

KS2 Maths medium term plan Autumn 2

Unit	Year 3	
Addition and subtraction (2 weeks)	add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	
Small steps	Add 2-digit and 3-digit numbers Subtract two numbers (across a 10) Subtract two numbers (across a 100) Subtract a 2-digit number from a 3-digit number Complements to 100 Estimate answers Inverse operations Make decisions	
Vocabulary and resources	Addition, subtraction, number bonds, whole, part, mentally, calculation, increase, decrease, inverse, operation, multiple, exchange, estimate	Base 10, place value counters, double sided counters, number lines, part whole models, bar models, number cards
Multiplication and division (5 weeks)	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 that 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 objects	
Small steps	Multiplication - equal groups Use arrays Multiples of 2 Multiples of 5 and 10 Sharing and grouping Multiply by 3 Divide by 3 The 3 times-table Multiply by 4 Divide by 4 The 4 times-table Multiply by 8 Divide by 8	The 8 times-table The 2, 4 and 8 times-tables Multiples of 10 Related calculations Reasoning about multiplication Multiply a 2-digit number by a 1-digit number - no exchange Multiply a 2-digit number by a 1-digit number - with exchange Link multiplication and division Divide a 2-digit number by a 1-digit number - no exchange Divide a 2-digit number by a 1-digit number - flexible partitioning Divide a 2-digit number by a 1-digit number - with remainders Scaling How many ways?
Vocabulary and resources	Arrays, backwards, bar model, columns, consecutive, divide, double, equal, forwards, grouped, groups, half, inverse, multiplication,, multiply, number line, parts, repeated addition, rows, shared, times, Venn diagram	Counters, number lines, number tracks, multiplication squares, multlink, place value counters, base 10

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Unit	Year 4	
Multiplication and division (including decimals) (7 weeks)	recall multiplication and division facts for multiplication tables up to 12×12 recognise and use factor pairs and commutativity in mental calculations use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers multiply two-digit and three-digit numbers by a one-digit number using formal written layout solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths	
Small steps	Multiples of 3 Multiply and divide by 6 6 times-table and division facts Multiply and divide by 9 9 times-table and division facts The 3, 6 and 9 times-tables Multiply and divide by 7 7 times-table and division facts 11 times-table and division facts 12 times-table and division facts Multiply by 1 and 0 Divide a number by 1 and itself Multiply three numbers Factor pairs Use factor pairs	Multiply by 10 Multiply by 100 Divide by 10 Divide by 100 Divide a 1 digit by 10 (decimals) Divide a 2 digit by 10 (decimals) Divide a 1 or 2 digit by 100 (decimals) Related facts - multiplication and division Informal written methods for multiplication Multiply a 2-digit number by a 1-digit number Multiply a 3-digit number by a 1-digit number Divide a 2-digit number by a 1-digit number (1) Divide a 2-digit number by a 1-digit number (2) Divide a 3-digit number by a 1-digit number Correspondence problems Efficient multiplication
Vocabulary and resources	Altogether, arrays, column, commutative, commutativity, difference, digit, divide, divisible, division, double, equal groups, equal to, factor pairs, grouping, groups of, inverse, inverse operation, lots of, multiple, multiplication, multiply, partition, repeated addition, row, sequence, sharing, sum, triple Multiplication square, numicon, dice, counters, place value counters, base 10,	

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Unit	Year 5	
Multiplication and division (7 weeks)	<p>identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers</p> <p>know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</p> <p>establish whether a number up to 100 is prime and recall prime numbers up to 19</p> <p>recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³)</p> <p>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</p> <p>multiply and divide numbers mentally, drawing upon known facts</p> <p>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</p> <p>multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000</p> <p>solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes</p> <p>solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</p> <p>solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates</p>	
Small steps	<p>Multiples</p> <p>Common multiples</p> <p>Factors</p> <p>Common factors</p> <p>Prime numbers</p> <p>Square numbers</p> <p>Cube numbers</p> <p>Multiply by 10, 100 and 1,000 including decimals</p> <p>Divide by 10, 100 and 1,000 including decimals</p> <p>Multiply and divide decimals-missing values</p> <p>Multiples of 10, 100 and 1,000</p>	<p>Multiply up to a 4-digit number by a 1-digit number</p> <p>Multiply a 2-digit number by a 2-digit number (area model)</p> <p>Multiply a 2-digit number by a 2-digit number</p> <p>Multiply a 3-digit number by a 2-digit number</p> <p>Multiply a 4-digit number by a 2-digit number</p> <p>Solve problems with multiplication</p> <p>Short division</p> <p>Divide a 4-digit number by a 1-digit number</p> <p>Divide with remainders</p> <p>Efficient division</p> <p>Solve problems with multiplication and division</p>
Vocabulary and resources	<p>Array, column, common factor, common multiple, commutative law, composite number, cube, cube number, cubed, cuboid, divide, equal to, even, factor, factor pair, Gattegno chart, greatest, highest, hundredth, integer, inverse, multiples, multiplication, multiply, odd, place value chart, powers of, powers of 10, prime number, row, sequence, smallest, square number, sum, tenth, thousandth, times table, whole number</p>	<p>Place value counters, base 10, counters, multiplication square, cubes, Gattegno charts</p>

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Unit	Year 6	
Multiplication and division including decimals (5 weeks)	identify common factors, common multiples and prime numbers perform mental calculations, including with mixed operations and large numbers multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication divide numbers up to 4 digits by a two-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 two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context 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 identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places multiply one-digit numbers with up to 2 decimal places by whole numbers use written division methods in cases where the answer has up to 2 decimal places	
Small steps	Common factors Common multiples Rules of divisibility Primes to 100 Square and cube numbers Multiply up to a 4-digit number by a 2-digit number Solve problems with multiplication Multiply by 10, 100 and 1,000 Divide by 10, 100 and 1,000 Short division Division using factors	Introduction to long division Long division with remainders Solve problems with division Multiply decimals by integers Divide decimals by integers Multiply and divide decimals in context Solve multi-step problems Order of operations Mental calculations and estimation Reason from known facts
Vocabulary and resources	Area, area model, arrays, bar model, brackets, calculation, column multiplication, common factors, common multiples, commutative, composite numbers, cube, diagram, digit, dividend, divisibility rule, divisible, division, divisor/s, estimation, exchange, factor/s, formula, hundred square, integer, inverse, long division, long multiplication, mental strategy, method, multiples, multiplication, multiply, notation, number line, operation, order, part-whole model, placeholder, powers, prime, prime factor, prime number, product, related fact, remainder, repeated division, round up/down, sorting diagram, square, strategy, times table, volume, written method	Place value counters, base 10, counters, multiplication square, cubes, Gattegno charts
Convert units (2 weeks)	use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places convert between miles and kilometres	
Small steps	Metric measures Convert metric measures Calculate with metric measures Miles and kilometres Imperial measures	
Vocabulary and resources	Approximate, calculation, capacity, centimetre, conversion, convert, decimal, decimal place, distance, divide, foot, four operations, fractions, gallon, gram, gravity, imperial, inch, inverse, kilogram, length, mass, measure, metric, multiply, ounce, pint, placeholder, pound, relationship, representation, stone, tonne, unit, volume, weight, zero	Measuring jugs/cylinders, scales, weights, rulers/measuring tapes,

