

St. Augustine of Canterbury Catholic Primary School

“Created by God to Love and Learn”



Our Reading Curriculum

Our Core Values:

St Augustine of Canterbury Catholic Primary School provides an education that inspires and nurtures God’s children to succeed to their full potential as we are **Created by God to love and learn.**

We believe in the concept of lifelong learning, and in the idea that both adults and children learn new things every day. We maintain that learning should be a rewarding and enjoyable experience for everyone. Through our teaching we strive to equip children with the skills, knowledge and understanding necessary to make informed choices about the important things in their lives. We believe that effective and stimulating teaching will lead to consistent and quality learning experiences to help children to lead happy and rewarding lives.

We consider the following ten values as instrumental when framing the life of the school.

- **Respect:** of ourselves and our neighbour both near and far from every culture and faith.
- **Love:** of everyone and everything God created.
- **Humility:** knowing that we are one of many and avoid selfishness
- **Courage:** in the face of the unknown or meeting a new challenge or just having a go!
- **Responsibility:** for our actions or inaction
- **Compassion:** showing care and support to others
- **Perseverance:** never giving up
- **Service:** supporting others by giving of our time, organising charitable activities
- **Honesty:** in thought and deed
- **Curiosity:** a pre-requisite for learning about the world about us

Our Approach, Aim, and Curriculum

Our key curriculum drivers are determined by our values and the needs of our learners:

Inclusivity Creativity Curiosity Oracy

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National Curriculum EYFS (Reception Class)

Number – number and place value

Have a deep understanding of number to 10, including composition of each number

Subitise to 5

Automatically recall number bonds to 5 and some number bonds to 10, including double facts.

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.

Number – addition and subtraction

Begin to use the language of add and take away

Number – multiplication and division

Explore sharing and grouping

Measurement

Compare size

Explore and compare mass and capacity

Find a balance

Explore and compare length and height

Talk about time

Order and sequence time

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Geometry

Identify and name circles and triangles

Compare circles and triangles

Identify 2D and 3D shapes in the environment

Identify and name shapes with 4 sides

Combine shapes with 4 sides

Recognise and name 3D shapes

Find 2D shapes within 3D shapes

Use 3D shapes

Select shapes for a purpose

Rotate and manipulate shape

Explain shape arrangements

Compose and decompose shapes

Find and copy 2D shapes in pictures and within 3D shapes

Position and Direction

Explore, copy, continue and create simple and complex patterns

Describe position

Explain patterns and their rules

Explore and represent maps

Create maps from story situations

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National Curriculum Year 1

Number – number and place value

Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. (Number and Place Value)
Count and read numbers to 100 in numerals. (Number and Place Value)
Count and write numbers to 100 in numerals. (Number and Place Value)
Count in multiples of twos, fives and tens from 0. (Number and Place Value)
Identify one more and one less of a given number. (Number and Place Value)
Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. (Number and Place Value)
Read and write numbers from 1 to 20 in numerals. (Number and Place Value)
Read and write numbers from 1 to 20 in words. (Number and Place Value)
Count in twos, fives and tens to solve problems e.g. count the number of chairs in a diagram when the chairs are organised in 7 rows of 5 by counting in fives. (Number and Place Value)
Partition and combine numbers using apparatus if required e.g. partition 76 into tens and ones; combine 6 tens and 4 ones. (Number and Place Value)

Number – addition and subtraction

Read and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. (Addition and Subtraction)
Write mathematical statements involving addition (+), subtraction (-) and equals (=) signs. (Addition and Subtraction)
Demonstrate an understanding of the commutative law (e.g. $3 + 2 = 5$, therefore $2 + 3 = 5$). (Addition and Subtraction)
Demonstrate an understanding of inverse relationships involving addition and subtraction (e.g. if $3 + 2 = 5$, then $5 - 2 = 3$). (Addition and Subtraction)
Recall at least four of the six number bonds for 10 and reason about associated facts (e.g. $6 + 4 = 10$, therefore $4 + 6 = 10$ and $10 - 6 = 4$). (Addition and Subtraction)
Represent and use number bonds within 20. (Addition and Subtraction)
Represent and use subtraction facts within 20. (Addition and Subtraction)
Add one-digit and two-digit numbers to 20, including zero. (Addition and Subtraction)
Subtract one-digit and two-digit numbers to 20, including zero. (Addition and Subtraction)
Solve one-step problems that involve addition, subtraction and missing numbers using concrete objects and pictorial representations. (Addition and Subtraction)

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Number – multiplication and division

Solve one-step problems involving multiplication by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. (Multiplication and Division)

Solve one-step problems involving division by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. (Multiplication and Division)

Number – fractions (including decimals)

Recognise, find and name a half as one of two equal parts of an object, shape or quantity. (Fractions)

Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. (Fractions)

Measurement

Compare, describe and solve practical problems for lengths and heights e.g. long/short, longer/shorter, tall/short, double/half. (Measurement)

Compare, describe and solve practical problems for mass/weight e.g. heavy/light, heavier than, lighter than. (Measurement)

Compare, describe and solve practical problems for capacity and volume e.g. full/empty, more than, less than, half, half full, quarter. (Measurement)

Compare, describe and solve practical problems for time e.g. quicker, slower, earlier, later. (Measurement)

Measure and begin to record mass/weight. (Measurement)

Measure and begin to record capacity and volume. (Measurement)

Measure and begin to record time (hours, minutes, seconds). (Measurement)

Recognise and know the value of different denominations of coins and notes. (Measurement)

Sequence events in chronological order using language e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. (Measurement)

Recognise and use language relating to dates, including days of the week, weeks, months and years. (Measurement)

Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. (Measurement)

Measure and begin to record length/height. (Measurement)

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Geometry – properties of shapes

Recognise and name common 2-D shapes e.g. rectangles (including squares), circles and triangles. (Properties of Shape)

Recognise and name common 3-D shapes e.g. cuboids (including cubes), pyramids and spheres. (Properties of Shape)

Geometry – position and direction

Describe position, direction and movement, including whole, half, quarter and three-quarter turns. (Position and Direction)

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National Curriculum Year 2

Number – number and place value
Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward. (Number and Place Value)
Recognise the place value of each digit in a two-digit number (tens, ones). (Number and Place Value)
Identify, represent and estimate numbers using different representations, including the number line. (Number and Place Value)
Compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs. (Number and Place Value)
Read and write numbers to at least 100 in numerals. (Number and Place Value)
Read and write numbers to at least 100 in words. (Number and Place Value)
Use place value and number facts to solve problems. (Number and Place Value)
Partition two-digit numbers into different combinations of tens and ones using apparatus if needed e.g. 23 is the same as 2 tens and 3 ones which is the same as 1 ten and 13 ones. (Number and Place Value)
Use reasoning about numbers and relationships to solve more complex problems and explain his/her thinking e.g. $29 + 17 = 15 + 4 + ?$; 'Together Jack and Sam have £14. Jack has £2 more than Sam. How much money does Sam have?' etc. (Number and Place Value)
Recall the multiples of 10 below and above any given 2 digit number e.g. say that for 67 the multiples are 60 and 70. (Number and Place Value)

Number – addition and subtraction
Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures. (Addition and Subtraction)
Solve problems with addition and subtraction applying his/her increasing knowledge of written methods and mental methods where regrouping may be required. (Addition and Subtraction)
Recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If $7 + 3 = 10$, then $17 + 3 = 20$; if $7 - 3 = 4$, then $17 - 3 = 14$; leading to if $14 + 3 = 17$, then $3 + 14 = 17$, $17 - 14 = 3$ and $17 - 3 = 14$). (Addition and Subtraction)
Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. (Addition and Subtraction)
Add and subtract numbers where no regrouping is required, using concrete objects, pictorial representations, and mentally, including a two-digit number and ones. (Addition and Subtraction)
Add and subtract numbers using concrete objects, pictorial representations, and mentally, including a two-digit number and tens. (Addition and Subtraction)
Add and subtract numbers using concrete objects, pictorial representations, and mentally, including two two-digit numbers. (Addition and Subtraction)
Add and subtract numbers using concrete objects, pictorial representations, and mentally, including adding three one-digit numbers. (Addition and Subtraction)
Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. (Addition and Subtraction)
Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. (Addition and Subtraction)
Recall doubles and halves to 20 e.g. knowing that double 2 is 4, double 5 is 10 and half of 18 is 9. (Addition and Subtraction)

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Use estimation to check that his/her answers to a calculation are reasonable e.g. knowing that $48 + 35$ will be less than 100. (Addition and Subtraction)
Solve missing number problems using addition and subtraction. (Addition and Subtraction)

Number – multiplication and division
Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. (Multiplication and Division)
Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals ($=$) signs. (Multiplication and Division)
Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. (Multiplication and Division)
Solve problems involving multiplication and division, using concrete materials and mental methods. (Multiplication and Division)
Solve problems involving multiplication and division, using arrays, repeated addition and multiplication and division facts, including problems in contexts e.g. knowing that $2 \times 7 = 14$ and $2 \times 8 = 16$, explains that making pairs of socks from 15 identical socks will give 7 pairs and one sock will be left. (Multiplication and Division)
Use multiplication and division facts for 2, 5 and 10 to make deductions outside known multiplication facts e.g. know that multiples of 5 have one digit of 0 or 5 and use this to reason that 18×5 cannot be 92 as it is not a multiple of 5. (Multiplication and Division)
Solve word problems involving multiplication and division with more than one step e.g. which has the most biscuits, 4 packets of biscuits with 5 in each packet or 3 packets of biscuits with 10 in each packet. (Multiplication and Division)
Recognise the relationships between addition and subtraction and rewrite addition statements as simplified multiplication statements e.g. $10 + 10 + 10 + 5 + 5 = 3 \times 10 + 2 \times 5 = 4 \times 10$. (Multiplication and Division)

Number – fractions (including decimals)
Recognise, find, name and write fractions $1/3$, $1/4$, $2/4$ and $3/4$ of a length, shape, set of objects or quantity and demonstrate understanding that all parts must be equal parts of the whole. (Fractions)
Write simple fractions for example, $1/2$ of 6 = 3 and recognise the equivalence of $2/4$ and $1/2$. (Fractions)

Measurement
Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ($^{\circ}\text{C}$); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. (Measurement)
Compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$. (Measurement)
Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. (Measurement)
Find different combinations of coins that equal the same amounts of money. (Measurement)
Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. (Measurement)
Compare and sequence intervals of time. (Measurement)

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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. (Measurement)
Remember the number of minutes in an hour and the number of hours in a day. (Measurement)
Read scales in divisions of ones, twos, fives and tens. (Measurement)
Read scales where not all numbers on the scale are given and estimate points in between. (Measurement)
Read the time on a clock to the nearest 15 minutes. (Measurement)

Geometry – properties of shapes
Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. (Properties of Shape)
Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. (Properties of Shape)
Name some common 2-D and 3-D shapes from a group of shapes or from pictures of the shapes and describe some of their properties (e.g. triangles, rectangles, squares, circles, cuboids, cubes, pyramids and spheres). (Properties of Shape)
Identify 2-D shapes on the surface of 3-D shapes e.g. a circle on a cylinder and a triangle on a pyramid. (Properties of Shape)
Compare and sort common 2-D and 3-D shapes and everyday objects describing similarities and differences e.g. find 2 different 2-D shapes that only have one line of symmetry; that a cube and a cuboid have the same number of edges, faces and vertices and describe what is different about them. (Properties of Shape)

Geometry – position and direction
Order and arrange combinations of mathematical objects in patterns and sequences. (Position and Direction)
Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise). (Position and Direction)

Statistics
Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. (Statistics)
Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. (Statistics)
Ask and answer questions about totalling and comparing categorical data. (Statistics)

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National Curriculum Year 3

Number – number and place value

Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number. (Number and Place Value)

Recognise the place value of each digit in a three-digit number (hundreds, tens, ones). (Number and Place Value)

Compare and order numbers up to 1000. (Number and Place Value)

Identify, represent and estimate numbers using different representations. (Number and Place Value)

Read and write numbers up to 1000 in numerals. (Number and Place Value)

Read and write numbers up to 1000 in words. (Number and Place Value)

Solve number problems and practical problems involving these ideas. (Number and Place Value)

Number – addition and subtraction

Add and subtract numbers mentally, including a three-digit number and ones. (Addition and Subtraction)

Add numbers with up to three digits using the formal method of columnar addition. (Addition and Subtraction)

Add and subtract numbers mentally, including a three-digit number and tens. (Addition and Subtraction)

Subtract numbers with up to three digits using the formal method of columnar subtraction. (Addition and Subtraction)

Add and subtract numbers mentally, including a three-digit number and hundreds. (Addition and Subtraction)

Estimate the answer to a calculation and use inverse operations to check answers. (Addition and Subtraction)

Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. (Addition and Subtraction)

Number – multiplication and division

Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. (Multiplication and Division)

Write and calculate mathematical statements for multiplication and division using the multiplication tables that he/she knows, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. (Multiplication and Division)

Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects. (Multiplication and Division)

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Number – fractions (including decimals)

Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10. (Fractions)

Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. (Fractions)

Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. (Fractions)

Recognise and show, using diagrams, equivalent fractions with small denominators. (Fractions)

Add fractions with the same denominator within one whole e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$. (Fractions)

Subtract fractions with the same denominator within one whole e.g. $\frac{6}{7} - \frac{1}{7} = \frac{5}{7}$. (Fractions)

Compare and order unit fractions, and fractions with the same denominators. (Fractions)

Solve fraction problems. (Fractions)

Measurement

Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). (Measurement)

Measure the perimeter of simple 2-D shapes. (Measurement)

Add and subtract amounts of money to give change, using both £ and p in practical contexts. (Measurement)

Tell the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. (Measurement)

Write the time using an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. (Measurement)

Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight. (Measurement)

Know the number of seconds in a minute and the number of days in each month, year and leap year. (Measurement)

Compare durations of events e.g. to calculate the time taken by particular events or tasks. (Measurement)

Geometry – properties of shapes

Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them. (Properties of Shape)

Recognise angles as a property of shape or a description of a turn. (Properties of Shape)

Identify right angles and identify whether other angles are greater or less than a right angle. (Properties of Shape)

Recognise that two right angles make a half turn, three make three quarters of a turn and four a complete turn. (Properties of Shape)

Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. (Properties of Shape)

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Statistics

Interpret and present data using bar charts, pictograms and tables. (Statistics)

Solve one-step and two-step questions e.g. 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables. (Statistics)

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National Curriculum Year 4

Number – number and place value

Count in multiples of 6, 7, 9, 25 and 1000. (Number and Place Value)

Find 1000 more or less than a given number. (Number and Place Value)

Count backwards through zero to include negative numbers. (Number and Place Value)

Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones). (Number and Place Value)

Order and compare numbers beyond 1000. (Number and Place Value)

Identify, represent and estimate numbers using different representations including measures. (Number and Place Value)

Round any number to the nearest 10, 100 or 1000. (Number and Place Value)

Solve number and practical problems that involve all of the above and with increasingly large positive numbers. (Number and Place Value)

Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value. (Number and Place Value)

Number – addition and subtraction

Add numbers with up to four digits using the formal method of columnar addition. (Addition and Subtraction)

Estimate and use inverse operations to check answers to a calculation. (Addition and Subtraction)

Subtract numbers with up to four digits using the formal method of columnar subtraction. (Addition and Subtraction)

Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. (Addition and Subtraction)

Number – multiplication and division

Recall multiplication and division facts for multiplication tables up to 12×12 . (Multiplication and Division)

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. (Multiplication and Division)

Recognise and use factor pairs and commutativity in mental calculations. (Multiplication and Division)

Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. (Multiplication and Division)

Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects. (Multiplication and Division)

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Number – fractions (including decimals)

Recognise and show, using diagrams, families of common equivalent fractions. (Fractions)

Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. (Fractions)

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. (Fractions)

Add and subtract fractions with the same denominator. (Fractions)

Recognise and write decimal equivalents of any number of tenths or hundredths. (Fractions)

Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$. (Fractions)

Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths. (Fractions)

Round decimals with one decimal place to the nearest whole number. (Fractions)

Compare numbers with the same number of decimal places up to two decimal places. (Fractions)

Solve simple measure and money problems involving fractions and decimals to two decimal places. (Fractions)

Measurement

Convert between different units of measure e.g. kilometre to metre; hour to minute. (Measurement)

Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. (Measurement)

Estimate, compare and calculate different measures, including money in pounds and pence. (Measurement)

Read, write and convert time between analogue and digital 12- and 24-hour clocks. (Measurement)

Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. (Measurement)

Geometry – properties of shapes

Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. (Properties of Shape)

Identify acute and obtuse angles and compare and order angles up to two right angles by size. (Properties of Shape)

Identify lines of symmetry in 2-D shapes presented in different orientations. (Properties of Shape)

Complete a simple symmetric figure with respect to a specific line of symmetry. (Properties of Shape)

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Geometry – position and direction

Describe positions on a 2-D grid as coordinates in the first quadrant. (Position and Direction)

Describe movements between positions as translations of a given unit to the left/right and up/down. (Position and Direction)

Plot specified points and draw sides to complete a given polygon. (Position and Direction)

Statistics

Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. (Statistics)

Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. (Statistics)

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National Curriculum Year 5

Number, place value, approximation and estimation

Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit e.g. what is the value of the '7' in 276,541? Find the difference between the largest and smallest whole numbers that can be made from using three digits. (Number and Place Value)

Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. (Number and Place Value)

Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero. (Number and Place Value)

Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000. (Number and Place Value)

Solve number problems and practical problems that involve ordering and comparing numbers to 1 000 000, counting forwards or backwards in steps, interpreting negative numbers and rounding. (Number and Place Value)

Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. (Number and Place Value)

Addition and subtraction

Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). (Addition and Subtraction)

Add and subtract numbers mentally with increasingly large numbers. (Addition and Subtraction)

Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. (Addition and Subtraction)

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. (Addition and Subtraction)

Multiplication and Division

Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. (Multiplication and Division)

Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. (Multiplication and Division)

Establish whether a number up to 100 is prime and recall prime numbers up to 19. (Multiplication and Division)

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. (Multiplication and Division)

Multiply and divide numbers mentally drawing upon known facts. (Multiplication and Division)

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. (Multiplication and Division)

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. (Multiplication and Division)

Recognise and use square numbers and the notation for squared (2). (Multiplication and Division)

Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. (Multiplication and Division)

Recognise and use cube numbers and the notation for cubed (3). (Multiplication and Division)

Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. (Multiplication and Division)

Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. (Multiplication and Division)

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Establish whether a number up to 100 is prime and recall prime numbers up to 19. (Multiplication and Division)
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. (Multiplication and Division)
Multiply and divide numbers mentally drawing upon known facts. (Multiplication and Division)
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. (Multiplication and Division)
Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. (Multiplication and Division)
Recognise and use square numbers and the notation for squared (2). (Multiplication and Division)
Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. (Multiplication and Division)
Recognise and use cube numbers and the notation for cubed (3). (Multiplication and Division)
Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. (Multiplication and Division)
Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. (Multiplication and Division)

Fractions
Compare and order fractions whose denominators are all multiples of the same number. (Fractions)
Identify and name equivalent fractions of a given fraction, represented visually, including tenths and hundredths. (Fractions)
Write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. (Fractions)
Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number e.g. $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$. (Fractions)
Add and subtract fractions with the same denominator and denominators that are multiples of the same number. (Fractions)
Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. (Fractions)
Read and write decimal numbers as fractions e.g. $0.71 = 71/100$, $8.09 = 8 + 9/100$. (Fractions)
Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. (Fractions)

Decimals and Fractions
Round decimals with two decimal places to the nearest whole number and to one decimal place. (Fractions)
Read, write, order and compare numbers with up to three decimal places. (Fractions)
Solve problems involving number up to three decimal places. (Fractions)

Percentages, decimals and fractions
Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal. (Fractions)
Solve problems which require knowing percentage and decimal equivalents of $1/2$, $1/4$, $1/5$, $2/5$, $4/5$ and those fractions with a denominator of a multiple of 10 or 25. (Fractions)

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Measures

Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre). (Measurement)

Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. (Measurement)

Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. (Measurement)

Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes. (Measurement)

Estimate volume e.g. using 1 cm³ blocks to build cuboids (including cubes) and capacity e.g. using water. (Measurement)

Solve problems involving converting between units of time. (Measurement)

Use all four operations to solve problems involving measure e.g. length, mass, volume, money using decimal notation, including scaling. (Measurement)

Geometry

Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. (Properties of Shape)

Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. (Properties of Shape)

Draw given angles, and measure them in degrees (°). (Properties of Shape)

Identify angles at a point and one whole turn (total 360°). (Properties of Shape)

Identify angles at a point on a straight line and 1/2 a turn (total 180°). (Properties of Shape)

Identify other multiples of 90°. (Properties of Shape)

Use the properties of rectangles to deduce related facts and find missing lengths and angles. (Properties of Shape)

Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. (Properties of Shape)

Geometry: position, direction, motion

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. (Position and Direction)

Statistics

Solve comparison, sum and difference problems using information presented in a line graph. (Statistics)

Complete, read and interpret information in tables, including timetables. (Statistics)

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National Curriculum Year 6

Number, place value, approximation and estimation

Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. (Number and Place Value)

Round any whole number to a required degree of accuracy. (Number and Place Value)

Use negative numbers in context, and calculate intervals across zero. (Number and Place Value)

Solve number and practical problems that involve ordering and comparing numbers to 10 000 000, rounding to a required degree of accuracy, using negative numbers and calculating intervals across zero. (Number and Place Value)

Demonstrate an understanding of place value including decimals e.g. $28.13 = 28 + ? + 0.03$. (Number and Place Value)

Addition, subtraction, multiplication and division

Perform mental calculations with mixed operations to carry out calculations involving the four operations. (Addition and Subtraction)

Solve multi-step problems in contexts, deciding which operations and methods to use and why e.g. find the change from £20 for three items that cost £1.24, £7.92 and £2.55; a roll of material is 6m long: how much is left when 5 pieces of 1.15m are cut from the roll?; a bottle of drink is 1.5 litres, how many cups of 175ml can be filled from the bottle, and how much drink is left?. (Addition and Subtraction)

Solve problems involving addition and subtraction. (Addition and Subtraction)

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

Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. (Multiplication and Division)

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. (Multiplication and Division)

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. (Multiplication and Division)

Perform mental calculations, including with mixed operations and large numbers. (Multiplication and Division)

Identify common factors, common multiples and prime numbers. (Multiplication and Division)

Use his/her knowledge of the order of operations to carry out calculations involving the four operations. (Multiplication and Division)

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. (Multiplication and Division)

Solve problems involving addition, subtraction, multiplication and division. (Multiplication and Division)

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

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Fractions (including decimals and percentages)

Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. (Fractions)
Compare and order fractions, including fractions > 1 . (Fractions)
Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. (Fractions)
Multiply simple pairs of proper fractions, writing the answer in its simplest form e.g. $1/4 \times 1/2 = 1/8$. (Fractions)
Divide proper fractions by whole numbers e.g. $1/3 \div 2 = 1/6$. (Fractions)
Associate a fraction with division and calculate decimal fraction equivalents e.g. know that 7 divided by 21 is the same as $7/21$ and that this is equal to $1/3$ and e.g. 0.375 is equivalent to $3/8$. (Fractions)
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. (Fractions)
Multiply one-digit numbers with up to two decimal places by whole numbers. (Fractions)
Use written division methods in cases where the answer has up to two decimal places. (Fractions)
Solve problems which require answers to be rounded to specified degrees of accuracy. (Fractions)
Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts e.g. one piece of cake that has been cut into 5 equal slices can be expressed as $1/5$ or 0.2 or 20% of the whole cake. (Fractions)

Ratio and proportions

Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts e.g. find $7/9$ of 108. (Ratio and Proportion)
Solve problems involving the calculation of percentages e.g. of measures, and such as 15% of 360 and the use of percentages for comparison. (Ratio and Proportion)
Solve problems involving similar shapes where the scale factor is known or can be found. (Ratio and Proportion)
Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. (Ratio and Proportion)

Algebra

Use simple formulae e.g. perimeter of a rectangle or area of a triangle. (Algebra)
Generate and describe linear number sequences. (Algebra)
Express missing number problems algebraically. (Algebra)
Find pairs of numbers that satisfy an equation with two unknowns. (Algebra)
Enumerate possibilities of combinations of two variables. (Algebra)

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Measures

Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. (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. (Measurement)
Convert between miles and kilometres. (Measurement)
Recognise that shapes with the same areas can have different perimeters and vice versa. (Measurement)
Recognise when it is possible to use formulae for area and volume of shapes. (Measurement)
Calculate the area of parallelograms and triangles. (Measurement)
Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm ³) and cubic metres (m ³), and extending to other units e.g. mm ³ and km ³ . (Measurement)

Geometry: Properties of shape

Draw 2-D shapes using given dimensions and angles. (Properties of Shape)
Recognise, describe and build simple 3-D shapes, including making nets. (Properties of Shape)
Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons. (Properties of Shape)
Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. (Properties of Shape)
Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. (Properties of Shape)

Geometry: position and direction

Describe positions on the full coordinate grid (all four quadrants). (Position and Direction)
Draw and translate simple shapes on the coordinate plane, and reflect them in the axis. (Position and Direction)

Statistics

Interpret and construct pie charts and line graphs and use these to solve problems. (Statistics)
Calculate and interpret the mean as an average. (Statistics)