# MATHEMATICS <br> STRAND CONTINUUM 



## NISS Maths Strand Continuum:

Based on the UK National Curriculum with: Australian Curriculum Docs Ontario Curriculum Nexus Maths S\&S

| N-Y2 | Nursery | Kindergarten | Year 1 | Year 2 |
| :---: | :---: | :---: | :---: | :---: |
| Shape \& Space | - show an interest in shapes in the environment. <br> - name and identify 2D shapes (square, circle, triangle, rectangle, oval, hexagon). <br> - describe 2D shapes using language such as straight, curved, sides, corners. <br> - sort and organise 2D shapes. <br> - compare different 2D shapes. <br> - use familiar objects and common shapes to explore and create models. | - identify 2D and 3D shapes in the environment. <br> - name and identify 2D shapes (square, circle, triangle, rectangle, oval, hexagon). <br> - name and identify 3D shapes (cube, cuboid, sphere, pyramid, cone). <br> - sort and organise 2D shapes and use mathematical language to explain their thinking. <br> - describe 2D and 3D shapes (straight, curved, sides, corners, faces, edges). <br> - use familiar objects and common shapes to create models and arrangements and describe. | - identify and describe more complex 2D shapes in the environment (hexagon, pentagon, octagon, trapezium, semicircle). <br> - identify and describe common 3D shapes (Eg. cube, cuboid, cone, pyramid, sphere, prism, cylinder). <br> - sort and organise 2D shapes (including complex shapes) and use mathematical language to explain their thinking (straight, curved, sides, corners, faces, edges, vertices). <br> - identify and describe properties of common 2D and 3D shapes. <br> - use 2D and 3D shapes to create models and describe using mathematical language. <br> - understand that geometric shapes are useful for representing real-world situations e.g. cylinders are used for bottles,jars. <br> - identify symmetrical patterns in the environment | - identify and describe the properties of 2D shapes, including the number of sides and corners. <br> - identify the line of symmetry in 2D shapes in a vertical line. <br> - identify and describe the properties of 3D shapes, including the number of edges, vertices and faces. <br> - identify 2 D shapes on the surface of 3D shapes, (eg. circle on a cylinder, triangle on a pyramid). <br> - compare and sort 2D and 3D shapes based on their properties. |
| Angles | Not taught at this age. | Not taught at this age. | Not taught at this age. | Not taught at this age. |


| (report under measurement but teach with Shape \& Space) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Vocabulary | square, circle, triangle, rectangle, oval, hexagon, straight, curved, sides, corners. | square, circle, triangle, rectangle, oval, hexagon, <br> straight, curved, sides, corners cube, cuboid, sphere, pyramid, cone, straight, curved, sides, corners, faces, edges, flat, | 2D Shapes: <br> - pentagon, hexagon, octagon, trapezium, semi circle <br> 3D Shapes: <br> - cube, cuboid, cone, pyramid, sphere, prism, cylinder | attributes, sides, edges, vertices, faces quadrilaterals, polygons, cuboids, prisms, cones |
| Position \& Direction | - explore language associated with position (inside, outside, above, below, next to, behind, in front of, up, down). <br> - use positional language to describe position and direction. <br> - order and arrange a set of objects following positional language. <br> - follow simple instructions using positional language eg stand next to the chair, put your hands above your head. | - use positional language to describe position and direction. <br> - follow and give simple instructions using positional language. <br> - order and arrange a set of objects following positional language. <br> - describe the position and location of themselves and objects in relation to other people and objects within a familiar space. | - use positional language to describe the location of themselves, objects or people (include left, right). <br> - order and arrange a set of objects using and following positional language. <br> - describe the position and location of themselves and objects in relation to other people and objects within a familiar space. <br> - follow, use and interpret simple directions. | - use positional language to describe position, direction and movement, including movement in a straight line. <br> - order and arrange combinations of mathematical objects in patterns and sequences. <br> - describe position and direction and movement, including whole, half, quarter and three-quarter turns for clockwise and anticlockwise. |
| Vocabulary | inside, outside, above, below, next to, behind, in front of, up, down, forwards, backwards | inside, outside, above, below, next to, behind, in front of, up, down, inbetween, beside , forwards and backwards | left, right, top, bottom, middle, on top of, in front of, above, between) around, near, close and far, up and down, forwards and backwards, | right, left, whole, half, quarter, three-quarter, clockwise and anticlockwise |


|  |  |  | inside and outside |  |
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| N-Y2 | Nursery | Kindergarten | Year 1 | Year 2 |
| Data Handling | - explore and understand that sets can be organised by 1 or 2 given attributes (shape, size, colour, texture). <br> - identify how a group of objects have been classified using mathematical language (shape, size, colour). <br> - collect and sort data through everyday activities or events eg. sorting toys into different categories. <br> - sort objects into different attributes. <br> - collect and organise data to answer yes/no questions. <br> - explore simple pictographs and tally charts. <br> - interpret information on simple pictographs and tally charts. | - understand that sets can be organised into different attributes (shape, size, colour, texture). <br> - identify how a group of objects have been classified using mathematical language (shape, size, colour). <br> - sort a group of objects into different attributes. <br> - sort a group of objects into different attributes and explain their choices.. <br> - collect and organise data for sorting. <br> - represent information through pictographs and tally marks. <br> - read and interpret information on simple pictographs and tally charts. | - independently organise a set of objects using a chosen attribute and explain their thinking. <br> - represent information through pictographs and tally marks. <br> - create a simple bar graph. <br> - create living graphs using real objects and people. <br> - independently conduct a simple survey and record the results in a pictograph or bar graph. <br> - answer questions about the data collected and interpret information on simple charts. | - construct simple pictographs, tally charts and bar graph. <br> - interpret pictographs, tally charts and bar graphs. <br> - represent the relationship between objects using Venn and Carroll diagrams. <br> - ask and answer questions by counting the number of objects in each category and sorting the categories by quantity. <br> - ask and answer questions about totalling and comparing categories. |
| Probability | - explore possible and impossible events. | - explore, name and discuss possible and impossible | - identify and describe chance in daily events. | - understand the concept of chance in daily events |


|  |  | events eg. it is possible that it will rain today, it is impossible that it will snow today. | - explain why it is impossible/possible, likely, unlikely that an event may or may not happen. | (impossible, less likely, maybe, most likely, certain). <br> - express the chance of an event happening using words or phrases (impossible, less likely, maybe, most likely, certain). <br> - identify and describe chance in daily events (impossible, less likely, maybe, most likely, certain). |
| :---: | :---: | :---: | :---: | :---: |
| Vocabulary | pictograph, tally charts, possible/impossible/maybe | pictograph, tally charts, survey, category <br> possible/impossible likely/unlikely/maybe | data, pictograph, tally charts survey, sort, groups <br> possible/impossible likely/unlikely/maybe/certain/more likely/less likely/chance | data, pictograph, tally (charts) tables, total, categories,sort <br> impossible, less likely, maybe most likely, certain |
| $\mathrm{N}-\mathrm{Y} 2$ | Nursery | Kindergarten | Year 1 | Year 2 |

Measurement

- identify items that are long/short/big/small/heavy/ light/ empty/full.
- order and compare 2 or 3 items by length or height.
- compare 2 items by weight and capacity.
- identify, compare and describe attributes of real objects (eg. longer, shorter, heavier, full, empty).
- identify and sequence events in their daily routine (eg. first, then, next, today, tomorrow).
- identify items that are long/short/big/small/heavy/li ght/empty/full.
- identify, compare and describe attributes of real objects (eg. longer, shorter, heavier, full, empty).
- compare the length, mass and capacity of objects using non-standard units.
- identify, describe and sequence events in their daily routine.
- sequence days of the week and times of the day including morning, lunchtime afternoon and night time, and connect them to familiar events and actions.
- sequence the events from a story in the order in which they occurred using specific vocabulary (eg. first, then, next).
- identify, compare and describe attributes of real objects (eg. longer, shorter, heavier, lighter, full, empty, ) and explain their thinking.
- use non-standard units when measuring length, mass and capacity and make an estimate.
- compare the length, mass and capacity of objects using nonstandard units.
- use non-standard units of measurement to solve problems in real-life situations involving length, mass and capacity, with some support.
- identify and describe some events in their daily routine (e.g. morning, afternoon and evening tasks).
- understand that time is measured using universal units of measure (e.g. years, months, days, hours, minutes and seconds).
- tell the time to the hour using a model clock.
- read and write the time to the hour, half hour.
- identify and sort Singapore Money (\$1, \$2, \$5, \$10, 10/20/50 cents).
- choose and use appropriate non-standard units to estimate and measure length, mass, volume and capacity.
- choose and use appropriate standard units to estimate and measure length using rulers.
- choose and use appropriate standard units to estimate and measure mass, volume and capacity.
- choose and use appropriate standard units to measure temperature to the nearest appropriate unit using thermometers.
- compare and order lengths, mass, volume and capacity.
- tell and record the time including the hour, half hour and quarter hour and draw the hands on a clock face to show these times.
- record the time (quarter hour, half hour and hour) on an analogue and digital clock.
- recall the number of seconds in a minute, the number of minutes in an hour and the number of hours in a day.
- understand that calendars can be used to determine the date, and to identify and sequence days of the week and months of the year.
- use measures of time to assist with problem solving in real-life situations.

|  |  |  |  | - understand the use of standard units to measure temperature. <br> - understand that tools can be used to measure. <br> - estimate and measure objects using standard units of measurement: temperature. <br> - use standard units of measurement to solve problems in real-life situations involving temperature. <br> - recognise and use symbols for dollars (\$) and cents ( $\phi$ ) and combine to make a particular value. <br> - find different combinations of coins that equal the same amounts of money. <br> - solve simple problems in a practical context involving addition and subtraction of money of the same unit (\$ or $\phi)$, including giving change. |
| :---: | :---: | :---: | :---: | :---: |
| Vocabulary | long, short, longer, shorter, tall, tallest. (length and height) heavy, light. (mass) full, empty, half full. (capacity) first, then, next, last, finally. (time and sequencing.) | long, short, longer, shorter, tall, taller (length and height) heavy, light, heavier, lighter, (Mass) <br> full, empty, nearly empty, nearly full (Capacity) first, next, after ,then, last, finally.tall, taller (Time and sequencing) | long / short/longer/shorter/ longest/shortest (Length/height) heavy / light/heavier/lighter/ heaviest/lightest (Mass) full / empty/half/ nearly full, nearly empty, half full (Capacity) clock, hour hand / minute hand, hours, minutes, seconds o'clock, half past | estimate,length, centimetres, metres, height, mass, volume capacity,quarter to, quarter past |


| N-Y2 | Nursery | Kindergarten | Year 1 | Year 2 |
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| Pattern \& Function | - explore and identify patterns in the environment and everyday life (sounds, actions, objects, nature, numbers). <br> - describe patterns using words, drawings, symbols, materials, actions or numbers. <br> - create simple patterns. <br> - recreate simple patterns. | - identify patterns in the environment and everyday life ( sounds, actions, objects, numbers, nature). <br> - describe patterns using words, drawings, symbols, materials, actions or numbers. <br> - create and extend patterns. <br> - recreate patterns. | - use number patterns to represent and understand real-life situations. <br> - understand the properties and associated number patterns of odd and even numbers. <br> - explore the relationship between addition and subtraction (e.g. fact families). <br> - apply knowledge of skip counting in $2 \mathrm{~s}, 5 \mathrm{~s}$ and 10 s to identify and continue number patterns. | - understand the properties and associated number patterns of odd and even numbers to 100. <br> - understand the relationship between addition and subtraction and multiplication and division (e.g. fact families). <br> - apply knowledge of skip counting in $2 \mathrm{~s}, 5 \mathrm{~s}$ and 10 s to identify and continue number patterns. <br> - create and extend number patterns such as skip counting (e.g., 6, 9, 12 _, _, _). |
| Vocabulary | before, next, copy, repeat, different, same. | before, after, next, start, finish, copy, repeat, between, different, same | repeated, odd, even, skip counting, fact families |  |


| Y3-Y6 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: |
| Shape \& Space (Properties of shapes) | - recognise and describe 2D symmetrical and non-symmetrical polygons including quadrilaterals, triangles and pentagons. <br> - identify horizontal and vertical lines and pairs of perpendicular and parallel lines. <br> - classify 3D shapes including cylinders, spheres, prisms and pyramids according to attributes. <br> - create 2D and 3D shapes using modelling materials. <br> - recognise 2D and 3D shapes in different orientations. <br> - recognise angles as a property of shape or as a description of a turn. | - compare and classify geometric shapes, including quadrilaterals and triangles, based on their size and properties such as regular/irregular, symmetrical/non-symmetrical type of angle, parallel, perpendicular etc. (see vocabulary below). <br> - identify lines of symmetry in 2D shapes presented in different orientations. <br> - complete a simple symmetric figure with respect to a specific horizontal or vertical line of symmetry. <br> - begin to classify triangles as isosceles, equilateral and scalene. <br> - identify different quadrilaterals such as trapezium, rhombus, parallelogram. | - identify 3D shapes, including cubes and other cuboids, from 2D representations. <br> - identify geometric shapes based on their properties and sizes. <br> - distinguish between regular and irregular 2D polygons based on reasoning about equal sides and angles. <br> - classify triangles according to their properties. | - draw 2D shapes using given dimensions and angles. <br> - identify geometric properties of triangles, and construct different types of triangles when given side or angle measurements. <br> - illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice as wide as the radius. <br> - use conventional markings for lines and angles. |
| Vocabulary | faces, edges, vertex, vertices, 2 dimensional, 3 dimensional, symmetry, quadrilateral, triangle, pentagon, attribute | parallel lines, perpendicular lines, regular shapes, irregular shapes line of symmetry, geometric | parallel lines, perpendicular lines, regular shapes, irregular shapes line of symmetry, geometric, polygon vertices, faces, edges. nets | radius diameter circumference arc |
| Angles (report under measurement but teach with Shape \& Space) | - identify whether an angle is greater or less than a right angle using the vocabulary acute angle and obtuse angle. <br> - recognise that right angles occur in a number of everyday objects; for example, books, windows, table tops and whiteboards. <br> - identify angles that are bigger than, smaller than and the same | - identify acute and obtuse angles. <br> - compare and order angles up to 2 right angles by size. <br> - identify whole turn as $360^{\circ}$, half turn as $180^{\circ}$, quarter turn as $90^{\circ}$. <br> - measure angles smaller than $180^{\circ}$ to the nearest degree using a protractor. <br> - calculate a missing angle within a right angle. Eg: $25^{\circ}+?=90^{\circ}$ <br> - relate angles to compass | - estimate and compare acute, obtuse and reflex angles. <br> - draw given angles and measure them in degrees. <br> - identify angles at a point and one whole turn. <br> - identify angles at a point on a straight line and half a turn. <br> - find missing angles in triangles, straight lines, and round a point. <br> - use the properties of rectangles | - find unknown angles in any triangles, quadrilaterals and regular polygons. <br> - recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. <br> - compare angles and determine their relative size by matching them and by |


|  | as a right angle; for example, opening doors partially and fully, and comparing the angles created to a right angle. <br> - using quarter, half and three-quarter turns compare them to a right angle; for example, a quarter turn is the same as a right angle; a half turn is the same as 2 right angles; a three-quarter turn is the same as 3 right angles. | directions. Eg: From north, turn $90^{\circ}$ clockwise to face east. | to deduce related facts and find missing lengths and angles. | measuring them. <br> - use angle sum facts and other properties to make deductions about missing angles. |
| :---: | :---: | :---: | :---: | :---: |
| Vocabulary | point, ray, line, line segment, turn, right angle, acute angle, obtuse angle, parallel lines, perpendicular lines | rotation, degrees, protractor | point, ray, line, line segment, turn, right angle, acute angle, obtuse angle, parallel lines, perpendicular lines, vertex, rotation, degrees, protractor, | Vertically opposite |
| (Position and Direction) | - demonstrate the movements of flip, slide, turn of 2D shapes. <br> - understand the points on a compass rose (north, south, east, west). <br> - describe the position of an object on a grid or map using the vocabulary left and right, top, middle and bottom; rows go across and columns go up and down. <br> - read and create maps using letters and numbers along the axis in order to pinpoint particular objects. | - describe and plot positions on a 2D grid as coordinates in the first quadrant. <br> - describe the movement of a shape on a grid as translation by giving the units moved the left/right and up/down. <br> - plot specified points and draw sides to a complete given polygon. <br> - describe position using the 8 points of the compass rose. <br> (eg: N, NE, E, SE, S, SW, W, NW). <br> - explain how the compass points relate to angles of rotation. | - identify, describe and represent the position of a shape following a reflection translation, or rotation and know that the shapes are congruent. <br> - describe transformations as being horizontal, vertical, or diagonal e.g. a diagonal reflection. <br> - describe and plot position on a 4 quadrant grid using coordinates. <br> - identify multiple lines of symmetry in 2D shapes | - describe positions on the full coordinate grid. <br> - draw and translate simple shapes on the coordinate plane, and reflect them in the axes. <br> - describe and perform translations, reflections, and rotations up to $180^{\circ}$ on a grid, and predict the results of these transformations. |
| Vocabulary | flip, slide, turn, compass rose, north, south, east, west, left, right, top, middle, bottom, grid, reference | Isosceles, equilateral, scalene, right angle triangle, reflective symmetry, mirror line, 'slide' 8 point compass direction. enlarge - reduce | rays, vertex, translation, reflection rotation, congruent, horizontal, vertical, diagonal | tessellation |
| Y 3 -Y6 | Year 3 | Year 4 | Year 5 | Year 6 |


| Data Handling | - collect and organise data by asking questions and organising information. <br> - demonstrate an understanding of how to use the tally method. <br> - interpret and present data in column graphs (bar charts), picture graphs (pictographs), dot plots and two-way tables. <br> - understand and use simple scales; for example 1, 2, 5, 10 units in column charts and picture graphs. <br> - create a survey, design a question and present findings. | - collect and organise data using Google Forms, tables, tally charts, Venn Diagrams and Carroll Diagrams. <br> - create decision trees to categorise data. <br> - interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and timelines. <br> - solve comparison, sum and difference problems using information presented in bar charts, pictographs, tables and timelines. <br> - understand and use a greater range of scales other than 2,5 , 10 intervals in their representations. <br> - begin to relate the graphical representation of data to recording change over time. | - draw line graphs accurately, deciding on the suitable scale. <br> - solve comparison, sum and difference problems using information presented in a line graph. <br> - complete, read and interpret information in graphs and tables including timetables. <br> - begin to decide which representations of data are most appropriate and why. <br> - represent and interpret cumulative frequencies by using a frequency graph. | - interpret and construct pie charts and line graphs and use these to solve problems. <br> - calculate and interpret the mean as an average. <br> - draw graphs relating 2 variables. <br> - analyse and interpret a variety of graphs including grouped data. |
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| Vocabulary | bar graph, pictographs count, tally, diagram, axis, axes, column graph, picture graph, dot graph, two-way table, venn diagram, most popular, most common, least popular, least common. | carroll diagrams, decision trees represent,intervals, difference | line graph, scale, suitable scale, axis, diagram, | mean, average, range, mode |
| Probability | - order events based on the likelihood of something happening; for example, impossible, even chance, certain, likely and unlikely. <br> - understand the difference between expected results and actual results. <br> - represent the difference between fair and unfair chances; for example, create a spinner game, coin or dice | - understand that probability is based on experimental events. <br> - use tree diagrams to express probability using simple fractions. <br> - use probability to determine mathematically fair and unfair games and to explain possible outcomes <br> - express probability using sim ple fractions for dice activities. <br> - put events on a probability scale using words such as no chance - | - express probabilities using a fraction, a scale (0-1) or per cent (0\%-100\%). <br> - explain probabilities expressed as a fraction and how they relate to corresponding word expressions (e.g. $1 / 2=$ even chance, $\%$ = very likely, $2 / 6=$ unlikely). <br> - solve simple probability problems expressing answers in both fraction and word form. | - describe probabilities using fractions, decimals and percentages. <br> - conduct chance experiments with both small and large numbers of trials. <br> - compare observed frequencies across experiments with expected frequencies. |


|  | investigation. | unlikely - even chance - likely definite. |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Vocabulary | no chance - unlikely - even chance - <br> likely - definite <br> probable - improbable <br> fair - unfair | express as a fraction eg: the probability is $1 / 6$ outcome. | impossible, very unlikely, unlikely, even chance, likely, very likely, certain. <br> express as a fraction e.g. 1 out of 6 chance. <br> express as a percentage - e.g. $80 \%$ chance. frequency. | frequency, trial |
| Y3-Y6 | Year 3 | Year 4 | Year 5 | Year 6 |
| Measurement | Perimeter \& Area <br> - measure the perimeter and area of simple 2D shapes using standard and non-standard units. <br> Length, Mass, Volume/Capacity <br> - measure, compare, add and subtract: lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ); mass (kg/g) volume/capacity ( $1 / \mathrm{ml}$ ). <br> - measure using the appropriate tools and units and begin to use mixed units; for example, 1 kg and 200 g . <br> - compare measurements using simple equivalents; for example, $5 \mathrm{~m}=500 \mathrm{~cm}$. <br> Time \& Calendar <br> - tell and record the time from an analogue clock, including 12-hour and 24-hour clocks. <br> - estimate and read time with increasing accuracy to the nearest minute. <br> - record and and compare time in terms of seconds, minutes and hours. | Perimeter \& Area <br> - measure and calculate the perimeter of a rectangular figure (including squares) in centimetres and metres. <br> - find the area of rectangular shapes by counting squares. <br> - begin to relate area to arrays in multiplication. <br> Length, Mass, Volume/Capacity <br> - convert between different units of measure by multiplying (eg. kilometre to metre; litres to ml ; kg to grams. <br> - convert simple fractional parts of a unit of measurement to smaller units. $\mathrm{Eg} 1 / 2 \mathrm{~kg}=500$ grams; $1 / 4$ metres $=25 \mathrm{~cm}$ etc.) and use conversion in problem solving situations. <br> - begin to use decimal notation to record metric measures, including money. <br> - estimate, compare and calculate different measures, including money in dollars and cents. <br> - read scales to measure mass, capacity and temperature. | Perimeter and Area <br> - calculate and compare the area of rectangles (including squares) using standard units, square centimetres ( $\mathrm{cm}^{2}$ ) and square metres ( $\mathrm{m}^{2}$ ) and estimate the areas of irregular shapes. <br> - calculate the area from 'not to scale' drawings using given measurements. <br> - measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. <br> - use the relations of perimeter and area to find unknown lengths. <br> Length, Mass, Volume/Capacity <br> - convert between different units of measure (eg. kilometre and metre; centimetre and metre; gram and kilogram; litre and millilitre) <br> - understand the difference between, and be able to identify metric and imperial units. (No conversion in Y5) <br> - estimate and measure the length | Perimeter \& Area <br> - recognise that shapes with the same areas can have different perimeters and vice versa. <br> - recognise when it is possible to use formulae for area and volume of shapes. <br> - calculate the area of parallelograms and triangles. <br> - solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places. <br> Length, Mass, Volume/Capacity <br> - 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 up to three decimal places. <br> - calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres $\left(\mathrm{cm}^{3}\right)$ and cubic metres $\left(\mathrm{m}^{3}\right)$, |


|  | - use vocabulary such as o'clock am/pm, morning, afternoon, noon and midnight. <br> - know the number of seconds in a minute and the number of days in each month, year and leap year. <br> - compare durations of events; for example, time taken to complete events or tasks. | Time <br> - tell and record the time from an analogue clock, including Roman numerals from I to XII, and a review for 12-hour and 24-hour clocks <br> - solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days. <br> - use calendars, timelines, stopwatches and clocks to solve one-step problems. <br> - know the number of days in each month. <br> - read, write and convert time. <br> Temperature: <br> - use a thermometer to measure temperature using graduated intervals on a scale in degrees celsius <br> - recognise and explain how negative and positive numbers are used to describe temperature. <br> - know the boiling and freezing point of water in degrees Celsius. | and mass of objects using suitable units. <br> - estimate volume (eg. using $1 \mathrm{~cm}^{3}$ blocks to build cuboids) and capacity (eg. using water) <br> - use all four operations to solve problems involving measure (eg. length, mass, volume, money) using decimal notation, including scaling. <br> Time and Calendar <br> - solve problems involving converting between units of time (eg. days to weeks) and across time zones. <br> - read and interpret information from timetables. <br> Temperature <br> - calculate the rise, fall and difference in temperatures on a positive and negative thermometer scale. (Eg: what is the fall in temperature between 3 degrees and -2 degrees. | and extending to other units (eg. $\mathrm{mm}^{3}$ and $\mathrm{km}^{3}$ ). <br> - know approximate conversions and are able to tell if the answer is sensible. <br> - relate the area of rectangles to parallelograms and triangles. <br> Time \& Calendar <br> - use timetables and schedules (12-hour and 24-hour clocks) in real-life situations. <br> - determine times worldwide. |
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| Vocabulary | length, mass, volume, capacity, perimeter, area, money, currency, time, hour, minutes, seconds, calendar, morning, afternoon, noon, midnight. | analogue clocks, digital clocks, 12 hour clock time, 24 hour clock time, intervals, thermometer degree celsius, negative and positive numbers rise and fall | convert, kilometre, metre, litre, millilitre, grams, kilograms, centimetre, millimetre, length, mass, volume, capacity, volume, square metres, cubic metres time zones, scales, 12 hour clock, 24 hour clock, intervals, metric, imperial | cubic metres |
| Y 3 -Y6 | Year 3 | Year 4 | Year 5 | Year 6 |


|  <br> Function | Pattern \& Function is linked to the <br> number continuum in Y3-6. | Pattern \& Function is linked to the <br> number continuum in Y3-6. | Pattern \& Function is linked to the <br> number continuum in Y3-6. | Pattern \& Function is linked to the <br> number continuum in Y3-6. |
| :--- | :--- | :--- | :--- | :--- |
|  | use mathematical language to describe <br> the properties of a number (e.g. odd, <br> even, less than, more than, made up of <br> groups of..., can be shared into groups <br> of...) |  |  |  |
|  | recognise, describe and use rules to <br> generate number patterns. |  |  |  |
|  | create and extend number patterns to <br> increase or decrease values e.g. skip <br> counting forwards or backwards. |  |  |  |
|  | analysis patterns to make predictions <br> and problem solve. |  |  |  |
|  | analyse patterns and identify and <br> articulate rules using mathematical <br> language. |  |  |  |
|  | represent patterns in a variety of ways <br> (e.g. words, drawings, symbols, <br> materials, actions and numbers). |  |  |  |

