

Unit 1.1 - Numbers and Counting

HOURS	TOPIC	KEY CONCEPTS	STRAND	
4	Numbers And Place Value	count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number	Number	
2	Numbers And Place Value	read and write numbers from 1 to 20 in numerals and words	Number	
4	Numbers And Place Value	count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens	Number	
2	Numbers And Place Value	given a number, identify one more and one less	Number	
4	Numbers And Place Value	identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least	Number	

Unit 1.2 - Money and Time

HOURS	TOPIC	KEY CONCEPTS	STRAND	
4	Distance, Capacity, Time And Money	recognise and know the value of different denominations of coins and notes	Geometry And Measures	
3	Distance, Capacity, Time And Money	recognise and use language relating to dates, including days of the week, weeks, months and years	Geometry And Measures	

Unit 1.2 - Money and Time

HOURS	TOPIC	KEY CONCEPTS	STRAND	
4	Distance, Capacity, Time And Money	sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	Geometry And Measures	

Unit 1.3 - Arithmetic to 20

HOURS	TOPIC	KEY CONCEPTS	STRAND	
6	Addition And Subtraction	add and subtract one-digit and two-digit numbers to 20, including zero	Number	
5	Addition And Subtraction	represent and use number bonds and related subtraction facts within 20	Number	
3	Addition And Subtraction	read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs	Number	
4	Addition And Subtraction	solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = ? - 9$	Number	

Unit 1.4 - Measuring and Measurements

HOURS	TOPIC	KEY CONCEPTS	STRAND	
4	Distance, Capacity, Time And Money	measure and begin to record the following: lengths and heights; mass/weight; capacity and volume; time (hours, minutes, seconds)	Geometry And Measures	

Unit 1.4 - Money and Time

HOURS TOPIC

KEY CONCEPTS

STRAND

8 Distance, Capacity, Time And Money

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]; time [for example, quicker, slower, earlier, later]

Geometry And Measures



Unit 1.5 - Recognising and Naming Shapes

HOURS TOPIC

KEY CONCEPTS

STRAND

4 Properties Of Shapes

recognise and name common 2-D and 3-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and triangles]; 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]

Geometry And Measures



Unit 1.6 - Halves and Quarters

HOURS TOPIC

KEY CONCEPTS

STRAND

3 Fractions

recognise, find and name a half as one of two equal parts of an object, shape or quantity

Number

3 Fractions

recognise, find and name a quarter as one of four equal parts of an object, shape or quantity

Number



Unit 1.7 - Position and Movement

HOURS TOPIC

6 Position And Direction

KEY CONCEPTS

describe position, direction and movement, including whole, half, quarter and three-quarter turns

STRAND

Geometry And Measures



Unit 1.8 - Clocks and Time

HOURS TOPIC

5 Distance, Capacity, Time And Money

KEY CONCEPTS

tell the time to the hour and half past the hour and draw the hands on a clock face to show these times

STRAND

Geometry And Measures



1.9 - Multiplication and Division Using Concrete Objects

HOURS TOPIC

6 Multiplication And Division

KEY CONCEPTS

solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

STRAND

Number



2.1 - Number and Place Value

HOURS	TOPIC	KEY CONCEPTS	STRAND
3	Numbers And Place Value	read and write numbers to at least 100 in numerals and in words	Number
3	Numbers And Place Value	recognise the place value of each digit in a two-digit number (tens, ones)	Number
4	Numbers And Place Value	Compare and order numbers from 0 up to 100; use <, > and = signs	Number



2.2 - Time

HOURS	TOPIC	KEY CONCEPTS	STRAND
2	Distance, Capacity, Time And Money	know the number of minutes in an hour and the number of hours in a day	Geometry And Measures
5	Distance, Capacity, Time And Money	tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.	Geometry And Measures
3	Distance, Capacity, Time And Money	compare and sequence intervals of time	Geometry And Measures



2.3 - The Number Line and Place Value

HOURS	TOPIC	KEY CONCEPTS	STRAND	
4	Numbers And Place Value	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward	Number	
3	Numbers And Place Value	identify, represent and estimate numbers using different representations, including the number line	Number	
3	Numbers And Place Value	use place value and number facts to solve problems	Number	

2.4 - Measures and Money

HOURS	TOPIC	KEY CONCEPTS	STRAND	
6	Distance, Capacity, Time And Money	choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels	Geometry And Measures	
3	Distance, Capacity, Time And Money	identify, represent and estimate numbers using different representations, including the number line	Geometry And Measures	
4	Distance, Capacity, Time And Money	use place value and number facts to solve problems	Geometry And Measures	

2.5 - Addition and Subtraction

HOURS	TOPIC	KEY CONCEPTS	STRAND	
3	Addition And Subtraction	recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100	Number	
12	Addition And Subtraction	add and subtract numbers using concrete objects, pictorial representations, and mentally, including a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers	Number	
1	Addition And Subtraction	show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot	Number	
3	Addition And Subtraction	recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	Number	
6	Addition And Subtraction	solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods	Number	

2.6 - Calculating with Money

HOURS	TOPIC	KEY CONCEPTS	STRAND	
4	Distance, Capacity, Time And Money	solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	Geometry And Measures	
2	Distance, Capacity, Time And Money	find different combinations of coins that equal the same amounts of money	Geometry And Measures	

2.7 - Properties of Shapes

HOURS	TOPIC	KEY CONCEPTS	STRAND	
6	Properties Of Shapes	identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line	Geometry And Measures	
3	Properties Of Shapes	identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces	Geometry And Measures	

2.8 - Multiplication and Division

HOURS	TOPIC	KEY CONCEPTS	STRAND	
4	Multiplication And Division	calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs	Number	
6	Multiplication And Division	recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	Number	
2	Multiplication And Division	show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	Number	
8	Multiplication And Division	solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	Number	

2.9 - Comparing Data

HOURS	TOPIC	KEY CONCEPTS	STRAND	
3	Interpreting Data	ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity	Probability And Statistics	
3	Interpreting Data	ask and answer questions about totalling and comparing categorical data	Probability And Statistics	
6	Interpreting Data	interpret and construct simple pictograms, tally charts, block diagrams and simple tables	Probability And Statistics	

2.10 - Fractions and Equivalence

HOURS	TOPIC	KEY CONCEPTS	STRAND	
5	Fractions	recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity	Number	
4	Fractions	write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	Number	

2.11 - Movement, Patterns and Shapes

HOURS	TOPIC	KEY CONCEPTS	STRAND
4	Position And Direction	use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)	Geometry And Measures
4	Position And Direction	order and arrange combinations of mathematical objects in patterns and sequences	Geometry And Measures
3	Properties Of Shapes	compare and sort common 2-D and 3-D shapes and everyday objects	Geometry And Measures
1	Properties Of Shapes	identify 2-D shapes on the surface of 3-D shapes, [for example a circle on a cylinder and a triangle on a pyramid]	Geometry And Measures



Unit 3.1 - Numbers and Place Value up to 1000

HOURS	TOPIC	KEY CONCEPTS	STRAND
2	Numbers And Place Value	read and write numbers up to 1000 in numerals and in words	Number
3	Numbers And Place Value	recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	Number
2	Numbers And Place Value	compare and order numbers up to 1000	Number
2	Numbers And Place Value	identify, represent and estimate numbers using different representations	Number
4	Numbers And Place Value	solve number problems and practical problems involving these ideas	Number



Unit 3.2 - Adding and Subtracting with 3-digit Numbers

HOURS	TOPIC	KEY CONCEPTS	STRAND
6	Addition And Subtraction	add and subtract numbers mentally, including a three-digit number and ones; a three-digit number and tens; a three-digit number and hundreds	Number
9	Addition And Subtraction	add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	Number



Unit 3.3 - Calculating with Money and Measures

HOURS	TOPIC	KEY CONCEPTS	STRAND
4	Distance, Capacity, Time And Money	add and subtract amounts of money to give change, using both £ and p in practical contexts	Geometry And Measures
8	Distance, Capacity, Time And Money	measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	Geometry And Measures
3	Distance, Capacity, Time And Money	measure the perimeter of simple 2-D shapes	Geometry And Measures



Unit 3.4 - Adding, Subtracting and Comparing Fractions

HOURS	TOPIC	KEY CONCEPTS	STRAND
6	Numbers And Place Value	count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	Number
3	Fractions	count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10	Number
4	Fractions	recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	Number
4	Fractions	add and subtract fractions with the same denominator within one whole (e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$)	Number
4	Fractions	compare and order unit fractions, and fractions with the same denominators	Number



Unit 3.5 - Using Time Accurately

HOURS	TOPIC	KEY CONCEPTS	STRAND
6	Distance, Capacity, Time And Money	tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks	Geometry And Measures
8	Distance, Capacity, Time And Money	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, noon and midnight	Geometry And Measures



Unit 3.6 - Quick Recall and Use of Multiplication and Division Facts

HOURS	TOPIC	KEY CONCEPTS	STRAND
8	Multiplication And Division	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	Number
6	Multiplication And Division	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	Number



Unit 3.7 - Interpreting and Presenting Data

HOURS	TOPIC	KEY CONCEPTS	STRAND
5	Interpreting Data	interpret and present data using bar charts, pictograms and tables	Probability And Statistics
4	Interpreting Data	solve one-step and two-step questions such as “How many more? and How many fewer” using information presented in scaled bar charts and pictograms and tables	Probability And Statistics



Unit 3.8 - Angles, Lines and Shapes

HOURS	TOPIC	KEY CONCEPTS	STRAND
2	Properties Of Shapes	recognise angles as a property of shape or a description of a turn	Geometry And Measures
3	Properties Of Shapes	identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle	Geometry And Measures
4	Properties Of Shapes	identify horizontal and vertical lines and pairs of perpendicular and parallel lines	Geometry And Measures
5	Properties Of Shapes	draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	Geometry And Measures



Unit 3.9 - Calendars and Time

HOURS	TOPIC	KEY CONCEPTS	STRAND	
3	Distance, Capacity, Time And Money	know the number of seconds in a minute and the number of days in each month, year and leap year	Geometry And Measures	
3	Distance, Capacity, Time And Money	compare durations of events, for example to calculate the time taken by particular events or tasks	Geometry And Measures	

Unit 3.10 - Working with the Four Operations

HOURS	TOPIC	KEY CONCEPTS	STRAND	
6	Addition And Subtraction	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	Number	
5	Multiplication And Division	solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which n objects are connected to m objects.	Number	
4	Addition And Subtraction	estimate the answer to a calculation and use inverse operations to check answers	Number	

3.11 - Working with Non-Unit Fractions and Small Denominators

HOURS	TOPIC	KEY CONCEPTS	STRAND
5	Fractions	recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	Number
4	Fractions	recognise and show, using diagrams, equivalent fractions with small denominators	Number
4	Fractions	solve problems that involve all of the above	Number



Unit 4.1 - Larger Numbers, Negative Numbers and Roman Numerals

15 hours



HOURS	TOPIC	KEY CONCEPTS	STRAND
2	Number And Place Value	recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)	N1: Numbers and the number system
1	Number And Place Value	find 1000 more or less than a given number	N1: Numbers and the number system
2	Number And Place Value	order and compare numbers beyond 1000	N1: Numbers and the number system
2	Number And Place Value	count backwards through zero to include negative numbers	N1: Numbers and the number system
3	Number And Place Value	read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.	N1: Numbers and the number system
2	Number And Place Value	identify, represent and estimate numbers using different representations	N1: Numbers and the number system
3	Number And Place Value	solve number and practical problems that involve all of the above and with increasingly large positive numbers	N1: Numbers and the number system

Unit 4.2 - Converting Time

12 hours



HOURS TOPIC

KEY CONCEPTS

STRAND

6 Distance, Capacity,
Time And Money

read, write and convert time between analogue and digital 12 and 24-hour clocks

G10: Time

6 Distance, Capacity,
Time And Money

solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.

G10: Time

Unit 4.3 - Times Tables and Formal Methods for Addition and Subtraction

13 hours



HOURS TOPIC

KEY CONCEPTS

STRAND

4 Multiplication And Division

recall multiplication and division facts for multiplication tables up to 12 x 12

N2: Mental methods of calculation

5 Addition And Subtraction

add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate

N3: Written methods of calculation

4 Addition And Subtraction

solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.

N3: Written methods of calculation

Unit 4.4 - Rounding and Arithmetic

13 hours



HOURS	TOPIC	KEY CONCEPTS	STRAND
3	Number And Place Value	round any number to the nearest 10, 100 or 1000	N5: Accuracy
4	Multiplication And Division	multiply two-digit and three-digit numbers by a one-digit number using formal written layout	N3: Written methods of calculation
4	Multiplication And Division	solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	N3: Written methods of calculation
2	Addition And Subtraction	estimate and use inverse operations to check answers to a calculation	N5: Accuracy

Unit 4.5 - Coordinates and Plotting

7 hours



HOURS	TOPIC	KEY CONCEPTS	STRAND
5	Position And Direction	describe positions on a 2-D grid as coordinates in	A6: Algebraic graphs
2	Position And Direction	the first quadrant plot specified points and draw sides to complete a given polygon.	G2: Construction

Unit 4.6 - Solve Problems using Fractions

19 hours



HOURS	TOPIC	KEY CONCEPTS	STRAND
5	Number And Place Value	count in multiples of 6, 7, 9, 25 and 1000	N1: Numbers and the number system
3	Fractions (Including Decimals)	count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten.	N7: Fractions and decimals
2	Fractions (Including Decimals)	add and subtract fractions with the same denominator	N7: Fractions and decimals
3	Fractions (Including Decimals)	recognise and show, using diagrams, families of common equivalent fractions	N9: Proportional reasoning
6	Fractions (Including Decimals)	solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number	N7: Fractions and decimals

Unit 4.7 - Translations, Reflections, Angles and Shapes

16 hours



HOURS	TOPIC	KEY CONCEPTS	STRAND
4	Position And Direction	describe movements between positions as translations of a given unit to the left/right and up/down	G3: Transformations
3	Properties Of Shapes	identify acute and obtuse angles and compare and order angles up to two right angles by size	G4: Angles
3	Properties Of Shapes	identify lines of symmetry in 2-D shapes presented in different orientations	G5: Properties of 2D shapes
2	Properties Of Shapes	complete a simple symmetric figure with respect to a specific line of symmetry.	G5: Properties of 2D shapes
4	Properties Of Shapes	compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	G5: Properties of 2D shapes

Unit 4.8 - Decimals, Rounding and Multiplying or Dividing by 10 and 100

15 hours



HOURS	TOPIC	KEY CONCEPTS	STRAND
3	Fractions (Including Decimals)	recognise and write decimal equivalents of any number of tenths or hundredths	N7: Fractions and decimals
2	Fractions (Including Decimals)	compare numbers with the same number of decimal places up to two decimal places	N7: Fractions and decimals
1	Fractions (Including Decimals)	recognise and write decimal equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$	N7: Fractions and decimals
2	Fractions (Including Decimals) nearest whole number	round decimals with one decimal place to the	N5: Accuracy
3	Fractions (Including Decimals)	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 units, tenths and hundredths	N7: Fractions and decimals
4	Fractions (Including Decimals)	solve simple measure and money problems involving fractions and decimals to two decimal places	N7: Fractions and decimals

Unit 4.9 - Interpret and Present Data for Calculating

10 hours

HOURS	TOPIC	KEY CONCEPTS	STRAND
6	Interpreting Data	interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	S1: Statistics
4	Interpreting Data	solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	S1: Statistics



Unit 4.10 - Perimeter and Area of Rectilinear Shapes

7 hours

HOURS	TOPIC	KEY CONCEPTS	STRAND
4	Distance, Capacity, Time And Money	measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	G7: Area, perimeter and volume
3	Distance, Capacity, Time And Money	find the area of rectilinear shapes by counting squares	G7: Area, perimeter and volume



4.11 - Mental Calculations

11 hours



HOURS	TOPIC	KEY CONCEPTS	STRAND
6	Multiplication And Division	use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers	N2: Mental methods of calculation
5	Multiplication And Division	recognise and use factor pairs and commutativity	N2: Mental methods of calculation in mental calculations

4.12 - Converting Measurements and Money

11 hours



HOURS	TOPIC	KEY CONCEPTS	STRAND
5	Distance, Capacity, Time And Money	Convert between different units of measure (e.g. kilometre to metre; hour to minute)	G9: Measures
6	Distance, Capacity, Time And Money	estimate, compare and calculate different measures, including money in pounds and pence	G9: Measures

Unit 5.1 - Large and Negative Numbers in Different Formats

HOURS	TOPIC	KEY CONCEPTS	STRAND
4	Numbers And Place Value	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit	Number
4	Numbers And Place Value	round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000	Number
2	Numbers And Place Value	count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	Number
4	Numbers And Place Value	interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero	Number
2	Numbers And Place Value	read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	Number
2	Numbers And Place Value	solve number problems and practical problems that involve all of the above	Number



Unit 5.2 - Drawing, Measuring and Estimating Angles

HOURS	TOPIC	KEY CONCEPTS	STRAND	
4	Properties Of Shapes	know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles	Geometry And Measures	
2	Properties Of Shapes	draw given angles, and measure them in degrees (°)	Geometry And Measures	
4	Properties Of Shapes	identify: angles at a point and one whole turn (total 360°), angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°), other multiples of 90°	Geometry And Measures	

Unit 5.3 - Decimals, Equivalence and Rounding

HOURS	TOPIC	KEY CONCEPTS	STRAND	
2	Fractions (Including Decimals And Percentages)	read and write decimal numbers as fractions (e.g. 0.71 = $\frac{71}{100}$)	Number	
3	Fractions (Including Decimals And Percentages)	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	Number	
3	Fractions (Including Decimals And Percentages)	read, write, order and compare numbers with up to three decimal places	Number	
4	Multiplication And Division	multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	Number	

Unit 5.4 - Addition and Subtraction

HOURS	TOPIC	KEY CONCEPTS	STRAND	
3	Addition And Subtraction	add and subtract numbers mentally with increasingly large numbers	Number	
4	Addition And Subtraction	add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	Number	
4	Addition And Subtraction	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Number	
3	Fractions (Including Decimals And Percentages)	solve problems involving number up to three decimal places	Number	

Unit 5.5 - Reflection and Translation

HOURS	TOPIC	KEY CONCEPTS	STRAND	
6	Position And Direction	identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.	Geometry And Measures	

Unit 5.6 - Primes, Factors, Squares and Cubes

HOURS	TOPIC	KEY CONCEPTS	STRAND
5	Multiplication And Division	identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers	Number
3	Multiplication And Division	know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers	Number
2	Multiplication And Division	establish whether a number up to 100 is prime and recall prime numbers up to 19	Number
4	Multiplication And Division	recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³)	Number



Unit 5.7 - Long Multiplication

HOURS	TOPIC	KEY CONCEPTS	STRAND
2	Multiplication And Division	multiply and divide numbers mentally drawing upon known facts	Number
4	Multiplication And Division	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	Number



Unit 5.8 - Solving Problems Using the Four Operations

HOURS	TOPIC	KEY CONCEPTS	STRAND	
4	Multiplication And Division	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	Number	
3	Multiplication And Division	solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes	Number	
2	Multiplication And Division	solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	Number	
3	Multiplication And Division	solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	Number	
3	Addition And Subtraction	use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	Number	

Unit 5.9 - Using Information from Graphs, Tables and Timetables

HOURS	TOPIC	KEY CONCEPTS	STRAND	
4	Interpreting Data	solve comparison, sum and difference problems using information presented in a line graph	Probability And Statistics	
4	Interpreting Data	complete, read and interpret information in tables, including timetables	Probability And Statistics	

Unit 5.10 - Solving Problems with Measures and Time

HOURS	TOPIC	KEY CONCEPTS	STRAND
4	Space And Time	convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	Geometry And Measures
2	Space And Time	understand and use equivalences between metric units and common imperial units such as inches, pounds and pints	Geometry And Measures
3	Space And Time	solve problems involving converting between units of time	Geometry And Measures
3	Space And Time	use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation including scaling	Geometry And Measures



Unit 5.11 - Solving Problems with Fractions

HOURS	TOPIC	KEY CONCEPTS	STRAND
3	Fractions (Including Decimals And Percentages)	compare and order fractions whose denominators are all multiples of the same number	Number
4	Fractions (Including Decimals And Percentages)	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	Number
4	Fractions (Including Decimals And Percentages)	recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$)	Number
5	Fractions (Including Decimals And Percentages)	add and subtract fractions with the same denominator and denominators that are multiples of the same number	Number
4	Fractions (Including Decimals And Percentages)	multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	Number



Unit 5.12 - Metric Measurements in Shapes

HOURS	TOPIC	KEY CONCEPTS	STRAND	
4	Space And Time	measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	Geometry And Measures	
4	Space And Time	calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes	Geometry And Measures	
3	Space And Time	estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water]	Geometry And Measures	

Unit 5.13 - Fractions and their Decimal and Percentage Equivalents

HOURS	TOPIC	KEY CONCEPTS	STRAND	
3	Fractions (Including Decimals And Percentages)	recognise the per cent symbol (%) and understand that per cent relates to “number of parts per hundred”, and write percentages as a fraction with denominator hundred, and as a decimal fraction	Number	
3	Fractions (Including Decimals And Percentages)	solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those with a denominator of a multiple of 10 or 25	Number	

Unit 5.14 - Identifying Shapes

HOURS	TOPIC	KEY CONCEPTS	STRAND
2	Properties Of Shapes	use the properties of rectangles to deduce related facts and find missing lengths and angles	Geometry And Measures
2	Properties Of Shapes	distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	Geometry And Measures
3	Properties Of Shapes	identify 3-D shapes, including cubes and other cuboids, from 2-D representations	Geometry And Measures



Unit 6.1 - Place Value

HOURS	TOPIC	KEY CONCEPTS	STRAND	
3	Number And Place Value	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit	Number	
4	Fractions (Including Decimals And Percentages)	identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places	Number	
3	Number And Place Value	round any whole number to a required degree of accuracy	Number	
4	Number And Place Value	use negative numbers in context, and calculate intervals across zero	Number	

Unit 6.2 - Multiplication and Division

HOURS	TOPIC	KEY CONCEPTS	STRAND	
5	Addition, Subtraction, Multiplication And Division	multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication	Number	
5	Addition, Subtraction, Multiplication And Division	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	Number	
5	Addition, Subtraction, Multiplication And Division	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	Number	

Unit 6.2 - Multiplication and Division

HOURS	TOPIC	KEY CONCEPTS	STRAND
4	Fractions (Including Decimals And Percentages)	use written division methods in cases where the answer has up to two decimal places	Number



Unit 6.3 - Using Factors, Multiples and Primes to work with Fractions

HOURS	TOPIC	KEY CONCEPTS	STRAND
3	Addition, Subtraction, Multiplication And Division	identify common factors, common multiples and prime numbers	Number
3	Fractions (Including Decimals And Percentages)	compare and order fractions, including fractions >1	Number
4	Fractions (Including Decimals And Percentages)	use common factors to simplify fractions; use common multiples to express fractions in the same denomination	Number
5	Fractions (Including Decimals And Percentages)	add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions	Number



Unit 6.4 - Perimeter, Area and Volume

HOURS	TOPIC	KEY CONCEPTS	STRAND
2	Space And Time	recognise that shapes with the same areas can have different perimeters and vice versa	Geometry And Measures
2	Space And Time	recognise when it is possible to use formulae for area and volume of shapes	Geometry And Measures
4	Space And Time	calculate the area of parallelograms and triangles	Geometry And Measures
4	Space And Time	calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3].	Geometry And Measures



Unit 6.5 - Arithmetical Operations

HOURS	TOPIC	KEY CONCEPTS	STRAND
5	Addition, Subtraction, Multiplication And Division	use their knowledge of the order of operations to carry out calculations involving the four operations	Number
4	Addition, Subtraction, Multiplication And Division	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Number
4	Addition, Subtraction, Multiplication And Division	solve problems involving addition, subtraction, multiplication and division	Number



Unit 6.5 - Arithmetical Operations

HOURS	TOPIC	KEY CONCEPTS	STRAND	
3	Fractions (Including Decimals And Percentages)	multiply one-digit numbers with up to two decimal places by whole	Number	
2	Number And Place Value	solve number and practical problems that involve all of the above.	Number	

Unit 6.6 - Translations and Reflections

HOURS	TOPIC	KEY CONCEPTS	STRAND	
5	Position And Direction	describe positions on the full coordinate grid (all four quadrants)	Geometry And Measures	
5	Position And Direction	draw and translate simple shapes on the coordinate plane, and reflect them in the axes.	Geometry And Measures	

Unit 6.7 - Fractions, Decimals and Percentages

HOURS	TOPIC	KEY CONCEPTS	STRAND
4	Fractions (Including Decimals And Percentages)	recall and use equivalences between simple fractions, decimals and percentages, including in different contexts	Number
3	Fractions (Including Decimals And Percentages)	associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8]	Number
3	Fractions (Including Decimals And Percentages)	multiply simple pairs of proper fractions, writing the answer in its simplest form [for example $1/4 \times 1/2 = 1/8$]	Number
3	Fractions (Including Decimals And Percentages)	divide proper fractions by whole numbers [for example, $1/3 \div 2 = 1/6$]	Number



Unit 6.8 - Number Problems and Equations

HOURS	TOPIC	KEY CONCEPTS	STRAND
2	Expressing Relationships	enumerate possibilities of combinations of two variables	Algebra
3	Expressing Relationships	find pairs of numbers that satisfy an equation with two unknowns	Algebra
3	Expressing Relationships	express missing number problems algebraically	Algebra



Unit 6.9 - Converting Measures

HOURS	TOPIC	KEY CONCEPTS	STRAND	
3	Space And Time	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 three decimal places	Geometry And Measures	
3	Space And Time	solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate	Geometry And Measures	
2	Space And Time	convert between miles and kilometres	Geometry And Measures	

6.10 - Accuracy and Proportion

HOURS	TOPIC	KEY CONCEPTS	STRAND	
4	Addition, Subtraction, Multiplication And Division	use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy	Number	
2	Fractions (Including Decimals And Percentages)	solve problems which require answers to be rounded to specified degrees of accuracy	Number	

Unit 6.10 - Accuracy and Proportion

HOURS	TOPIC	KEY CONCEPTS	STRAND	
4	Multiplicative Relationships	solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison	Number	
3	Multiplicative Relationships	solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts	Number	
3	Multiplicative Relationships	solve problems involving unequal sharing and grouping using knowledge of fractions and multiples	Number	

Unit 6.11 - Pie Charts and the Mean

HOURS	TOPIC	KEY CONCEPTS	STRAND	
5	Interpreting Data	interpret and construct pie charts and line graphs and use these to solve problems	Probability And Statistics	
4	Interpreting Data	calculate and interpret the mean as an average	Probability And Statistics	

Unit 6.12 - Formulae and Sequences

HOURS	TOPIC	KEY CONCEPTS	STRAND	
2	Expressing Relationships	use simple formulae	Algebra	
3	Expressing Relationships	generate and describe linear number sequences	Algebra	

Unit 6.13 - Dimensions and Scale

HOURS	TOPIC	KEY CONCEPTS	STRAND	
3	Properties Of Shapes	draw 2-D shapes using given dimensions and angles	Geometry And Measures	
4	Multiplicative Relationships	solve problems involving similar shapes where the scale factor is known or can be found	Number	

Unit 6.14 - Angles, Shapes and Solids

HOURS	TOPIC	KEY CONCEPTS	STRAND	
3	Properties Of Shapes	recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.	Geometry And Measures	
4	Properties Of Shapes	compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons	Geometry And Measures	
3	Properties Of Shapes	illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius	Geometry And Measures	
4	Properties Of Shapes	recognise, describe and build simple 3-D shapes, including making nets	Geometry And Measures	

Unit 7.1 - Working with Place Value

HOURS	TOPIC	KEY CONCEPTS	STRAND
2	Number And Place Value	understand and use place value for decimals, measures and integers of any size	Number
4	Number And Place Value	order positive and negative integers, decimals and fractions; use the number line as a model for ordering of the real numbers; use the symbols $=$, $\leq$, $<$, $>$, $\geq$	Number
1	Fractions (Including Decimals And Percentages)	work interchangeably with terminating decimals and their corresponding fractions (such as 3.5 and 7 over 2 or 0.375 and 3 over 8)	Number
2	Ratio And Proportion	express one quantity as a fraction of another, where the fraction is less than 1 and greater than 1	Number



Unit 7.2 - Introducing Algebra

HOURS	TOPIC	KEY CONCEPTS	STRAND
2	Expressing Relationships	Understand and use the concepts and vocabulary of expressions, equations, inequalities, terms and factors	Algebra
3	Expressing Relationships	Use and interpret algebraic notation, including: ab in place of $a \times b$; $3y$ in place of $y + y + y$ and $3 - y$; a^2 in place of $a \times a$, a^3 in place of $a \times a \times a$; a^2b in place of $a \times a \times b$; a over b in place of $a \div b$; coefficients written as fractions rather than as decimals; brackets	Algebra
4	Expressing Relationships	Simplify and manipulate algebraic expressions to maintain equivalence by: collecting like terms; multiplying a single term over a bracket	Algebra



Unit 7.3 - Lines and Angles

HOURS	TOPIC	KEY CONCEPTS	STRAND	
2	Geometry	describe, sketch and draw using conventional terms and notations: points, lines, parallel lines, perpendicular lines and right angles	Geometry And Measures	
3	Geometry	apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles	Geometry And Measures	

Unit 7.4 - The Probability Scale

HOURS	TOPIC	KEY CONCEPTS	STRAND	
3	Probability	record, describe and analyse the frequency of outcomes of simple probability experiments involving randomness, fairness, equally and unequally likely outcomes, using appropriate language and the 0-1 probability scale	Probability And Statistics	
2	Probability	understand that the probabilities of all possible outcomes sum to 1	Probability And Statistics	

Unit 7.5 - Powers, Roots and Rounding

HOURS	TOPIC	KEY CONCEPTS	STRAND	
4	Powers And Roots	use integer powers and associated real roots (square, cube and higher), recognise powers of 2, 3, 4, 5 and distinguish between exact representations of roots and their decimal approximations	Number	
3	Number And Place Value	round numbers and measures to an appropriate degree of accuracy [for example, to a number of decimal places or significant figures]	Number	

Unit 7.6 - Formulae, Sequences and Rules

HOURS	TOPIC	KEY CONCEPTS	STRAND	
3	Using Equations And Functions	substitute numerical values into formulae and expressions, including scientific formulae	Algebra	
4	Expressing Relationships	generate terms of a sequence from either a term-to-term or a position-to-term rule	Algebra	

Unit 7.7 - Using Measurements

HOURS	TOPIC	KEY CONCEPTS	STRAND	
2	Fractions (Including Decimals And Percentages)	use standard units of mass, length, time, money and other measures, including with decimal quantities	Number	
4	Ratio And Proportion	change freely between related standard units [for example time, length, area, volume/capacity, mass]	Number	
7	Measures	derive and apply formulae to calculate and solve problems involving: perimeter and area of triangles, parallelograms, trapezia, volume of cuboids (including cubes)	Geometry And Measures	

Unit 7.8 - Representing and Interpreting Data

HOURS	TOPIC	KEY CONCEPTS	STRAND	
6	Interpreting Data	construct and interpret appropriate tables, charts, and diagrams, including frequency tables, bar charts, pie charts, and pictograms for categorical data, and vertical line (or bar) charts for ungrouped and grouped numerical data	Probability And Statistics	

Unit 7.9 - Order of Operations

HOURS	TOPIC	KEY CONCEPTS	STRAND
2	Numbers And Operations	recognise and use relationships between operations including inverse operations	Number
4	Numbers And Operations	use conventional notation for the priority of operations, including brackets, powers, roots and reciprocals	Number
4	Numbers And Operations	use a calculator and other technologies to calculate results accurately and then interpret them appropriately	Number



Unit 7.10 - Linear Equations

HOURS	TOPIC	KEY CONCEPTS	STRAND
6	Using Equations And Functions	use algebraic methods to solve linear equations in one variable (including all forms that require rearrangement) (unknowns on one side only, with or without brackets)	Algebra



Unit 7.11 - Properties of Shapes and Solids

HOURS	TOPIC	KEY CONCEPTS	STRAND
3	Geometry	derive and illustrate properties of triangles, quadrilaterals, circles, and other plane figures [for example, equal lengths and angles] using appropriate language and technologies	Geometry And Measures
2	Geometry	use the properties of faces, surfaces, edges and vertices of cubes, cuboids, prisms, cylinders, pyramids, cones and spheres to solve problems in 3-D	Geometry And Measures



Unit 7.12 - Ratio

HOURS	TOPIC	KEY CONCEPTS	STRAND
3	Ratio And Proportion	use ratio notation, including reduction to simplest form	Number



Unit 7.13 - Graphs of Linear Functions

HOURS	TOPIC	KEY CONCEPTS	STRAND
2	Using Equations And Functions	work with coordinates in all four quadrants	Algebra
5	Expressing Relationships	recognise, sketch and produce graphs of linear functions of one variable ($x=a$, $y=a$, $y=ax$, where a is an integer)	Algebra



Unit 7.14 - Congruence and Scale Drawing

HOURS	TOPIC	KEY CONCEPTS	STRAND
3	Geometry	use the standard conventions for labelling the sides and angles of triangle ABC, and know and use the criteria for congruence of triangles	Geometry And Measures
4	Measures	draw and measure line segments and angles in geometric figures, including interpreting scale drawings	Geometry And Measures
3	Position And Direction	identify and construct congruent triangles	Geometry And Measures



Unit 8.1 - Arithmetical Operations with Decimals and Negatives

HOURS	TOPIC	KEY CONCEPTS	STRAND
7	Numbers And Operations	use the four operations, including formal written methods, applied to integers, decimals, all both positive and negative	Number



Unit 8.2 - Linear Equations with Unknowns on Both Sides

HOURS	TOPIC	KEY CONCEPTS	STRAND
6	Using Equations And Functions	use algebraic methods to solve linear equations in one variable (including all forms that require rearrangement) (unknowns on both sides)	Algebra



Unit 8.3 - Parallel, Alternate and Corresponding

HOURS	TOPIC	KEY CONCEPTS	STRAND
3	Geometry	understand and use the relationship between parallel lines and alternate and corresponding angles	Geometry And Measures



Unit 8.4 - Sets and Unions

HOURS	TOPIC	KEY CONCEPTS	STRAND
3	Probability	enumerate sets and unions/intersections of sets systematically, using tables, grids and Venn diagrams	Probability And Statistics



Unit 8.5 - Percentages

HOURS	TOPIC	KEY CONCEPTS	STRAND	
1	Fractions (Including Decimals And Percentages)	interpret fractions and percentages as operators	Number	
9	Fractions (Including Decimals And Percentages)	define percentage as ~number of parts per hundred~™, interpret percentages and percentage changes as a fraction or a decimal, interpret these multiplicatively, express one quantity as a percentage of another, compare two quantities using percentages, and work with percentages greater than 100%	Number	

Unit 8.6 - Sequences and Relationships

HOURS	TOPIC	KEY CONCEPTS	STRAND	
4	Expressing Relationships	recognise arithmetic sequences and find the nth term	Algebra	
4	Expressing Relationships	interpret mathematical relationships both algebraically and graphically (linear situations only)	Algebra	

Unit 8.7 - Constructions

HOURS	TOPIC	KEY CONCEPTS	STRAND	
4	Geometry	describe, sketch and draw regular polygons, and other polygons that are reflectively and rotationally symmetric	Geometry And Measures	
5	Geometry	derive and use the standard ruler and compass constructions (perpendicular bisector of a line segment, constructing a perpendicular to a given line from/at a given point, bisecting a given angle); recognise and use the perpendicular distance from a point to a line as the shortest distance to the line	Geometry And Measures	

Unit 8.8 - Using Averages, Range and Relationships to Describe Data

HOURS	TOPIC	KEY CONCEPTS	STRAND	
5	Interpreting data	describe, interpret and compare observed distributions of a single variable through: appropriate graphical representation involving discrete, continuous data; and appropriate measures of central tendency (mean, mode, median) and spread (range)	Probability And Statistics	
5	Interpreting data	describe simple mathematical relationships between two variables (bivariate data) in observational and experimental contexts and illustrate using scatter graphs.	Probability And Statistics	

Unit 8.9 - Multiples, Factors and Primes

HOURS	TOPIC	KEY CONCEPTS	STRAND
6	Properties Of Numbers	use the concepts and vocabulary of prime numbers, factors (or divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation property	Number



Unit 8.10 - Linear Equations: Graphically and Algebraically

HOURS	TOPIC	KEY CONCEPTS	STRAND
6	Expressing Relationships	recognise, sketch and produce graphs of linear functions of one variable with appropriate scaling, using equations in x and y and the Cartesian plane	Algebra
4	Using Equations, Functions And Graphs	reduce a given linear equation in two variables to the standard form $y = mx + c$; calculate and interpret gradients and intercepts of graphs of such linear equations numerically, graphically and algebraically	Algebra



Unit 8.11 - Accuracy with Perimeter, Area and Volume

HOURS	TOPIC	KEY CONCEPTS	STRAND
3	Numbers And Operations	use approximation through rounding to estimate answers and calculate possible resulting errors expressed using inequality notation $a < x < b$	Number



Unit 8.11 - Accuracy with Perimeter, Area and Volume

HOURS **TOPIC**

6 Measures

KEY CONCEPTS

calculate and solve problems involving: perimeters of 2-D shapes (including circles), areas of circles and composite shapes

STRAND

Geometry And Measures



5 Measures

derive and apply formulae to calculate and solve problems involving prisms and cylinders

Geometry And Measures



Unit 8.12 - Dividing Quantities into Ratios

HOURS **TOPIC**

4 Ratio And Proportion

KEY CONCEPTS

divide a given quantity into two parts in a given part:part or part:whole ratio; express the division of a quantity into two parts as a ratio

STRAND

Number



Unit 8.13 - Algebraic Expressions

HOURS **TOPIC**

3 Expressing Relationships

KEY CONCEPTS

simplify and manipulate algebraic expressions to maintain equivalence by taking out common factors

STRAND

Algebra



Unit 8.14 - Translations, Rotations and Reflections

HOURS TOPIC

5 Position And Direction

KEY CONCEPTS

identify properties of, and describe the results of, translations, rotations and reflections applied to given figures

STRAND

Geometry And Measures



Unit 8.15 - Diagrams and Constructions

HOURS TOPIC

2 Ratio And Proportion

KEY CONCEPTS

use scale factors, scale diagrams and maps

STRAND

Number



4 Position And Direction

construct similar shapes by enlargement, with and without coordinate grids

Geometry And Measures



Unit 9.1 - All sorts of Fractions

HOURS	TOPIC	KEY CONCEPTS	STRAND
8	Numbers And Operations	use the four operations with proper and improper fractions, and mixed numbers, all both positive and negative	Number



Unit 9.2 - Expressions and Formulae

HOURS	TOPIC	KEY CONCEPTS	STRAND
4	Expressing Relationships	simplify and manipulate algebraic expressions to maintain equivalence by expanding products of two or more binomials	Algebra
4	Expressing Relationships	understand and use standard mathematical formulae; rearrange formulae to change the subject	Algebra



Unit 9.3 - Angles and Polygons

HOURS	TOPIC	KEY CONCEPTS	STRAND
5	Geometry	derive and use the sum of angles in a triangle and use it to deduce the angle sum in any polygon, and to derive properties of regular polygons	Geometry And Measures



Unit 9.4 - Sample Spaces to Calculate Theoretical Probabilities

HOURS	TOPIC	KEY CONCEPTS	STRAND
3	Probability	generate theoretical sample spaces for single and combined events with equally likely, mutually exclusive outcomes and use these to calculate theoretical probabilities	Probability And Statistics



Unit 9.5 - Ratio and Percentage Change

HOURS	TOPIC	KEY CONCEPTS	STRAND	
1	Ratio And Proportion	understand that a multiplicative relationship between two quantities can be expressed as a ratio or a fraction	Number	
6	Ratio And Proportion	solve problems involving percentage change, including: percentage increase, decrease and original value problems and simple interest in financial mathematics	Number	
1	Ratio And Proportion	relate the language of ratios and the associated calculations to the arithmetic of fractions and to linear functions	Number	

Unit 9.6 - Rearranging and Solving Linear Equations

HOURS	TOPIC	KEY CONCEPTS	STRAND	
6	Ratio And Proportion	use algebraic methods to solve linear equations in one variable (including all forms that require rearrangement); e.g. including fractional coefficients, algebraic fractions with unknown in numerator or denominator	Algebra	

Unit 9.7 - Geometrical Relationships and Pythagoras' Theorem

HOURS	TOPIC	KEY CONCEPTS	STRAND	
2	Geometry	interpret mathematical relationships both algebraically and geometrically	Geometry And Measures	
4	Geometry	apply angle facts, triangle congruence, similarity and properties of quadrilaterals to derive results about angles and sides, including Pythagoras' Theorem, and use known results to obtain simple proofs	Geometry And Measures	

Unit 9.8 - Central Tendency and Spread

HOURS	TOPIC	KEY CONCEPTS	STRAND	
8	Interpreting Data	describe, interpret and compare observed distributions of a single variable through: appropriate graphical representation involving grouped data; and appropriate measures of central tendency (mean, mode, median) and spread (range, consideration of outliers)	Probability And Statistics	

Unit 9.9 - Mathematical Models

HOURS	TOPIC	KEY CONCEPTS	STRAND	
4	Expressing Relationships	model situations or procedures by translating them into algebraic expressions or formulae and by using graphs	Algebra	

Unit 9.10 - Using Graphs to Solve Equations

HOURS	TOPIC	KEY CONCEPTS	STRAND
4	Expressing Relationships	recognise, sketch and produce graphs of quadratic functions of one variable with appropriate scaling, using equations in x and y and the Cartesian plane	Algebra
4	Using Equations, Functions And Graphs	use linear and quadratic graphs to estimate values of y for given values of x and vice versa and to find approximate solutions of simultaneous linear equations	Algebra



Unit 9.11 - Use Pythagoras' Theorem and Trigonometry in Right-Angled Triangles

HOURS	TOPIC	KEY CONCEPTS	STRAND
12	Geometry	use Pythagoras' Theorem and trigonometric ratios in similar triangles to solve problems involving right-angled triangles	Geometry And Measures



Unit 9.12 - Standard Form and the Number System

HOURS	TOPIC	KEY CONCEPTS	STRAND
3	Powers And Roots	interpret and compare numbers in standard form $A \times 10^n$ where $1 \leq A < 10$, where n is a positive or negative integer or zero	Number
2	Properties Of Numbers	appreciate the infinite nature of the sets of integers, real and rational numbers	Number



Unit 9.13 - Geometric Sequences

HOURS	TOPIC	KEY CONCEPTS	STRAND
4	Expressing Relationships	recognise geometric sequences and appreciate other sequences that arise	Algebra



Unit 9.14 - Compound Units

HOURS	TOPIC	KEY CONCEPTS	STRAND
4	Ratio, Proportion And Rates Of Change	use compound units such as speed, unit pricing and density to solve problems	Number



Unit 9.15 - Mathematical Relationships

HOURS	TOPIC	KEY CONCEPTS	STRAND
3	Expressing Relationships	interpret mathematical relationships both algebraically and graphically (quadratic situations)	Algebra
4	Using Equations, Functions And Graphs	find approximate solutions to contextual problems from given graphs of a variety of functions, including piece-wise linear, exponential and reciprocal graphs	Algebra

