The Sacred Heart DAWN RAINBOW Continuum: Maths: Children can ...

Place Value							
Three and Four-Year-Olds Reception	**Counting**	**Comparing Numbers**	**Identifying, Representing and Estimating Numbers**	**Reading and Writing Numbers (including Roman Numerals)**	**Understanding Place Value**	**Rounding**	**Problem Solving**
FS **Early Learning Goals**	Recite numbers past 5. Say one number name for each item in order: 1, 2, 3, 4, 5. Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). Count objects, actions and sounds. Count beyond ten. Verbally count beyond 20, recognising the pattern of the counting system.	Compare quantities using language: 'more than', 'fewer than'. Compare numbers. Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.	Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). Show 'finger numbers' up to 5. Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. Experiment with their own symbols and marks as well as numerals. Subitise. Link the number symbol (numeral) with its cardinal number value. Subitise (recognising quantities without counting) up to 5.	Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. Experiment with their own symbols and marks as well as numerals. Link the number symbol (numeral) with its cardinal number value.	Understand the 'one more than/one less than' relationship between consecutive numbers. Explore the composition of numbers to 10. Have a deep understanding of numbers to 10, including the composition of each number.		Solve real world mathematical problems with numbers up to 5.

Place Value							
	Counting	**Comparing Numbers**	**Identifying, Representing and Estimating Numbers**	**Reading and Writing Numbers (including Roman Numerals)**	**Understanding Place Value**	**Rounding**	**Problem Solving**
Y1	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 given a number, identify one more and one less	use the language of: equal to, more than, less than (fewer), most, least	identify and represent numbers using objects and pictorial representations including the number line	read and write numbers from 1 to 20 in numerals and words.			To begin to make inferences on the basis of what is being said and done. To predict what might happen on the basis of what has been read so far.

Y2	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward	compare and order numbers from 0 up to 100; use <, > and = signs	identify, represent and estimate numbers using different representations, including the number line	read and write numbers to at least 100 in numerals and in words	recognise the place value of each digit in a two-digit number (tens, ones) To ask and answer questions about atext.		use place value and number facts to solve problems
Y3	count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	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 *tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks* (copied from Measurement)	recognise the place value of each digit in a three-digit number (hundreds, tens, ones)		solve number problems and practical problems involving these ideas.
Y4	count backwards through zero to include negative numbers count in multiples of	order and compare numbers beyond 1000 *compare numbers with the same number of decimal places up to two decimal places*	identify, represent and estimate numbers using different representations	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.	recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) *find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of*	round any number to the nearest 10, 100 or 1 000 *round decimals with one decimal place to the nearest whole number*	solve number and practical problems that involve all of the above and with increasingly large positive numbers

	6, 7, 9, 25 and 1000 find 1000 more or less than a given number	(copied from Fractions)			*the digits in the answer as units, tenths and hundredths* (copied from Fractions)	(copied from Fractions)	

Y5	interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero count forwards or backwards in steps of powers of 10 for any given number up to 1000 000	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)		read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Comparing Numbers) read Roman numerals to 1 000 (M) and recognise years written in Roman numerals.	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) *recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents* (copied from Fractions)	round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000 *round decimals with two decimal places to the nearest whole number and to one decimal place* (copied from Fractions)	solve number problems and practical problems that involve all of the above

Y6	use negative numbers in context, and calculate intervals across zero their meaning through contextual cues.	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)		read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Understanding Place Value)	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) *identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places* (copied from Fractions)	round any whole number to a required degree of accuracy *solve problems which require answers to be rounded to specified degrees of accuracy* (copied from Fractions)	solve number and practical problems that involve all of the above

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Addition and Subtraction					
Three and Four-Year-Olds Reception	**Number Bonds**	**Mental Calculation**	**Written Methods**	**Inverse Operations, Estimating and Checking Answers**	**Problem Solving**
FS **Early Learning Goals**		Automatically recall number bonds for numbers 0-5 and some to 10. Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.			Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.

Addition and Subtraction					
	Number Bonds	**Mental Calculation**	**Written Methods**	**Inverse Operations, Estimating and Checking Answers**	**Problem Solving**
Y1	represent and use number bonds and related subtraction facts within 20	add and subtract one-digit and two-digit numbers to 20, including zero read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Written Methods)	read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Mental Calculation)		solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ - 9
Y2	recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100	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 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	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 *solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change* (copied from Measurement)
Y3		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 inverse operations to check answers	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

Y4			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 operations and methods to use and why
Y5		add and subtract numbers mentally with increasingly large numbers	add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	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
Y6		perform mental calculations, including with mixed operations and large numbers use their knowledge of the order of operations to carry out calculations involving the four operations		use estimation 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 Solve problems involving addition, subtraction, multiplication and division

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Multiplication and Division							
Three and Four-Year-Olds Reception	**Multiplication and Division Facts**	**Mental Calculation**	**Written Calculation**	**Properties of Numbers: Multiples, Factors, Primes, Square and Cube Numbers**	**Order of Operation**	**Inverse Operations, Estimating and Checking Answers**	**Problem Solving**
FS **Early Learning Goals**							

Multiplication and Division							
	Multiplication and Division Facts	**Mental Calculation**	**Written Calculation**	**Properties of Numbers: Multiples, Factors, Primes, Square and Cube Numbers**	**Order of Operation**	**Inverse Operations, Estimating and Checking Answers**	**Problem Solving**
Y1	*count in multiples of twos, fives and tens* (copied from Number and Place Value)			.			
Y2	*count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward* (copied from Number and Place Value) recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, 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

Y3	*count from 0 in multiples of 4, 8, 50 and 100* (copied from Number and Place Value) 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 (appears also in Written Methods)	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 (appears also in Mental Methods)			*estimate the answer to a calculation and use inverse operations to check answers* (copied from Addition and Subtraction)	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
Y4	*count in multiples of 6, 7, 9, 25 and 1 000* (copied from Number and Place Value) 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 (appears also in Properties of Numbers)	multiply two-digit and three-digit numbers by a one-digit number using formal written layout	recognise and use factor pairs and commutativity in mental calculations (repeated)		*estimate and use inverse operations to check answers to a calculation* (copied from Addition and Subtraction)	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
Y5	*count forwards or backwards in steps of powers of 10 for any*	multiply and divide numbers mentally drawing upon known facts	multiply numbers up to 4 digits by a one- or two-digit number using a formal written	identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.			solve problems involving multiplication and division including using their

	given number up to 1 000 000 (copied from Number and Place Value)	multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	method, including long multiplication for two-digit numbers 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	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})			knowledge of factors and multiples, squares and cubes 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
Y6		perform mental calculations, including with mixed operations and large numbers *associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^3/_8$)* (copied from Fractions)	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 short division where appropriate for the context	identify common factors, common multiples and prime numbers *use common factors to simplify fractions; use common multiples to express fractions in the same denomination* (copied from Fractions) *calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3),*	use their knowledge of the order of operations to carry out calculations involving the four operations	use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy	solve problems involving addition, subtraction, multiplication and division *solve problems involving similar shapes where the scale factor is known or can be found* (copied from Ratio and Proportion)

			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 *use written division methods in cases where the answer has up to two decimal places* (copied from Fractions (including decimals))	*and extending to other units such as* mm^3 *and* km^3 (copied from Measures)			

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Number: Fractions (including Decimal and Percentages)										
Three and Four-Year-Olds Reception	**Counting in Fractional Steps**	**Recognising Fractions**	**Comparing Fractions**	**Comparing Decimals**	**Rounding including Decimals**	**Equivalence (including Fractions, Decimals and Percentages)**	**Addition and Subtraction of Fractions**	**Multiplication and Division of Fractions**	**Multiplication and Division of Decimals**	**Problem Solving**
FS Early Learning Goals										

Number: Fractions (including Decimal and Percentages)										
	Counting in Fractional Steps	**Recognising Fractions**	**Comparing Fractions**	**Comparing Decimals**	**Rounding including Decimals**	**Equivalence (including Fractions, Decimals and Percentages)**	**Addition and Subtraction of Fractions**	**Multiplication and Division of Fractions**	**Multiplication and Division of Decimals**	**Problem Solving**
Y1		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								

Y2	*Pupils should count in fractions up to 10, starting from any number and using the1/2 and 2/4 equivalence on the number line (Non Statutory Guidance)*	recognise, find, name and write fractions $^1/_3$, $^1/_4$, $^2/_4$ and $^3/_4$ of a length, shape, set of objects or quantity				write simple fractions e.g. $^1/_2$ of 6 = 3 and recognise the equivalence of $^2/_4$ and $^1/_2$.				
Y3	count up and down in tenths	recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10. recognise and use fractions	compare and order unit fractions, and fractions with the same denominators			recognise and show, using diagrams, equivalent fractions with small denominators	add and subtract fractions with the same denominator within one whole (e.g. $^5/_7 + ^1/_7 = ^6/_7$)			solve problems that involve all of the above

		as numbers: unit fractions and non-unit fractions with small denominators								

Y4	count up and down in hundredths	recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten		compare numbers with the same number of decimal places up to two decimal places	round decimals with one decimal place to the nearest whole number	recognise and show, using diagrams, families of common equivalent fractions recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to $^{1}/_{4}$; $^{1}/_{2}$; $^{3}/_{4}$	add and subtract fractions with the same denominator		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 problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number solve simple measure and money problems involving fractions and

										decimals to two decimal places.

Y5		recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (appears also in Equivalence)	compare and order fractions whose denominators are all multiples of the same number	read, write, order and compare numbers with up to three decimal places	round decimals with two decimal places to the nearest whole number and to one decimal place	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths read and write decimal numbers as fractions (e.g. 0.71 = $^{71}/_{100}$) recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents recognise the per cent symbol (%) and understand that per cent relates to "number of	add and subtract fractions with the same denominator and multiples of the same number 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. $^{2}/_{5} + ^{4}/_{5} = ^{6}/_{5} = 1^{1}/_{5}$)	multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams		solve problems involving numbers up to three decimal places 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.

						parts per hundred", and write percentages as a fraction with denominator 100 as a decimal fraction				

Y6			compare and order fractions, including fractions >1	identify the value of each digit in numbers given to three decimal places	solve problems which require answers to be rounded to specified degrees of accuracy	use common factors to simplify fractions; use common multiples to express fractions in the same denomination associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^{3}/_{8}$) recall and use equivalences	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 (e.g. $^{1}/_{4} \times {}^{1}/_{2} = {}^{1}/_{8}$) multiply one-digit numbers with up to two decimal places by whole numbers divide proper fractions by whole numbers (e.g. $^{1}/_{3} \div 2 = {}^{1}/_{6}$)	multiply one-digit numbers with up to two decimal places by whole numbers multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places identify the value of each digit to three decimal places and multiply and	

						between simple fractions, decimals and percentages, including in different contexts.			divide numbers by 10, 100 and 1000 where the answers are up to three decimal places associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^{3}/_{8}$) use written division methods in cases where the answer has up to two decimal places	

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Ratio and Proportion	
Three and Four-Year-Olds Reception	
FS Early Learning Goals	

Ratio and Proportion	
Y1	
Y2	
Y3	
Y4	
Y5	

Y6	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

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Algebra			
Three and Four-Year-Olds Reception	**Equations**	**Formulae**	**Sequences**
FS **Early Learning Goals**			

Algebra			
	Equations	**Formulae**	**Sequences**
Y1	*solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and* ***missing number problems*** *such as* *7 = □ - 9* (copied from Addition and Subtraction)		*sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening* (copied from Measurement)

	represent and use number bonds and related subtraction facts within 20 (copied from Addition and Subtraction)		
Y2	*recognise and use the inverse relationship between addition and subtraction and use this to check calculations and* ***missing number*** *problems.* (copied from Addition and Subtraction) *recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100* (copied from Addition and Subtraction)		*compare and sequence intervals of time* (copied from Measurement) *order and arrange combinations of mathematical objects in patterns* (copied from Geometry: position and direction)
Y3	solve problems, *including* ***missing number*** *problems, using number facts, place value, and more complex addition and subtraction.* (copied from Addition and Subtraction) *solve problems, including* ***missing number*** *problems, involving multiplication and division, including integer scaling* (copied from Multiplication and Division)		
Y4		*Perimeter can be expressed algebraically as 2(a + b) where a and b are the dimensions in the same unit. (Copied from NSG measurement)*	
Y5	*use the properties of rectangles to deduce related facts and find* ***missing lengths and angles*** (copied from Geometry: Properties of Shapes)		

Y6	express missing number problems algebraically find pairs of numbers that satisfy number sentences involving two unknowns enumerate all possibilities of combinations of two variables	use simple formulae *recognise when it is possible to use **formulae** for area and volume of shapes* (copied from Measurement)	generate and describe linear number sequences

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Measurement (all Strands)				
Three and Four-Year-Olds Reception	**Comparing and Estimating**	**Measuring and Calculating**	**Telling the Time**	**Converting**
FS **Early Learning Goals**	Make comparisons between objects relating to size, length, weight and capacity Compare length, weight and capacity	Combine shapes to make new ones – an arch, a bigger triangle, etc. Select, rotate and manipulate shapes in order to develop spatial reasoning skills	Begin to describe a sequence of events, real or fictional, using words, such as 'first', 'then…'	

Measurement (all Strands)				
	Comparing and Estimating	**Measuring and Calculating**	**Telling the Time**	**Converting**
Y1	compare, describe and solve practical problems for: * lengths and heights [e.g. long/short,	measure and begin to record the following: * **lengths and heights** * **mass/weight** * **capacity and volume**	tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	

	longer/shorter, tall/short, double/half] * mass/weight [e.g. heavy/light, heavier than, lighter than] * capacity and volume [e.g. full/empty, more than, less than, half, half full, quarter] time [e.g. quicker, slower, earlier, later] sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	* **time** (hours, minutes, seconds**)** recognise and know the value of different denominations of **coins and notes**	recognise and use language relating to dates, including days of the week, weeks, months and years	

Y2	compare and order lengths, mass, volume/capacity and record the results using >, < and = compare and sequence intervals of time	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 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	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 day. (appears also in Converting)	know the number of minutes in an hour and the number of hours in a day. (appears also in Telling the Time)
Y3	compare durations of events, for example to calculate the time taken by particular events or tasks estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon	measure, compare, add and subtract: **lengths** (m/cm/mm); **mass** (kg/g); **volume/capacity** (l/ml) measure the **perimeter** of simple 2-D shapes add and subtract amounts of **money** to give change, using both £ and p in practical contexts	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, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Comparing and Estimating)	know the number of seconds in a minute and the number of days in each month, year and leap year

	and midnight (appears also in Telling the Time)			
Y4	estimate, compare and calculate different measures, including money in pounds and pence (also included in Measuring)	estimate, compare and calculate **different measures,** including **money in pounds and pence** (appears also in Comparing) measure and calculate the **perimeter** of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares	read, write and convert time between analogue and digital 12 and 24-hour clock (appears also in Converting) solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Converting)	convert between different units of measure (e.g. kilometre to metre; hour to minute) read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting) solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Telling the Time)
Y5	calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of	use all four operations to solve problems involving measure (e.g. **length, mass, volume, money**) using decimal notation including scaling measure and calculate the **perimeter** of composite rectilinear shapes in centimetres and metres	read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting) solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Converting)	convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) solve problems involving converting between units of time

	irregular shapes (also included in measuring) estimate volume (e.g. using 1 cm^3 blocks to build cubes and cuboids) and capacity (e.g. using water)	calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes *recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})* (copied from Multiplication and Division)		understand and use equivalences between metric units and common imperial units such as inches, pounds and pints

Y6	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 such as mm^3 and km^3	solve problems involving the calculation and conversion of **units of measure**, using decimal notation up to three decimal places where appropriate (appears also in Converting) recognise that shapes with the same areas can have different **perimeters** and vice versa 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 [e.g. mm^3 and km^3]		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 solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate (appears also in Measuring and Calculating) convert between miles and kilometres

		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 [e.g. mm^3 and km^3] recognise when it is possible to use formulae for area and volume of shapes		

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Geometry: Properties of Shapes				
Three and Four-Year-Olds Reception	**Identifying Shapes and their Properties**	**Drawing and Constructing**	**Comparing and Classifying**	**Angles**
FS **Early Learning Goals**	Select shapes appropriately: flat surfaces for a building, a triangular pattern for a roof, etc.	Combine shapes to make new ones – an arch, a bigger triangle, etc. Select, rotate and manipulate shapes in order to develop spatial reasoning skills Compose and decompose shapes so that children can recognise a shape can have other shapes within it, just as numbers can Draw information from a simple map	Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners', 'straight', 'flat', 'round'. Make comparisons between objects relating to size, length, weight and capacity Compare length, weight and capacity	

Geometry: Properties of Shapes				
	Identifying Shapes and their Properties	**Drawing and Constructing**	**Comparing and Classifying**	**Angles**
Y1	recognise and name common 2-D and 3-D shapes, including: * 2-D shapes [e.g. rectangles (including squares), circles and triangles] * 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres]. yesterday, tomorrow, morning, afternoon and evening]			
Y2	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	

Y3		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
Y4	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	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
Y5	identify 3-D shapes, including cubes and other cuboids, from 2-D representations	draw given angles, and measure them in degrees (^{o})	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	know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles identify: * angles at a point and one whole turn (total 360^{o}) * angles at a point on a straight line and ½ a turn (total 180^{o}) other multiples of 90^{o}

Y6	recognise, describe and build simple 3-D shapes, including making nets (appears also in Drawing and Constructing) illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius	draw 2-D shapes using given dimensions and angles recognise, describe and build simple 3-D shapes, including making nets (appears also in Identifying Shapes and Their Properties)	compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons	* recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles

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Geometry: Position and Movement		
Three and Four-Year-Olds Reception	**Position, Direction and Movement**	**Pattern**
FS **Early Learning Goals**	Understand position through words alone – for example, "The bag is under the table," – with no pointing. Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind'.	Talk about and identify the patterns around them. For example, stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc. Notice and correct an error in a repeating Extend and create ABAB patterns – stick, leaf, stick, leaf Continue, copy and create repeating patterns Notice and correct an error in a repeating pattern

Geometry: Position and Movement		
	Position, Direction and Movement	**Pattern**

Y1	describe position, direction and movement, including half, quarter and three-quarter turns	
Y2	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)	order and arrange combinations of mathematical objects in patterns and sequences
Y3		
Y4	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	
Y5	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	
Y6	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	

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Statistics		
Three and Four-Year-Olds Reception	**Interpreting, Constructing and Presenting Data**	**Problem Solving**

FS **Early Learning Goals**	Experiment with their own symbols and marks, as well as numerals.	

Statistics		
	Interpreting, Constructing and Presenting Data	**Problem Solving**
Y1		
Y2	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 category and sorting the categories by quantity ask and answer questions about totalling and comparing categorical data	
Y3	interpret and present data using bar charts, pictograms and tables	solve one-step and two-step questions [e.g. 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.
Y4	interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs
Y5	complete, read and interpret information in tables, including timetables	solve comparison, sum and difference problems using information presented in a line graph

Y6	interpret and construct pie charts and line graphs and use these to solve problems	calculate and interpret the mean as an average