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Year 3

Place value

- 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.

Language Enrichment	First Hand Experiences	Purpose / Life Skills	Previous Knowledge
Rank prices in order, giving reasons for their choice. Comparing measurements of length, weight using scales. Note patterns when counting in different steps Roll dice against a partner, make the greatest or smallest 3 digit number.	Human number lines – recreate number lines on the playground Making numbers of varying sizes practically using a variety of resources. Reading and measuring temperature Catalogue prices Read house signs written in numerals and words	Financial services, adding / subtracting costs Medicine measuring using a scale Retail – shopping Estate agent – house numbers Reading and comparing temperature	♣count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward ♣ recognise the place value of each digit in a two-digit number (tens, ones) ♣ identify, represent and estimate numbers using different representations, including the number line ♣ compare and order numbers from 0 up to 100; use and = signs ♣ read and write numbers to at least 100 in numerals and in words ♣ use place value and number facts to solve problems

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Addition and Subtraction

- 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.

Language Enrichment	First Hand Experiences	Purpose / Life Skills	Previous Knowledge
Children to play the exchange game where a die is rolled and ones are collected then exchanged for tens. The winner reaches 20 first. Add using base 10 resources and column resources with a partner. Each child must agree of each step before moving on Find a partner who has matching number bonds to 20 / 100.	Use concrete resources to reinforce misconceptions of exchanging when adding and subtracting. Visually shown addition and subtraction using pictorial and written methods.	Money – total, sum of costs, calcinating change Retail – shopping costs, sales Financial services Food packaging	♣ solve problems with addition and subtraction: - using concrete objects and pictorial representations, including those involving numbers, quantities and measures - applying their increasing knowledge of mental and written methods ♣ recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 ♣ add and subtract numbers using concrete objects, pictorial representations, and mentally, including: - a two-digit number and ones - a two-digit number and tens - two two-digit numbers - adding three one-digit numbers ♣ show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot

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			♣ recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

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Multiplication and Division

- 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.

Language Enrichment	First Hand Experiences	Purpose / Life Skills	Previous Knowledge
Children to role play a café, finding the total of their order and calculating change. Finding combination options for a football kit Would you rather game? E.g 3 packs of sweets (6 in a pack) or 4 packs of sweets (3 in a pack)	Human groupings/sharing outside. Using practical resources. Use concrete resources to reinforce misconceptions of exchanging for multiplication and division. Arrays of food e.g boxes of eggs to represent multiplication. Number lines to represent division Sharing and grouping small sweets.	Holidays prices for groups of people Ordering food e.g 3 cakes, 2 drinks Financial services Restaurants – dietitian Manufacturing	♣ recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers ♣ calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs ♣ show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot ♣ solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

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Fractions , decimals and percentages

- ♣ 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
- ♣ compare and order unit fractions, and fractions with the same denominators
- ♣ solve problems that involve all of the above.

Language Enrichment	First Hand Experiences	Purpose / Life Skills	Previous Knowledge
Compare fractions of amounts to find which is greater / less Use fraction bars with a partner to find equivalent fractions and create sentence stems. Say what is the same and what is different when looking at fractions (unit and non-unit)	Using fraction bars, models, own drawn bars to represent / compare / order / find equivalent fractions. Using a range of resources/real life objects – pizzas Use place value charts and place value counters to represent decimal numbers. Use of fraction wall packs – visually compare fraction sizes and equivalents	Tenths of food, chocolate bars / rectangular pizza Tenths as 10p in a pound. Fractions of amounts of sweets, shapes	♣ recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity ♣ write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2 .

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Measure

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].

Language Enrichment	First Hand Experiences	Purpose / Life Skills	Previous Knowledge
Working in a group to measure and record length Weighing to find the order of different food products e,g potatoes Finding the total of prices and going to the banker to get change. Songs and rhymes about days in a month, hours in a day.	Measure challenges in classroom using variety of equipment – rulers/ tape measures/ metre sticks etc –e.g can you find an item that is 7cm.? Use of stopwatches – measure different units of time- seconds/ minutes etc Looking at and comparing different values of money. Using money to 'buy' different items within the classroom. Telling the time and talking about events and what time they happen	Building/construction Following food recipes Telling time Measuring time Designing paving. Fences, fish ponds Finding start and end times of films, tv shows	♣ choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels ♣ compare and order lengths, mass, volume/capacity and record the results using >, < and = ♣ recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value ♣ find different combinations of coins that equal the same amounts of money ♣ solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change ♣ compare and sequence intervals of time ♣ tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times

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			♣ know the number of minutes in an hour and the number of hours in a day.

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Geometry

♣ 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.

Language Enrichment	First Hand Experiences	Purpose / Life Skills	Previous Knowledge
Direct a partner around an obstacle course using position and movement instructions Give instructions to a partner to draw a pattern that has 2d features including parallel and perpendicular lines Sort 2D, 3D shapes according to given properties into Venn or Carroll diagrams	Links to our DT topics - Use nets when exploring properties of 3d shapes. Create own nets of 3d shapes. Hand and compare 2D shapes. Identify different types of angles in and around school. Use a right angle measure to identify and compare angles Orienteering activities outside.	Construction/building, nets of objects Designing Orienteering Directions	♣ identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line ♣ identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces ♣ identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] ♣ compare and sort common 2-D and 3-D shapes and everyday objects. **Position and Direction** ♣ order and arrange combinations of mathematical objects in patterns and sequences ♣ 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 anticlockwise).

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Statistics

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.

Language Enrichment	First Hand Experiences	Purpose / Life Skills	Previous Knowledge
Children to work in a group to plan, research, record and interpret data Sort data with a partner	Whole class examples Collecting data and comparing through discussion Model examples Pictorial and concrete methods shown in class Demonstrating using different data in a table e.g. (tally chart into a pictogram). Drawing tables outside or use natural resources for our statistics.	Data analysis Retail Engineering Research projects	♣ interpret and construct simple pictograms, tally charts, block diagrams and simple tables ♣ ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity ♣ ask and answer questions about totalling and comparing categorical data.