Maths

Year 1

Coverage of the Year

Fairisle Infant and Nursery School

Expect Success

Number: Number and place value

Can you say what we will be learning about in our programme of study about number and place value within 100?

By the end of the year, children should know how to:

- count reliably forwards and back across 100, both reciting numbers in order and counting objects

- read and write numbers to 100 in numerals using correct number formation

- say a number that is one more and one less than any given number to 100

- identify the value of numbers (tens and ones) and represent these values using objects and images e.g. using dienes

- count forwards and backwards in 2s, 5s, and 10s, to and from 100

- write numbers to 20 correctly in words

Vocabulary

more: a greater amount of something

less: a smaller amount of something

equal to: the same amount of something

numeral: written symbols used to represent numbers

compare: to discover the difference and similarities between things or numbers

objects: anything with a fixed shape or form that can be touched or seen

count: to say numbers in order or to add up

sort: to look at particular features in common

represent: a sign or symbol that means that thing

multiples: when a number can be exactly divided by another number. e.g. 6 is a multiple of 2

forward: to count towards the front direction

backwards: to count the opposite way as expected

place value: the value of all the digits in a number e.g. in the number 12, the digit '1' is worth 10.

ordering: putting numbers in the correct order to size

dienes: wooden or plastic cubes. a rod will represent the tens and the small cube the ones

number line: a visual representation of numbers along a horizontal line

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Number: Addition and Subtraction

Can you say what we will be learning about in our programme of study about number when we use addition or subtraction?

By the end of the year, children should know how to:

- understand the meaning of the signs for addition (+), subtraction (-) and equals (=) and uses this knowledge to find answers to number sentences

- add and subtract 1-digit and 2 digit numbers to 20, by counting on or back mentally, or using objects such as counters or number lines

- understand what will happen when we add or subtract zero

- recall, from memory, all the addition and subtraction number sentences for numbers to 20 e.g. 2+2=4, 20-5=15 or say for example how many ways to make 8 (e.g. 8 is made of 7 and 1, 6 and 2, 5 and 3, etc.)

- solve missing number problems where the 'answer' is given and they need to find another part of the number sentence, for example 8=5+? or ?-3=5

Vocabulary

addition: the process of calculating the total of two or more numbers. (adding, sum, plus, adding)

subtraction: the operation in which the difference between two numbers or quantities is calculated (difference, minus, take away, subtracting)

more: a greater amount of something

less: a smaller amount of something

equal to: the same amount of something

numeral: written symbols used to represent numbers

compare: to discover the difference and similarities between things or numbers

count: to say numbers in order or to add up

represent: a sign or symbol that means that thing

forward/backwards: : to count towards the front direction or the opposite way

number bonds: pairs of numbers that add up to a specific number

number facts: basic addition, subtraction, multiplication and division facts that children should learn to recall instantly to support more complex calculations

bridging through ten: a mental method of adding two numbers whose total is greater than 10. (first make ten then add the remainder)

Commutativity: when 2 numbers can be added in any order and the answer will be the same e.g. 4+6 = 6+4.

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Number: Multiplication and Division

Can you say what we will be learning about in our programme of study about number when we use multiplication and division?

By the end of the year, children should know how to:

- count in 2s, 5.s and 10s to support the early stages of multiplication e.g. counting 'groups' or 'lots of' using e.g. groupings or arrays. e.g. 3 lots of 5 can also be recognised as 5+5+5=15

- solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, e.g. counters, pictorial representations, arrays etc. with the support of the teacher e.g. double 4 is 8, half of 10 is 5

(Through grouping and sharing small quantities, pupils begin to understand: multiplication and division; doubling numbers and quantities; and finding simple fractions of objects, numbers and quantities. They make connections between arrays, number patterns, and counting in twos, fives and tens.)

Vocabulary

multiple: a number that can be divided by another number a certain number of times without a remainder.

multiplication: finding how many altogether in a given number of equal sized groups

repeated addition: a way of teaching multiplication as the repeated grouping of the same number e.g. 4 groups of 2 is the same as 2+2+2+2

double: twice the amount

sharing: to share a number of objects into equal groups

group of: the number of things put together as a unit

half: two equal parts that together make a whole

equal: the same in amount, number or size

array: a pictorial representation to help children understand multiplication and division. Typically shown as rows or dots e.g. 3 groups of 2 will be shown as 3 rows of 2 dots.

division: the process of dividing a number up into equal parts and finding how many equal parts can be made and whether there is a remainder

remainder: the amount left when a number cannot be exactly divided by another number

concrete materials: anything which children may use to help them carry out practical maths activities, e.g. counters to add, cubes and rods for place value

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Number: Fractions

Can you say what we will be learning about in our programme of study about number when we look at fractions of half or quarters?

By the end of the year, children should know how to:

- recognise and find a half as one of two equal parts of a shape, object or number (e.g. half of circle, half of an apple or half of 8 equals 4)

- recognise and find a quarter as one of four equal parts of shape, object or number (e.g. a quarter of a square, a quarter of a pizza or a quarter of 8 is 2)

(This can be supported through practically sharing e.g. concrete objects, or using jottings to share equally into groups etc.)
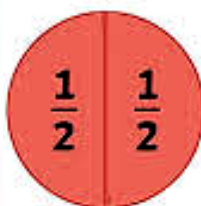
Vocabulary

whole number: a 'normal' number that hasn't been divided or split

fraction: a number which represents part of a whole

denominator: in a fraction, the number below the line

numerator: in a fraction, the number above the line

half: an amount or object is one of two equal parts that together make up the whole number, amount, or object.

quarter: is one of four equal parts of something

sharing: to divide or share out an amount e.g. of objects fairly and equally

grouping: the act of assembling or forming groups

equally: fairly and in the same way

quantity: an amount that you can measure or count

combining: to add together to make a single amount

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Expect Success

Measurements: Length, Height, Mass, Weight, Capacity and Volume

Can you say what we will be learning about in our programme of study about measurements where we look at length, height, mass, weight, capacity and volume?

By the end of the year, children should know how to:

compare, describe and solve practical problems for:

- lengths and heights [for example, compare to say if it is long/short, longer/shorter, tall/short, double/half]

- mass/weight [for example, using balancing scales to compare heavy/light, heavier than, lighter than]

- capacity and volume [for example, which container holds the most, is it full/empty, more than, less than, half, half full, quarter]

measure and begin to record the following:

- lengths and heights

- mass/weight

- capacity and volume

half
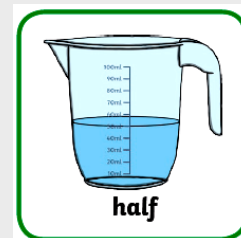
Vocabulary

measure: particular length, width, or amount, that is its size or intensity, expressed in numbers.

capacity: the term used when measuring how much fluid fits into a container

mass: it refers to the weight of an object

length: something is the amount that it measures from one end to the other along the longest side.

height: the size or length from the bottom to the top.

volume: the amount of space taken up by an object

standard units: common units used in measurement e.g. centimetres ,litres, grams

non-standard units: measurements used for younger children to introduce them to the concept of measuring e.g. how much sand will fill a bucket or how many cubes will balance the weight of a book on balancing scales

short: a small amount from one end to the other.

long: the distance from one end to the other

light: to express that it weighs not much

heavy: to express that it weighs a lot

empty: not containing anything

full: containing as much as possible

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Measurements: Time

Can you say what we will be learning about in our programme   of study about measurements where we look at time?

By the end of the year, children should know how to:

- compare, describe and solve practical problems for time [for example, quicker, slower, earlier, later]

- use their knowledge of time to know when key events of the day take place e.g. lunch time, bed time etc.

- sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]

- recognise and use language relating to dates, including days of the week, weeks, months and years

- tell the time on an analogue clock to the hour (o'clock) and half past the hour and draw the hands on a clock face to show these times
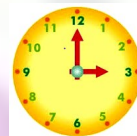
Vocabulary

week: a period of 7 days

month: a period of 4 weeks and one of the twelve periods a year is divided into

year: a period of 12 months

yesterday: the day before today

today: the present day

tomorrow: the day after today

hour: a period of 60 minutes

minute: a period of 10 seconds

second: short unit of time that is equal to a 60th of a minute

o'clock: used after a number from one to twelve to say the time when it is exactly that hour

clock hand: one of the long, thin pieces that point to the umbers on a clock or watch

half past: half past a particular hour is 30 minutes later than that hour

sequence: a series of related things or events, or the order in which they follow each other:

analogue clock: shows the time using numbers around the edge and hands that point to the number

slow: moving or doing without must speed

quick: happening or done with great speed

Measurements: Money

Can you say what we will be learning about in our of study about measurements where we look at money?

By the end of the year, children should know how to:

- recognise and know the value of different denominations of coins and notes e.g. 1p, 2p , 5p, 10p, 20p, 50p, £1 and £2, £5, £10 and £20

(Children will be exposed to solving money related problems where they can apply their skills of addition, subtraction, multiplication and division using money as context, e.g. 5p+5p+5p +5p =20p, half of 20p is 10p etc.
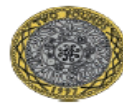
Coins

| 1p | 5p | 10p | 20p | 50p | £1 | £2 |

Notes

| £5 | £10 | £20 | £50 |

Vocabulary

pence: UK unit of money (pennies), the smaller value and denomination of coins

pounds: the standard unit of money used in the UK, larger value than pence

money: special pieces of paper that are used to buy things, or an amount of these that a person has

value: the amount of money that can be received for something

note: a piece of paper money

coin: a small, round piece of metal, usually silver or copper coloured, that is used as money

denomination: a unit of value, especially of money

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Geometry: Properties of Shapes

Can you say what we will be learning about in our of study about Geometry where we take a look at 2D and 3D shapes?

By the end of the year, children should know how to:

- recognise and name common 2D shapes:

    circle, triangle, square, rectangle, hexagon, pentagon, octagon

- recognise and name common 3D shapes:

    sphere, cube, cuboid, cone, cylinder, pyramid, prism

- Recognise and talk about some of the properties of 2D and 3D shapes e.g. the number of faces, sides, edges and vertices
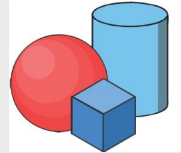
Vocabulary

2D shape: shapes which are flat, with 2 dimensions

3D shapes: shapes which have a solid form, with 3 dimensions

corner: also known as a vertex, the place on a 3D shape where 3 faces meet. (It also describe the angles on a 2D shape)

vertex/vertices: also known as corners on shapes

side: one of the lines (straight or curved), which encloses a 2D shape

edge: the place on a 3D shape where 2 faces meet

face: any flat surface of a 3D shape (faces can be curved and of many different shapes)

circle: 2D shape with 1 curved face and 0 vertices

square: 2D shape with 4 equal sides, 4 vertices and 4 right angles

triangle: 2D shape with 3 straight sides and 3 vertices

rectangle: 2D shape with 4 sides and 4 corners where 2 sides are longer

pentagon: 2D shape with 5 sides and 5 vertices

hexagon: 2D shape with 6 sides and 6 vertices

octagon: 2D shape with 8 sides and 8 vertices

cube: 3D shape with 6 square faces, 12 edges and 8 vertices

cuboid: 3D shape with 6 faces, some or all of which are rectangular, 12 edges and 8 vertices

cylinder: 3D shape with 2 circular faces, 1 rectangular curved face, 2 edges and 0 vertices

sphere: 3D shape with 1 curved face, 0 edges and 0 vertices

cone: 3D shape with 2 faces (1 circular), 1 edge and 1 vertex

prism: 3D shape with flat sides and identically shaped end faces

square based pyramid: 3D shape with 4 triangular faces, 1 square face and 5 vertices

regular shapes: 2D shapes with closed sides, where all the sides are the same length and all angles are the same

irregular shapes: 2D shapes whose sides and angles are not all the same

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Geometry: Position and Direction

Can you say what we will be learning about in our of study about Geometry where we take a look   at position and direction?

By the end of the year, children should know how to:

- describe position, direction and movement, including whole, half, quarter and three-quarter turns.

(Pupils use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside.

Pupils make whole, half, quarter and three-quarter turns in both directions and connect turning clockwise with movement on a clock face.)

forwards
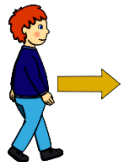
backwards
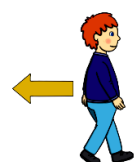
Vocabulary

between: among two or more people or things

clockwise: a way of indicating the direction of a turn. Clockwise involves a turn to the right as it follows the hands of a clock

anti-clockwise: involves a turn to the left, against the direction of a clock's hands

geometry: the study of shape, position and movement

turn: a movement in space, either clockwise or anti-clockwise (to move in a circle around a fixed point or line)

direction: the position towards which someone or something moves or faces

forward: towards the direction that is in front of you

backwards: towards the direction that is opposite to the one in which you are facing or opposite to the usual direction:

left: on or towards the side of your body that is to the west when you are facing north

right: on or towards the side of your body that is to the east when you are facing north

half turn: turning to face backwards or the opposite way you were facing

quarter turn: turning to face left or right at a right angle

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