Maths Long Term Plan   Year 4   Year 2014-2015

	Cycle 1				
Autumn Themes	**Cross curricular maths**	**Class teaching**	**Maths Groups**	**Skills**	**Non-negotiables**
Team building (2 weeks)	None Problem solving (handshakes)	Place value	<u>Place value</u> to 4 and 5 digits, recognising the value of each digit Compare and order numbers up to 10000	Counting and crossing barriers up to 10000 Counting in multiples of 6, 7, 9, 25 and 100	*Count forwards & backward with positive & negative numbers*
Anglo Saxons(3 weeks)	Timeline – ordering dates Find 10 more and 100 more (years) Read and write numbers in numerals Maps of - Coordinates, directional language, compass points Measure the perimeter of simple 2D shapes (build farmhouse and pen) Identify, represent and estimate numbers using different representations (armies, ships arrows etc.)	<u>2D shape</u> Draw and identify 2D shapes Geometric shapes AA compare quadrilaterals and triangles.	<u>Addition and subtraction</u> Written methods up to ThHTU Estimation and inverse Know addition and subtraction facts to 10 and pairs of numbers to 1000 and 1	Number bonds Mental addition and subtraction	*Find the difference between 2 digit numbers by counting up to find a difference* *e.g. 72 - 45* *Count forwards & backward with positive & negative numbers through zero and find a small difference* *Know all number bonds to 1000 which are multiples of 10* *Add & subtract:* *Numbers with 3-digits and 4-digits using school calculation policy* *Numbers with up to 1dp or 2dp with money*
Light and Dark (4 weeks)	Measuring length of shadow Data – table/graph of shadows Graphs - length of shadows Symmetry – reflective Measuring lengths of shadows in cm/m and conversions Rangoli patterns – translating shape Duration of events – nights and day (24hour time line). Time – Including vocab; o'clock, am/pm, morning/afternoon, noon/midnight, days and night, 24		<u>Word problems and problem solving</u> add and subtract mass and capacity. Missing number problems, using place value. Missing numbers solved by inverse Including simple time problems Continue sequences of	Conversion – cm / m	

	hour time line Seconds in a minute, minutes in an hour. Calendar work – Days in a month, year and leap year.		numbers		
Hot and Cold (4 weeks)	Data – plotting temperatures Graphs over a year Travel brochures – distances, cost, money, miles. Money facts – how many pennies in £3, 20p in £1, 10p in £1. Which coins to use? (money play) (Before travel agent. Add and subtract amount of money including giving change. Negative numbers		Multiplication and division Written methods TU x U and HTU x U Including missing numbers. Division written methods including missing numbers.	Multiply and divide by 10 and 100 Recall multiplication and division facts to 12 x 12 Use known facts to divide and multiply mentally Multiply by 1 and 0 Multiply together three numbers.	*Multiply any TU by 10and 100 and explain the effect* *Know all times tables and division facts up to 10 x 10* *Multiply:* *3-digit by 1-digit* *Divide:* *3-digit by 1-digit including remainders*
Sound (3 weeks)	Fractions - notation of music	Identify horizontal and vertical lines and pairs of parallel and perpendicular lines Make 3D shapes using modelling material. Recognise 3D shapes in different orientations and describe them Use and interpret Venn and Carroll diagrams	Fractions and decimals Use diagrams and families of common equivalent fractions Count up and down in hundredths, and recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten Recognise and write decimal equivalents of any number of tenths and hundredths	Finding quarters of even numbers Count up and down in tenths Doubles and halves using partitioning Recognise and write decimal equivalents to ½ ¼ ¾ 1/10 and 1/100	*Multiply and divide decimal no.s using known no. facts* *Know basic decimal, fraction and percentage equivalents* *10% 1/10* *25% ¼* *50% ½* *75% ¾* *Compare & order numbers with 2 decimal places.* *Counting forwards and backwards in tenths and hundredths* *Know fractions and decimals that make a total of 1*
Celebrations (1 week)		Measuring using different equipment e.g. rulers, scales and	Place Value Counting in different intervals.	Rounding to the nearest 10, 100 and 1000	*Round decimals with 1dp to nearest whole number.*

		measuring cylinders	Finding 100 and 1000 more and less than a number Compare and order numbers Know 0 as a place holder Identify, represent and estimate numbers using different representations	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	
Spring Themes					
Rocks soils volcanoes (5 weeks)	Ordering measures – heights of volcanoes Weighing and measuring ingredients using scales Data – reading tables of information and interpreting these Drawing graphs to compare permeability of soils Coordinates on maps	<u>2D shape and symmetry</u> Draw 2D shapes and recognise these in different orientations, and using vocabulary of regular and irregular, use Find lines of symmetry in shapes, and draw reflections of shapes using mirrors	<u>Addition and subtraction in contexts</u> Solve comparison sum and different problems using information presented in bar charts, pictograms, tables and other graphs Measure add and subtract length, mass, and capacity Add and subtract problems using negative numbers	Find the difference between 2 digit numbers by counting up to find a difference e.g. 72 - 45 Number bonds Count forwards and backwards through 0 including negative numbers	*Count forwards & backward with positive & negative numbers through zero and find a small difference* *Add & subtract:* *Numbers with 3-digits and 4-digits using school calculation policy* *Numbers with up to 1dp or 2dp with money*
How is new life welcomed into the world (1 week)		<u>Direction</u> Recognise angles as a property of a shape of a description of a turn Recognise right angles as a property of a shape or a description of a turn use ordinal numbers distinguish between left and right and	<u>Time</u> Read, write and convert time between analogue and digital, 12 and 24 hour clocks. Solve problems including converting from years to months and weeks to days	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	*Read, write & convert time between analogue & digital 12 & 24 hour clocks.*

		between clockwise and anticlockwise and use these when giving directions			
Animals and humans 2 (2 weeks)	Correspondence problems Symmetry, 2d shapes in different orientations. Complete a symmetric figure (animal symmetry)	3D shapes Use mathematical names for 3D shapes Make and talk about shapes referring to properties and features such as edge, face, corner Draw nets of shapes, and recognise 3D shapes from their nets Investigate which nets make cubes and other 3D shapes	Fractions and 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 Add and subtract fractions with the same denominator	Add and subtract fractions with the same denominator Compare and order fractions Recognise and write decimal equivalents to ½ ¼ ¾ 1/10 and 1/100	*Multiply and divide decimal no.s using known no. facts* *Know basic decimal, fraction and percentage equivalents* *10% 1/10* *25% ¼* *50% ½* *75% ¾* *Compare & order numbers with 2 decimal places.* *Counting forwards and backwards in tenths and hundredths* *Know fractions and decimals that make a total of 1* *Add and subtract fractions with same denominator.*
Publisher and PowerPoint (2 weeks)		Angles Recognise angles as a property of shape or a description of a turn. Identify whether angles are greater than or less than a right angle Recognise obtuse and acute angles. Use an angle measurer	Multiplication and Division in contexts Solve scaling problems including integer scaling problems and correspondence problems Find the effect of dividing a one or two digit number by 10 and 100. Identify the value of the digits in the answer as ones, tenths and hundredths Multiple, factor , square vocabulary	Recognise and use factor pairs and commutatively in mental calculations	*Multiply any TU by 10and 100 and explain the effect* *Add & subtract:* *Numbers with 3-digits and 4-digits using school calculation policy* *Numbers with up to 1dp or 2dp with money* *Multiply:* *3-digit by 1-digit* *Divide:* *3-digit by 1-digit including remainders*

Summer Themes					
Ancient Egypt (3 weeks)	Measure length (m/cm/mm)Accurate use of a ruler, measuring and drawing lines to the nearest half cm or mm. Make and recognise 3D shapes and describe them	Conversions between units of measurements	Problem solving Using inverse to solve problems, including balancing problems Introduction to algebra Understand a variety of mathematical vocabulary to solve problems Interpret and present data, and solve problems using graphs and bar charts Introduction to percentages	Brackets	
Who inspires me (3 weeks)		Area and perimeter Measure and calculate the perimeter and area of rectilinear shapes Time converting between digital and analogue clocks, reading clocks with missing numbers Symmetry Draw reflections of shapes with lines of symmetry at 45 degrees (AA rotation and translation)	Addition, Subtraction, Multiplication and Division Solve simple measure and money problems involving fractions and decimals to two decimal places Estimate, compare and calculate different measure, including money in pounds and pence	Find the difference between 2 digit numbers by counting up to find a difference e.g. 72 - 45	Multiply: 3-digit by 1-digit Divide: 3-digit by 1-digit including remainders
What does it mean to be a Sikh (1 week)		Angles and turns Identify right angles, recognise that 2 right angles make half a turn,	Solving inverse problems Number bonds Plot specific points and		

		three make three quarters of a turn and four make a complete turn.	draw sides to complete a given polygon		
			Ratio and proportion		
Local Geography Study (2 weeks)	Measure length Data handling, using tables, representing information graphs and interpreting data	Shape problem solving with 2D and 3D shapes, pegboards	Continue sequences of numbers Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs		
Changes (1 week)		Investigation and problem solving	Review and revision		