

Maths

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Number and place value.	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number Count in multiples of twos, fives and tens Read and write numbers to 100 in numerals Read and write numbers from 1 to 20 in numerals and words Begin to recognise the place value of numbers beyond 20 (tens and ones) Identify and represent numbers using objects and pictorial representations including the number line Use the language of: equal	Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward Read and write numbers to at least 100 in numerals and in words Recognise the place value of each digit in a two-digit number (tens, ones) Identify, represent and estimate numbers using different representations, including the number line	• Count from 0 in multiples of 4, 8, 50 and 100 • Count up and down in tenths • Read and write numbers up to 1000 in numerals and in words • Read and write numbers with one decimal place • Identify, represent and estimate numbers using different representations (including the number line)	Count in multiples of 6, 7, 9, 25 and 1000 Count backwards through zero to include negative numbers Count up and down in hundredths Read and write numbers to at least 10 000 Read and write numbers with up to two decimal places Recognise the place value of	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 Count forwards and backwards in decimal steps Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit Read, write, order and compare numbers with up to 3 decimal places Identify the value of each digit to three	Count forwards or backwards in steps of integers, decimals, powers of 10 Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit Identify the value of each digit to three decimal places Identify, represent and estimate numbers using the number line Order and compare numbers including integers, decimals and negative numbers Find 0.001, 0.01, 0.1, 1, 10 and powers of 10 more/less than a given number Round any whole number to a required degree of accuracy Round decimals with three decimal places to the nearest whole number or one or two decimal places		
	one more and one less Recognise and create repeating patterns with numbers, objects and shapes Identify odd and even numbers linked to counting in twos from 0 and 1 Solve problems and practical problems involving all of the above	 23 = 10 + 13) Compare and order numbers from 0 up to 100; use <, > and = signs Find 1 or 10 more or less than a given number Round numbers to at least 100 to the nearest 10 Understand the connection between the 10 multiplication table and place value Describe and extend simple sequences involving counting on 	 (hundreds, tens, ones) Identify the value of each digit to one decimal place Partition numbers in different ways (e.g. 146 = 100+ 40+6 and 146 = 130+16) Compare and order numbers up to 1000 Compare and order numbers with one decimal place Find 1, 10 or 100 more or less than a given number 	of each digit to two decimal places Partition numbers in different ways (e.g. 2.3 = 2+0.3 & 1+1.3) Identify, represent and estimate numbers using different representations (including the number line) Order and compare numbers beyond 1000	using the number line Find 0.01, 0.1, 1, 10, 100, 100 and other powers of 10 more or less than a given number Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 Round decimals with two decimal places to the nearest whole number and to one decimal place Multiply/divide whole numbers and decimals by 10, 100 and 1000	Use negative numbers in context, and calculate intervals across zero Describe and extend number sequences including those with multiplication and division steps, inconsistent steps, alternating steps and those where the step size is a decimal Solve number and practical problems that involve all of the above		



	or back in different steps	Round numbers to at least 1000 to the nearest 10 or 100		



			□ Use place value and number facts to solve problems	 Find the effect of multiplying a one- or two-digit number by 10 and 100, identify the value of the digits in the answer Describe and extend number sequences involving counting on or back in different steps Read Roman numerals from I to XII Solve number problems and practical problems involving these ideas. 	Order and compare numbers with the same number of decimal places up to two decimal places Find 0.1, 1, 10, 100 or 1000 more or less than a given number Round any number to the nearest 10, 100 or 1000 Round decimals (one decimal place) to the nearest whole number Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer Describe and extend number sequences involving counting on or back in different steps, including sequences with multiplication and division steps Read Roman numerals to 100 and know that over time, the numeral system changed to include the concept of zero and place value	Interpret negative numbers in context, count on and back with positive and negative whole numbers, including through zero Describe and extend number sequences including those with multiplication/division steps and where the step size is a decimal Read Roman numerals to 1000 (M); recognise years written as such Solve number and practical problems that involve all of the above	
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		CHSIDE ACADE		
Number: Addition and subtraction.	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs Represent and use number bonds and related subtraction facts within 20 Add and subtract one-digit and two-digit numbers to 20, including zero (using concrete objects and pictorial representations) Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ - 9.	use a jotting) Select a mental strategy appropriate for the numbers involved in the calculation Show that addition of two numbers can be done in any order known fact, calculate mentally, use a jotting, written method) Select a mental strategy appropriate for the numbers involved in the calculation	calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method) • Select a mental strategy appropriate for the numbers involved in the calculation • Recall and use addition and subtraction facts for 100 • Recall and use addition and subtraction facts for 100 totalling 1000 • Derive and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place) • Add and subtract mentally combinations of two and three digit numbers and decimals to one decimal place • Add and subtract numbers with up to 4 digits and decimals with one decimal place using the formal written methods of solumnar and subtract on the context of a problem, levels of accuracy	



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		☐ Add and subtract	• Estimate; use	deciding which operations and	
		numbers with up to three digits, using	inverse	operations and	
		0 / 0			



	 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 including with missing numbers: using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods 	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	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 • Solve addition and subtraction problems involving missing numbers	methods to use and why Solve addition and subtraction problems involving missing numbers			
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Number: • Recall and use doubles of all numbers to 10 and multiplication as appropriate • Choose an appropriate	Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)
Corresponding halves Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. **Now that multiplication of two numbers can be done in any order (commutative) and division facts for the by another cannot **Recall and use multiplication tables, including recognising odd and even numbers **Obrewe and use done in any order **Obrewe and use done in a division is the inverse of multiplication and division facts for the 2, 5 and 10 **Multiplication tables, including recognising odd and even numbers **Obrewe and use done in a division of two numbers of simple two-digit numbers in which the ones total less than 10) **Obrewe and use doubles of simple two-digit numbers in which the ones total less than 10) **Obrewe and use dadition **Strategy to solve a calculation based acliculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method) **Obressed upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method) **Obressed upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method) **Obressed upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method) **Obressed upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method) **Obressed upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method) **Obressed upon the numbers in any order and	 involved (recall a known fact, calculate mentally, use a jotting, written method) Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers Establish whether a number up to 100 is prime and recall prime numbers up to 19 Recognise and use square (²) and cube (³) numbers, and notation Identify common factors, common multiples and prime numbers Use partitioning to double or halve any number Perform mental calculations, including with mixed operations and large numbers Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication Multiply one-digit numbers with up to two decimal places by whole numbers Divide numbers up to 4 digits by a two-digit whole numbers with up to two decimal places by whole numbers Divide numbers up to 4 digits by a two-digit numbers with up to two decimal places by whole numbers Use written 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 Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy



- Derive and use halves of simple two-digit even numbers (numbers in which the tens are even)
- Calculate mathematical statements for multiplication using repeated addition) and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs

Solve problems involving multiplication and division (including those with remainders), using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

- Derive and use doubles of all numbers to 100 and corresponding halves
- Derive and use doubles of all multiples of 50 to 500
- Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for twodigit numbers times one-digit numbers, using mental and progressing to formal written methods

Use estimation to

check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy Solve problems, including missing number problems, involving multiplication and division (and interpreting remainders), including positive integer scaling problems and correspondence problems in which n objects are connected to m objects

- ☐ 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
- Multiply two-digit and three-digit numbers by a onedigit number using formal written layout
- Divide numbers up to 3 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context
- Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
- Solve problems involving multiplying and adding, including using distributive law to multiply two digit numbers by one digit, division (including interpreting remainders), integer scaling problems and

- Use partitioning to double or halve any number, including decimals to two decimal places
- Multiply and divide numbers mentally drawing upon known facts
- Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes
- 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
- 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
- Use estimation/inverse to check answers to calculations; determine, in the context of a problem, an appropriate degree of accuracy
- Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign

- Use knowledge of the order of operations to carry out calculations
- Solve problems involving all four operations, including those with missing numbers



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		harder correspondence problems such as n objects are connected to m	multiplication and division, including scaling by simple fractions and problems involving	
		objects	simple rates	



			ORSIDE ACROS			
Number: Fractions.	Understand that a fraction can describe part of a whole Understand that a unit fraction represents one equal part of a whole Recognise, find and name a half as one of two equal parts of an object shape or quantity (including measure) Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity (including measure)	 Understand and use the terms numerator and denominator Understand that a fraction can describe part of a set Understand that the larger the denominator is, the more pieces it is split into and therefore the smaller each part will be Recognise, find, name and write fractions, 12 3, and of a length, 44 4 shape, set of objects or quantity Write simple fractions 1 for example, of 6 = 3 2 and recognise 2 the equivalence of and 1 2 count 3 and 1 2 and 1 4 back in steps of 	 Show practically or pictorially that a fraction is one whole number (e.g. ³/₄ another can be interpreted as 3 ÷ 4) Understand that finding a fraction of an amount relates to division Recognise that tenths arise from dividing objects into 10 equal parts and in dividing one-digit numbers or quantities by 10 Recognise, find and write fractions of a discrete set of objects: unit fractions and nonunit fractions with small denominators Recognise and use fractions as numbers: unit fractions as numbers: unit fractions with small denominators Recognise and show, using diagrams, equivalent fractions with small denominators Add and subtract fractions with the same denominator within one whole ⁵/₇ + ¹/₇ [for example, = ⁷/₇] Compare and order unit fractions, and fractions with the 	Understand that a fraction is one whole number divided by another (e.g. 4 can be interpreted as 3 ÷ 4) Recognise, find and write fractions of a discrete set of objects including those with a range of numerators and denominators Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten Count on and back in steps of unit fractions Compare and order unit fractions with the same denominators (including on a number line) Recognise and show, using diagrams, families of common equivalent fractions Recognise and write decimal equivalents of any number of	 Recognise mixed numbers and improper fractions and convert from one form to the other Read and write decimal numbers as fractions (e.g. 0.71 = Count on and back in mixed 1 number steps 2 such as 1 Compare and order fractions whose denominators are all multiples of the same number (including on a number line) Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents Add and subtract fractions with denominators that are the same and that are multiples of the same number (using diagrams) Write statements > 1 (e.g. 2/5 + 4/5 = 6/5 = 1 1/5) as a mixed number Multiply proper fractions and mixed numbers by whole numbers, supported 	 Compare and order fractions, including fractions > 1 (including on a number line) Use common factors to simplify fractions; use common multiples to express fractions in the same denomination Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375 and Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions Multiply simple pairs of proper fractions, (e.g. \frac{1}{4} \times \frac{1}{2} = \frac{1}{8}\) writing the answer in its simplest form (e.g. \frac{1}{3} \frac{1}{6}\) by whole numbers \(\frac{1}{2} = \frac{1}{8}\) Find simple percentages of amounts Solve problems involving fractions Solve problems which require answers to be rounded to specified degrees of accuracy Solve problems involving the calculation of percentages (e.g. of measures and such as 15% of 260) and the use of percentages for comparison



	same denominators (including on a number line) Count on and back 2, 1/4 and 1/3 in steps of Solve problems that involve all of the above **Notice all of the above** Solve problems that involve all of the above **Solve problems involving increasingly harder fractions to calculate quantities, including nonunit fractions to divide quantities, including nonunit fractions where the answer is a whole number Solve simple measure and money problems involving fractions and decimals to two decimal places **Solve problems involving fractions where the answer is a whole decimal so to two decimal places **Solve problems involving fractions where the answer is a whole decimal so to two decimal places** **Solve problems involving fractions and decimals to two decimal places** **Solve problems involving fractions with the same decimal so the problems involving fractions with a diagrams **Solve problems involving fractions and decimal so the problems involving fractions and decimals to two decimal places **Solve problems involving fractions with a denominator of a multiple of 10 or 25	
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Measurement.	Measure and begin to record: - lengths and heights, using non-standard and then manageable standard units (m/cm) - mass/weight, using nonstandard and then manageable standard units (kg/g) - capacity and volume using non-standard and then manageable standard units (litres/ml) - time (hours/minutes/seconds) within children's range of counting competence	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity and volume (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels Compare and order lengths, mass, volume/capacity and record the results using >, < and =	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) Continue to estimate and measure temperature to the nearest degree (°C) using thermometers Understand perimeter is a measure of distance around the boundary of a shape Measure the perimeter of simple 2-D shapes	Estimate, compare and calculate different measures, including money in pounds and pence Order temperatures including those below 0°C Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	Use, read and write standard units of length and mass Estimate (and calculate) volume ((e.g., using 1 cm³ blocks to build cuboids (including cubes)) and capacity (e.g. using water) Understand the difference between liquid volume and solid volume Continue to order temperatures including those below 0°C Convert between different units of metric measure	Use, read and write standard units of length, mass, volume and time using decimal notation to three decimal places Convert between standard units of length, mass, volume and time using decimal notation to three decimal places Convert between miles and kilometres Recognise that shapes with the same areas can have different perimeters and vice versa Calculate the area of parallelograms and triangles Recognise when it is possible to use formulae for area and volume of shapes Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units (e.g. mm³ and km³)
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- ☐ Compare, describe and solve practical problems for:
 - lengths and heights (for example, long/short, longer/shorter,
- tall/short, double/half) mass/weight (for example, heavy/light, heavier than, lighter than) - capacity and volume (for example, full/empty, more than, less than,
- half, half full, quarter) time (for example, quicker, slower, earlier, later)
- Recognise and use language relating to dates, including days of the week, weeks, months and years
- Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening
- Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times
- Recognise and know the value of different denominations of coins and notes

- 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
- Compare and sequence intervals of time
- 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
- Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change and measures (including time)

- Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12hour and 24-hour clocks
- Estimate/read time with increasing accuracy to the nearest minute
- Record/compare time in terms of seconds, minutes, hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon, midnight
- Know the number of seconds in a minute and the number of days in each month, year and leap year
- Compare durations of events [for example to calculate the time taken by particular events or tasks]
- Continue to recognise and use the symbols for pounds (£) and pence (p) and understand that the decimal point separates pounds/pence
- Recognise that ten 10p coins equal £1

 and that each
 coin is of £1
- Add and subtract amounts of money to give change, using both £ and p in practical contexts

- Know area is a measure of surface within a given boundary
- Find the area of rectilinear shapes by counting squares
- 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 24hour clocks
- Write amounts of money using decimal notation
- Recognise that one hundred 1p coins equal £1 and that each 1 coin

is ___ of £1

 Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days and problems involving money and measures

- Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints
- Measure/calculate the perimeter of composite rectilinear shapes
- Calculate and compare the area of rectangle, use standard units square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes
- Continue to read, write and convert time between analogue and digital 12 and 24-hour clocks
- Solve problems involving converting between units of time
- Use all four operations to solve problems involving measure using decimal notation, including scaling

- Calculate differences in temperature, including those that involved a positive and negative temperature
- Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate



		Solve problems involving money and measures and		



		simple problems involving passage of		
		time		



Geometry.	-			_	Distinguish between	Compare/classify geometric shapes based
deometry.					regular and irregular	on the properties and sizes
					polygons based on	
					reasoning about equal	 Draw 2-D shapes using given dimensions
					sides and	and angles
						 Illustrate and name parts of circles,
					angles	including radius, diameter and
					Use the properties of	circumference and know that the diameter
					rectangles to deduce	is twice the radius
					related facts and find	Recognise, describe and build simple 3-D
					missing lengths and	
					angles	shapes, including making nets
					 Identify 3-D shapes 	 Recognise angles where they meet at a
					from 2-D	point, are on a straight line, or are
					representations	vertically opposite, and find missing angles
					 Know angles are 	☐ Find unknown angles in any triangles,
					measured in degrees:	quadrilaterals, regular polygons
					estimate and compare	 Describe positions on the full coordinate
					acute, obtuse and	grid (all four quadrants)
					reflex angles	Draw and translate simple shapes on the
					 Draw given angles, 	coordinate plane, and reflect them in the
					and measure them in	axes
					degrees (°)	
					☐ Identify:	
					angles at a	
					point and one whole	
					turn (total 360°)-	
					angles at a point on a	
					straight line and half a	
					turn (total 180°)	
					- other	
					multiples of	
					90°	
					 Describe positions on the first quadrant of a 	
					coordinate grid	
					 Plot specified points 	
					and complete shapes	
					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	
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Statistics.		 Complete and interpret information in a variety of sorting diagrams (including those used to sort properties of numbers and shapes) Complete, read and interpret information in tables and timetables Solve comparison, sum and difference problems using information presented in all types of graph including a line graph Calculate and interpret the mode, median and range Continue to complete and interpret information in a variety of sorting diagrams (including sorting properties of numbers and shapes) Interpret and construct pie charts and line graphs and use these to solve problems Solve comparison, sum and difference problems using information presented in all types of graph Calculate and interpret the mode, median and range
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FDP, Ratio,	xx	XX	xx	xx	xx	Compare and order fractions, including
Proportion and			, and	···		fractions > 1 (including on a number line)
Algebra.						 Use common factors to simplify fractions; use common multiples to express fractions in the same denomination
						 Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts
						* Associate a fraction with division and calculate decimal fraction equivalents (e.g.
						0.375 and
						 Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
						• Multiply simple pairs of proper fractions, $(e.g. \frac{1}{4} \times \frac{1}{2} = \frac{1}{8})$ writing the answer in its simplest form
						(e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$) *Divide proper fractions by whole numbers
						 Find simple percentages of amounts Solve problems involving fractions Solve problems which require answers to be rounded to specified degrees of accuracy
						 Solve problems involving the calculation of percentages (e.g. of measures and such as 15% of 260) and the use of percentages for comparison
						Solve problems involving the relative sizes of two quantities where missing values can be found using integer multiplication/division facts
						 Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples
						Solve problems involving similar shapes where the scale factor is known or can be found



Algebra	xx	xx	xx	xx	xx	Use simple formulae Generate and describe linear number sequences
						Express missing number problems algebraically
						Find pairs of numbers that satisfy an equation with two unknowns
						Enumerate possibilities of combinations of two variables