# O.L.S.P.

## **OLSP**

# Maths

# Components of Knowledge

### Number and Place Value

					NTING		1	1	
22 - 36 months	30 – 50 months	40 - 60 months	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Selects a small number of	Uses some number names	Counts up to three or four	Children count reliably	count to and across 100,			count backwards through	interpret negative numbers	use negative numbers in
objects from a group when asked, for example, 'please	and number language spontaneously.	objects by saying one	with numbers from 1 to 20	forwards and backwards, beginning with 0 or 1, or			zero to include negative numbers	in context, count forwards and backwards with	context, and calculate intervals across zero
give me one', 'please give	Uses some number names	number name for each item.		from any given number			numbers	positive and negative	intervals across zero
me two.	accurately in play.	Counts actions or objects	counting on or back to	gront any given number				whole numbers, including	
Recites some number	Recites numbers in order	which cannot be moved.	lind an answer					through zero	
names in sequence.	to 10.	Counts objects to 10 and	gain and answer					uu ougi v zei o	
raunes at sequence.	Realises not only objects,	beginning to count beyond							
	but anything can be	10.							
	counted, including steps,	Counts out up to six							
	claps or jumps.	objects from a larger							
		group.							
		Counts an irregular							
		arrangement of up to ten							
		objects.							
	Knows that numbers	Estimates how many		count, read and write	count in steps of 2, 3, and	count from 0 in multiples	count in multiples of 6, 7,	count forwards or	
	identify how many objects	objects they can see and		numbers to 100 in	5 from 0, and in tens from	of 4, 8, 50 and 100;	9, 25 and 1000	backwards in steps of	
	are in a set.	checks by counting them.  Finds the total number of		numerals; count in	any number, forward or backward			powers of 10 for any given number up to 1000 000	
		items in two groups by		multiples of twos, fives and tens	backwara			пштивет щр из 1000 000	
		counting all of them.		unu tens					
		Says the number that is	Place numbers 1 – 20 in	given a number, identify		find 10 or 100 more or less	find 1000 more or less		
		one more than a given	order and say which	one more and one less		than a given number	than a given number	1	
		number.	number is one more or one						
		Finds one more or one less	less than a given number.						
		from a group of up to five							
		objects, then ten objects.							
Danius towards	C	11 th - 1			G NUMBERS				
Begins to make comparisons between	Compares two groups of objects, saying when they	Uses the language of 'more' and 'fewer' to		use the language of: equal to, more than, less than	compare and order numbers from 0 up to	compare and order numbers up to 1000	order and compare numbers beyond 1000	read, write, order and compare numbers to at	read, write, order and compare numbers up to
quantities.	have the same number.	compare two sets of		(fewer), most, least	100; use <, > and = signs	Turnibers up to 1000	numbers begond 1000	least 1000 000 and	10 000000 and determine
Uses some language of	rave the same name.	objects.		geway, mose, tease	100, use 1, 1 unu signs			determine the value of	the value of each digit
quantities, such as 'more'		ongecta.						each digit	(appears also in Reading
and 'a lot'.								(appears also in Reading	and Writing Numbers)
								and Writing Numbers)	,
							compare numbers with the		
							same number of decimal		
							places up to two decimal		
							places		
						1	(copied from Fractions)		
	Shows an interest in	Records, using marks that		identifyING, REPRESENTING identify and represent	G AND ESTIMATING NUMBERS identify, represent and	identify, represent and	identify, represent and	T	
	representing numbers.	they can interpret and		numbers using objects and	estimate numbers using	estimate numbers using	estimate numbers using		
	representing numbers.	explain.		pictorial representations	different representations,	different representations	different representations		
	Shows an interest in	Selects the correct numeral		including the number line	including the number line	aggerera representations	aggerera representations		
	numerals in the	to represent 1 to 5, then 1		including the name and					
	environment.	to 10 objects.							
		Estimates how many							
		objects they can see and							
		checks by counting them.							
		l a :			ERS (including Roman Numero		1	T	
Creates and experiments	Beginning to represent	Recognise some numerals	Place numbers 1 – 20 in	read and write numbers	read and write numbers to	read and write numbers		read, write, order and	read, write, order and
with symbols and marks representing ideas of	numbers using fingers, marks on paper or	of personal significance.	order.	from 1 to 20 in numerals and words.	at least 100 in numerals and in words	up to 1000 in numerals and in words	1	compare numbers to at least 1000 000 and	compare numbers up to 10 000 000 and determin
representing iteas of number.	pictures.	Recognises numerals 1 to		ana woras.	and in words	and in words		determine the value of	the value of each digit
runuser.	pictures.	5.					1	each digit	(appears also in
	Sometimes matches	J.					1	(appears also in	Understanding Place
	numeral and quantity						1	Comparing Numbers)	Value)
	correctly.							g	,,
	<b>"</b>					tell and write the time	read Roman numerals to	read Roman numerals to 1	
						from an analogue clock,	100 (I to C) and know	000 (M) and recognise	
						including using Roman	that over time, the	years written in Roman	
						numerals from I to XII,	numeral system changed	numerals.	
						and 12-hour and 24-hour	to include the concept of		
						clocks	zero and place value.	1	
						(copied from			
						Measurement)			
		i	i		1	1	i .	i .	1

recognise the place value of each digit in a twor- digit number (tens, ones)    Find the affect of displace in Reading and Worting Numbers or a leach digit can be value of each digit in a form of determine the value of determine the value (appears also in Reading and Worting Numbers)   Find the affect of dividing an one- or two-digit (appears also in Reading and Worting Numbers)   Find the affect of dividing an one- or two-digit (appears also in Reading and Worting Numbers)   Find the affect of dividing an one- or two-digit (appears also in Reading and Worting Numbers)   Find the affect of dividing an one- or two-digit (appears also in Reading and Worting Numbers)   Worting Numbers   Wor						NG PLACE VALUE				
gé each digit in a threa- digit number (tens, one)  grach digit in a four- digit number (tens, one)  grach digit in a four- digit number (tens, one)  phot the effect of dividing- a one or two digit number by 10 and 100; literaphing the value of the digits or the onewer as the tens and decrease the number by 10 and 100; literaphing the value of the digits to the onewer as the number by 10 and 100; literaphing the value of the digits to the onewer as the number of the one of two digits (expears ale one or two digit number by 10 and 100; literaphing the value of the digits to the onewer as the number of the one of two digits then to treatis, hundredits, compare number to the nearest 10, 100 or 1000  To one of two digit number (tens, one)  ROUNDING	22 - 36 months	30 – 50 months	40 – 60 months	ELG	Year 1	Year 2				Year 6
Shows curiosity about number of the source of the content of the con										read, write, order and
tens, onee) hundreds, tens, and ones) each digit (appears also in Reading and Writin Parameters and Certain Section of the value of the value of the digits in the answer										compare numbers up to
ech digit (appears also in Reading and Writing Numbers)  Progress on the region of the effect of dividing a cone- or two-digit number by 10 and 100, identifying the value of the digits in the enswer as units, tenths and decirnal sequivalents (copied from Fractions)  ROUNDING						digit number (tens, ones)	digit number (hundreds,			10 000 000 and determin
ROUNDING  ROUNDI							tens, ones)	hundreds, tens, and ones)		the value of each digit
ROUNDING  ROUNDI										(appears also in Reading
ROUNDING  ROUNDI										and Writing Numbers)
ROUNDING  ROUNDI									8 ,	
ROUNDING  ROUNDI										identify the value of each
ROUNDING  ROUNDI										digit to three decimal
the digits in the answer as units, tenths and hundredths (copied from Fractions)  ROUNDING  ROUN										places and multiply and
ROUNDING  ROUNDI										divide numbers by 10, 100
ROUNDING  ROUNDI										and
ROUNDING  ROUNDI									(copied from Fractions)	1000 where the answers
ROUNDING  ROUNDING  Tround any number to the nearest 10, 100 or 1000 100, 1000, 10 000 and 100 000 and 100 000 100, 1000, 10 000 and 100 000 and 100 000 100, 1000, 10 000 and 100 000 and 100 000 100, 1000, 10 000 and 100 000 and 100 000 100, 1000, 10 000 and 100 000 and 100 000 100, 1000, 10 000 and 100 000 and 100 000 100, 1000, 10 000 and 100 000 and 100 000 100, 1000, 10 000 and 100 000 and 100 000 100, 1000, 10 00 00 and 100 000 and 100 000 and 100 000 100, 1000, 10 00 00 and 100 000 and 100 000 and 100 000 100, 1000, 10 00 10 00 and 100 000 and 100 000 100, 1000, 10 00, 10 00 10 00 and 100 000 and 100 000 100, 1000, 10 00, 100, 10 00 00 and 100 000 and 100 000 and 100 000 100, 1000, 1000, 100 on 100 and 100 000 and 100 and 100 and 100 and 100 000 and 100										are up to three decimal
ROUNDING    Tound any number to the nearest 10, 100 or 1000   100, 1000, 10 000 of the nearest 10, 100, 1000, 10 000 and 100 000 of the nearest 10, 100, 1000, 10 00 and 100 000 of the nearest 10, 100, 1000, 10 00 and 100 000 of the nearest 10, 100, 100, 100, 100, 100 and 100 of the nearest 10, 100, 100, 100, 100, 100, 100, 100,								(copied from Fractions)		places (copied from
PROBLEM SOLVING  Shows curiosity about numbers by offering comments or asking questions. Shows an interest in number problems. Separates a group of three or of gour objects in a different between the fine of the problems and fascinations.  Tound any number up to 1 (100, 1000, 10000 and										Fractions)
PROBLEM SOLVING  Shows curiosity about number by offering comments or asking questions. Shows an interest in number so or sking questions. Shows an interest in number problems. Separates a group of three or four objects in different in the form of the problems of the near of the ne		_			ROUN	NDING	1			
Shows curiosity about numbers by offering comments or asking questions. Shows a interest in number problems. Separates a group of three or four objects in different series and process of the or four objects in different series with two decimal place with two decimal place with two decimal places to the nearest whole number and to one decimal place (copied from Fractions)  PROBLEM SOLVING   Solve problems using number packets of a solve number problems and practical problems involving these ideas.  Solve number problems involving these ideas.  Separates a group of three or four objects in different series of the commendation of the decimal place (copied from Fractions)  Solve problems using number facts to solve number problems involving these ideas.  Solve number and practical problems involving these ideas.  Solve number and practical problems involving these ideas.  Solve number and practical problems and practical problems involving these ideas.  Solve number problems and practical problems involving these ideas.										round any whole number
PROBLEM SOLVING  Shows curiosity about numbers by offering comments or asking questions. Separate a group of three or four originate in originations. Separate a group of three or four origination in the problems. Separate a group of three or four origination in different in the problems of the problems of the problems and fascinations. Solve problems with two decimal place to the nearest whole number and to one decimal place to the nearest whole number (copied from Fractions)  PROBLEM SOLVING   use place value and number problems and practical problems involving these ideas.  Solve number problems and practical problems involving these ideas.  Solve number and practical problems and practical problems involving these ideas.  Solve number and practical problems involving these ideas.  Solve number problems and practical problems involving these ideas.  Solve number problems and practical problems involving these ideas.  Solve number problems and practical problems involving these ideas.  Solve number problems and practical problems involving these ideas.  Solve number problems and practical problems involving these ideas.  Solve number problems and practical problems involving these ideas.  Involve all of the above and with increasingly large positive numbers.  Solve number problems and practical problems involving these ideas.  Involve all of the above and with increasingly large positive numbers.  Solve number problems and practical problems involve all of the above and with increasingly large positive numbers.								nearest 10, 100 or 1 000		to a required degree of
PROBLEM SOLVING  Shows curiosity about numbers by offering comments or asking questions. Shows an interest in number problems. Separates a group of three or four origicets in digiterent.  Separates a group of three or four origicets in digiterent.										accuracy
A decimal place to the nearest whole number (copied from Fractions)  PROBLEM SOLVING  Shows curiosity about numbers 1 of 20, including questions. Shows an interest in number problems. Separates a group of three or four objects in different.										
PROBLEM SOLVING  Shows curiosity about numbers by effering comments or asking questions. Shows an interest in number problems. Separates a group of three or four objects in different in the problems or special problems or four objects in different in the problems or four objects in different in the problems of provided to the degrees of an attempting to one decimal place (copied from Fractions)  PROBLEM SOLVING  Solve problems using numbers 1 - 20, including doubling, halving and sharing. (copied from addition and subtraction)  Solve problems using number facts to solve number problems and practical problems involving these ideas.  Separates a group of three or four objects in different in the problems and practical problems involving these ideas.  Solve number problems involving these ideas.  Involve all of the above and with increasingly large positive numbers.  Separates a group of three or four objects in different involve all of the above and with increasingly large positive numbers.  Solve number problems involve all of the above and with increasingly large positive numbers.  Solve number problems involve all of the above and with increasingly large positive numbers.										solve problems which
PROBLEM SOLVING  Shows curiosity about numbers by offering comments or asking questions. Shows an interest in number problems. Separates a group of three or four objects in different in the contraction of the problems and subtraction)  PROBLEM SOLVING  Use place value and number facts to solve number problems and practical problems involving these ideas.  Separates a group of three or four objects in different in the contraction of the problems and practical problems involving these ideas.  Separates a group of three or four objects in different in the contraction of the contr										require answers to be
Shows curiosity about numbers by offering comments or asking questions. Shows an interest in number problems. Separates a group of three or four objects in different										rounded to specified
Shows curiosity about Begins to identify own numbers by offering comments or asking comments or asking and fascinations.  Shows an interest in numbers a group of three or four objects in different								(copied from Fractions)		degrees of accuracy (copied from Fractions)
Shows curiosity about numbers by Offering comments or asking comments or asking questions.  Shows an interest in number problems.  Separates a group of three or four objects in different.					PPORI EM	SOLVING			(copied from Fractions)	grom Fractions)
numbers by offering comments or asking questions. Shows an interest in number problems. Separates a group of three or four objects in different		Shows curiosity about	Bogins to identify own	Salva prablame usina	I ROBLEM		eating number problems	salva number and	eals number problems	solve number and
comments or asking, questions. Shows an interest in number problems. Separates a group of three or four objects in different.										practical problems that
questions. and fascinations. sharing. (copied from addition and subtraction) Shows an interest in number problems. Separates a group of three or four objects in different										involve all of the above
Shows an interest in addition and subtraction) number problems. Separates a group of three or four objects in different		8				риотмента	a working wese weeks.			awowe an of the above
number problems. Separates a group of three or four objects in different			and juscinium.						above	
Separates a group of three or four objects in different				addition and state dealing				an go positive runtigers		
or four objects in different										
		ways, beginning to								
recognise that the total is										
still the same.										

### Addition and Subtraction

				NUMBER	R BONDS				
22 - 36 months	30 - 50 months	40 - 60 months	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				represent and use number	recall and use addition				
				bonds and related	and subtraction facts to				
				subtraction facts within	20 fluently, and derive				
				20	and use related facts up to				
		<u> </u>		MENTAL CA	100 LCULATION	<u> </u>		<u> </u>	
		1	1	add and subtract one-digit	add and subtract numbers	add and subtract numbers		add and subtract numbers	perform mental
				and two-digit numbers to	using concrete objects,	mentally, including:		mentally with increasingly	calculations, including
				20, including zero	pictorial representations,	a three-digit number and		large numbers	with mixed operations and
				,	and mentally, including:	ones			large numbers
					a two-digit number and	a three-digit number and			
					ones	tens			
					a two-digit number and	a three-digit number and			
					tens	hundreds			
					two two-digit numbers				
					adding three one-digit numbers				
				read, write and interpret	show that addition of two				use their knowledge of the
				mathematical statements	numbers can be done in				order of operations to
		1		involving addition (+),	any order (commutative)	1		1	carry out calculations
				subtraction (-) and equals	and subtraction of one				involving the four
				(=) signs	number from another				operations
				(appears also in Written	cannot				
				Methods)					
			1		METHODS				1
				read, write and interpret		add and subtract numbers	add and subtract numbers	add and subtract whole	
				mathematical statements involving addition (+),		with up to three digits, using formal written	with up to 4 digits using the formal written	numbers with more than 4 digits, including using	
				subtraction (-) and equals		methods of columnar	methods of columnar	formal written methods	
				(=) signs		addition and subtraction	addition and subtraction	(columnar addition and	
				(appears also in Mental			where appropriate	subtraction)	
				Calculation)					
			INVE	RSE OPERATIONS, ESTIMATION					
					recognise and use the	estimate the answer to a	estimate and use inverse	use rounding to check	use estimation to check
					inverse relationship	calculation and use	operations to check	answers to calculations	answers to calculations
					between addition and	inverse operations to check	answers to a calculation	and determine, in the	and determine, in the
					subtraction and use this to check calculations and	answers		context of a problem,	context of a problem, levels of accuracy.
					solve missing number			levels of accuracy	levels of accuracy.
					problems.				
				PROBLEM	SOLVING				
Knows that a group of		Finds the total number of	Using quantities and	solve one-step problems	solve problems with	solve problems, including	solve addition and	solve addition and	solve addition and
things changes in quantity		items in two groups by	objects, they add and	that involve addition and	addition and subtraction:	missing number problems,	subtraction two-step	subtraction multi-step	subtraction multi-step
when something is added		counting all of them.	subtract two single-digit	subtraction, using concrete	using concrete objects and	using number facts, place	problems in contexts,	problems in contexts,	problems in contexts,
or taken away.		In practical activities and	numbers and count on or	objects and pictorial	pictorial representations,	value, and more complex	deciding which operations	deciding which operations	deciding which operations
		discussion, beginning to	back to find the answer.	representations, and	including those involving	addition and subtraction	and methods to use and	and methods to use and	and methods to use and
		use the vocabulary	Solve problems using	missing number problems such as	numbers, quantities and measures		why	why	why
		involved in adding and subtracting.	numbers 1 – 20.	sucn as 7 = □ - 9	measures applying their increasing				
		Sand acting.	including doubling,	1 - 🗆 - 9	knowledge of mental and				
			halving and sharing.		written methods				
					solve simple problems in a				Solve problems involving
					practical context involving				addition, subtraction,
		1			addition and subtraction	1		1	multiplication and division
					of money of the same				
					unit, including giving				
		1			change (copied from Measurement)	1		1	
		1	1		<u> меаѕигетепі)</u>	1		1	1

### Multiplication and Division

				MULTIPLICATION	& DIVISION FACTS				
22 - 36 months	30 - 50 months	40 - 60 months	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				count in multiples of twos, fives and tens (copied from Number and Place Value)	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	count from 0 in multiples of 4, 8, 50 and 100 (copied from Number and Place Value) recall and use	count in multiples of 6, 7, 9, 25 and 1000 (copied from Number and Place Value)  recall multiplication and	count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 (copied from Number and Place Value)	
					multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	multiplication and division facts for the 3, 4 and 8 multiplication tables	recail multiplication and division facts for multiplication tables up to 12 × 12		
				MENTAL CA	LCULATION	write and calculate	use place value, known	multiply and divide	perform mental
						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)	and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers	numbers mentally drawing upon known facts	calculations, including with mixed operations and large numbers
					show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot		recognise and use factor pairs and commutativity in mental calculations (appears also in Properties of Numbers)	multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. <sup>3</sup> /s) (copied from Fractions)
	ı	T	T	WRITTEN CA		I 5 1 1 1 1	I 62 1 2 2 2 2	L terr to a second	101 100
					calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (*), division (*) and equals (=) signs	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)	multiply two-digit and three-digit numbers by a one-digit number using formal written layout	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 multi-digit numbers up to 4 digits by a two-digit whole number using the formal written methort of long multiplication
								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	divide numbers up to 4- digits by a two-digit whote number using the formal written method of short division where appropriate for the context divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whote 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))

			PROPERTIES OF	F NUMBERS: MULTIPLES, FAC	TORS, PRIMES, SQUARE AND	CUBE NUMBERS			
22 - 36 months	30 - 50 months	40 - 60 months	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
							recognise and use factor pairs and commutativity in mental calculations (repeated)	identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.	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)
								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	calculate, estimate and compare volume of cubes and cuboids using standard units, including
								()	centimetre cubed (cm) and cubic metres (m), and extending to other
									units such as mm and km (copied from Measures)
				ORDER OF (	PERATIONS				
									use their knowledge of the order of operations to carry out calculations involving the four operations
			IN	IVERSE OPERATIONS, ESTIMA	TING AND CHECKING ANSWE	ERS			орожиота
						estimate the answer to a calculation and use inverse operations to check answers (copied from Addition and Subtraction)	estimate and use inverse operations to check answers to a calculation (copied from Addition and Subtraction)		use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy
	1				SOLVING				
				solve one-step problems involving multiplication and divisiom, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	solve problems involving multiplication and divisiom, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	solve problems, including, missing number problems, involving multiplication and divisiom, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects	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	solve problems involving, multiplication and division including using their knowledge of factors and multiples, squares and cubes	solve problems involving addition, subtraction, multiplication and division
								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 similar shapes where the scale factor is known or can be found (copied, from Ratio and Proportion)

Fractions (including Decimals and Percentages)

			116666		ATTIMIS WILL PERC	er wages j			
22 - 36 months	30 - 50 months	40 - 60 months	ELG	COUNTING IN FR	ACTIONAL STEPS Year 2	Year 3	Year 4	Year 5	Year 6
and the months	33 33 HOMAIS	TO COMMISSION		10001	Pupils should count in fractions up to 10, starting from any number and using the!/2 and 2/4 equivalence on the number line (Non Statutory Guidance)	count up and down in tenths	count up and down in hundredths		
				PECOGNISIN	G FRACTIONS				
				recognise, find and name a half as one of two equal parts of an object, shape or quantity	recognise, find, name and write fractions 1, 1, 2, 4 and 3, of a length, shape, set of objects or quantity	recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (appears also in Equivalence)	
				recognise, find and name		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			
				a quarter as one of four equal parts of an object, shape or quantity		fractions as numbers: unit fractions and non-unit fractions with small denominators			
			T	COMPARING	FRACTIONS				T
						compare and order unit fractions, and fractions with the same denominators		compare and order fractions whose denominators are all multiples of the same number	compare and order fractions, including fractions >1
				ROUNDING INCL	UDING DECIMALS				
							round decimals with one decimal place to the nearest whole number	round decimals with two decimal places to the nearest whole number and to one decimal place	solve problems which require answers to be rounded to specified degrees of accuracy
	T	T	EQUIV	ALENCE (INCLUDING FRACTIO				1	T
					write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	recognise and show, using diagrams, equivalent fractions with small denominators	recognise and show, using diagrams, families of common equivalent fractions	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	use common factors to simplify fractions; use common multiples to express fractions in the same denomination
							recognise and write decimal equivalents of any number of tenths or hundredths	read and write decimal numbers as fractions (e.g. 0.71 = //)	associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. <sup>3</sup> /)
								recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	8
				ADDITION AND CHOSE	ACTION OF FRACTIONS		recognise and write  decimal equivalents to /;  /; /; /; /; /; /; /; /; /; /; /; /;	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 as a decimal fraction	recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
22 – 36 months	30 - 50 months	40 - 60 months	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				-		add and subtract fractions with the same denominator within one whole (e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$ )	add and subtract fractions with the same denominator	add and subtract fractions with the same denominator and multiples of the same number	add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

				MULTIPLICATION AND D	DIVISION OF FRACTIONS			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. / + / = / = 1/)  multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. / x / 2 = / 8)  multiply one-digit
									numbers with up to two decimal places by whole numbers  divide proper fractions by whole numbers (e.g. 1/3 +
									2 = 1/6)
22 - 36 months	30 - 50 months	40 - 60 months	ELG	MULTIPLICATION AND	DIVISION OF DECIMALS Year 2	Year 3	Year 4	Year 5	Year 6
22 – 30 months	30 - 50 months	40 - 00 months	ELG	Year 1	reur Z	rear 3	reur 4	reur 5	Year 6  multiply one-digit numbers with up to two decimal places by whole numbers
							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		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 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. <sup>3</sup> /s)
									use written division methods in cases where the answer has up to two decimal places
	1	<u> </u>	I	PROBLEM	SOLVING	solve problems that	edua prablame invaluire	edus probleme involvice	
						sowe pronems that involve all of the above	solve problems involving increasingly harder fractioms to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number	solve problems involving numbers up to three decimal places	
							solve simple measure and money problems involving fractions and decimals to two decimal places.	solve problems which require knowing percentage and decimal equivalents of \( \frac{1}{2}, \frac{1}{2}, \frac{1}{2}, \frac{1}{2} \frac{1}{2} \frac{1}{2}, \frac{1}{2} \frac{1}	

### Ratio and Proportion

	Statements only appear in Year 6 but should be connected to previous learning, particularly fractions and multiplication and division										
22 - 36 months	30 - 50 months	40 - 60 months	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6		
									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.		

### Algebra

				EQUA	TIONS				
22 - 36 months	30 - 50 months	40 - 60 months	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				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)	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)	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. (copied from Addition and Subtraction)		use the properties of rectangles to deduce related facts and find <b>missing lengths and</b> <b>angles</b> (copied from Geometry: Properties of Shapes)	express missing number problems algebraically
						solve problems, including missing number problems, involving multiplication and division, including integer scaling (copied from Multiplication and Division)			
					recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 (copied from Addition and Subtraction)				find pairs of numbers that satisfy number sentences involving two unknowns
				represent and use number bonds and related subtraction facts within 20 (copied from Addition and Subtraction)					enumerate all possibilities of combinations of two variables
		·	•	FORM	IULAE	l e e e e e e e e e e e e e e e e e e e			<u> </u>
							Perimeter can be expressed algebraically as 2(a + b) where a and b are the dimensions in the same unit. (Copied from NSG measurement)		use simple formulae
							measurement		recognise when it is possible to use <b>formulae</b> for area and volume of shapes (copied from Measurement)
					ENCES				•
				sequence events in chromological order using, language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening (copied, from Measurement)	compare and sequence intervals of time (copied from Measurement)				generate and describe linear number sequences
					order and arrange combinations of mathematical objects in patterns (copied from Geometry: position and direction)				

### Measurement

					ND ESTIMATING				
22 - 36 months	30 - 50 months	40 - 60 months	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understands some talk about immediate past and		Orders two or three items by length or height.	Children use everyday language to talk about	compare, describe and solve practical problems	compare and order lengths, mass,		estimate, compare and calculate different	calculate and compare the area of squares and	calculate, estimate and compare volume of cubes
future, e.g. ' <i>before</i> ', ' <i>later</i> <sup>1</sup>		ing terigure or rieignic.	size, weight, capacity,	for:	volume/capacity and		measures, including	rectangles including using	and cuboids using
or 'soon'.		Orders two items by	position, distance, time	* lengths and heights	record the results using >,		money in pounds and	standard units, square	standard units, including
01 30070.		weight or capacity.	and money to compare	[e.g. long/short,	< and =		nence	2	3
Anticipates specific time-		weight of capacity.	quantities and objects	longer/shorter,			(also included in	centimetres (cm ) and	centimetre cubed (cm.)
based events such as		Beginning to use everyday	and to solve problems.	tall/short,			Measuring)	square metres (m ) and	and cubic metres (m),
mealtimes or home time.		language related to		double/half]				estimate the area of	and extending to other
		money.		* mass/weight [e.g.				irregular shapes (also	units such as mm and
		g.		heavy/light, heavier				included in measuring)	3
		Orders and sequences		than, lighter than]  * capacity and volume					km.
		familiar events.		[e.g. full/empty,					
		<i>a</i>		more than, less than,					
				half, half full,					
				quarter]					
				<ul> <li>* time [e.g. quicker,</li> </ul>					
				slower, earlier, later]					
								estimate volume (e.g. 3	
	1							using 1 cm blocks to build	
								cubes and cuboids) and	
						1		capacity (e.g. using water)	
	1			sequence events in	compare and sequence	compare durations of			
				chronological order using language [e.g. before and	intervals of time	events, for example to calculate the time taken by			
	1			after, next, first, today,		particular events or tasks			
				yesterday, tomorrow,		paractical evertas or tasks			
				morning, afternoon and					
				evening]					
						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			
			<u> </u>	MFASURING AN	D CALCULATING	also in Telling the Time)			
		Measures short periods of	Children use everyday	measure and begin to	choose and use	measure, compare, add	estimate, compare and	use all four operations to	solve problems involving
		time in simple ways.	language to talk about	record the following:	appropriate standard units	and subtract: <b>lengths</b>	calculate <b>different</b>	solve problems involving	the calculation and
			size, weight, capacity,	<ul> <li>lengths and heights</li> </ul>	to estimate and measure	(m/cm/mm); <b>mass</b>	measures, including	measure (e.g. <b>length,</b>	conversion of <b>units of</b>
			position, distance, time	* mass/weight	<b>length/height</b> in any	(kg/g); volume/capacity	money in pounds and	mass, volume, money)	<b>measure</b> , using decimal
			and money.	* capacity and	direction (m/cm); mass	(l/ml)	pence	using decimal notation	notation up to three
				volume	(kg/g); temperature (°C);		(appears also in	including scaling.	decimal places where
				* time (hours, minutes,	capacity (litres/ml) to the		Comparing)		appropriate
				seconds)	nearest appropriate unit, using rulers, scales,				(appears also in Converting)
					thermometers and				o o o o o o o o o o o o o o o o o o o
					measuring vessels				
						measure the <b>perimeter</b> of	measure and calculate the	measure and calculate the	recognise that shapes with
						simple 2-D shapes	<b>perimeter</b> of a rectilinear	<b>perimeter</b> of composite	the same areas can have
							figure (including squares) in centimetres and metres	rectilinear shapes in centimetres and metres	different <b>perimeters</b> and
		+		recognise and know the	recognise and use symbols	add and subtract amounts	ar centamenes and metres	centumentes and metres	vice versa
				value of different	for pounds (£) and pence	of <b>money</b> to give change,			
				denominations of <b>coins</b>	(p); combine amounts to	using both £ and p in			
	1			and notes	make a particular value	practical contexts			
					find different				
				1	combinations of coins that				
	1				equal the same amounts				
					of money				
	1				solve simple problems in				
				1	a practical context				
				1	involving addition and subtraction of money of				
				1	the same unit, including				
	<u> </u>		l .	1	are surre will, including	l		<u> </u>	

					giving change				
							find the area of rectilinear shapes by counting squares	calculate and compare the area of squares and rectangles including using standard units, square	calculate the area of parallelograms and triangles
								centimetres (cm) and	
								square metres (m ) and estimate the area of irregular shapes	
								recognise and use square numbers and cube numbers, and	
								for squared (²) and cubed	
								() (copied from Multiplication and Division)	
									calculate, estimate and compare volume of cubes and cuboids using standard units, including
									cubic centimetres (cm <sup>3</sup> ) and cubic metres (m <sup>3</sup> ),
									and extending to other
									units [e.g. mm and km].
									recognise when it is possible to use formulae for area and volume of shapes
1				TELLING '	THE TIME				
22 - 36 months	30 – 50 months	40 - 60 months	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Anticipates specific time- based events such as mealtimes or home time.				tell the time to the hour and half past the hour and draw the hands on a clock face to show these	tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a	tell and write the time from an analogue clock, including using Roman numerals from I to XII,	read, write and convert time between analogue and digital 12 and 24- hour clocks		
				times.	clock face to show these times.	and 12-hour and 24-hour clocks	(appears also in Converting)		
Understands some talk about immediate past and		Uses everyday language related to time.		recognise and use language relating to dates, including days of the	know the number of minutes in an hour and the number of hours in a	estimate and read time with increasing accuracy to the nearest			
future, e.g. ' <i>before</i> ', ' <i>later</i> ' or ' <i>soon</i> '.		Orders and sequences familiar events.		week, weeks, months and years	day. (appears also in	minute; record and compare time in terms of			
		<i>g</i>			Converting)	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)			
							solve problems involving converting, from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Converting)	solve problems involving, converting between units of time	

	CONVERTING										
22 – 36 months	30 – 50 months	40 - 60 months	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6		
					know the number of minutes in an hour and the number of hours in a day. (appears also in Telling the Time)	know the number of seconds in a minute and the number of days in each month, year and leap year	convert between different units of measure (e.g. kilometre to metre; hour to minute)	convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	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		
							read, write and convert time between analogue and digital 12 and 24- hour clocks (appears also in Converting)	solve problems involving, converting between units of time	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)		
							solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Telling the Time)	understand and use equivalences between metric units and common imperial units such as inches, pounds and pints	convert between miles and kilometres		

Geometry: Properties of Shape

	IDENTIFYING SHAPES AND THEIR PROPERTIES									
22 - 36 months	30 - 50 months	40 - 60 months	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Beginning to categorise	Shows interest in shapes	Beginning to use	They explore	recognise and name	identify and describe the		identify lines of symmetry	identify 3-D shapes,	recognise, describe and	
objects according to	in the environment.	mathematical names for	characteristics of	common 2-D and 3-D	properties of 2-D shapes,		in 2-D shapes presented in	including cubes and other	build simple 3-D shapes.	
properties such as shape		'solid' 3D shapes and 'flat'	everyday objects and	shapes, including:	including the number of		different orientations	cuboids, from 2-D	including making nets	
or size.		2D shapes, and	shapes and use	* 2-D shapes [e.g.	sides and line symmetry		55	representations	(appears also in Drawing	
0.520		mathematical terms to	mathematical language	rectangles (including	in a vertical line				and Constructing)	
		describe shapes.	to describe them.	squares), circles and					-	
		dead the stupes.		triangles]						
				* 3-D shapes [e.g.						
				cuboids (including						
				cubes), pyramids						
				and spheres].						
		Selects a particular named			identify and describe the				illustrate and name parts	
		shape.			properties of 3-D shapes,				of circles, including radius,	
					including the number of				diameter and	
					edges, vertices and faces				circumference and know	
									that the diameter is twice	
					identifu 2 Delement				the radius	
	1				identify 2-D shapes on the					
	1				surface of 3-D shapes, [for example, a circle on a					
	1				cylinder and a triangle on a pyramid]					
				DRAWING AND	CONSTRUCTING					
	Shows an interest in	Uses shapes appropriately		DRAWING AND	CONSTRUCTING	draw 2-D shapes and	complete a simple	draw given angles, and	draw 2-D shapes using	
	shape and space by	for tasks.				make 3-D shapes using	symmetric figure with	measure them in degrees	given dimensions and	
	playing with shapes or	<i>y</i>				modelling materials;	respect to a specific line of	σ	angles	
	making arrangements with					recognise 3-D shapes in	symmetry	()	u. igico	
						different orientations and	-gg			
	objects.					describe them				
	Shows interest in shape by	Uses familiar objects and							recognise, describe and	
	sustained construction	common shapes to create							build simple 3-D shapes,	
	activity or by talking	and recreate patterns and							including making nets	
	about shapes or	build models.							(appears alsσ in	
	arrangements.	buud models.							Identifying Shapes and	
									Their Properties)	
				COMPARING AN	I ID CLASSIFYING				' '	
Begins to use the	Shows awareness of	Beginning to talk about			compare and sort common		compare and classify	use the properties of	compare and classify	
language of size.	similarities of shapes in	the shapes of everyday			2-D and 3-D shapes and		geometric shapes,	rectangles to deduce	geometric shapes based on	
	the environment.	objects, e.g. ' <i>round</i> and			everyday objects		including quadrilaterals	related facts and find	their properties and sizes	
		'tall'.					and triangles, based on	missing lengths and	and find unknown angles	
							their properties and sizes	angles	in any triangles,	
								, and the second	quadrilaterals, and regular	
									polygons	
							_	distinguish between		
	1							regular and irregular		
								polygons based on		
								reasoning about equal		
								sides and angles		
	1			ANG	GLES T	recognise angles as a		know angles are measured	I	
						property of shape or a		in degrees: estimate and		
	1					description of a turn		compare acute, obtuse and		
						wear ipinori of a unri		reflex angles		
						identify right angles,	identify acute and obtuse	identify:	recognise angles where	
	1					recognise that two right	angles and compare and	* angles at a point and	they meet at a point, are	
	1					angles make a half-turn,	order angles up to two	one whole turn (total	on a straight line, or are	
	1					three make three quarters	right angles by size	360°)	vertically opposite, and	
	1					of a turn and four a	<b>-</b>		find missing angles	
	1					complete turn; identify		<ul> <li>angles at a point on a straight line and ½ a</li> </ul>	-	
	1					whether angles are greater		sıraıgnı üne ana $\dot{z}$ a		
	1					than or less than a right		turn (total 180°)		
						angle		* other multiples of 90°		
								outer muniples of 90		
						identify horizontal and				
	1					vertical lines and pairs of				
L	1	1				,		1	1	

		11 1 1 11 11 11		
		perpendicular and parallel		
		lines		

### Geometry: Position and Direction

POSITION, DIRECTION AND MOVEMENT										
22 - 36 months	30 - 50 months	40 - 60 months	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
	Uses positional	Can describe their		describe position,	use mathematical		describe positions	identify, describe	describe positions	
	language.	relative position		direction and	vocabulary to		on a	and represent the	on the full	
		such as ' <i>behind</i>		movement,	describe position,		2-D grid as	position of a	coordinate grid	
		or ' <i>next to</i> '.		including half,	direction and		coordinates in the	shape following a	(all four	
				quarter and	movement		first quadrant	reflection or	quadrants)	
				three-quarter	including			translation, using		
				turns.	movement in a			the appropriate		
					straight line and			language, and		
					distinguishing			know that the		
					between rotation			shape has not		
					as a turn and in			changed		
					terms of right					
					angles for					
					quarter, half and					
					three-quarter turns (clockwise					
					and					
					anti-clockwise)					
					uiu-cwckwise)		describe		draw and	
							movements		translate simple	
							between positions		shapes on the	
							as translations of		coordinate plane,	
							a given unit to		and reflect them	
							the left/right and		in the axes.	
							up/down			
							plot specified			
							points and draw			
							sides to complete			
							a given polygon			
	PATTERN									
22 - 36 months	30 - 50 months	40 - 60 months	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Notices simple			They recognise,		order and					
shapes and			create and		arrange					
patterns in			describe		combinations of					
pictures.			patterns.		mathematical					
'					objects in					
					patterns and					
					sequences					

### Statistics

INTERPRETING, CONSTRUCTING AND PRESENTING DATA									
22 - 36 months	30 - 50 months	40 - 60 months	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					interpret and	interpret and	interpret and	complete, read	interpret and
					construct simple	present data	present discrete	and interpret	construct pie
					pictograms, tally	using bar charts,	and continuous	information in	charts and line
					charts, block	pictograms and	data using	tables, including	graphs and use
					diagrams and	tables	appropriate	timetables	these to solve
					simple tables		graphical		problems
							methods,		
							including bar		
							charts and time		
							graphs		
					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				
	I	1			PROBLEMS	· · · ·		·	·
22 - 36 months	30 - 50 months	40 - 60 months	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						solve one-step	solve comparison,	solve comparison,	calculate and
						and two-step	sum and	sum and	interpret the
						questions [e.g.	difference	difference	mean as an
						'How many	problems using	problems using	average
						more?' and 'How	information	information	
						many fewer?']	presented in bar	presented in a	
						using information	charts,	line graph	
						presented in	pictograms,		
						scaled bar charts	tables and other		
						and pictograms	graphs.		
						and tables.			