



BERKELEY PRIMARY SCHOOL

Our Maths Curriculum Long Term Plan



	Autumn		Spring		Summer	
Nursery 1 (5 term children, Jan intake)			Number and place value Enjoys joining in with action rhymes and number rhymes Develops an understanding that some things exist, even when out of sight Measurement Recognises big things and small things in meaningful contexts (eg helping to tidy up, match the big bucket to the correct space) Begins to understand daily routines	Number and place value Enjoys joining in with action rhymes and number rhymes Develops an understanding that some things exist, even when out of sight Measurement Recognises big things and small things in meaningful contexts (eg helping to tidy up, match the big bucket to the correct space) Begins to understand daily routines	Number and place value Says some counting words randomly Begins to organise and categorise objects eg by putting putting all the teddy bears together or teddies and cars in separate piles Measurement Associates a sequence of actions with daily routines begins to understand that some things might happen "now" Geometry uses blocks to create their own simple structures and arrangements Attempts, sometimes successfully, to fit shapes into spaces on inset jigsaw puzzles	Number and place value Says some counting words randomly Begins to organise and categorise objects eg by putting putting all the teddy bears together or teddies and cars in separate piles Measurement Associates a sequence of actions with daily routines begins to understand that some things might happen "now" Geometry uses blocks to create their own simple structures and arrangements Attempts, sometimes successfully, to fit shapes into spaces on inset jigsaw puzzles



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Nursery 2 (3 term children, Sept intake)	Subitising Subitising 1	Subitising Subitising 2	Subitising Subitising 3	Subitising build confidence subitising within 3	Subitising build confidence subitising within 3	Subitising build confidence subitising within 3
	Number and place value Showing 1 on fingers (fast fingers)	Number and place value Shows 2 on fingers (fast fingers)	Number and place value Shows 3 on fingers (fast fingers)	Number and place value Shows 4 on fingers (fast fingers)	Number and place value Begins to show interest in numerals in the environment	Number and place value Begins to link numerals and amounts (up to 5)
	Joins in with and sings number rhymes	Joins in with and sings number rhymes	Says 1 number name for each item (to 3)	Says 1 number name for each item (to 4)	Shows 5 on fingers (fast fingers)	Recording
	Adds finger actions to number rhymes (shows fingers as rhyme progresses)	Adds actions to number rhymes (shows fingers as rhyme progresses)	Beginning to record using own marks	Cardinal principle - knows the last number they say is the total in the set	Says 1 number name for each item (to 5)	Shows confidence in saying 1 number name for each item (to 5)
	Selects 1 object when asked 'please give me 1'.	Recites numbers to 10 (by rote)	Begins to use understanding of number to solve practical problems in play and meaningful activities (eg have we got enough chairs at the table?)	Understands not only objects, but anything can be counted (eg steps, claps or jumps)	Cardinal principle - knows the last number they say is the total in the set	Cardinal principle - knows the last number they say is the total in the set
	Reciting numbers to 5 (by rote)	Says 1 number name for each item (to 2)	Selects 3 objects when asked 'please give me 3'.	Selects 4 objects when asked 'please give me 4'.	Understands not only objects, but anything can be counted (eg steps, claps or jumps)	Understands not only objects, but anything can be counted (eg steps, claps or jumps)
	Makes marks (eg dots, circles, lines, gross motor movements) to represent 1	Selects 2 objects when asked 'please give me 2'.	Selects 3 objects when asked 'please give me 3'.	Makes marks (eg dots, circles, lines, gross motor movements) to represent 4	Selects 5 objects when asked 'please give me 5'.	Begins to use understanding of number to solve practical problems in play and meaningful activities (eg have we got enough chairs at the table?)
	Comparison Compares quantities 0 and 1 using language 'more than', 'fewer than', 'same'	Makes marks (eg dots, circles, lines, gross motor movements) to represent 2	Makes marks (eg dots, circles, lines, gross motor movements) to represent 3	Begins to use understanding of number to solve practical problems in play and meaningful activities (eg have we got enough chairs at the table?)	Recognises numbers 1-5	Makes marks (eg dots, circles, lines, gross motor movements) to represent 5
	Measurement Enjoys filling and emptying containers	Comparison Compares quantities 0, 1 and 2 using language 'more than', 'fewer than', 'same'	Comparison Compares quantities 0, 1, 2 and 3 using language 'more than', 'fewer than', 'same'	Begins to use understanding of number to solve practical problems in play and meaningful activities (eg have we got enough chairs at the table?)	Makes marks (eg dots, circles, lines, gross motor movements) to represent 5	Begins to use understanding of number to solve practical problems in play and meaningful activities (eg have we got enough chairs at the table?)
	Begins to use language of size linked to capacity - bigger bucket / smaller cup	Addition / Subtraction Begins to understand the language 'one more than' and 'one less than' eg that 2 is 'one more than one'	Addition / Subtraction Begins to understand the language 'one more than' and 'one less than' eg that 3 is 'one more than two'	Comparison Compares quantities 0, 1, 2, 3 and 4 using language 'more than', 'fewer than', 'same'	Begins to use understanding of number to solve practical problems in play and meaningful activities (eg have we got enough chairs at the table?)	Comparison Compares quantities up to 5 using language 'more than', 'fewer than', 'same'
	Geometry Explore 2D and 3D shapes in play and exploration (block area / cut and stick) - adult model language (formal and informal e.g. shape names, pointy, straight, edge, corner, curved, round etc)	Composition Through play and exploration begins to learn that numbers are made up of smaller numbers (e.g. 1 and 1 makes 2).	Composition Through play and exploration begins to		Comparison Compares quantities up to 5 using language 'more than', 'fewer than', 'same'	Addition / Subtraction Begins to understand the language 'one more than' and 'one less than'
	Notices patterns in the environment eg on clothing,					



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birthday cards, pictures in books, animal furs... copies / begins to invent movement or patterns eg clap, stamp, clap stamp.	Measurement Enjoys using wooden construction blocks / outdoor planks / crates / guttering Begins to use the language of size - long / short / longer / shorter Geometry Explore 2D and 3D shapes in play and exploration (block area / cut and stick) - adult model language (formal and informal e.g. shape names, pointy, straight, edge, corner, curved, round etc) copy ABAB patterns Begin to understand time through using advent calendars and discussing "how many sleeps until Christmas",	learn that numbers are made up of smaller numbers(e.g. 1 and 1 and 1, 2 and 1, and 2 makes 3). Measurement Begins to use language of weight - heavy / light / heavier / lighter Geometry Understands position through words alone (no pointing) - in, on, under, behind, in front of Describes a familiar route - recalling a route and recalling things seen on the way extend patterns ABAB	Addition / Subtraction Begins to understand the language 'one more than' and 'one less than' Composition Through play and exploration begins to learn that numbers are made up of smaller numbers (up to 4) Measurement Begins to use language of capacity - full / empty / fuller / emptier Geometry Begins to show some skill in placing 3D shape blocks together to build / balance create patterns ABAB	Addition / Subtraction Begins to understand the language 'one more than' and 'one less than' Composition Through play and exploration begins to learn that numbers are made up of smaller numbers (up to 5) Measurement Begins to use time language to describe real or fictional events - e.g first, then, after, before, morning, afternoon... Geometry Shows interest in shapes in the environment (2D and 3D) Begins to comment on the shape of things in the environment or in pictures using informal language. Patterns - noticing and correcting errors	Composition separates a group of 3 or 4 objects in different ways, beginning to recognise that the total is still the same. Through play and exploration begins to learn that numbers are made up of smaller numbers. Measurement Begins to use time language to describe real or fictional events - e.g first, then, after, before, morning, afternoon... Geometry Understands position through words alone (no pointing) - in, on, under, behind, in front of Describes a familiar route - recalling a route and recalling things seen on the way
EYFS Statutory Educational Programme: Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding – such as using manipulatives, including small pebbles and tens frames for organising counting – children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes. Development Matters: 3 and 4 year olds will be learning to: Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). Recite numbers past 5. Say one number 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').					



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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.
Solve real world mathematical problems with numbers up to 5.
Compare quantities using language: 'more than', 'fewer than'.
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'.
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'.
Make comparisons between objects relating to size, length, weight and capacity.
Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc. Combine shapes to make new ones – an arch, a bigger triangle, etc
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.
Extend and create ABAB patterns – stick, leaf, stick, leaf.
Notice and correct an error in a repeating pattern.
Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'



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	Autumn		Spring		Summer	
Recp	Subitising perceptually subitise within 3 identify sub-groups in larger arrangements create their own patterns for numbers within 4 practise using their fingers to represent quantities which they can subitise experience subitising in a range of contexts, including temporal patterns made by sounds. Number and place value relate the counting sequence to cardinality, seeing that the last number spoken gives the number in the entire set develop knowledge of the counting sequence, including through rhyme and song develop 1:1 correspondence, including by coordinating movement and counting develop an understanding that anything can be counted, including actions and sounds explore a range of strategies which support accurate counting. Comparison understand that sets can be compared according to a range	Subitising subitise within 5, perceptually and conceptually, depending on the arrangements. Number and place value continue to develop their counting skills explore the cardinality of 5, linking this to dice patterns and 5 fingers on 1 hand begin to count beyond 5 begin to recognise numerals, relating these to quantities they can subitise and count. Comparison compare sets using a variety of strategies, including 'just by looking', by subitising and by matching compare sets by matching, seeing that when every object in a set can be matched to one in the other set, they contain the same number and are equal amounts. Composition / Addition and subtraction explore the concept of 'wholes' and 'parts' by looking at a range of objects that are composed of parts, some	Subitising increase confidence in subitising by continuing to explore patterns within 5, including structured and random arrangements explore a range of patterns made by some numbers greater than 5, including structured patterns in which 5 is a clear part experience patterns which show a small group and '1 more' continue to match arrangements to finger patterns Number and place value develop verbal counting to 20 and beyond continue to develop object counting skills, using a range of strategies to develop accuracy continue to link counting to cardinality, including using their fingers to represent quantities between 5 and 10 order numbers, linking cardinal and ordinal representations of number.	Subitising explore symmetrical patterns, in which each side is a familiar pattern, linking this to 'doubles'. Number and place value continue to consolidate their understanding of cardinality, working with larger numbers within 10 become more familiar with the counting pattern beyond 20. Comparison compare numbers, reasoning about which is more, using both an understanding of the 'howmanyness' of a number, and its position in the number system. Composition / Addition and subtraction explore the composition of odd and even numbers, looking at the 'shape' of these numbers begin to link even numbers to doubles begin to explore the composition of numbers within 10. Measurement Finds something "heavier than"	Subitising continue to practise increasingly familiar subitising arrangements, including those which expose '1 more' or 'doubles' patterns use subitising skills to enable them to identify when patterns show the same number but in a different arrangement, or when patterns are similar but have a different number subitise structured and unstructured patterns, including those which show numbers within 10, in relation to 5 and 10 be encouraged to identify when it is appropriate to count and when groups can be subitised. Number and place value continue to develop verbal counting to 20 and beyond, including counting from different starting numbers continue to develop confidence and accuracy in both verbal and object counting. Comparison order sets of objects, linking this to their	Subitising Subitise on a rekenrek - moving beads with "one push". Number and place value continue to develop verbal counting to 20 and beyond, including counting from different starting numbers continue to develop confidence and accuracy in both verbal and object counting. Comparison Use rekenreks to show more, fewer than, equal amounts Composition / Addition and subtraction explore the composition of 5 and 10. composition of numbers 6-10 as "5 and a bit" eg "6 is the whole, 5 is a part and 1 is a part" Use rekenreks to show composition of 5 and 10 Use rekenreks to show doubles to 5+5 Measurement Geometry Learn its 0+10=10 1+9=10 2+8=10



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of attributes, including by their numerosity use the language of comparison, including 'more than' and 'fewer than' compare sets 'just by looking'. Composition / Addition and subtraction see that all numbers can be made of 1s compose their own collections within 4. Measurement Finds something "taller than" Finds something "shorter than" Geometry Names 2D shapes (square, circle, triangle, oblong) Continues a 2 colour repeating pattern AB Learn its Knows they have 5 fingers on 1 hand Knows they have 10 fingers on 2 hands 1+1=2 ("1 more than 1 is... / the next number is") 2+1=3 3+1=4 4+1=5	of which can be taken apart and some of which cannot explore the composition of numbers within 5. Measurement Finds something "longer than" Finds something "shorter than" Geometry Names 3D shapes (cube, cuboid, sphere, pyramid)) Uses 3D shapes to make models Creates a 2 colour repeating pattern ABAB Learn its 5+1=6 ("1 more than 1 is... / the next number is") 6+1=7 7+1=8 8+1=9 9+1=10 5-1=4 ("1 less than 5 is...") 4-1=3 3-1=2 2-1=1 1-1=0	Comparison continue to compare sets using the language of comparison, and play games which involve comparing sets continue to compare sets by matching, identifying when sets are equal explore ways of making unequal sets equal. Composition / Addition and subtraction continue to explore the composition of 5 and practise recalling 'missing' or 'hidden' parts for 5 explore the composition of 6, linking this to familiar patterns, including symmetrical patterns begin to see that numbers within 10 can be composed of '5 and a bit'. Measurement Finds something "that holds more" Finds something "that holds less" Finds something "longer / taller than" Finds something "shorter than" Geometry	Finds something "lighter than" Finds something "that holds more" Finds something "that holds less" Geometry Investigates how 2D shapes can be combined to make new shapes eg 2 triangles can be placed together to make a square Continues, copies and creates repeating patterns with varying rules eg ABB or ABBC Learn its 5-0=5 5-1=4 5-2=3 5-3=2 5-4=1 5-5=0	understanding of the ordinal number system. Composition / Addition and subtraction explore the composition of 10. Measurement Geometry Uses 2D shapes to make pictures Learn its 1+1=2 2+2=4 3+3=6 4+4=8 5+5=10	3+7=10 4+6=10 5+5=10
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Finds 2D shapes within
3D shapes - eg through
printing finds the face of
a cube is a square

Continues and creates
AB patterns with 2D
shapes (keeping shapes
in the correct
orientation)

Learn its

$0+5=5$
 $1+4=5$
 $2+3=5$
 $3+2=5$
 $4+1=5$
 $5+0=5$

EYFS Statutory Educational Programme: Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically.

Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding – such as using manipulatives, including small pebbles and tens frames for organising counting – children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

Development Matters: children in Reception will be learning to:

Count objects, actions and sounds. Subitise. Link the number symbol (numeral) with its cardinal number value. Count beyond ten. Compare numbers. Understand the 'one more than/one less than' relationship between consecutive numbers. Explore the composition of numbers to 10. Automatically recall number bonds for numbers 0–5 and some to 10. Select, rotate and manipulate shapes to develop spatial reasoning skills. Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. Continue, copy and create repeating patterns. Compare length, weight and capacity

ELG: Number. Children at the expected level of development will:

- Have a deep understanding of number to 10, including the composition of each number;
- Subitise (recognise quantities without counting) up to 5;
- 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.

ELG: Numerical Patterns Children at the expected level of development will:

- Verbally count beyond 20, recognising the pattern of the counting system;
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.



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	Autumn		Spring		Summer	
Year 1	Number and place value Count to 50 forwards and backwards from 0, 1 or 50. Given a number, identify one more/one less for numbers up to 50. Addition and subtraction Read, write and interpret mathematical statements involving addition, subtraction and equals relating to one more/ one less Measurement Compare, describe and solve practical problems for length/height, mass/weight, capacity/volume using comparative language e.g. heavier/lighter, more than/ less than, longer/shorter *Measure length using non-standard units e.g. cubes* Geometry Recognise and name common 2D shapes.	Number and place value Count to 100 forwards and backwards from 0, 1 or 100. Count forward in multiples of 10 from 0 and backwards in multiples of 10 from 100. Given a number, identify one more/one less for numbers up to 100. Addition and subtraction Read, write and interpret mathematical statements involving addition, subtraction and equals. Add and subtract two 1d numbers. Fractions Recognise, find and name a half as one of two equal parts of a shape and a set of objects. Recognise, find and name a quarter as one of four equal parts of a shape and a set of objects. Measurement Sequence events in chronological order using language of time e.g. before, after, yesterday, today, tomorrow etc. Recognise and use language relating to dates, including days of	Number and place value Count to 100 forwards and backwards from 0, 1 or any given number below 100. Count forward in multiples of 2 and 10 from 0 and backwards in multiples of 2 and 10. Addition and subtraction Read, write and interpret mathematical statements involving addition, subtraction and equals. Add and subtract 1d and 2d numbers within 20 including 0. Measurement Recognise and know the value of different denominations of coins and notes. Tell the time to the hour and use the language hours, minutes and seconds. Geometry Recognise and name common 2D and 3D shapes (compare the difference between 2D and 3D) in different orientations and sizes.	Number and place value Count to 100 forwards and backwards from 0, 1 or any given number below 100. Count forward in multiples of 2, 5 and 10 from 0 and backwards in multiples of 2, 5 and 10. Fractions Recognise, find and name a half as one of two equal parts of a quantity or measure. Recognise, find and name a quarter as one of four equal parts of a quantity or measure. Measurement Measure and begin to record length and weight. Geometry Use the language of position, direct and movement including left/right, top/middle/bottom, on top of, in front of, above, between, around, near/far, up/down, forwards/backwards, inside/outside.	Number and place value Count to and across 100 forwards and backwards from 0, 1 or any given number below 100. Count forward in multiples of 2, 5 and 10 from 0 and backwards in multiples of 2, 5 and 10, relating these to times tables facts. Addition and subtraction Read, write and interpret mathematical statements involving addition, subtraction and equals. Add and subtract 1d and 2d numbers to 20 including 0. Solve missing number problems. Multiplication and division Read, write and interpret mathematical statements involving multiplication, division and equals. Solve problems relating to the 2, 5 and 10 times tables. Doubling and halving even numbers to 20. Measurement Tell the time to the hour and half past the hour. Measure and begin to	Number and place value Count to and across 100 forwards and backwards from 0, 1 or any given number below 100. Count forward in multiples of 2, 5 and 10 from 0 and backwards in multiples of 2, 5 and 10, relating these to times tables facts. Multiplication and division Read, write and interpret mathematical statements involving multiplication, division and equals. Solve problems relating to the 2, 5 and 10 times tables. Doubling and halving even numbers to 20. Measurement Measure and begin to record capacity. Geometry *Describe position, direction and movement using previous language and including whole, half and three-quarter turns (link to shapes), compass directions*



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	Learn Its Recap Reception (one more/one less) 4 + 2 5 + 2 6 + 2 7 + 2 4 + 3 5 + 3 6 + 3 5 + 4	the week, weeks, months and years, earlier / later and quicker/ slower. Learn Its 10 + 1 10 + 2 10 + 3 10 + 4 10 + 5 10 + 6 10 + 7 10 + 8 10 + 9	Learn Its 11 + 9 12 + 8 13 + 7 14 + 6 15 + 5 16 + 4 17 + 3 18 + 2 19 + 1	Learn Its 11 + 1 12 + 1 13 + 1 14 + 1 15 + 1 16 + 1 17 + 1 18 + 1 11 + 2 12 + 2 13 + 2 14 + 2 15 + 2 16 + 2 17 + 2	record hours, minutes and seconds. Learn Its 11 + 4 12 + 4 13 + 4 14 + 4 15 + 4 11 + 5 12 + 5 13 + 5 14 + 5 11 + 6 12 + 6 13 + 6 11 + 7 11 + 8	Learn Its Double 6 = 12 Double 7 = 14 Double 8 = 16 Double 9 = 18 Double 10 = 20 Half of 12 = 6 Half of 14 = 7 Half of 16 = 8 Half of 18 = 9 Half of 20 = 10
	Read and write numbers from 1 – 20 in numerals and words Identify and represent numbers using objects and pictorial representations using comparative language e.g. equal to, more than, less than, most, least Represent and use number bonds and related subtraction facts within 20 (Learn Its). Solve one – step problems that involve all four operations using concrete objects and pictorial representations (and arrays for multiplication and division including money).					



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Year 2	Number and Place Value Count in steps of 2 from 0 forward and backward. Recognise the place value of each digit in a 2d number up to 50. Addition and subtraction Recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100. Add/subtract 2d and ones. Add/subtract 2d and tens. Multiplication and division Double and halve. Recognise odd and even numbers. Measurement Language of measurement - Recognise and use symbols for pounds (£) and pence (p). Know the number of minutes in an hour and the number of hours in a day. Tell and write the time for quarter past/quarter to the hour and draw the hands on a clock face. Geometry *Recap compass directions and language of position and direction from Y1* Identify and describe the properties of 2D shapes,	Number and Place Value Counting in steps of 3 Counting in steps of 5 and 10 Order numbers from 0 to 50 Addition and subtraction Add/subtract two 2d numbers. Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Multiplication and division Group and share discrete and continuous quantities, using a range of materials and contexts Repeated addition Fractions Recognise find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a shape and set of objects. Measurement Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) and mass (kg/g) using balance scales. Compare measure using simple multiples such as 'half as high', 'twice as wide'. Statistics	Number and Place Value Multiplication facts for 5 (link to clock) and 10 (link to place value) Compare numbers from 0 to 50 using <, > and = Addition and subtraction Three 1d numbers. Multiplication and division Arrays. Calculate mathematical statements for multiplication and division within the multiplication tables (x), division (÷) and equals (=) Measurement *Estimate and measure mass (kg/g) using scales.* *Compare and order lengths and record the results using <, > and =.* *Recap the language of time.* Tell and write the time to five minutes, using analogue clocks. Geometry Identify and describe the properties of 2D shapes, including line symmetry in a vertical line. Identify and describe the properties of 3D shapes, including the number of edges, vertices and faces.	Number and Place Value Multiplication facts for 2, 5 and 10 Recognise the place value of each digit in a 2d number up to 100 Multiplication and division Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. Fractions Recognise find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length and quantity e.g. 1/2 of 6 = 3. Recognise the equivalence of 2/4 and 1/2. Measurement Compare and sequence intervals of time. Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. Geometry Use mathematical vocabulary to describe movement and turns including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-	Number and Place Value Multiplication facts for up to 6 x 3 (1st half of 3 times table) Order numbers from 0 to 100 Addition and subtraction Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. Multiplication and division Solve problems involving multiplication and division facts including problems in contexts. Measurement Find different combinations of coins that equal the same amount of money. *Measure temperature (°C) using thermometers and reading scales.* Geometry Compare and sort common 2D and 3D shapes and everyday objects on the basis of their properties and use vocabulary precisely (sides, edges, vertices and faces). Statistics Ask and answer questions about totalling and	Number and Place Value Multiplication facts for up to 12 x 3 (2nd half of 3 times table) Compare numbers from 0 to 100 using <, > and = Addition and subtraction Begin to record addition and subtraction in columns to support place value and prepare for formal written methods. Multiplication and division Solve problems involving multiplication and division facts including problems in contexts. Fractions Revisit and revise all Y2 objectives Measurement Choose and use appropriate standard units to estimate and measure capacity (l/ml) to the nearest appropriate units) Learn its Address any gaps 7 x 3 8 x 3 9 x 3 10 x 3 11 x 3 12 x 3 Consolidation Use test results to identify gaps and implement interventions.
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including the number of sides. Identify 2D shapes on the surface of 3D shapes (e.g. a circle on a cylinder and a triangle on a pyramid) Order and arrange combinations of mathematical objects in patterns and sequences (link to shape and in different orientations). Statistics Interpret and construct simple tally charts* Learn Its $9 + 2$ $8 + 3$ $9 + 3$ $7 + 4$ $8 + 4$ $9 + 4$ $6 + 5$ $7 + 5$ $8 + 5$ $9 + 5$ $7 + 6$ $8 + 6$ $9 + 6$ $8 + 7$ $9 + 7$ $9 + 8$	*Interpret and construct simple pictograms – many-to-one correspondence (2,5,10)* Learn Its 0×10 1×10 2×10 3×10 4×10 5×10 6×10 7×10 8×10 9×10 10×10 11×10 12×10	Statistics *Interpret and construct simple tables and block diagrams.* Learn Its 0×5 1×5 2×5 3×5 4×5 5×5 6×5 7×5 8×5 9×5 10×5 11×5 12×5	quarter turns (clockwise and anti-clockwise). Learn Its 0×2 1×2 2×2 3×2 4×2 5×2 6×2 7×2 8×2 9×2 10×2 11×2 12×2	comparing categorical data. Learn Its 0×3 1×3 2×3 3×3 4×3 5×3 6×3 1 hour = 60 minutes 1/2 hour = 30 minutes 1/4 hour = 15 minutes	Consolidate to ensure PV knowledge and understanding of calculation methods is secure.
Read and write numbers to at least 100 in numerals and words Read and write names for shapes Identify, represent and estimate numbers using different representations, including the number line Add and subtract numbers using concrete objects, pictorial representations and mentally. Use place value and number facts to solve problems Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures. Solve problems involving multiplication and division using materials, arrays, mental methods and multiplication and division facts including problems in contexts. Statistics – ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity and totalling and comparing categorical data. Draw lines and shapes using a straight edge.					



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Year 3	Number and place value Count in multiples of 2,3,4,5,10 and 100 Find 10 or 100 more or less than a 2d number Find the place value of each digit in a 3d number up to 500 Addition and subtraction Add and subtract mentally 3d and ones and 3d and tens (no crossing the hundreds boundary). Add two 2d numbers mentally (no bridging of 10s boundary) and understand how this can be represented vertically (expanded method) Subtract two 2d numbers mentally and understand how this can be represented vertically using the column method (expanded method) Multiplication and division Multiplication facts for up to 6×4 (1st half of 4 x table) Multiply a teens number by 2, 3, 5 using an informal method, using knowledge of tables facts and distributive law. Measurement *Language of time – o'clock, a.m/p.m, morning/ afternoon, noon, midnight*	Number and place value Count in multiples of 2,3,4,5,10 and 100. Compare and order numbers up to 500 using < > and = Addition and subtraction Use partitioning to solve mental calculations with 2d numbers (answer could exceed 100) Solve missing number problems involving two 2d numbers. Multiplication and division Multiplication facts for up to 12×4 (2nd half of 4 x table). Write and calculate mathematical statements for multiplication and using the multiplication tables that they know, including $2d \times 1d$, using mental methods. Fractions Count up and down in tenths. Recognise that tenths arise from dividing an object into 10 equal parts and in dividing 1d numbers of quantities by 10 (linking to place value, decimal measures and to division by 10). Add and subtract fractions with the same denominator within one	Number and place value Count in multiples of 4 and 8 Find 10 or 100 more or less than a 3d number up to 500 Partition numbers in different ways e.g. $146 = 100 + 4$ + 6 and $146 = 130 + 16$ Addition and subtraction Add and subtract mentally 3d and 10s (crossing the hundreds boundary) and 3d and hundreds. Add two 2d or 3d numbers using a column method (no bridging of 10s or 100s) Subtract two 2d or two 3d numbers using a column method, supported with the use of place value apparatus (no exchanging) Multiplication and division Multiplication facts for up to 6×8 (1st half of 8 x table) Solve single step problems and missing number problems involving multiplication (link to known tables facts). Fractions Recognise and show, using diagrams, equivalent fractions with small denominators. Measurement	Number and place value Count in multiples of 4 and 8 Find the place value of each digit in a 3d number up to 1000 Compare and order numbers up to 1000 using < > and = Addition and subtraction Add and subtract numbers with up to 3d using the column method including bridging/exchanging Multiplication and division Multiplication facts for up to 12×8 (2nd half of 8 x table) Use multiplication facts and knowledge of place value to multiply a multiple of 10 by 2, 3, 4, 5 and 8. Solve single-step division problems in a range of contexts Fractions Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators (understanding the relation between unit fractions as operators – fractions of – and division by integers) Measurement Measure the perimeter of simple 2D shapes	Number and place value Count in multiples of 4,8, 50 and 100 Count in 1s, 10s and 100s up to 1000 Find 10 or 100 more or less than a 3d number up to 1000 Addition and subtraction Add and subtract numbers with up to 3d using the column method including those with a different number of digits e.g. $123 + 87$, $123 - 87$ Solve missing number problems involving numbers up to 3d numbers, including those with a different number of decimal places. Multiplication and division Multiplication and division facts for 2,5,10 and 3,4, and 8 Write and solve multiplication and division calculations for a 2d number using known multiplication facts, mental and informal methods (no remainders for division) Begin to introduce short multiplication. Fractions Recognise and use fractions as numbers; unit fractions and non-unit	Number and place value Count in multiples of 4,8, 50 and 100 Count in 1s, 10s and 100s up to 1000 Partition numbers in different ways e.g. $146 = 100 + 4$ + 6 and $146 = 130 + 16$ to aid problem solving Addition and subtraction Practise solving varied addition and subtraction questions. For mental calculations with 2d numbers, the answer could exceed 100. Solve missing number problems involving 3d numbers including those with a different number of digits. Multiplication and division Multiplication and division facts for 2,5,10 and 3,4, and 8 Begin to introduce short division. Solve problems in context, 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 (e.g. 3 hats and 4 coats, how many outfits? 4 cakes
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Know number of seconds in a minute. Estimate and read time to the nearest minute using an analogue clock, including using Roman numerals from I to XII and 12 and 24-hour clocks. Record and compare time in terms of seconds, minutes and hours. *Begin to compare duration of events (e.g. the time taken by particular events/ tasks)* Statistics *Interpret and present data using bar charts (using simple scales e.g. 2, 5, 10 units per cm on the vertical axis)* Learn Its 0×3 3×3 4×3 6×3 7×3 8×3 9×3 11×3 12×3	whole (e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$) through a variety of increasingly complex problems Measurement Add and subtract amounts of money to give change, using both £ and p in practical contexts (including mixed units and recording £ and p separately – no decimals). Geometry Draw 2D shapes (including non-symmetrical polygons and connecting decimals and rounding to drawing and measuring lines in cm, in a variety of contexts). Recognise angles as property of a shape or a description of a turn. Statistics Interpret and present data using pictograms many-to-one correspondence (2,3,4,5,10,100) Learn Its 0×4 4×4 6×4 7×4 8×4 9×4 11×4 12×4	*Reading scales – weight* Measure, compare add and subtract lengths (m/cm/mm) and mass (kg/g) - (including using mixed units – e.g. 1 kg and 200g and simple equivalents of units e.g. 5m = 500cm – and scaling by integers, linking to multiplication e.g. twice as long or 5 times as high), Geometry *Recap previous learning about position and direction – relate to compass points.* Identify right angles, recognise that two right angles make a half turn, three make three quarters of a turn and four a complete turn. Statistics *Interpret and present data using tables (using simple scales e.g. 2, 5, 10 units per cm).* Learn Its Bonds to 100 $85 + 15$ $75 + 25$ $65 + 35$ $55 + 45$	Know the number of days in each month, year or leap year. Use analogue and digital 12-hour clocks to record time. Geometry Make 3D shapes using modelling materials; Recognise 3D shapes in different orientations and describe them (including non-symmetrical polyhedra), using accurate language. Statistics Interpret and present data using pictograms (using simple scales) Learn Its 0×8 6×8 7×8 8×8 9×8 11×8 12×8	fractions with small denominators Measurement *Measure, compare (using mixed units and scaling by integers, linking to multiplication), add and subtract volume and capacity (l/ml)* *Compare duration of events (e.g. the time taken by particular events/ tasks).* Geometry Identify whether right angles are greater than or less than a right angle (using acute or obtuse). Statistics Revisit interpreting and presenting data in tables. Solve one-step and two-step questions [How many more? and How many fewer?] using information presented in tables. Learn Its Double 11 = 22 Half of 22 = 11 Double 12 = 24 Half of 24 = 12 Double 13 = 26 Half of 26 = 13 Double 14 = 28 Half of 28 = 14 Double 20 = 40 Half of 40 = 20	shared equally between 8 children). Fractions Compare and order unit fractions, and fractions with the same denominators Solve problems involving fractions Measurement Geometry Identify horizontal and vertical lines and pairs of perpendicular and parallel lines Statistics Solve one-step and two-step questions [How many more? and How many fewer?] using information presented in scaled bar chart and pictograms. Learn Its Address any gaps in Learn Its covered to date Consolidation Use test results to identify gaps and implement interventions. Consolidate to ensure PV knowledge and understanding of calculation methods is secure.
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Identify, represent and estimate numbers using different representations
Read and write numbers up to 1000 in numerals and words
Using a variety of representations, including those related to measure, continue to count in 1s, 10s, 100s to become fluent in the order and place value of numbers to 1000.
Use place value and number facts to solve problems, estimating the answers to calculations and use the inverse operation to check answers.
Solve single step and to begin to solve simple two-step problems involving addition and subtraction, set in different contexts.
Recall and use multiplication and division facts for the 2, 3, 5 and 10 times tables up to 12x and through doubling, connect the 2, 4 and 8 multiplication tables.
Develop efficient mental methods using commutativity and associativity (e.g. $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$) and multiplication and division facts (e.g. using $3 \times 2 = 6$, $6 \div 3 = 2$ and $2 = 6 \div 3$) to derive related facts (e.g. $30 \times 2 = 60$, $60 \div 3 = 20$ and $20 = 60 \div 3$)
Understand unit and non-unit fractions as numbers on the number line, and deduce relations between them, such as size and equivalence. They should go beyond the $[0,1]$ interval, including relating this to measure.
Continue to recognise fractions in the context of parts of a whole, numbers, measurements, a shape, and unit fractions as a division of a quantity.
Solve one-step and two-step questions (How many more? How many fewer?) Using information presented in scaled bar charts, pictograms and tables.
Interpret data presented in many contexts.
Solve problems involving fractions.



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Year 4	Number and Place Value Count in multiples of 6. Count on and back in 10s from any given multiple between 0 and 10 000 Count on and back in 1000s from 0 to 10 000 Count backwards through zero to include negative numbers Recognise the place value of each digit in a 4d number (thousands, hundreds, tens and ones) Round any number to the nearest 10 Addition and subtraction Add and subtract numbers with up to 4d using the formal written method of columnar addition and subtractions, where appropriate, Multiplication and division Multiplication facts for up to 6 x 6 (1 st half of the 6x table) Multiplication facts for up to 12 x 6 (2 nd half of the 6x table) Measurement Time – read, write and convert time between analogue and digital 12-hour clocks Geometry Position and direction – *recap 8 compass points*	Number and Place Value Count in multiples of 9. Count on and back in 100s from 0 to 10 000 Count on and back in 1000s from 0 to 10 000 Order and compare numbers beyond 1000 Multiplication and division Multiplication facts for up to 6 x 9 (1 st half of the 9x table) Multiplication facts for up to 12 x 9 (2 nd half of the 9x table) Recognise and use factor pairs and commutativity in mental calculations Multiply 2d and 3d numbers by a 1d number using a formal written layout Fractions Recognise and write decimal equivalents of any number of tenths or hundredths (linking this to place value and decimal measures) Measurement Perimeter – Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres, expressing this algebraically as 2(a+b) where a and b are the	Number and Place Value Count in multiples of 6 and 12 Round any number to nearest 10 and 100 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 holder. Addition and subtraction Estimate and use inverse operations to check answers to a calculation. Multiplication and division Multiplication facts for up to 6 x 12 (1 st half of the 12xtable) Multiplication facts for up to 12 x 12 (2 nd half of the 12x table) Divide 2d and 3d numbers by a 1d number using formal written layout with no remainder Fractions Recognise and show, using diagrams, families of common equivalent fractions. Use factors and multiples to recognise equivalent fractions and simplify where appropriate (e.g. $\frac{6}{9} = \frac{2}{3}$ or $\frac{1}{4} = \frac{2}{8}$) Add and subtract fractions with the same	Number and Place Value Count in multiples of 25 and 1000 Find 1000 more or less than a given number Addition and subtraction Add and subtract numbers with up to 4d using the formal written method of columnar addition and subtractions, where appropriate (consolidate) Multiplication and division Multiplication facts for up to 6 x 11 (1 st half of the 11xtable) Multiplication facts for up to 12 x 11 (2 nd half of the 11x table) Use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1 Multiply three numbers mentally. Find the effect of multiplying a number with up to 2dp by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths Fractions Solve simple measure and money problems involving fractions and decimals to 2dp	Number and Place Value Count in multiples of 7 and 1000 Compare and order numbers beyond 1000 Addition and subtraction Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why Multiplication and division Multiplication facts for up to 6 x 7 (1 st half of the 7x table) Multiplication facts for up to 12 x 7 (2 nd half of the 7x table) Fractions Find the effect of dividing a 1d or 2d number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths Count up and down in hundredths, recognise that hundredths arise when dividing and object by 100 and dividing tenths by 10 Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$ Measurement Length/Mass/ Capacity/Time - Convert between different units of measure (e.g. km to m; hr	Number and Place Value Count in multiples of 6, 7, 9, 25 and 1000 Round any number to the nearest 10, 100 and 1000 Addition and subtraction Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why Multiplication and division Multiplication and division facts for up to 12 x 12 Solve problems involving multiplication and adding, including using the distributive law to multiply 2d numbers by a 1d number, integer scaling problems and harder correspondence problems such as n objects are connected to m objects. Fractions Round decimals to 1dp to the nearest whole number Compare numbers with the same number of decimal places up to 2dp Geometry Recognise line symmetry in a variety of diagrams , including where the line of symmetry does not dissect the original shape) Statistics
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	and draw a pair of axes in one quadrant, with equal scales and integer labels. Read, write and use pairs of co – ordinates (e.g. 5,2) including co-ordinate plotting ICT tools Statistics *Time graphs - interpret and present discrete and continuous data using appropriate geographical methods (understanding and using a greater range of scales in their representations)*	dimensions in the same unit. Geometry Identify acute and obtuse angles and compare and order angles up to 2 right angles by size Identify whether a polygon is regular or irregular Compare and classify geometric shapes , including quadrilaterals (e.g. parallelogram, rhombus, trapezium) and triangles (e.g. Isosceles, equilateral, scalene) , based on their properties and sizes	denominator (including beyond one whole) Measurement Area – find the area of rectilinear shapes by counting squares (relating this to arrays and multiplication) Geometry Position and direction – describe positions on a 2D grid as co-ordinates in the first quadrant Statistics Bar charts and *line graphs* - interpret and present discrete and continuous data using appropriate geographical methods	Measurement Time – read, write and convert time between analogue and digital 24-hour clocks Geometry 2D shape – identify lines of symmetry in 2D shapes presented in different orientations Complete a simple symmetric figure with respect to a specific line of symmetry	to min), using multiplication to convert from larger to smaller units *Temperatures* Time – read, write and convert time between analogue and digital 12- and 24-hour clocks Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days) Geometry 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 given polygon	Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs Consolidation Use test results to identify gaps and implement interventions. Consolidate to ensure PV knowledge and understanding of calculation methods is secure.
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Learn Its 0 x 6 6 x 6 7 x 6 9 x 6 11 x 6 12 x 6 0 x 9 7 x 9 9 x 9 11 x 9 12 x 9 Plus any gaps identified from times tables assessments	Learn Its 0 x 11 7 x 11 11 x 11 0 x 12 7 x 12 11 x 12 12 x 12 0 x 7 7 x 7 Plus any gaps identified from times tables assessments	Learn Its Consolidate times tables knowledge	Learn Its Consolidate times tables knowledge	Learn Its Double 15 = 30 Half of 30 = 15 Double 16 = 32 Half of 32 = 16 Double 17 = 34 Half of 34 = 17 Double 18 = 36 Half of 36 = 19 Double 19 = 38 Half of 38 = 19 1 year = 12 months 1 week = 7 days 1 day = 24 hours 1 hour = 60 minutes 1 minute = 60 seconds 12 midnight = 12 a.m. 12 noon = 12 p.m. 1 o'clock in the afternoon = 13:00 5 o'clock tea time = 17:00	Learn Its 1 km = 1000m 1/2 km = 500m 1/4km = 250m 1/10km = 100m 1m = 100cm 1cm = 10mm 1 kg = 1000g 1/2 kg = 500g 1/4 kg = 250g 1/10 kg = 100g 1l = 1000ml 1/2 l = 500ml 1/4 l = 250ml 1/10 l = 100ml Plus similar measure equivalences
Identify, represent and estimate numbers using different representations Extend use of the number line to connect fractions, numbers and measures Begin to expand their knowledge of the number system to include the decimal numbers and fractions they have already met. Continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency Write statements about the equality of expressions (e.g. use the distributive law $39 \times 7 = 30 \times 7 + 9 \times 7$ and the associative law $(2 \times 3) \times 4 = 2 \times (3 \times 4)$) Combine knowledge of number facts and rules of arithmetic to solve mental and written calculations e.g. $2 \times 6 \times 5 = 10 \times 6 = 60$ Solve problems involving increasingly large positive numbers and two-step problems in contexts, choosing the appropriate operation (including correspondence questions such as the number of choices of meal on a menu, or three cakes shared equally between 10 children). Understand fractions and decimals are different ways of expressing numbers and proportions Count forwards and backwards in simple fractions and decimals Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number. Connect estimation and rounding numbers to the use of measuring instruments Practise mental methods and extend this to 3d numbers to derive facts (e.g. $600 \div 3 = 200$ can be derived from $2 \times 3 = 6$)					



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Year 5	Number and Place Value	Number and Place Value	Number and Place Value	Number and Place Value	Number and Place Value	Number and Place Value
	Count forwards and backwards from any given number in steps of 100	Count forwards and backwards from a given number in steps of 10,000	Count up and down in thousandths; recognise that thousandths arise from dividing an object into 1000 equal parts and in dividing numbers or quantities by 1000.	Count forwards or backwards from a given number in steps of 100,000	Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit	Count forwards and backwards from a given number in steps of 1,000,000
	Count forwards and backwards from a given number in steps of 1,000	Count forwards or backwards from a given number in steps of 100,000		Read, write, order and compare numbers to at least 100 000 and determine the value of each digit	Recognise and describe linear number sequences, including those involving fractions and decimals, and find the term-to-term rule in words (e.g. add $\frac{1}{2}$)	Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10000 or 100000
	Read, write, order and compare numbers to at least 10 000 and determine the value of each digit	Round any number up to 100 000 to the nearest 10, 100 and 1000.	Read Roman numerals to 1000 and recognise years written in Roman numerals	Interpret negative numbers in context, count forwards and backwards with positive and negative numbers including through zero.		Addition and subtraction Consolidate: Addition and Subtraction using columnar addition and subtraction
	Addition and subtraction Add and subtract numbers mentally with increasingly large numbers	Multiplication and division Consolidation and practise of all multiplication and division facts up to 12 x 12	Addition and subtraction Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	Multiplication and division Consolidation and practise of all multiplication and division facts up to 12 x 12	Addition and subtraction Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	Multiplication and division Consolidation and practise of all multiplication and division facts up to 12 x 12
	Add and subtract whole numbers with more than 4d including using formal written methods (columnar addition and subtraction).	Identify multiples and factors including finding all factor pairs of a number and common factors of two numbers.	Multiplication and division Consolidation and practise of all multiplication and division facts up to 12 x 12	Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers	Multiplication and division Consolidation and practise of all multiplication and division facts up to 12 x 12	Solve problems involving multiplication and division including using knowledge of factors and multiples, squares and cubes
	Multiplication and division Consolidation and practise of all multiplication and division facts up to 12 x 12	Fractions Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.	Divide numbers up to 4d by a 1d number using the formal written method of short division and interpret remainders appropriately for the context.	Establish whether a number up to 100 is prime and recall prime numbers up to 19.	Multiplication and division Consolidation and practise of all multiplication and division facts up to 12 x 12	Fractions Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.	Read and write decimal numbers as fractions, e.g. $0.71 = 71/100$.	Measurement Calculate & compare the area of rectangles (including squares) including using standard units, square centimetres (cm ²) and square metres (m ²) & estimate the area of irregular shapes.	Multiply numbers up to 4d by a 1d or 2d number using a formal written method, including long multiplication for 2d numbers.	Recognise and use square numbers and cube numbers, and the notation for square ² and cubed ³ .	Recognise the percent symbol (%) and understand that per cent relates to 'number of parts per hundred' and write percentages as a fraction with denominator 100, and as a decimal.
	Multiply numbers up to 4d by a 1d or 2d number using a formal written method (short multiplication)	Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number.	Geometry Identify, describe and represent the position of a shape following a reflection or translation,	Fractions Add and subtract fractions with the same denominator and denominators that are	Fractions Compare and order fractions whose denominators are all multiples of the same number.	Solve problems which require knowing percentage and decimals equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}$
	Divide numbers up to 4d by a 1d number using the formal written method of short division and interpret remainders appropriately for the context.	Measurement Calculate & compare the area of rectangles (including squares, & including using standard			Round decimals with two decimal places to the nearest whole number and to one decimal place.	



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	Measurement *Convert between different units of metric measure (e.g. km/m; cm/m; cm/mm; g/kg; l/ml). * Measure and calculate the perimeter of composite rectilinear shapes in cm and m. Geometry Know angles are measured in degrees; estimate & compare acute, obtuse & reflex angles.	units, square centimetres (cm²) and square metres (m²) & estimate the area of irregular shapes. Statistics Solve comparison, addition and difference problems using information presented in a line graph	using the appropriate language and know that the shape has not changed Distinguish between regular and irregular polygons based on reasoning about equal sides and angles Statistics *Complete, read and interpret information in tables, including timetables*	multiples of the same number. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents Geometry Identify 3D shapes, including cubes and other cuboids, from 2D representations Use the properties of rectangles to deduce related facts & find missing lengths & angles.	Read, write, order and compare numbers with up to three decimal places. Measurement Solve problems involving converting between units of time. Geometry Identify angles at a point on a straight line & $\frac{1}{2}$ a turn (total 180°) Identify angles at a point & one whole turn (total 360°) Identify other multiples of 90° Statistics *Solve comparison, addition and difference problems using information presented in a line graph* Learn Its Address gaps from previous term Any specific facts from Y4 needing further focus	and those fractions with a denominator of a multiple of 10 or 25 Measurement Estimate volume (e.g. using 1 cm³ blocks to build cubes, including cuboids) & capacity (e.g. using water). Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. Geometry Draw given angles & measure them in degrees Consolidate and revise all Year 5 learning associated with geometry to include work on angles, translations and shape Statistics Consolidate: Complete, read and interpret information in tables, including timetables
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Learn Its Address gaps from Year 4 Double 25 = 50 Half of 50 = 25 Double 35 = 70 Half of 70 = 90 Double 45 = 90 Half of 90 = 45 Double 75 = 150 Half of 150 = 75 Double 0.5 = 1 Half of 1 = 0.5 Double 1.5 = 3 Half of 3 = 1.5 Double 2.5 = 5 Half of 5 = 2.5 Double 3.5 = 7 Half of 7 = 3.5 Double 4.5 = 9 Half of 9 = 4.5 Double 5.5 = 11 Half of 11 = 5.5	Learn Its Double 6.5 = 13 Half of 13 = 6.5 Double 7.5 = 15 Half of 15 = 7.5 Double 8.5 = 17 Half of 17 = 8.5 Double 9.5 = 19 Half of 19 = 9.5 89 + 11 = 100 88 + 12 = 100 87 + 13 = 100 86 + 14 = 100 84 + 16 = 100 83 + 17 = 100 82 + 18 = 100 81 + 19 = 100 79 + 21 = 100 78 + 22 = 100 77 + 23 = 100 76 + 24 = 100	Learn Its Address gaps from previous term 74 + 26 = 100 73 + 27 = 100 72 + 28 = 100 71 + 29 = 100 69 + 31 = 100 68 + 32 = 100 67 + 33 = 100 66 + 34 = 100 64 + 36 = 100 63 + 37 = 100 62 + 38 = 100 61 + 39 = 100 59 + 41 = 100 58 + 42 = 100 57 + 43 = 100 56 + 44 = 100 54 + 46 = 100 53 + 47 = 100 52 + 48 = 100 51 + 49 = 100	Learn Its 2² = 4 3² = 9 4² = 16 5² = 25 6² = 36 7² = 49 8² = 64 9² = 81 10² = 100 11² = 121 12² = 144 2³ = 8 3³ = 27 4³ = 64 5³ = 125 6³ = 216 7³ = 343 8³ = 512 9³ = 729 10³ = 1000 11³ = 1331 12³ = 1728	Learn Its Any specific facts from Y4 needing further focus Consolidation Use test results to identify gaps and implement interventions. Consolidate to ensure PV knowledge and understanding of calculation methods is secure.
Multiply and divide numbers mentally drawing upon known facts. Write numbers to 1 000 000 Use and understand the terms factor, multiple and prime, square and cube numbers and use these to construct equivalence statements e.g. $3 \times 270 = 3 \times 3 \times 9 \times 10 = 9^2 \times 10$ Solve number problems and practical problems involving place value, using number in context, including measurement. Practise mental calculations with increasingly large numbers to aid fluency. Solve problem involving addition, subtraction, multiplication and division and a combination of these, including understanding of the equals sign. Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. Interpret non-integer answers to division by expressing results in different ways according to the context, including with remainders, as fractions, as decimals or by rounding) Use multiplication and division as inverses e.g. with scale drawings or when converting measures. Use and explain the equals sign to indicate equivalence, including in missing number problems. Distributivity can be expressed as $a(b+c) = ab + ac$ Know that percentages, decimals and fractions are different ways of expressing proportions Connect knowledge of thousandths to decimals and measures.				



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Year 6

Teach new content for Y6

Number and Place Value

Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit

Round any whole number to a required degree of accuracy

Use negative numbers in context, and calculate intervals across zero

Addition, subtraction, multiplication and division

Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication

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

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

Perform mental calculations, including with mixed operations and large numbers

Identify common factors (relating these to finding equivalent fractions), common multiples and prime numbers

Use their knowledge of the order of operations to carry out calculations involving the four operations, including using brackets for example, $2 + 1 \times 3 = 5$ and $(2 + 1) \times 3 = 9$

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

Pupils round answers to a specified degree of accuracy, for example, to the nearest 10, 20, 50 etc., but not to a specified number of significant figures.

Fractions (including decimals and percentages)

Use common factors to simplify fractions; use common multiples to express fractions in the same denominator

Compare and order fractions, including fractions > 1

Add and subtract fractions with different denominators and mixed numbers, by identifying equivalent fractions with the same denominator (starting with fractions where the denominator of one fraction is a multiple of the other (for example, $\frac{1}{2} + \frac{1}{8} = \frac{5}{8}$) and progressing to varied and increasingly complex problems

Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$] and using a variety of images to support their understanding

Divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$] (introduced, initially, in practical contexts involving measures and money). They recognise division calculations as the inverse of multiplication.

Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example $\frac{3}{8}$]. Practise calculations with simple fractions and decimal fraction equivalents to aid fluency, including listing equivalent fractions to identify fractions with common denominators. Explore and make conjectures about converting a simple fraction to a decimal fraction (for example, $3 \div 8 = 0.375$). For simple fractions with recurring decimal equivalents, pupils learn about rounding the decimal to three decimal places, or other appropriate approximations depending on the context.

Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000, giving answers up to three decimal places

Multiply and divide 1d numbers with up to two decimal places by 1d and 2d whole numbers, using written division methods in cases where the answer has up to two decimal places, starting with the simplest cases, such as $0.4 \times 2 = 0.8$, and in practical contexts, such as measures and money.

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

Use their understanding of the relationship between unit fractions and division to work backwards by multiplying a quantity that represents a unit fraction to find the whole quantity (for example, if $\frac{1}{4}$ of a length is 36cm, then the whole length is $36 \times 4 = 144\text{cm}$).

Pupils also develop their skills of rounding and estimating as a means of predicting and checking the order of magnitude of their answers to decimal calculations. This includes rounding answers to a specified degree of accuracy and checking the reasonableness of their answers.

Ratio and proportion

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, linking these to calculating angles in pie charts

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.

Recognise proportionality in contexts when the relations between quantities are in the same ratio (for example, similar shapes and recipes).



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Our Maths Curriculum Long Term Plan



Consolidate their understanding of ratio when comparing quantities, sizes and scale drawings by solving a variety of problems. They might use the notation $a:b$ to record their work.

Solve problems involving unequal quantities, for example, 'for every egg you need three spoonfuls of flour', ' $\frac{3}{5}$ of the class are boys'. These problems are the foundation for later formal approaches to ratio and proportion.

Algebra

Understand symbols and letters are used to represent variables and unknowns in mathematical situations that they already understand e.g. missing numbers, lengths, coordinates and angles, formulae in mathematics and science, equivalent expressions (for example, $a + b = b + a$), generalisations of number patterns and number puzzles (for example, what two numbers can add up to).

Use simple formulae

Generate and describe linear number sequences

Express missing number problems algebraically

Find pairs of numbers that satisfy an equation with two unknowns

Enumerate possibilities of combinations of two variables.

Measurement

Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places

Convert between miles and kilometres, knowing approximate conversions and being able to tell if an answer is sensible

Connect conversion (for example, from kilometres to miles) to a graphical representation as preparation for understanding linear/proportional graphs.

Recognise that shapes with the same areas can have different perimeters and vice versa

Recognise when it is possible to use formulae for area and volume of shapes e.g. relating the area of rectangles to parallelograms and triangles, for example, by dissection, and calculate their areas, understanding and using the formulae (in words or symbols) to do this.

Calculate the area of parallelograms and triangles

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

Add and subtract positive and negative integers for measures such as temperature, using the number line

Begin to use compound units for speed, such as miles per hour, and apply their knowledge in science or other subjects as appropriate.

Geometry

Draw 2-D shapes using given dimensions and angles

Recognise, describe and build simple 3-D shapes, including making nets

[*SPR*] Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons

Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius

[*SPR*] Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

[*SPR*] Draw shapes and nets accurately, using measuring tools and conventional markings and labels for lines and angles.

Describe the properties of shapes and explain how unknown angles and lengths can be derived from known measurements.

These relationships might be expressed algebraically for example, $d = 2 \times r$; $a = 180 - (b + c)$.

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.

Draw and label a pair of axes in all four quadrants with equal scaling.

Pupils draw and label rectangles (including squares), parallelograms and rhombuses, specified by coordinates in the four quadrants, predicting missing coordinates using the properties of shapes. These might be expressed algebraically for example, translating vertex (a, b) to $(a - 2, b + 3)$; (a, b) and $(a + d, b + d)$ being opposite vertices of a square of side d .

Statistics

Interpret and construct pie charts [*AUT*] (by connecting their work on angles, fractions and percentages) and line graphs and use these to solve problems



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Calculate and interpret the mean as an average and know when it is appropriate to find the mean of a data set.
Encounter and draw graphs relating two variables, arising from their own enquiry and in other subjects – [*SUM – scatter graphs*].
Connect conversion from kilometres to miles in measurement to its graphical representation.

Once Y6 new content has been taught, focus on consolidation of learning.

Learn Its

Doubling and halving other 2d numbers

0.5 x 0	15 x 0	25 x 0
0.5 x 1	15 x 1	25 x 1
0.5 x 2	15 x 2	25 x 2
0.5 x 3	15 x 3	25 x 3
0.5 x 4	15 x 4	25 x 4
0.5 x 5	15 x 5	25 x 5
0.5 x 6	15 x 6	25 x 6
0.5 x 7	15 x 7	25 x 7
0.5 x 8	15 x 8	25 x 8
0.5 x 9	15 x 9	25 x 9
0.5 x 10	15 x 10	25 x 10
0.5 x 11	15 x 11	25 x 11
0.5 x 12	15 x 12	25 x 12

Solve number and practical problems that involve place value.

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

Solve problems which require answers to be rounded to specified degrees of accuracy

Continue to use all the multiplication tables to calculate mathematical statements in order to maintain their fluency.

Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate

*Indicates possible cross-curricular links with History, Geography or Science topics for the term. These objectives need to be taught early so the children can apply them in their other work.