**Intent:**

At Underhill, we believe that children should leave primary education as confident, resilient mathematicians with a deep conceptual understanding of the skills required to approach any maths problem. Our mission is to enable all learners to enjoy and succeed in mathematics. We want learners to think about maths beyond what is tested in national examinations and to be equipped with an understanding of mathematics that will be relevant and useful in their future studies and in the world of work. We understand that a deep grasp of mathematics is essential to enabling greater social equity and mobility.

We want our pupils to be successful not only in their schooling career, but throughout their adult lives. Through carefully designed lessons, our teachers are able to make meaningful connections between content with a high emphasis placed on problem solving. The Mathematics Mastery programme has been designed on principles to provide learners with a deep conceptual understanding of mathematical principles, the ability to confidently communicate in precise mathematical language, while becoming mathematical thinkers.

The programme can be delivered with confidence in the knowledge that if a student understands the core principles, they will be able to remember more and do more maths, in whatever context they encounter it.

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|  |  | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| Reception | Topic | Unit 1: Early Mathematical experiences Unit 2: Pattern and Early Number | Unit 3: Numbers within 6 Unit 4: Addition and subtraction within 6Unit 5: MeasuresUnit 6: Shape and sorting | Unit 7: Numbers within 10 Unit 8: Calendar and time Unit 9: Addition and subtraction within 10 Unit 10: Grouping and Sharing | Unit 10: Grouping and Sharing Unit 11: Number patterns within 15Unit 12: Doubling and halving Unit 13: Shape and pattern | Unit 14: Securing addition and subtraction facts Unit 15: Number patterns within 20Unit 16: Number patterns beyond 20 | Unit 17: Money Unit 18: Measures Unit 19: Exploration of patterns within number |
| I can | **Early mathematical experiences**I can classify objects based on one attributeI can match equal and unequal setsI can compare objects and setsI can order objects and sets**Pattern and early number**I can recognise, describe, copy and extend colour and size patternsI can count and represent the numbers 1 to 3I can estimate and check by counting | **Numbers within 6**I can count up to six objects.I can count one more or one fewerI can order numbers 1 – 6I can understand conservation of numbers within six**Addition and subtraction within 6**I can explore zeroI can explore addition and subtraction**Measures**I can estimate, order, compare, discuss and explore capacity, weight and lengths**Shape and sorting**I can describe, and sort 3-D shapesI can describe position accurately | **Numbers within 10**I can count up to ten objectsI can represent, order and explore numbers to tenI can count one more or fewer, one greater or less**Calendar and time**I can understand days of the week, seasonsI can sequence daily events**Addition and subtraction within 10**I can explore addition as counting on and subtraction as taking away**Grouping and sharing**I can count and share in equal groupsI can group into fives and tensI can understand the relationship between grouping and sharing | **Grouping and sharing**I can count and share in equal groupsI can group into fives and tensI can understand the relationship between grouping and sharing**Numbers within 15**I can count up to 15 objects and recognise different representationsI can order and explore numbers to 15I can count one more or fewer with numbers up to 15**Doubling and halving**I can understand doubling and halvingI can understand the relationship between doubling and halving**Shape and pattern**I can describe and sort 2-D and 3- D shapesI can recognise, complete and create patterns | **Securing addition and subtraction facts**I can understand commutativityI can explore addition and subtractionI can compare two amounts**Numbers patterns within 20**I can count up to 10 and beyond with objectsI can represent, compare and explore numbers to 20I can find one more or one fewer within number to 20**Numbers patterns beyond 20**I can find one more and one lessI can estimate and countI can group and share | **Money**I can recognise coins and valuesI can explore combinations to total 20pI can begin to find change from 10p**Measures**I can describe capacitiesI can compare volumesI can compare weightsI can estimate, compare and order lengths**Exploration of patterns within number**I can explore numbers and strategiesI can recognise and extend patternsI can apply number, shape and measures knowledgeI can count forwards and backwards |
| Skills | • match equal sets using one-to-one correspondence• match unequal sets using one-to-one correspondence• compare objects according to size• compare sets without counting• order objects according to length or height• order sets without counting• recognise, create and describe patterns• describe and create patterns that are the same and different• count 1, 2 or 3 objects reliably• recognise if a number of objects is the same or different (working withnumbers 1, 2 and 3)• count one, two or three objects, images or sounds reliably• recognise the numerals 1, 2 and 3• create representations for numbers 1, 2 and 3 | • say which number is one more or one less than a given number• estimate a number of objects and check by counting• count reliably with numbers from 1 to 6• Create representations for numbers 1- 6• place numbers 1-6 in order• say which number from 1-6 is one more or one less than a given number• recognise the numerals 1-6• understand the conservation of number• add and subtract two single-digit numbers• estimate a number of objects and check by counting up to 6• introduce the concept of 0 as the empty set• subitise within 5• represent and use number bonds within 5• use quantities and objects to add and subtract two single-digit numbers• use everyday language to talk about size, weight, capacity• estimate, measure, weigh and compare and order objects• compare objects and quantities• solve size problems related to measures• explore characteristics of everyday objects and shapes and usemathematical language to describe them• shows an interest in shape and space by playing with shapes bysustained construction activity• explore characteristics of everyday objects and shapes (focusing on 3-Dshapes)• use positional language• use mathematical language associated with shape• classify and sort everyday objects | • say which number is one more or one less than a given number• estimate a number of objects and check by counting• count reliably with numbers from 1 to 10• develop an understanding of zero• create representations for numbers 0-10• place numbers 0-10 in order• recognise the numerals 0-10• use ordinal numbers: 1st, 2nd...last• understand the conservation of numbers• use everyday language to talk about time, days of the week and monthsof the year• measures short periods of time in simple ways• orders and sequences familiar events• use ordinal numbers: 1st, 2nd...last• estimate a number of objects and check by counting up to 10• add and subtract two single-digit numbers and count on or back to find theanswer• use quantities and objects to add and subtract two single-digit numbers• solve practical problems that involve combining groups of 2, 5 or 10, orsharing into equal groups• solve practical problems that involve grouping and sharing• explore counting on in steps of 2 from zero | • solve practical problems that involve combining groups of 2, 5 or 10, orsharing into equal groups• solve practical problems that involve grouping and sharing• explore counting on in steps of 2 from zero• say which number is one more or one less than a given number• estimate a number of objects and check by counting• count reliably with numbers from 0 to 15• Create representations for numbers 0-15• place numbers from 0-15 in order• considering equal and unequal groups• solve problems, including doubling, halving and sharing• Explore the relationship between doubling and halving• talk about properties of shapes• explore characteristics of everyday objects and shapes and usemathematical language to describe them• explore characteristics of everyday objects and shapes (focusing on 2-Dshapes)• use mathematical language associated with shape• classify and sort shapes• recognise, create and describe patterns with shapes• use mathematical language to describe size and position | • estimate a number of objects and check by counting up to 20• add and subtract two single-digit numbers and count on or back to find theanswer• explore the relationship between addition and subtraction• compare quantities and objects to solve problems• solve problems, including doubling, halving and sharing• say which number is one more or one less than a given number• use quantities and objects to add and subtract two single-digit numbers• count reliably with numbers from one to 20• place numbers from 0-20 in order• say which number is one more or one less than a given number• solve practical problems that involve grouping and sharing• Create representations for numbers 0-20• estimate a number of objects and check by counting, considering equaland unequal groups• say which number is one more or one less than a given number• solve problems including grouping and sharing• estimate a number of objects and check by counting• count reliably to 50• explore counting on and back from any number within 50• place numbers from 0-50 in order• estimate a number of objects and check by counting• solve practical problems that involve combining groups of 2, 5 or 10, orsharing into equal groups | • compare quantities and objects to solve problems• use everyday language to talk about money, recognise coins up to 50pand their values• compare the value of coins• use quantities and objects to count on and back to add and subtract• use everyday language to talk about size, weight, capacity• estimate, measure, weigh and compare and order objects• compare objects and quantities• solve size problems involving measures• explore measuring objects using non-standard units• solve problems including grouping, sharing, doubling and halving• Records using marks that they can interpret and explain• Begins to identify own mathematical problems based on own interestsand fascinations |
| Year 1 | Topic | Unit 1: Numbers to 10 Unit 2: Addition and subtraction within 10Unit 3: Shape and patterns | U3: Shape and patterns Unit 4: Numbers to 20 Unit 5: Addition and subtraction within 20 | Unit 6: Time Unit 7: Exploring calculation strategies within 20 Unit 8: Numbers to 50 | Unit 9: Addition and subtraction within 20 (comparison) Unit 10: FractionsUnit 11: Measures (1): Length and mass | Uint 12: Numbers 50 to 100 and beyondUnit 13: Addition and subtraction (applying strategies) Unit 14: Money | Unit 14: Money Unit 15: Multiplication and division Unit 16: Measures (2): Capacity and volume |
| I can | **Numbers to 10**I can represent,compare and explorenumbers within 10I can find one moreand one less fornumbers up to 10I can find doubles andhalves to 10**Addition and****subtraction within 10**I can represent andexplain addition andsubtractionI can understandcommutativityI can find addition andsubtraction facts**Shape and patterns**I can identify, describe,sort and classify 2-Dand 3-D shapesI can investigaterepeating patternsI can use and followinstructional andpositional language | **Shape and patterns**I can identify, describe,sort and classify 2-Dand 3-D shapesI can investigaterepeating patternsI can use and followinstructional andpositional language**Numbers to 20**I can identify,represent, compareand order numbers to20I can find Doubles andhalves to 20I can find one moreand one less fornumbers up to 20**Addition and****subtraction within 20**I can represent andexplain addition andsubtraction strategiesincluding ‘Make Ten’I can use known factsto add and subtract | **Time**I can read, write and tell the time to o’clock and half past on analogue clockI can sequence daily activitiesI can understand whole and half turns linked to time**Exploring calculation strategies within 20**I can model, explain and choose addition and subtraction strategies**Numbers to 50**I can understand 2-digit numbers – represent, sequence, explore, compare.I can count in 2s, 5s and 10sI can describe and complete number patterns | **Addition and****subtraction within 20**I can illustrate, explainand link addition andsubtraction withequationsI can apply ‘Make Ten’strategyI can use language toquantify and comparedifference**Fractions**I can identify 1/2 and1/4 of a shape orobjectI can find 1/2 and ¼of a quantity**Measures: Length and****mass**I can compare andmeasure lengths andmass using cm and kgI can understanddoubling and halving | **Numbers 50 to 100****and beyond**I can read, write,represent, compareand order numbers to100I can find one more /fewer, ten more /fewerI can identify numberPatterns**Addition and****subtraction**I can explore additionand subtractioninvolving 2-digitnumbers and onesI can represent andexplain addition andsubtraction withregroupingI can investigatenumber bonds within20**Money**I can name coins andnotes and understandtheir valueI can represent thesame value usingdifferent coinsI can find change | **Money**I can name coins andnotes and understandtheir valueI can represent thesame value usingdifferent coinsI can find change**Multiplication and division**I can share equally into groupsI can understand doublingI can link halving to fractionsI can add equal groupsI can explore arrays**Measures: Capacity and volume**I can compare capacities, volumes and lengthsI can explore litresI can apply my understanding of fractions to capacity |
| Skills | • count to ten, forwards and backwards, beginning with 0 or 1, or from anygiven number• count, read and write numbers to 10 in numerals and words• identify and represent numbers using objects and pictorialrepresentations including the number line, and use the language of:equal to, more than, less than (fewer), most, least• given a number, identify one more and one less• count in multiples of two• double and halve numbers within 10• estimate numbers within 10• represent and use number bonds and related subtraction facts [within10]• add and subtract one-digit numbers [to 10], including zero• read, write and interpret mathematical statements involving addition (+),subtraction (–) and equals (=) signs• solve one-step problems that involve addition and subtraction, usingconcrete objects and pictorial representations, and missing numberproblems• recognise and name common 2-D and 3-D shapes, including: 2-Dshapes [for example, rectangles (including squares), circles andtriangles]; 3-D shapes [for example, cuboids (including cubes), pyramidsand spheres]• describe position, direction and movement, including whole and halfturns | • recognise and name common 2-D and 3-D shapes, including: 2-Dshapes [for example, rectangles (including squares), circles andtriangles]; 3-D shapes [for example, cuboids (including cubes), pyramidsand spheres]• describe position, direction and movement, including whole and halfTurns• count to twenty, forwards and backwards, beginning with 0 or 1, or fromany given number• count, read and write numbers from 1 to 20 in numerals and words• identify and represent numbers using objects and pictorialrepresentations including the number line, and use the language of:equal to, more than, less than (fewer), most, least• count in multiples of two and five• double and halve numbers within 20• represent and use number bonds and related subtraction facts within 20• add and subtract one-digit and two-digit numbers to 20, including zero• read, write and interpret mathematical statements involving addition (+),subtraction (–) and equals (=) signs• solve one-step problems that involve addition and subtraction, usingconcrete objects and pictorial representations, and missing numberproblems such as7 =  – 9• estimate to check answers | • tell the time to the hour and half past the hour and draw the hands on a clockface to show these times• recognise and use language relating to dates, including days of the week,weeks, months and years• compare, describe and solve practical problems for time [for example,quicker, slower, earlier, later] and measure and begin to record time (hours,minutes, seconds• sequence events in chronological order using language [for example, beforeand after, next, first, today, yesterday, tomorrow, morning, afternoon andevening]• describe position, direction and movement, including whole, half, quarter andthree-quarter turns, with reference to the clock face• represent and use number bonds and related subtraction facts within 20• add and subtract one-digit and two-digit numbers to 20, including zero• read, write and interpret mathematical statements involving addition (+),subtraction (–) and equals (=) signs• solve one-step problems that involve addition and subtraction, using concreteobjects and pictorial representations, and missing number problems such as7 =  – 9• count to fifty, forwards and backwards, beginning with 0 or 1, or from anygiven number; count in multiples of two, five and ten.• count, read and write numbers from 1 to 20 in numerals and words• identify and represent numbers using objects and pictorial representationsincluding the number line, and use the language of: equal to, more than, lessthan (fewer), most, least• given a number, identify one more and one less• recognise the place value of each digit in a two-digit number (tens, ones) (Y2) | • represent and use number bonds and related subtraction facts within 20• add and subtract one-digit and two-digit numbers to 20, including zero• add and subtract numbers using concrete objects, pictorial representations,and mentally, including: a two-digit number and ones; adding three one-digitnumbers (Y2)• read, write and interpret mathematical statements involving addition (+),subtraction (–) and equals (=) signs• solve one-step problems that involve addition and subtraction, using concreteobjects and pictorial representations, and missing number problems such as7 =  – 9• estimate to check answers• recognise, find and name a half as one of two equal parts of an object, shapeor quantity• recognise, find and name a quarter as one of four equal parts of an object,shape or quantity• compare, describe and solve practical problems for: lengths and heights [forexample, long/short, longer/shorter, tall/short, double/half]; mass/weight [forexample, heavy/light, heavier than, lighter than]• measure and begin to record the following: lengths and heights; mass/weight | • count to and across 100, forwards and backwards, beginning with 0 or 1, orfrom any given number; count on and back in two, five and ten.• count, read and write numbers from 1 to 20 in numerals and words; readand write numbers to at least 100 in numerals• given a number, identify one more and one less• identify and represent numbers using objects and pictorial representationsincluding the number line, and use the language of: equal to, more than,less than (fewer), most, least• recognise the place value of each digit in a two-digit number (tens, ones)(Y2)• represent and use number bonds and related subtraction facts within 20• add and subtract one-digit and two-digit numbers, including zero• add and subtract numbers using concrete objects, pictorial representations,and mentally, including: a two-digit number and ones; a two-digit numberand tens; two two-digit numbers; adding three one-digit numbers (Y2)• read, write and interpret mathematical statements involving addition (+),subtraction (–) and equals (=) signs• solve one-step problems that involve addition and subtraction, usingconcrete objects and pictorial representations, and missing numberproblems such as7 =  – 9• estimate to check answers• recognise and know the value of different denominations of coins and notes• solve one-step problems that involve addition and subtraction, usingconcrete objects and pictorial representations, and missing numberproblems such as7 =  – 9 | • recognise and know the value of different denominations of coins and notes• solve one-step problems that involve addition and subtraction, usingconcrete objects and pictorial representations, and missing numberproblems such as7 =  – 9• solve one-step problems involving multiplication and division, by calculatingthe answer using concrete objects, pictorial representations and arrays withthe support of the teacher• recognise, find and name a half as one of two equal parts of a quantity• recognise, find and name a quarter as one of four equal parts of a quantity• compare, describe and solve practical problems for: lengths and heights[for example, long/short, longer/shorter, tall/short, double/half]; mass/weight[for example, heavy/light, heavier than, lighter than]; capacity and volume[for example, full/empty, more than, less than, half, half full, quarter]• measure and begin to record the following: lengths and heights;mass/weight; capacity and volume |
| Year 2 | Topic | Unit 1: Numbers within 100 Unit 2: Addition and subtraction of 2-digit numbers Unit 3: Addition and subtraction word problems | Unit 4: Measures: Length Unit 5: Graphs Unit 6: Multiplication and division: 2, 5 and 10 | Unit 7: Time Unit 8: FractionsUnit 9: Addition and subtraction of 2-digit numbers (regrouping and adjusting) | Unit 10: Money Unit 11: Faces, shapes and patterns; lines and turns | Unit 12: Numbers within 1000 Unit 13: Measures: Capacity and volumeUnit 14: Measures: Mass | Unit 15: Exploring calculation strategiesUnit 16: Multiplication and division: 3 and 4 |
| I can | **Numbers within 100**I can read, write, represent, partition, compare and order numbers to 100I can explore patterns including, odds and evens, tens and ones**Addition and subtraction of 2-digit numbers**I can apply number bonds to add and subtractI can represent and explain addition and subtraction of two 2-digit numbers.I can add three 1-digit numbers**Addition and subtraction word problems**I can begin to understand bar models as a representationI can create, label and sketch bar models | **Measures: Length**I can draw and measure lengths in centimetresI can use < > and = to compare and order lengths in metres and centimetres**Graphs**I can represent and interpret: pictograms, block diagrams, tables and tally charts**Multiplication and Division: 2x, 5x, 10x**I can calculate the times tables of 2, 5, and 10 by skip countingI can relate the 2 times table to doublingI can explore representations of multiplication and divisionI can understand commutativity | **Time**I can tell the time on an analogue clock: quarter past, quarter to and five minute intervalsI can calculate durations of time in minutes and secondsI can sequence daily eventsI can tell you how many minutes in an hour and hours in a day**Fractions** I can understand part-whole relationshipsI can understand fractions as part of a whole or a whole setI can relate fractions to divisionI can find equivalent fractions**Addition and subtraction of 2-digit numbers**I can illustrate, represent and explain addition and subtraction involving regrouping including ‘Make Ten’, ‘Round and adjust’ and near doubles strategies | **Money**I can recognise coins and notesI can use £ and p accuratelyI can add and subtract amountsI can calculate change**Face, shapes and patterns; lines and turns**I can explore, sort and describe 2-D shapesI can find lines of symmetry in 2-D shapesI can identify 2-D shapes on 3-D shapesI can compare and sort 2-D and 3-D shapesI can use language to describe position, direction and rotation to follow a route | **Numbers within 1000**I can represent in different waysI can compare using symbolsI can read scales**Measures: Capacity and volume**I can read and measure temperatureI can estimate, measure and understand litres and millilitresI can compare and order capacities**Measures: Mass**I can weigh and compare masses in kilograms and grams | **Exploring calculation strategies**I can apply addition and subtraction strategies to solve equationsI can illustrate and explain addition and subtraction using column method**Multiplication and Division: 3x, 4x**I can use multiplication and division facts for 3 and 4I can relate 4 times table to doubling the 2 times tablesI can describe, interpret and represent using arrays and bar modelsI can recognise inverse relationship |
| Skills | • use place value and number facts to solve problems• recognise the place value of each digit in a two-digit number (tens, ones)• identify, represent and estimate numbers to 100 using differentrepresentations, including the number line• compare and order numbers from 0 up to 100; use <, > and = signs• read and write numbers to at least 100 in numerals and in words• count in steps of 2, 3, and 5 from 0, and in tens from any number, forwardand backward• recall and use addition and subtraction facts to 20 fluently, and derive anduse related facts up to 100• show that addition of two numbers can be done in any order(commutative) and subtraction of one number from another cannot• add and subtract numbers using concrete objects, pictorialrepresentations, and mentally, including: a two-digit number and ones; atwo-digit number and tens; two two-digit numbers; adding three one-digitnumbers• recognise and use the inverse relationship between addition andsubtraction and use this to check calculations and solve missing numberproblems• solve problems with addition and subtraction: using concrete objects andpictorial representations, including those involving numbers, quantitiesand measures; applying their increasing knowledge of mental and writtenmethods | • choose and use appropriate standard units to estimate and measurelength/height in any direction (m/cm) to the nearest appropriate unit, usingrulers and scales• compare and order length and record the results using >, < and =• apply knowledge of numbers to 100 to read scales to the nearestappropriate standard unit in the context of length (m/cm)• interpret and construct simple pictograms, tally charts, block diagramsand simple tables• ask and answer simple questions by counting the number of objects ineach category and sorting the categories by quantity• ask and answer questions about totalling and comparing categorical data• calculate mathematical statements for multiplication and division withinthe multiplication tables and write them using the multiplication (×),division (÷) and equals (=) signs• solve problems involving multiplication and division, using materials,arrays, repeated addition, mental methods, and multiplication and divisionfacts, including problems in contexts• show that multiplication of two numbers can be done in any order(commutative) and division of one number by another cannot• recall and use multiplication and division facts for the 2, 5 and 10multiplication tables, including recognising odd and even numbers | • tell and write the time to five minutes, including quarter past/to the hourand draw the hands on a clock face to show these times• know the number of minutes in an hour and the number of hours in a day• compare and sequence intervals of time• recognise, find, name and write fractions 1/3, ¼ ,2/4 and 3/4 of a length, shape, set of objects or quantity• write simple fractions for example, ½ of 6 = 3• recognise the equivalence of 2/4and ½ • recall and use addition and subtraction facts to 20 fluently, and derive anduse related facts up to 100• show that addition of two numbers can be done in any order(commutative) and subtraction of one number from another cannot• add and subtract numbers using concrete objects, pictorialrepresentations, and mentally, including: a two-digit number and ones; atwo-digit number and tens; two two-digit numbers; adding three one-digitnumbers• solve problems with addition and subtraction: using concrete objects andpictorial representations, including those involving numbers, quantities andmeasures; applying their increasing knowledge of mental and writtenmethods | • recognise and use symbols for pounds (£) and pence (p); combineamounts to make a particular value• find different combinations of coins that equal the same amounts of money• solve simple problems in a practical context involving addition andsubtraction of money of the same unit, including giving change• identify and describe the properties of 3-D shapes, including the number ofedges, vertices and faces• identify 2-D shapes on the surface of 3-D shapes, [for example, a circle ona cylinder and a triangle on a pyramid]• identify and describe the properties of 2-D shapes, including the number ofsides and line symmetry in a vertical line• compare and sort common 2-D and 3-D shapes and everyday objects• order and arrange combinations of mathematical objects in patterns andsequences• use mathematical vocabulary to describe position, direction andmovement, including movement in a straight line and distinguishingbetween rotation as a turn and in terms of right angles for quarter, half andthree-quarter turns (clockwise and anticlockwise) | • use place value and number facts to solve problems• identify, represent and estimate numbers to 1000 using differentrepresentations (Y3)• recognise the place value of each digit in a three-digit number(hundreds, tens, ones) (Y3)• compare and order numbers up to 1000 (Y3)• read and write numbers up to 1000 in numerals and in words (Y3)• count from 0 in multiples of 100; find 10 or 100 more or less than agiven number (Y3)• choose and use appropriate standard units to estimate and measurecapacity (litres/ml) and temperature (°C) to the nearest appropriateunit, using scales, thermometers and measuring vessels• compare and order volume and capacity and record the results using>, < and =• apply knowledge of numbers to 1000 to read scales to the nearestappropriate standard unit in the context of capacity (litres/ml) andtemperature (°C)• using known facts to derive new facts (2ml + 2ml =4ml so 200ml +200ml =400ml)• choose and use appropriate standard units to estimate and measuremass (kg/g) to the nearest appropriate unit, using rulers, scales,thermometers and measuring vessels• compare and order mass and record the results using >, < and =• apply knowledge of numbers to 1000 to read scales to the nearestappropriate standard unit in the context of mass (kg/g)• using known facts to derive new facts (2g + 2g =4g so 200g + 200g=400g) | • recall and use addition and subtraction facts to 20 fluently, and deriveand use related facts up to 100• show that addition of two numbers can be done in any order(commutative) and subtraction of one number from another cannot• add and subtract numbers mentally, including: a two-digit number andones; a two-digit number and tens; adding three one-digit numbers• add and subtract numbers with up to two digits, using written methods• recall and use multiplication and division facts for the 3 and 4multiplication tables (Y3)• calculate mathematical statements for multiplication and division withinthe multiplication tables and write them using the multiplication (×),division (÷) and equals (=) signs• solve problems involving multiplication and division, using materials,arrays, repeated addition, mental methods, and multiplication anddivision facts, including problems in contexts• show that multiplication of two numbers can be done in any order(commutative) and division of one number by another cannot |
| Year 3 | Topic | Unit 1: Number sense and exploring calculation strategiesUnit 2: Place ValueUnit 3: Graphs | Unit 4: Addition and subtraction Unit 5: Length and perimeter | Unit 6: Multiplication and division Unit 7: Deriving multiplication and division facts | Unit 8: Time Unit 9: Fractions | Unit 10: Angles and Shape Unit 11: Measures | Unit 11: MeasuresUnit 12: Securing multiplication and division Unit 13: Exploring calculation strategies and place value |
| I can | **Number sense and exploring calculation strategies**I can read, write, order and compare numbers to 100I can calculate mentally using known facts, round and adjust, near doubles, adding on to find the differenceI can derive new facts from a known fact**Place Value**I can read, write, represent, partition, order and compare 3-digit numbersI can find 10 and 100 more or lessI can round to the nearest multiple of 10 and 100**Graphs**I can collect, interpret and present data using charts and tables | **Addition and Subtraction**I can develop and use a range of mental calculation strategiesI can illustrate and explain formal written methods – column method**Length and Perimeter**I can measure, draw and compare lengthsI can add and subtract lengthsI can calculate perimeter | **Multiplication and Division**I can derive multiplication and division facts for 2, 3, 4, 5, 6, 8 and 10I can understand multiplicative structures e.g. equal groups/parts, change and comparison, correspondence problemsI can understand relationships: commutativity and inverse**Deriving Multiplication and Division Facts**I can multiply and divide by 10 and 100I can multiply a 2-digit number by 2, 3, 4, 5 and corresponding division situationsI can divide 2-digits by a 1-digit | **Time**I can tell, record, write and order the time analogue and digitalI can tell the time in a range of formats: 12-hour, a.m., p.m.I can measure, calculate and compare durations**Fractions**I can understand and use part-whole relationshipsI can understand fractions as part of a whole or a whole set and as a numberI can add, subtract, compare and order fractions | **Angles and Shape**I can identify angles including right angles and recognise them as a quarter of a turnI can identify and draw parallel and perpendicular linesI can draw/make, classify and compare 2-D and 3-D shapesI can measure the perimeter**Measures**I can read scales with different intervals when measuring mass and volumeI can weigh and compare masses and capacities with mixed unitsI can estimate mass and capacity | **Measures**I can read scales with different intervals when measuring mass and volumeI can weigh and compare masses and capacities with mixed unitsI can estimate mass and capacity**Securing Multiplication and Division**I can recall and use multiplication and division facts for 6 and 8 times table**Explore Calculation Strategies and Place Value**I can add and subtract mentallyI can find 10, 100 and 1000 more or lessI can order and compare beyond 1000I can round numbers |
| Skills | • solve problems, including missing number problems, using number facts,place value, and more complex addition and subtraction• recognise the place value of each digit (tens, ones), compare and ordernumbers up to 100• find 10 more or less than a given number• read and write numbers up to 100 in numerals and in words• solve number problems and practical problems involving these ideas• identify, represent and estimate numbers using different representations,including the number line• add and subtract amounts of money to give change, using both £ and p inpractical contexts• 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 50 and 100• interpret and present data using bar charts, pictograms and tables• solve one-step and two-step questions [for example, ‘How many more?’and ‘How many fewer?’] using information presented in scaled bar chartsand pictograms and tables | • add and subtract numbers mentally, including: a three-digit number andones; a three-digit number and tens; a three-digit number and hundreds• add and subtract numbers with up to three digits, using formal writtenmethods of columnar addition and subtraction• estimate the answer to a calculation and use inverse operations to checkanswers• solve problems, including missing number problems, using number facts,place value, and more complex addition and subtraction• measure, compare, add and subtract: lengths (m/cm/mm)• solve problems, including missing number problems, using number facts,place value, and more complex addition and subtraction• measure the perimeter of simple 2-D shapes• continue to measure using the appropriate tools and units, progressing tousing a wider range of measures, including comparing and using mixed ...and simple equivalents of mixed units (for example, 5m = 500cm) | • recall and use multiplication and division facts for the 3 and 4multiplication tables• count from zero in multiples of 4• solve problems, including missing number problems, involvingmultiplication and division, including positive integer scaling problemsand correspondence problems in which n objects are connected to mobjects• recall and use multiplication and division facts for the 3 and 4multiplication tables• write and calculate mathematical statements for multiplication anddivision using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing toformal written methods• solve problems, including missing number problems, involvingmultiplication and division, including positive integer scaling problemsand correspondence problems in which n objects are connected to mobjects | • tell and write the time using 12-hour analogue and digital clocks,including using Roman numerals from I to XII• estimate and read time with increasing accuracy to the nearest minute• record and compare time in terms of seconds, minutes and hours• use vocabulary such as o’clock, a.m./p.m., morning, afternoon, noonand midnight• know the number of seconds in a minute and the number of days ineach month, year and leap year• compare durations of events [for example to calculate the time taken byparticular events or tasks]• recognise and use fractions as numbers: unit fractions and non-unitfractions with small denominators• recognise, find and write fractions of a discrete set of objects: unitfractions and non-unit fractions with small denominators• count up and down in tenths• recognise that tenths arise from dividing an object into 10 equal partsand in dividing one-digit numbers or quantities by 10• recognise and show, using diagrams, equivalent fractions with smalldenominators• add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7= 6/7]• compare and order unit fractions, and fractions with the same denominators• solve problems that involve all of the above | • recognise angles as a property of shape or a description of a turn• identify right angles, recognise that two right angles make a half-turn,three make three quarters of a turn and four a complete turn; identifywhether angles are greater than or less than a right angle• identify horizontal and vertical lines and pairs of perpendicular andparallel lines• draw 2-D shapes and make 3-D shapes using modelling materials• recognise 3-D shapes in different orientations and describe them• measure the perimeter of simple 2-D shapes• measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g);volume/capacity (l/ml)• solve problems, including missing number problems, using number facts,place value, and more complex addition and subtraction• continue to measure using the appropriate tools and units, progressingto using a wider range of measures, including comparing and usingmixed units (for example, 1 kg and 200g) and simple equivalents ofmixed units (for example, 5m = 500cm) | • measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g);volume/capacity (l/ml)• solve problems, including missing number problems, using number facts,place value, and more complex addition and subtraction• continue to measure using the appropriate tools and units, progressingto using a wider range of measures, including comparing and usingmixed units (for example, 1 kg and 200g) and simple equivalents ofmixed units (for example, 5m = 500cm)• write and calculate mathematical statements for multiplication anddivision using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing toformal written methods• recall and use multiplication and division facts for the 8 multiplicationtables• count from zero in multiples of 8• add and subtract numbers mentally• find 1000 more or less than a given number; recognise the place value ofeach digit in a four-digit number (thousands, hundreds, tens, and ones)(Y4)• order and compare numbers beyond 1000 (Y4)• round any number to the nearest 10, 100 or 1000 (Y4) |
| Year 4 | Topic | Unit 1: Reasoning with 4-digit numbersUnit 2: Addition and subtractionUnit 3: Multiplication and division | Unit 3: Multiplication and division Unit 4: Interpreting and presenting data | Unit 5: Securing multiplication factsUnit 6: FractionsUnit 7: Time | Unit 8: DecimalsUnit 9: Area and perimeter | Unit 10: Solving measure and money problemsUnit 11: 2-D Shape and Symmetry | Unit 11: 2-D Shape and Symmetry Unit 12: Position and Direction Unit 13: Reasoning with patterns and sequences Unit 14: 3D Shape |
| I can | **Reasoning with large numbers**I can understand 4-digit place value. (Read, write, represent, order and compare)I can find 10, 100 or 1000 more or lessI can round numbers to the nearest 10, 100 or 1000**Addition and subtraction**I can select appropriate strategies to add and subtractI can illustrate and explain appropriate addition and subtraction strategies including column method with regrouping**Multiplication and division**I can distributive property including multiplying three 1-digit numbersI can understand mental multiplication and division strategies using place value and known/derived factsI can understand short multiplication and division | **Multiplication and division**I can distributive property including multiplying three 1-digit numbersI can understand mental multiplication and division strategies using place value and known/derived factsI can understand short multiplication and division**Discrete and continuous data**I can read, interpret and construct pictograms, bar charts and time graphsI can compare tables, pictograms and bar charts | **Securing multiplication facts**I can identify and explore patterns in multiplication tables including 7 and 9**Fractions**I can explore different interpretations and representations of fractionsI can understand equivalent fractionsI can represent fractions greater than one as mixed number and improper fractionsI can add and subtract fractions with the same denominator including fractions greater than one**Time**I can understand analogue to digital, 12- hour and 24-hourI can convert between units of time | **Decimals**I can understand decimal equivalents to tenths, quarters and halvesI can compare and order numbers with the same number of decimal placesI can multiply and divide by 10 and 100 including decimals**Area and perimeter**I can understand perimeter of rectangles and rectilinear figuresI can understand area of rectangles and rectilinear and compareI can investigate area and perimeter | **Solving measures and money problems**I can convert units of measureI can select appropriate units to measureI can use strategies to investigate problems: trial and improvement, organising using lists and tables, working systematically**Shape and symmetry**I can classify, compare and order anglesI can compare and classify 2-D shapesI can identify lines of symmetry | **Shape and symmetry**I can classify, compare and order anglesI can compare and classify 2-D shapesI can identify lines of symmetry**Position and direction**I can describe and plot using coordinatesI can describe translations**Reasoning with pattern and sequences**I can understand Roman numerals up to 100I can understand Place value of other number systemsI can understand number sequences and patterns**3-D shape**I can demonstrate an understanding of 3-D shapesI can identify 3-D shapes from 2-D representations |
| Skills | • 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• solve number and practical problems that involve all of the above andwith increasingly large positive numbers• identify, represent and estimate numbers using different representations• round any number to the nearest 10, 100 or 1000• count in multiples of 6, 7, 9, 25 and 1000• add and subtract numbers with up to 4 digits using the formal writtenmethods 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, decidingwhich operations and methods to use and why• recall multiplication and division facts for multiplication tables up to 12 ×12• solve problems involving multiplying and adding, including using thedistributive law to multiply two digit numbers by one digit, integer scalingproblems and harder correspondence problems such as n objects areconnected to m objects• 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 threenumbers• multiply two-digit and three-digit numbers by a one-digit number usingformal written layout | • recall multiplication and division facts for multiplication tables up to 12 ×12• solve problems involving multiplying and adding, including using thedistributive law to multiply two digit numbers by one digit, integer scalingproblems and harder correspondence problems such as n objects areconnected to m objects• 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 threenumbers• multiply two-digit and three-digit numbers by a one-digit number usingformal written layout• solve comparison, sum and difference problems using informationpresented in bar charts, pictograms, tables and other graphs• interpret and present discrete and continuous data using appropriategraphical methods, including bar charts and time graphs | • recall multiplication and division facts for multiplication tables up to 12 ×12• add and subtract fractions with the same denominator• recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5 = 6/5 = 1 1/ 5] (Y5)• recognise and show, using diagrams, families of common equivalentfractions• count up and down in hundredths; recognise that hundredths arise whendividing an object by one hundred and dividing tenths by ten• solve problems involving increasingly harder fractions to calculatequantities, and fractions to divide quantities, including non-unit fractionswhere the answer is a whole number• convert between different units of measure [for example, hour to minute]• problems involving converting from hours to minutes; minutes toseconds; years to months; weeks to days• write and convert time between analogue and digital 12- and 24-hourclocks | • 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 andhundredths• recognise and write decimal equivalents of any number of tenths orhundredths• recognise and write decimal equivalents to 1/4, 1/2, 3/4• round decimals with one decimal place to the nearest whole number• compare numbers with the same number of decimal places up to twodecimal places• measure and calculate the perimeter of a rectilinear figure (includingsquares) in centimetres and metres• convert between different units of measure [for example, kilometre to metre]• find the area of rectilinear shapes by counting squares• calculate and compare the area of rectangles (including squares), andincluding using standard units, square centimetres (cm2) and square metres (m2) (Y5)• measure and calculate the perimeter of composite rectilinear shapes incentimetres and metres (Y5) | • convert between different units of measure [for example, kilometre tometre; hour to minute]• solve simple measure and money problems involving fractions anddecimals to two decimal places• estimate, compare and calculate different measures, including money inpounds and pence• compare and classify geometric shapes, including quadrilaterals andtriangles, based on their properties and sizes• identify acute and obtuse angles and compare and order angles up to tworight angles by size• identify lines of symmetry in 2-D shapes presented in different orientations• complete a simple symmetric figure with respect to a specific line ofsymmetry | • compare and classify geometric shapes, including quadrilaterals andtriangles, based on their properties and sizes• identify acute and obtuse angles and compare and order angles up to tworight angles by size• identify lines of symmetry in 2-D shapes presented in different orientations• complete a simple symmetric figure with respect to a specific line ofSymmetry• describe positions on a 2-D grid as coordinates in the first quadrant• describe movements between positions as translations of a given unit tothe left/right and up/down• plot specified points and draw sides to complete a given polygon• read Roman numerals to 100 (I to C) and know that over time, thenumeral system changed to include the concept of zero and place value• count backwards through zero to include negative numbers• recognise and use square numbers, and the notation for squared (2) (Y5)• identify 3-D shapes, including cubes and other cuboids, from 2-Drepresentations (Y5) |
| Year 5 | Topic | Unit 1: Reasoning with large whole numbers Unit 2: Problem solving with integer addition and subtraction Unit 3: Line graphs and timetables | Unit 4: Multiplication and division Unit 5: Perimeter and area | Unit 6: Fractions and decimals Unit 7: Angles | Unit 8: Fractions and percentages Unit 9: Transformations | Unit 10: Converting units of measureUnit 11: Calculating with whole numbers and decimals | Unit 12: 2-D and 3-D shape Unit 13: VolumeUnit 14: Problem solving |
| I can  | **Reasoning with large whole integers**I can read, write, order and compare numbers up to one millionI can round numbers within one million to the nearest multiple of powers of tenI can read Roman numerals up to M**Integer addition and subtraction**I can use rounding to estimateI can use a range of mental calculation strategies to add and subtract integersI can illustrate and explain the written method of column addition and subtractionI can select efficient calculation strategies**Line graphs and timetables**I can complete, read and interpret data presented in line graphsI can read and interpret timetables including calculating intervals | **Multiplication and division**I can identify multiples and factorsI can investigate prime numbersI can multiply and divide by 10, 100 and 1000 (integers)I can derive multiplication and division factsI can illustrate and explain formal multiplication and division strategies such as short and longI can use a range of mental calculation strategies**Perimeter and area**I can investigate area and perimeter of rectilinear shapesI can estimate area of non-rectilinear shapes | **Fractions and decimals**I can read, write, order and compare decimalsI can round decimals to the nearest whole numberI can represent, identify, name, write, order and compare fractions (including improper and mixed numbers)I can calculate fractions of amounts**Angles**I can classify, compare and order anglesI can measure and draw angles with a protractorI can understand and use angle facts to calculate missing angles | **Fractions and percentages**I can add and subtract fractions with denominators that are multiples of the same numberI can multiply fractions (and mixed numbers) by a whole numberI can explore percentage, decimal, fractions equivalence**Transformations**I can use coordinates in all four quadrantsI can understand translation and reflectionI can calculate intervals across zero as a context for negative numbers | **Converting units of measure**I can convert between metric units of length, mass and capacity and units of timeI can understand and use approximate conversion between imperial and metric**Calculating with whole numbers and decimals**I can use mental strategies to add and subtract involving decimalsI can use formal written strategies to add, subtract and multiply involving decimalsI can multiply and divide by 10, 100 and 1000 involving decimalsI can derive multiplication facts involving decimals | **2-D and 3-D shape**I can classify 2-D shapes and reason about regular and irregular polygonsI can understand properties of diagonals of quadrilateralsI can classify 3-D shapesI can identify 2-D representations of 3-D shapes.**Volume**I can use cube numbers and notationI can estimate volumeI can convert units of volume**Problem solving**I can understand negative numbers and calculate intervals across zeroI can calculate the meanI can interpret remaindersI can investigate numbers: consecutive, palindromic, multiples |
| Skills | • read, write, order and compare numbers to at least 1 000 000 and determinethe value of each digit• count forwards or backwards in steps of powers of 10 for any given numberup to 1 000 000• round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and100 000• solve number problems and practical problems that involve all of the above• read Roman numerals to 1000 (M) and recognise years written in RomanNumerals• add and subtract numbers mentally with increasingly large numbers• add and subtract whole numbers with more than 4 digits, including usingformal written methods (columnar addition and subtraction)• use rounding to check answers to calculations and determine, in the contextof a problem, levels of accuracy• solve addition and subtraction multi-step problems in contexts, deciding whichoperations and methods to use and why• solve comparison, sum and difference problems using information presentedin a line graph• complete, read and interpret information in tables, including timetables• solve problems involving converting between units of time | • identify multiples and factors, including finding all factor pairs of a number,and common factors of two numbers• recognise and use square numbers and the notation for squared (2)• 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 to19• multiply and divide whole numbers by 10, 100 and 1000• multiply and divide numbers mentally drawing upon known facts• solve problems involving multiplication and division including using theirknowledge of factors and multiples, squares and cubes• multiply numbers up to 4 digits by a one- or two-digit number using a formalwritten method• divide numbers up to 4 digits by a one-digit number using the formal writtenmethod of short division and interpret remainders appropriately for the context• solve problems involving addition, subtraction, multiplication and division anda combination of these, including understanding the meaning of the equalssign• measure and calculate the perimeter of composite rectilinear shapes incentimetres and metres• calculate and compare the area of rectangles (including squares), andincluding using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of non-rectilinear shapes | • compare and order fractions whose denominators are all multiples of the samenumber• recognise and use thousandths and relate them to tenths, hundredths anddecimal equivalents• recognise mixed numbers and improper fractions and convert from one form tothe other and write mathematical statements > 1 as a mixed number [forexample, 2/5 + 4/5 = 6 /5 = 1 1/5]• identify, name and write equivalent fractions of a given fraction, representedvisually, including tenths and hundredths• read and write decimal numbers as fractions [for example, 0.71 = 71/100]• round decimals with two decimal places to the nearest whole number and toone decimal place• read, write, order and compare numbers with up to three decimal places• know angles are measured in degrees: estimate and compare acute, obtuseand reflex angles• draw given angles, and measure them in degrees (o)• identify: angles at a point and one whole turn (total 360o); angles at a point on a straight line and 1/2 a turn (total 180o); other multiples of 90o | • add and subtract fractions with the same denominator and denominators thatare multiples of the same number• multiply proper fractions and mixed numbers by whole numbers, supported bymaterials and diagrams• solve problems involving multiplication and division, including scaling by simplefractions and problems involving simple rates• recognise the per cent symbol (%) and understand that per cent relates to‘number of parts per hundred’, and write percentages as a fraction withdenominator 100, and as a decimal• solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and fraction and decimal equivalents of percentages that are multiples of 10 and 25• solve problems involving number up to three decimal places• use all four operations to solve problems involving measure (for examplelength, mass, volume, money) using decimal notation, including scaling• associate a fraction with division (Y6)• use common factors to simplify fractions; use common multiples to expressfractions in the same denomination (Y6)• identify, describe and represent the position of a shape following a reflection ortranslation, using the appropriate language, and know that the shape has notchanged• use the properties of rectangles to deduce related facts and find missinglengths and angles• describe positions on the full coordinate grid (all four quadrants) (Y6)• interpret negative numbers in context, count forwards and backwards withpositive and negative whole numbers, including through zero• use negative numbers in context, and calculate intervals across zero (Y6) | • convert between different units of metric measure (for example,kilometre and metre; centimetre and metre; centimetre and millimetre;gram and kilogram)• multiply and divide whole numbers and those involving decimals by 10,100 and 1000• understand and use approximate equivalences between metric unitsand common imperial units such as inches, pounds and pints• use all four operations to solve problems involving measure (forexample length, mass, volume, money) using decimal notation,including scaling• solve problems involving number up to three decimal places• multiply numbers up to 4 digits by a one- or two-digit number using aformal written method, including long multiplication for two-digitnumbers• multiply and divide whole numbers and those involving decimals by 10,100 and 1000 | • distinguish between regular and irregular polygons based on reasoningabout equal sides and angles• use the properties of rectangles to deduce related facts and findmissing lengths and angles• identify 3-D shapes, including cubes and other cuboids, from 2-Drepresentations• recognise, describe and build simple 3-D shapes, including makingnets (Y6)• illustrate and name parts of circles, including radius, diameter andcircumference and know that diameter is twice the radius. (Y6)• estimate volume [for example, using 1 cm3 blocks to build cuboids(including cubes)] and capacity [for example, using water]• recognise and use cube numbers and the notation for cubed (3)• consolidation and application opportunities |
| Year 6 | Topic | Unit 1: Integers & Decimals Unit 2: Multiplication and division Unit 3: Calculation Problems | Unit 4: FractionsUnit 5: Missing angles and lengthsUnit 6: Coordinates and shapeUnit 7: Fractions 2 | Unit 6: Coordinates and shapeUnit 7: FractionsUnit 8: Decimals and measures | Unit 8: Decimals and measuresUnit 9: Percentages and statisticsUnit 10: Proportion problems |  |  |
| I can | **Integers and decimals**I can represent, read, write, order and compare numbers up to ten millionI can round numbers, make estimates and use this to solve problems in contextI can solve multi-step problems involving addition and subtraction**Multiplication and division**I can identify and use properties of number, focusing on primesI can multiply larger integers and decimal numbers using a range of strategiesI can divide integers by 1-digit and 2-digit numbers representing remainders appropriatelyI can illustrate and explain formal multiplication and division strategies**Calculation problems**I can understand the use of bracketsI can use knowledge of the order of operations to carry out calculationsI can generate and describe linear number sequencesI can express missing number problems algebraicallyI can solve equations with unknown values | **Fractions**I can deepen my understanding of equivalenceI can order, simplify and compare fractions, including those greater than oneI can recall equivalence between common fractions and decimalsI can find decimal quotients using short divisionI can add and subtract fractions**Missing angles and length**I can compare and classify a range of geometric shapesI can use angle facts to find unknown angles**Coordinates and shapes**I can draw a range of geometric shapes using given dimensions and anglesI can describe, draw, translate and reflect shapes on a co-ordinate planeI can recognise and construct 3-D shapesI can name and illustrate parts of a circle**Fractions**I can represent multiplication involving fractionsI can multiply two proper fractionsI can divide a fraction by an integer | **Coordinates and shapes**I can draw a range of geometric shapes using given dimensions and anglesI can describe, draw, translate and reflect shapes on a co-ordinate planeI can recognise and construct 3-D shapesI can name and illustrate parts of a circle**Fractions**I can represent multiplication involving fractionsI can multiply two proper fractionsI can divide a fraction by an integer**Decimals and measure**I can use, read, write and convert between standard units of measures; length, mass, time, money and volume as well as imperial unitsI can calculate the area of parallelograms and trianglesI can calculate, estimate and compare the volume of cuboids | **Decimals and measure**I can use, read, write and convert between standard units of measures; length, mass, time, money and volume as well as imperial unitsI can calculate the area of parallelograms and trianglesI can calculate, estimate and compare the volume of cuboids**Percentage and statistics**I can calculate and compare percentages of amountsI can connect percentages with fractionsI can explore the equivalence of fractions, decimals and percentagesI can calculate the meanI can construct and interpret lines graphs and pie chartsI can compare pie charts**Proportion problems**I can use fractions to express proportionI can identify ratio as a relationship between quantities and as a scale factorI can understand unequal sharing involving ratio |  |  |
| Skills | • read, write, order and compare numbers up to 10 000 000 and determine thevalue of each digit• round any whole number to a required degree of accuracy• solve problems involving addition and subtraction• solve addition and subtraction multi-step problems in contexts, deciding whichoperations and methods to use and why• identify the value of each digit in numbers given to three decimal places andmultiply and divide numbers by 10, 100 and 1000 giving answers up to threedecimal places• use estimation to check answers to calculations and determine, in the contextof a problem, an appropriate degree of accuracy• multiply multi-digit numbers up to 4 digits by a two-digit whole number usingthe formal written method of long multiplication• multiply one-digit numbers with up to two decimal places by whole numbers• divide numbers up to 4 digits by a two-digit whole number using the formalwritten method of long division, and interpret remainders as whole numberremainders, fractions, or by rounding, as appropriate for the context• divide numbers up to 4 digits by a two-digit number using the formal writtenmethod of short division where appropriate, interpreting remainders accordingto the context• use written division methods in cases where the answer has up to two decimalplaces• identify common factors, common multiples and prime numbers• perform mental calculations, including with mixed operations and largenumbers• solve problems which require answers to be rounded to specified degrees ofAccuracy | • use common factors to simplify fractions; use common multiples to expressfractions in the same denomination• compare and order fractions, including fractions > 1• associate a fraction with division and calculate decimal fraction equivalents[for example, 0.375] for a simple fraction [for example, 3/8]• recall and use equivalences between simple fractions and decimals, includingin different contexts• generate and describe linear number sequences (with fractions)• add and subtract fractions with different denominators and mixed numbers,using the concept of equivalent fractions• recognise angles where they meet at a point, are on a straight line, or arevertically opposite, and find missing angles.• express missing number problems algebraically• compare and classify geometric shapes based on their properties and sizesand find unknown angles in any triangles, quadrilaterals, and regular polygons• use negative numbers in context, and calculate intervals across zero• describe positions on the full coordinate grid (all four quadrants)• draw 2-D shapes using given dimensions and angles• draw and translate simple shapes on the coordinate plane, and reflectthem in the axes• recognise, describe and build simple 3-D shapes, including making nets• illustrate and name parts of circles, including radius, diameter andcircumference and know that the diameter is twice the radius• solve number and practical problems that involve all of the above• multiply simple pairs of proper fractions, writing the answer in its simplestform [for example, ¼ × ½ = 1/8]• divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6]• recall and use equivalences between simple fractions and decimals,including in different contexts | • use negative numbers in context, and calculate intervals across zero• describe positions on the full coordinate grid (all four quadrants)• draw 2-D shapes using given dimensions and angles• draw and translate simple shapes on the coordinate plane, and reflectthem in the axes• recognise, describe and build simple 3-D shapes, including making nets• illustrate and name parts of circles, including radius, diameter andcircumference and know that the diameter is twice the radius• solve number and practical problems that involve all of the above• multiply simple pairs of proper fractions, writing the answer in its simplestform [for example, ¼ × ½ = 1/8]• divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6]• recall and use equivalences between simple fractions and decimals,including in different contexts• solve problems involving the calculation and conversion of units ofmeasure, using decimal notation up to three decimal places whereappropriate• use, read, write and convert between standard units, convertingmeasurements of length, mass, volume and time from a smaller unit ofmeasure to a larger unit, and vice versa, using decimal notation to up tothree decimal places• convert between miles and kilometres• recognise that shapes with the same areas can have different perimetersand vice versa• recognise when it is possible to use formulae for area and volume ofshapes• use simple formulae• calculate the area of parallelograms and triangles• calculate, estimate and compare volume of cubes and cuboids usingstandard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units [for example, mm3 and km3]• generate and describe linear number sequences (with decimals) |  | •solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate• 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 tothree decimal places• convert between miles and kilometres• recognise that shapes with the same areas can have different perimetersand vice versa• recognise when it is possible to use formulae for area and volume ofshapes• use simple formulae• calculate the area of parallelograms and triangles• calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units [for example, mm3 and km3]• generate and describe linear number sequences (with decimals)• recall and use equivalences between simple fractions, decimals andpercentages, including in different contexts• solve problems involving the calculation of percentages [for example, ofmeasures, and such as 15% of 360] and the use of percentages forcomparison• interpret and construct pie charts and line graphs and use these to solveproblems• calculate and interpret the mean as an average• solve problems involving the relative sizes of two quantities where missingvalues can be found by using integer multiplication and division facts• solve problems involving similar shapes where the scale factor is known orcan be found• solve problems involving unequal sharing and grouping using knowledgeof fractions and multiples |  |  |  |  |  |
| • find pairs of numbers that satisfy an equation with two unknowns• enumerate possibilities of combinations of two variables• use knowledge of the order of operations to carry out calculations involvingthe four operations• generate and describe linear number sequences• express missing number problems algebraically• solve problems involving addition, subtraction, multiplication and division |  |  |  |  |