Year 3 Yearly Overview
National Curriculum Links to Ready to Progress Criteria and small steps teaching.

Number – number and place value

Statutory requirements

Pupils should be taught to:

- count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number
- recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
- compare and order numbers up to 1000
- identify, represent and estimate numbers using different representations
- read and write numbers up to 1000 in numerals and in words
- solve number problems and practical problems involving these ideas.

3NPV–1 Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10.

3NPV–2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning.

Small Steps: Place Value

- Recap: represent numbers to 100
- Recap; tens and ones
- Hundreds
- Numbers to 1000
- 100s. 10s and 1s.
- Recap: number line to 100
- Number line to 1000
- 1,10,100 more or less
- Compare objects to 1000
- Compare numbers to 1000
- Order numbers
- Count in multiples of 50.

Number – addition and subtraction

Statutory requirements

Pupils should be taught to:

- add and subtract numbers mentally, including:
  - a three-digit number and ones
  - a three-digit number and tens
  - a three-digit number and hundreds
- add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
- estimate the answer to a calculation and use inverse operations to check answers
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

3AS-2: Add and subtract up to 3-digit numbers using columnar methods.

Small Steps Addition and subtraction
• Add and subtract multiples of 100. • Recap: add and subtract 1s. • Add and subtract 3-digit and 1-digit numbers- not crossing 10. • Recap: add 2-digit and 1-digit-crossing 10. • Add 3-digit and 1-digit numbers-crossing 10. • Recap: subtract 1-digit from 2-digit numbers-crossing 10. • Subtract 1-digit from 3-digit- crossing 10. • Add and subtract 3-digit and 2-digit numbers-not crossing 100. • Add 3-digit and 2 –digit- crossing 100 • Subtract 2-digit from a 3-digit number-crossing 100. • Add and subtract 100s. • Identify patterns. • Recap: Add 2-digit numbers-crossing 10 • Recap: Subtract 2-digit numbers-crossing 10 • Add 2-digit and 3-digit numbers-not crossing • Add 2-digit and 3-digit numbers-crossing 10 • Subtract 2-digit from 3-digit-crossing 10 • Add 3-digit and 3-digit numbers-not crossing • Add 3-digit and 3-digit numbers-crossing • Subtract 3-digit from 3-digit-no exchange • Subtract 3-digit from 3-digit-exchange • Solve problems and check answers.

Number – addition and subtraction

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Pupils should be taught to:

- add and subtract numbers mentally, including:
  - a three-digit number and ones
  - a three-digit number and tens
  - a three-digit number and hundreds
- add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
- estimate the answer to a calculation and use inverse operations to check answers
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

3AS-3: Understand the inverse relationship between addition and subtraction, and how both relate to the part-part-whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.

Small steps: securing mental strategies

- add 3 addends
- add two 3-digit numbers using adjusting
- add a pair of 2- or 3-digit numbers using redistribution
- subtract a pair of 2- or 3-digit numbers, bridging a multiple of 10, using partitioning
- subtract a pair of 2-digit numbers, crossing a ten or hundreds boundary, by finding the difference between them
- subtract a pair of three-digit multiples of 10 within 1000 by finding the difference between them
- evaluate the efficiency of strategies for subtracting from a 3-digit number
- explain why the order of addition and subtraction steps in a multi-step problem can be chosen
- solve multi-step addition and subtraction problems
- explain that both addition and subtraction equations can be used to describe the same additive relationship
- use knowledge of the additive relationship to rearrange equations
- use knowledge of the additive relationship to identify what is known and what is unknown in an equation
- use knowledge of the additive relationship to rearrange equations before solving

Number – multiplication and division

Statutory requirements

Pupils should be taught to:

- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
- 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.

3MD-1 Apply known multiplicative and division facts to solve contextualised problems with different structures.
3NF-2:Recall multiplication facts and corresponding division facts in the 10,5,2,4 and 6 multiplication tables and recognise products in these multiplication tables as multiples of the corresponding number.

Small Steps: 2, 4 and 8 times tables

- Understand counting in 4s as the 4 times table.
- Use knowledge of the 4 times table to solve problems.
- Understand the relationship between the multiples of 2 and the multiples of 4.
- Use knowledge of the relationship between 2 and 4 times tables to solve problems.
- Understand counting in 8s as the 8 times tables.
- Understand the relationship between the adjacent multiples of 8.
- Understand the relationship between multiples of 4 and multiples of 8.
- Use knowledge of the relationship between 4 and 8 times tables to solve problems.
- Understand relationship between the multiples of 2, 4 and 8.
- Use knowledge of the relationship between 2 and 4 and 8 times tables to solve problems.

Number – multiplication and division

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- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
- 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.

3NF-3: Apply place value knowledge to known additive and multiplicative facts (scaling facts by 10).
3NVP-4: Divide 100 into 2,4,5 and 10 equal parts and read scales/number lines marked in intervals of 100 with 2,4,5 and 10 equal parts.

Small Steps: Multiplication and division

- Recap: make equal groups-sharing
- Recap-make equal groups-grouping
- Recap: divide by 2, 5 and 10
- Recap: divide by 3
- Divide by 4
- Divide by 8
- Comparing statements
- Related facts
- Multiply 2-digits by 1-digit (informal) no exchange
- Multiply 2 digits by 1-digit (formal) no exchange
- Multiply 2-digits by 1-digit (informal) with exchange
- Multiply 2-digits by 1-digit (formal) with exchange
- Divide 2-digits by 1-digit
- Divide 100 into 2,4,10 equal parts.
- Divide with remainders
- Scaling

Number – fractions

Statutory requirements

Pupils should be taught to:

- 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
- recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
- recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
- recognise and show, using diagrams, equivalent fractions with small denominators
- add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]
- compare and order unit fractions, and fractions with the same denominators
- solve problems that involve all of the above.

3F-1: Interpret and write proper fractions to represent 1 or several parts f a whole that is divided into equal parts.
3F-2: find unit fractions of quantities using known division facts.

Small Steps Fractions (1)

- identify a whole and the parts that make it up
- explain why a part can only be defined when in relation to a whole.
- identify the number of equal or unequal parts in a whole
- identify equal parts when they do not look the same
- explain the size of the part in relation to the whole
- construct a whole when given a part and the number of parts
- identify how many equal parts a whole has been divided into
- use fraction notation to describe an equal part of the whole
- represent a unit fractions in different ways
- identify parts and wholes in different contexts
- compare and order unit fractions by looking at the denominator
- identify when unit fractions cannot be compared
- construct a whole when given one part and the fraction that it represents
- identify the whole, the number of equal parts and the size of each part as a unit fraction
- quantify the number of items in each part and connect to the unit fraction operator
- calculate the value of a part by connecting knowledge of division and division facts with finding a fraction of a quantity

Number – fractions

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- recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
- recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
- recognise and show, using diagrams, equivalent fractions with small denominators
- add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]
- compare and order unit fractions, and fractions with the same denominators
- solve problems that involve all of the above.

3F-1: Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.
3F-3: Reason about the location of any fraction within 1 in the linear number system.
3F-4: Add and subtract fractions with the same denominator, within 1.

Small Steps: Fractions (2)

- explain that non-unit fractions are composed of more than one unit fraction
- identify non-unit fractions
- identify the number of equal or unequal parts in a whole
- use knowledge of non-unit fractions to solve problems
- use knowledge of unit fractions to find one whole
- place fractions between 0 and 1 on a number line
- use repeated addition of a unit fraction to form a non-unit fraction
- use repeated addition of a unit fraction to form 1
- compare using knowledge of non-unit fractions equivalent to one
- compare non-unit fractions with the same denominator
- compare unit fractions
- compare fractions with the same numerator
- add up fractions with the same denominator
- add fractions with the same denominator using a generalised rule
- subtract fractions with the same denominator
- explain that addition and subtraction of fractions are inverse operations
- subtract fractions from a whole by converting the whole to a fraction
- represent a whole as a fraction in different ways and use this to solve problems involving subtraction

Measurement

Statutory requirements

Pupils should be taught to:

- measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
- measure the perimeter of simple 2-D shapes
- add and subtract amounts of money to give change, using both £ and p in practical contexts
- tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
- estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight
- know the number of seconds in a minute and the number of days in each month, year and leap year
- compare durations of events [for example to calculate the time taken by particular events or tasks].

Small steps: Time

- Recap: o clock and half past
- Recap: quarter past and quarter to.
- Months and years
- Hours in a day
- Time to 5 minutes
- Time to the minute
- Am and pm
- 24 hour clock
- Finding duration
- Compare durations
- Star and end times
- Measure time in seconds
- Solve problems

Measurement

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3NVP-4: Divide 100 into 2, 4, 5 and 10 equal parts and read scales/number lines marked in intervals of 100 with 2,4,5 and 10 equal parts.

Small Steps: Measures

- Measure length
- Equivalent lengths (m and cm)
- Equivalent lengths (mm and cm)
- Compare lengths
- Add and subtract lengths
- Measure perimeter
- Calculate perimeter
- Measure mass
- Compare mass
- Add and subtract mass
- Measure capacity
- Compare volume
- Measure capacity
- Compare capacity
- Add and subtract capacity
- Temperature
- Recap: count ponds and pence
- Convert pounds and pence
- Add money
- Subtract money
- Give change

Geometry – properties of shapes

Statutory requirements

Pupils should be taught to:

- draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
- recognise angles as a property of shape or a description of a turn
- identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle
- identify horizontal and vertical lines and pairs of perpendicular and parallel lines.

3G–2 Draw polygons by joining marked points, and identify parallel and perpendicular sides

Small Steps: Shape

- Recognise and describe 2D shapes.
- make compound shapes by joining two polygons in different ways
- investigate different ways of composing and decomposing a polygon
- draw polygons on isometric paper
- use geostrips to investigate quadrilaterals with and without parallel and perpendicular sides
- make and draw compound shapes with and without parallel and perpendicular sides
- extend lines and sides to identify parallel and perpendicular lines
- make and draw triangles on circular geoboards
- make and draw quadrilaterals on circular geoboards
- draw shapes with given properties on a range of geometric grids
- Recognise and describe 3D shape
- Make 3D shapes

Geometry – properties of shapes

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- draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
- recognise angles as a property of shape or a description of a turn
- identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle
- identify horizontal and vertical lines and pairs of perpendicular and parallel lines.

3G-1: Recognise right angles as a property of shape or as a description of turn, and identify right angles presented in different orientations.

Small Steps
Right angles

- rotate two lines around a fixed point to make different sized angles
- draw triangles and quadrilaterals and identify vertices
- understand that a right angle is a ‘square corner’ and identify them in the environment
- understand that a rectangle is a 4-sided polygon with four right angles
- understand that a square is a rectangle in which the four sides are equal length
- cut rectangles and squares on the diagonal and investigate the shapes they make
- join four right angles at a point using different right-angled polygons
- investigate and draw other polygons with right angles

Statistics

Statutory requirements

Pupils should be taught to:

- interpret and present data using bar charts, pictograms and tables
- solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.

Small Steps: Statistics
• Recap: draw pictograms • Recap; interpret pictograms • Draw bar charts • Tables

3NVP-4: Divide 100 into 2, 4, 5 and 10 equal parts and read scales/number lines marked in intervals of 100 with 2,4,5 and 10 equal parts.