1,000	5MD–1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size	
	Multiplying and dividing a number by 10, 100 and 1,000 including bridging 1		
	Explain how to multiply and divide a number by 10, 100 and 1,000		
	Converting units of length		
	Converting units of mass and capacity		

Term 4 – Calculating with Decimal Fractions / Factors, Multiples and Primes

Unit	Objective	Ready to Progress Criteria	Assessment
Y5 Unit 12 (cont)	Multiply tenths by whole numbers	5MD–1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size	
	Multiply hundredths by whole numbers		
	Solve measures problems using knowledge of multiplying decimal fractions		
	The relationship between multiplying by 0.1 and dividing by 10		
	The relationship between multiplying by 0.01 and dividing by 100		
	Multiply 1-digit numbers by decimals		
	Multiply 1-digit numbers by decimal fractions using written methods		
	Predicting the size of a product		
	Divide decimal fractions by 1-digit numbers		
	Divide decimal fractions by 1-digit numbers using written methods		
Y5 Unit 13	Explain what volume is in a range of contexts	5MD–2 Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors	
	Describe the units used to measure volume		
	Explain how to calculate the volume of a cuboid and a cube		
	Explain how to calculate the volume of compound shapes		
	Use knowledge of calculating volume to solve problems in a range of contexts		
Y5 Unit 14	Explain the use of the commutative and associative laws when multiplying three or more numbers		
	Apply commutative and associative laws to simplify multiplications		
	Explain the reasons for changing two-factor multiplication calculations to three-factor calculations		
	Apply the commutative and associative laws to simplify volume calculations		
	Apply the commutative and associative laws to simplify problems in a range of contexts		
Y5 Unit 15	Explain what a factor is and use arrays and multiplication and division facts to find them		
	Explain how to find all the factors of a number systematically		
	Use a complete list of factors to explain when a number is a square number		
	Explain how to identify a prime number or a composite number		
	Explain how to identify a prime factor of a number		
Y5 Unit 16	Explain how to identify common factors between two or more numbers		
	Explain how to identify a common multiple of two or more numbers		
	Use knowledge of properties of number to solve problems		
	Explain how to use the factor pairs of 100 to solve calculations efficiently		
	Use properties of numbers and the commutative and associative laws to simplify calculations		

Term 5 – Fractions

Unit	Objective	Ready to Progress Criteria	Assessment
Y5 Unit 17	Explain the relationship between repeated addition of unit fractions and multiplication of fractions		
	Explain the relationship between repeated addition of fractions and multiplication of fractions		
	Multiply a proper fraction by a whole number where the product is within a whole		
	Multiply a proper fraction by a whole number where the product is greater than a whole		
	Solve problems involving multiplying proper fractions by whole numbers		
Y5 Unit 18	Represent and multiply an improper fraction by a whole number.		
	Multiply a mixed number by a whole number not bridging a whole		
	Multiply a mixed number by a whole number bridging a whole		
	Solve problems involving multiplication of mixed numbers by a whole number		
	Solve problems involving fractions and mixed numbers		
Y5 Unit 19	Find a unit fraction of a quantity using representations		
	Explain how finding a fraction of a quantity relates to multiplying by a unit fraction		
	Explain how dividing by a whole number relates to multiplying by a unit fraction		
	Use knowledge of multiplying a whole number by a unit fraction to solve problems		
	Find a non-unit fraction of a quantity using mental and written calculation strategies		
	Multiply a whole number by a proper fraction		
	Explain when a calculation represents scaling down and when it represents repeated addition		
	Find the whole when the size of a unit fraction is known		
	Find a unit fraction when the size of a non-unit fraction is known		
	Find the whole when the size of a non-unit fraction is known		
Y5 Unit 20	Use representations to describe and compare two fractions		
	Use representations to describe and compare fractions		
	Use representations to describe and compare two fractions in a continuous context		
	Use the language of equivalent fractions correctly		
	Explain the relationship between numerators and denominators in equivalent fractions		
	Use the relationship between the numerator and denominator in equivalent fractions to solve problems		
	Explain the relationship between numerators and denominators across equivalent fractions		
	Explain the relationship within families of equivalent fractions		
	Use the relationship between the numerator and denominator to simplify fractions		
	Use understanding of equivalent fractions to solve problems		

Term 6 – Fractions / Converting Units

Unit	Objective	Ready to Progress Criteria	Assessment
Y5 Unit 20 (cont)	Explain and represent how to divide 1 into different numbers of equal parts		
	Identify and describe patterns in the number system		
	Use knowledge of common equivalents to compare fractions and decimals		
	Recall common fraction-decimal equivalents		
	Solve problems using fraction-decimal equivalents		
Y5 Unit 21	Convert from larger to smaller units of measure	5NPV-5 Convert between units of measure, including using common decimals and fractions	
	Convert from smaller to larger units of measure		
	Convert to and from fraction and decimal quantities of larger units		
	Use known facts to derive common conversions over 1.		
	Use known facts to carry out conversions that correspond to 10 and 100 parts		
	Solve problems involving different units of measure		
	Understand approximate equivalence between metric and imperial units		
	Convert between miles and kilometres and pounds and Euro		
	Solve problems involving converting between units of time		
	Solve problems involving converting units in different contexts		
Burst Project	Y5 Unit 9 – Understand the concept of area	5G-2 Compare areas and calculate the area of rectangles (including squares) using standard units	
	Y5 Unit 10 – Link area of rectangles	5G-1 Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size	
	Y5 Unit 22 – Angles: compare, name, estimate and measure angles		