Maths Long Term Plan

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key events linked to maths			TTRS day		Maths week SATs Y2	SATs Y6 Multiplication test Y4 Enterprise week
Little Doves						

Cardinality and Counting
- Begin to use number names in their play.
- Play with numbers 1-5.
- Compare amounts saying 'lots', 'more' or 'same.'
- Recite numbers to 5.
- Give or take 2 or 3 items from a group.
- Join in with number rhymes using numbers 1-5.
- Count in everyday contexts.

Spatial awareness:
- Use positional language on, under, in, next to.

Space:
- Explore jigsaw puzzles.
- Build with a range of resources.
- Explore 2d and 3d shapes.

Pattern:
- Explore pattern and begin to create patterns using available resources.
- Join in with repeated sound and action patterns.

Measures:
- Fill and empty containers using available resources.
- Talk about big / small, full / empty, heavy/ light.
- Begin to follow and take part in daily routines.

Maths Long Term Plan

Nursery

Cardinality and Counting
- Join in with number rhymes using numbers 1-5 and 1-10.
- Recite numbers to 10 and beyond.
- Recognise some numerals of personal significance.
- Link numerals with amounts up to 5 and beyond.
- Know that the last number reached when counting a small set of objects tells you how many there are in total. (Cardinal principle)
- Show finger numbers up to 5.
- Develop fast recognition of up to 3 objects (subitising)
- Solve real world problems with numbers up to 5.
- Experiment with their own symbols and marks as well as numerals.
- Compare 2 small groups of up to 5 objects using the language 'more than', 'fewer than' and the 'same.'

Spatial Awareness:
- Use positional language on, next, in front of, under, in, between, side and behind.
- Describe a familiar route.
- Discuss routes and locations, using words like 'in front of' and 'behind'.

Shape:
- Choose puzzle pieces.
- Recognise when 2 shapes are the same.
- Make simple constructions.
- Talk about 2d and 3d shapes and recognise the shape names (for example, circle, triangle, rectangle and square.)
- Begin to recognise some properties of shape e.g 'flat', 'sides', 'corners', 'straight'. 'round' etc
- Combine shapes to make a new ones. (e.g. an arch, a bigger triangle)

Pattern:
- Talk about pattern around them e.g. stripes and spots.
- Join in with repeated sound and action patterns (ABAB patterns)
- Create simple repeating patterns (ABAB patterns)

Measures:
- Make comparisons between objects using the language longer, shorter, heavier, and lighter.
- Recall a sequence of events in everyday life and stories using words such as 'first', 'then'

Reception					
Whiterose Unit block	• counting songs and rhymes • counting reliably numbers 1 to 5 • matching and sorting • making comparisons • comparing size, mass and capacity • making simple patterns	• 1,2,3,4,5 • circles and triangles • positional language • one more/one less • shapes with four sides • night and day	• 6,7,8 • Introducing zero • comparing numbers to 5 • composition of 4 and 5 • comparing mass and capacity • addition	• 9,10 • comparing numbers to 10 • number bonds to 10 • 3D shapes • patterns	• 11,12,13,14,15 • number bonds • ordering number • maths mastery big pictures • doubling • addition • subtraction	• 16,17,18,19,20 • halving • spacial reasoning • sharing • odd and even • height and length • weight and capacity

Year 1			
Whiterose unit block	• Number: Place Value (within 10) • Number: Addition and subtraction (within 10) • Number: Addition and subtraction (within 10) • Geometry • Number: Place Value (within 20)	• Number: Addition and subtraction (within 20) • Number: Place Value (within 50) • Measurement: Length and Height • Measurement: Weight and Volume	• Number: Multiplication and division • Number: Fraction • Geometry: Position and direction • Number: Place value (within 100) • Measurement: Money • Measurement: Time
N.C Coverage	**Place value (within 10 and 20)** count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number count, read and write numbers to 100 in numerals; count in multiples of twos, fives	**Place value (within 50)** count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens	**Place value (within 100)** count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens

Column 1:

and tens

identify and represent numbers using objects and pictorial representations

read and write numbers from 1 to 20 in numerals and words.

given a number, identify one more and one less

Addition and subtraction

read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs

represent and use number bonds and related subtraction facts within 20

add and subtract one-digit and two-digit numbers to 20, including zero

solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ☐ – 9.

Geometry

recognise and name common 2-D and 3-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and

Column 2:

identify and represent numbers using objects and pictorial representations

read and write numbers from 1 to 20 in numerals and words.

given a number, identify one more and one less

Addition and subtraction

read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs

represent and use number bonds and related subtraction facts within 20

add and subtract one-digit and two-digit numbers to 20, including zero

solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ☐ – 9.

Measurement

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,

Column 3:

identify and represent numbers using objects and pictorial representations

read and write numbers from 1 to 20 in numerals and words.

given a number, identify one more and one less

Multiplication and division

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.

Fractions

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

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

Measurement

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

	triangles] 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]. describe position, direction and movement, including whole, half, quarter and three-quarter turns.	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 time (hours, minutes, seconds)	than, less than, half, half full, quarter] time [for example, quicker, slower, earlier, later] measure and begin to record the following: lengths and heights mass/weight capacity and volume time (hours, minutes, seconds) **Money** recognise and know the value of different denominations of coins and notes recognise and know the value of different denominations of coins and notes **Time** sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] recognise and use language relating to dates, including days of the week, weeks, months and years tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.

Year 2			
Whiterose unit block	• Place value • Addition and subtraction • Multiplication and division	• Money • Statistics • Shape • Fractions	• Geometry: position and direction • Time • Measurement: Mass capacity and temperature
N.C Coverage	**Place value** count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward read and write numbers to at least 100 in numerals and in words identify, represent and estimate numbers using different representations, including the number line recognise the place value of each digit in a two-digit number (tens, ones) compare and order numbers from 0 up to 100; use <, > and = signs use place value and number facts to solve problems. **Addition and subtraction** recall and use addition and subtraction facts to 20 fluently, and derive and use related	**Money** Recognise and use symbols for pounds (£) and pence (p); combine amounts 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 and subtraction of money of the same unit, including giving change **Fractions** Recognise, find, name and write fractions 1/3.1/4/3/4 of a length, shape, set of objects or quantity. Recognise the equivalence of 2/4 and ½. Write simple fractions for example ½ of 6= 3. **Statistics** interpret and construct simple pictograms, tally charts, block diagrams and simple tables ask and answer simple questions by counting the number of objects in each	**Position and direction** order and arrange combinations of mathematical objects in patterns and sequences 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). **Measurement** 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 compare and order lengths, mass, volume/capacity and record the results using >, < and = **Time** compare and sequence intervals of time

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

recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

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

   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

Multiplication and division

recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables,

category and sorting the categories by quantity

ask and answer questions about totalling and comparing categorical data.

Shape

identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line

 identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces

identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]

compare and sort common 2-D and 3-D shapes and everyday objects.

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

know the number of minutes in an hour and the number of hours in a da

	including recognising odd and even numbers show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot calculate mathematical statements for multiplication and division within the 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 division facts, including problems in contexts.		
	Year 3		
Whiterose unit block	• Place Value • Addition and Subtraction • Multiplication and Division	• Multiplication and Division • Money • Statistics • Length and perimeter • Fractions	• Fractions • Time • Properties of Shape • Mass and Capacity

| N.C Coverage | **Place Value**

count from 0 in multiples of 4, 8, 50 and 100; 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

identify, represent and estimate numbers using different representations

read and write numbers up to 1000 in numerals and in words

solve number problems and practical problems involving these ideas.

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

add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction

estimate the answer to a calculation and use | **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

solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects

Money

add and subtract amounts of money to give change, using both £ and p in practical   contexts

Statistics

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 charts and pictograms and tables.

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 | **Fractions**

recognise and show, using diagrams, equivalent fractions with small denominators

compare and order unit fractions, and fractions with the same denominators

add and subtract fractions with the same denominator within one whole

solve problems that involve all of the above.

Time

tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks

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

know the number of seconds in a minute and the number of days in each month, year and leap year

compare durations of events [for example to calculate the time taken by particular events or tasks]. |

	inverse operations to check answers solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. Multiplication and division recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	recognise, find and write fractions of a discrete set of objects: unit fractions and non- unit fractions with small denominators recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators solve problems that involve all of the above. **Length and perimeter** measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) measure the perimeter of simple 2-D shapes	**Shape** draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them 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; identify whether angles are greater than or less than a right angle identify horizontal and vertical lines and pairs of perpendicular and parallel lines. **Mass and capacity** measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
		Year 4	
Whiterose unit block	• Place Value • Addition and subtraction • Measurement – length and perimeter • Multiplication and division	• Multiplication and division • Measurement – area • Fractions • Decimals	• Decimals • Measurement- Money • Measurement- time • Statistics • Geometry: Properties of shape • Geometry: Position and direction
N.C Coverage	**Place Value** count in multiples of 6, 7, 9, 25 and 1000	**Roman Numerals**	**Decimals** recognise and write decimal equivalents of any

	find 1000 more or less than a given number	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.	number of tenths or hundredths

find 1000 more or less than a given number

count backwards through zero to include negative numbers

recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)

order and compare numbers beyond 1000

identify, represent and estimate numbers using different representations

round any number to the nearest 10, 100 or 1000

solve number and practical problems that involve all of the above and with increasingly large positive numbers

Addition and subtraction
add and subtract numbers with up to 4 digits using the formal written methods 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, deciding which

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.

Multiplication and division
recall multiplication and division facts for multiplication tables up to 12 × 12

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

recognise and use factor pairs and commutativity in mental calculations

multiply two-digit and three-digit numbers by a one-digit number using formal written   layout

solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Measurement – area
find the area of rectilinear shapes by counting squares

Fractions
recognise and show, using diagrams, families of common equivalent fractions

count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred

number of tenths or hundredths

recognise and write decimal equivalents to ½, ¼ ¾

round decimals with one decimal place to the nearest whole number

compare numbers with the same number of decimal places up to two decimal places

solve simple measure and money problems involving fractions and decimals to two decimal places.

Measurement- Money

estimate, compare and calculate different measures, including money in pounds and pence

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

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

Statistics
interpret and present discrete and continuous data using appropriate graphical methods, including bar

operations and methods to use and why.

Measurement – length and perimeter
measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres

Multiplication and division
recall multiplication and division facts for multiplication tables up to 12 × 12

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

recognise and use factor pairs and commutativity in mental calculations

and dividing tenths by ten.

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

add and subtract fractions with the same denominator

solve simple measure and money problems involving fractions and decimals to two decimal places.

Decimals
recognise and write decimal equivalents of number of tenths or hundredths

recognise and write decimal equivalents to ¼.1/4 and 3/4

find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths

solve simple measure and money problems involving fractions and decimals to two decimal places.

charts and time graphs.

solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

Geometry: Properties of shape
compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes

identify acute and obtuse angles and compare and order angles up to two right 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 of symmetry.

Geometry: Position and direction
describe positions on a 2-D grid as coordinates in the first quadrant

describe movements between positions as translations of a given unit to the left/right and up/down

plot specified points and draw sides to complete a given polygon.

Year 5		
Whiterose unit block	• Place Value • Addition & Subtraction • Perimeter • Statistics • Multiplication & Division • Area	• Multiplication & Division • Fractions • Decimals & Percentages	• Decimals • Properties of Shape • Position & Direction • Converting Units • Volume
N.C Coverage	**Place Value** read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 solve number problems and practical problems read Roman numerals to 1000 (M) and recognise years written in Roman numerals. **Addition & Subtraction**	**Multiplication & 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 multiply and divide numbers mentally drawing upon known facts 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 multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. solve problems involving multiplication and division including using their knowledge of factors and multiples,	**Decimals** solve problems involving number up to three decimal places **Properties of Shape** identify 3-D shapes, including cubes and other cuboids, from 2-D representations know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles draw given angles, and measure them in degrees (^{o}) identify: angles at a point and one whole turn (total 360°) angles at a point on a straight line and 1/2 a turn (total 180°) other multiples of 90° use the properties of rectangles to deduce related facts and find missing lengths and angles distinguish between regular and irregular polygons based on reasoning about equal sides and angles.

add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)

add and subtract numbers mentally with increasingly large numbers

use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

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

Perimeter
measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres

Statistics
solve comparison, sum and difference problems using information presented in a line graph

complete, read and interpret information in tables, including timetables.

Multiplication & Division
identify multiples and factors, including finding all factor pairs of a number, and

squares and cubes

Fractions
identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths

recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number

compare and order fractions whose denominators are all multiples of the same number

add and subtract fractions with the same denominator and denominators that are multiples of the same number

multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams

Decimals & Percentages
read and write decimal numbers as fractions

recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents

round decimals with two decimal places to the nearest whole number and to one decimal place

read, write, order and compare numbers with up to three decimal places

Position & 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.

Converting Units
convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)

understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints

Volume

estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water]

common factors of two numbers

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 to 19

recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})

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

multiply and divide numbers mentally drawing upon known facts

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

multiply and divide whole numbers and those involving decimals by 10, 100 and 1000

Area calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres

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 100, and as a decimal

solve problems which require knowing percentage and decimal equivalents of ½ ¼ 1/5 2/5 4/5 and those fractions with a denominator of a multiple of 10 or 25.

	(cm²) and square metres (m²) and estimate the area of irregular shapes		
	Year 6		
Whiterose unit block	• Place Value (2 weeks) • Four Operations (4 weeks) • Fractions (4 weeks)	• Decimals (2 weeks) • Percentages (2 weeks) • Algebra (2 weeks) • Measurement: Converting Units (1 week) • Measurement: Perimeter, Area and Volume (2 weeks) • Ratio (2 weeks) • Geometry: Position and Direction (1 week)	• Geometry: Properties of Shape (2 weeks) • Problem Solving (3 weeks) • Statistics (2 weeks) • Investigations (4 weeks)
N.C Coverage	**Place Value (2 weeks)** read, write, order and compare numbers up to 10 000 000 and determine the value of each digit round any whole number to a required degree of accuracy use negative numbers in context, and calculate intervals across zero solve number and practical problems that involve all of the above.	**Decimals (2 weeks)** 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 multiply one-digit numbers with up to two decimal places by whole numbers use written division methods in cases where the answer has up to two decimal places solve problems which require answers to be rounded to specified degrees of accuracy	**Geometry: Properties of Shape (2 weeks)** draw 2-D shapes using given dimensions and angles recognise, describe and build simple 3-D shapes, including making nets compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons illustrate and name parts of circles, including radius, diameter and circumference and know that the

Four Operations (4 weeks)
multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication

divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context

divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context

perform mental calculations, including with mixed operations and large numbers

identify common factors, common multiples and prime numbers

use their knowledge of the order of operations to carry out calculations involving the four operations

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

solve problems involving addition,

associate a fraction with division and calculate decimal fraction equivalents

recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Percentages (2 weeks)
associate a fraction with division and calculate decimal fraction equivalents recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Algebra (2 weeks)
use simple formulae

generate and describe linear number sequences

express missing number problems algebraically

find pairs of numbers that satisfy an equation with two unknowns

enumerate possibilities of combinations of two variables.

Measurement: Converting Units (1 week)
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

    convert between miles and kilometres

diameter is twice the radius

recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

Problem Solving (3 weeks)
Statistics (2 weeks)
  interpret and construct pie charts and line graphs and use these to solve problems   calculate and interpret the mean as an average.

Investigations (4 weeks)

subtraction, multiplication and division

use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

Fractions (4 weeks)
use common factors to simplify fractions; use common multiples to express fractions in the same denomination

compare and order fractions, including fractions > 1

add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

multiply simple pairs of proper fractions, writing the answer in its simplest form

divide proper fractions by whole numbers

Measurement: Perimeter, Area and Volume (2 weeks)
recognise that shapes with the same areas can have different perimeters and vice versa

recognise when it is possible to use formulae for area and volume of shapes

calculate the area of parallelograms and triangles

calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3].

Ratio (2 weeks)
solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts

solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison

solve problems involving similar shapes where the scale factor is known or can be found

solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

Geometry: Position and Direction (1 week)
describe positions on the full coordinate grid (all four

		quadrants) draw and translate simple shapes on the coordinate plane, and reflect them in the axes.	