

Year R - Autumn 1

Milestone LO:

Have a deep understanding of number to 5
 Be able to subitise (recognise quantities without counting) up to 5
 Compare quantities up to 5 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity
 Verbally count to 5, recognising the pattern of the counting system

Development Matters:

To count objects, actions and sounds up to and including 5
 To be able to subitise up to 5.
 To be able to link the number symbol (numeral) with its cardinal number value up to and including 5.
 Compare numbers up to and including 5.
 Understand the 'one more than/ one less than' relationship between consecutive numbers.

Domains	Declarative Knowledge (Substantive Knowledge)		Procedural Knowledge (Disciplinary Knowledge)		Conditional Knowledge (Knowing the when and the why)	
Number and Place Value	Children need to know that... <ul style="list-style-type: none"> All numbers have meaning. Numbers can be represented by numerals. 0 refers to nothing. The value of 0, 1, 2, 3, 4 and 5. The names of the numerals 0, 1, 2, 3, 4 and 5. One to one correspondence is when we count a group of objects, actions or sounds by assigning one number to each object and only counting each object once. Numbers increase (become greater) as they go up in the number system. Subitising means looking at a collecting of things and being able to say how many are there without counting individually. Compare has two meanings. The first means to look at what is the same and different. Greater than means there are more than (a larger amount or quantity). Less than means there are fewer (a smaller amount or quantity). 'The same as' means neither has more or less, because the amount is identical, even if the objects are arranged differently, or are different colours, shapes and sizes. Equal means the same. 		Children need to know how... <ul style="list-style-type: none"> To count objects, actions and sounds up to and including 5 by using one to one correspondence accurately. To verbally count to 5. To subitise (recognise quantities without counting) 1, 2, 3, 4 and 5. To link the number symbol (numeral) with its cardinal value for numbers up to and including 5, by <ul style="list-style-type: none"> counting/ subitising and finding or recording the matching numeral recognising a numeral and making/drawing a corresponding amount. To compare and describe quantities using the language of 'greater than', 'less than' and 'the same as (equal to).' 		Children need to know when... <ul style="list-style-type: none"> We count, we assign one number to each object, action or sound and we count each only once. When we rote count, numbers in the number system increase in value (they become greater) When we see a small group of objects, we might be able to determine how many there are by subitising. When we see a greater quantity, we may need to count in order to know how many there are. Children need to know why... <ul style="list-style-type: none"> We count. We count because counting helps us find a total (how many of something there are altogether). We need to count carefully, using one to one correspondence. We need to do this, so that our counting is accurate, and we find the correct total. 	
Vocabulary	NUMBER	An abstract way of representing a quantity (e.g. 2, 26, fifty-nine, $\frac{1}{2}$, 0.322)	NUMERAL	Words or symbols used to represent numbers, made up of digits.	DIGIT	The ten single symbols 0-9, used to represent numbers when placed in sequence.
	COUNT	To work out the total number of a collection of items. This often involves counting in sequence.	INCREASE	Getting bigger.	ONE-TO-ONE CORRESPONDANCE	When counting objects, to assign one numeral to one object in the correct order so each item is only counted once.
	SUBITISE	The rapid, confident and accurate judgement of the value of small number of objects/pictures without	COMPARE	Two meanings: a) to say what is the same or what is different. b) to identify the mathematical difference between numbers.	THE SAME AS	Where the number represented in two different images is identical.

	counting. The normal limit of objects to subitise is 6 or 7.				
GREATER THAN	Where a number has a higher value than another.	LESS THAN	Where a number has a lower value than another.	EQUAL	The same as.

Milestone LO:

Development Matters:

To understand position through words alone.

Describe a familiar route.

Discuss routes and location, using words like 'in front of' and 'behind'.

To make comparisons between objects relating to size, length, weight and capacity.

Matching, sorting and describing position and direction

Matching and Sorting

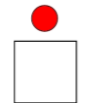
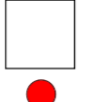





Children need to know that...

- Matching means to correspond in pattern, colour or another similar feature.
- Correspond means to have a close similarity with another object e.g. the same colour.
- Go together means to group objects according to common similarities.

Position and Direction

Children need to know that...

- Position describes where something or someone is.
- Direction is the line or course along which something moves, lies or points.
- The route is the way travelled.
- Straight means in a direction which is not curved.
- Positional language helps us to visualise position

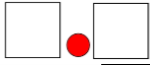


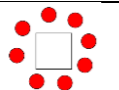
Word	Picture	Meaning
Above		when an object is higher than (or directly overhead of) another object.
Below Beneath Under		when an object is lower than (or directly underneath) another object.
Inside		Within the inner side or surface of something.
Outside		Beyond the external side or surface of something.
In		When an object is within the inner side or surface of something.
On		when an object is higher than another object and is in contact with the object's top surface.
Next to Beside		At the side of.
Left		Located on the same side at the heart on a human body. This will depend on whether you are looking at the object or from the viewpoint of the object.

Children need to know how...







- Describe an object's position using positional language
- Describe a familiar route
- Discuss routes and location, using words like 'in front of' and 'behind'.

Children need to know when...

- Describing where something is will be helpful. Children need to know why...
- **We learn to describe position, direction and movement.** Sometimes we will need to explain where/how something is moving to someone who is not there. Having the language of position and direction allows us to do this.

Right		Located on the opposite side to the heart on a human body. This will depend on whether you are looking at the object or from the viewpoint of the object.
Between		In the space in the middle of two or more objects.
Behind		At the back of an object.
In front of		At the front of an object.
Around		Can be found on all sides of an object.

- Positional language helps us to visualise movement and direction

Word	Picture	Meaning
Up		When an object travels from a lower to an higher place
Down		When an object travels from a higher to a lower place.
Around		When an object travels round the outside of an object.
Forwards		Moving or facing to or towards what is in front.
Backwards		Moving or facing towards what is behind.
Sideways		Moving from side to side.

Vocabulary	POSITION	Where something or someone is	DIRECTION	The line along which something moves, lies or points.	MOVEMENT	A change of position or direction.
	ROUTE	The path something moves on.				
Enrichment						

FOXHILLS
FEDERATION



Year R - Autumn 2

Milestone LO:

Automatically recall number bonds (including subtraction facts) to and within 5 (without reference to rhymes, counting or other aids).
Have a deep understanding of the composition of each number up to 5.

Development Matters:

Explore the composition of numbers to 5.
Automatically recall number bonds for numbers 0 – 5.

Revisited Knowledge

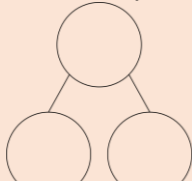

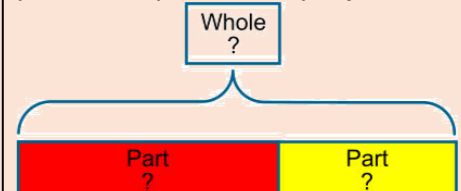
New knowledge

Domains	Declarative Knowledge (Substantive Knowledge)	Procedural Knowledge (Disciplinary Knowledge)	Conditional Knowledge (Knowing the when and the why)
Addition and Subtraction	<p>Children need to know that...</p> <ul style="list-style-type: none"> All numbers have meaning. (Year R Autumn 1) Numbers can be represented by numerals. (Year R Autumn 1) 0 refers to nothing. (Year R Autumn 1) The value of 0, 1, 2, 3, 4 and 5. (Year R Autumn 1) The names of the numerals 0, 1, 2, 3, 4 and 5. (Year R Autumn 1) One to one correspondence is when we count a group of objects, actions or sounds by assigning one number to each object and only counting each object once. (Year R Autumn 1) Numbers increase (become greater) as they go up in the number system. (Year R Autumn 1) Subitising means looking at a collecting of things and being able to say how many are there without counting individually. (Year R Autumn 1) Compare has two meanings. The first means to look at what is the same and different. Greater than means there are more than (a larger amount or quantity). (Year R Autumn 1) Less than means there are fewer (a smaller amount or quantity). (Year R Autumn 1) 'The same as' means neither has more or less, because the amount is identical, even if the objects are arranged differently, or are different colours, shapes and sizes. (Year R Autumn 1) Equal means the same. (Year R Autumn 1) A number bond is a pair of numbers that totals a given amount. Partition means to split an amount (a whole or total) into smaller parts. A whole is the total amount, which will always be greater than the parts. Parts are a section of the whole. The parts will always be fewer (less than) the whole. Number bonds to 1, 2, 3, 4 and 5 (introduce all, see number mapping to identify bonds where quick recall is expected) Number bonds are commutative (e.g. 3 and 2 is equal to 2 and 3). Addition is finding the total of two or more sets of objects or numbers. + is a symbol that means add. Words that mean we may need to carry out an addition are: add, plus, total, altogether and sum of. = is a symbol that means 'is equal to' (the same as). Subtraction is taking one quantity and removing a part of it to find out how much is left. - is a symbol that means subtract. 	<p>Children need to know how...</p> <ul style="list-style-type: none"> To count objects, actions and sounds up to and including 5 by using one to one correspondence accurately. (Year R Autumn 1) To verbally count to 5. (Year R Autumn 1) To subitise (recognise quantities without counting) 1, 2, 3, 4 and 5. To link the number symbol (numeral) with its cardinal value for numbers up to and including 5, by <ul style="list-style-type: none"> counting/ subitising and finding or recording the matching numeral recognising a numeral and making/drawing a corresponding amount. (Year R Autumn 1) To compare and describe quantities using the language of 'greater than', 'less than' and 'the same as (equal to)'. (Year R Autumn 1) Number bonds can be found by taking a total amount of resources (within 5) and splitting them into two parts or groups. Sometimes these groups may be equal, but often there will be a different amount in each part. Mathematicians use models to represent (show) concepts in maths. E.g. Part-part-whole models, bar models, tens frames and bead strings can be used to show number bonds. Mathematicians also represent their ideas pictorially. We can draw the models we know how to use, so that other people can see our understanding. Mathematicians also represent calculations by writing number sentences. 	<p>Children need to know when...</p> <ul style="list-style-type: none"> We count, we assign one number to each object, action or sound and we count each only once. (Year R Autumn 1) When we rote count, numbers in the number system increase in value (they become greater) (Year R Autumn 1) When we see a small group of objects, we might be able to determine how many there are by subitising. (Year R Autumn 1) When we see a greater quantity, we may need to count in order to know how many there are. (Year R Autumn 1) Two numbers (parts) are put together, this is called a number bond. Two numbers (parts) are put together, they total the whole amount. We add, the total will be greater than the parts we added. We subtract, the part we have left will be fewer (less than) the amount we started with (the whole). <p>Children need to know why...</p> <ul style="list-style-type: none"> We count. We count because counting helps us find a total (how many of something there are altogether). (Year R Autumn 1)



- Words that mean we may need to carry out a subtraction are subtract, minus and take away.

- *We need to count carefully, using one to one correspondence. We need to do this, so that our counting is accurate and we find the correct total. (Year R Autumn 1)*
- **We use number bonds.** We use number bonds because they can help us add and subtract bigger numbers more efficiently (taking fewer steps, so that the risk of making mistakes is reduced).
- **The whole is greater than the parts and the parts are fewer (less than) the whole.** This is because, the whole is the total amount (how many altogether) and the parts are smaller sections of this.

Vocabulary	PARTITION	To split a whole into parts.	EQUAL	The same as.	PART	A section of the whole.
	WHOLE	A total amount. This is always the sum of the parts.	REPRESENTATION	A way of showing a mathematical ideas using objects, pictures or numerals.	MANIPULATIVE	A physical object used to help represent mathematics (e.g. beadstring, Base 10).
	CONCRETE	A representation of a mathematical idea using manipulatives or real life objects.	PICTORIAL	A representation of a mathematical idea using pictures.	ABSTRACT	A representation of a mathematical idea using symbols (e.g. numerals)
	PART-PART WHOLE MODEL	A pictorial representation of number showing the relationship between parts and wholes. 	BEADSTRING	A manipulative where coloured beads are placed on a string in alternating colours (10 red, 10 white, 10 red...) to support counting in ones and tens. 	BAR MODEL	A form of part-part whole model where the parts are represented by adjacent bars. 
	ADDITION	Combining parts.	SYMBOL	An abstract image used to represent an idea (e.g. digits, +, =)	NUMBER BOND	Addition and subtraction number facts which we memorise to support efficient calculation.
	COMMUTATIVE	A calculation which will give the same answer, regardless of the order in which it is performed. Addition and multiplication are commutative.	COUNTING ON	Starting from a number and counting forwards in the number system. This can be used as a strategy to solve addition and subtraction problems.	NUMBER SENTENCE	A way of representing a mathematical operation using symbols (+, -, x, ÷, = etc)
	SUBTRACTION	Removing a part from the whole.	COUNTING BACK	Starting from a number and counting backwards. This can be used as a strategy for solving subtraction problems.		

Milestone LO:

Development Matters:

Talk about and explore 2D shapes using informal and mathematical language: sides, corners, straight, flat, round.

Talk about and identify the patterns around them.



















Begin to describe a sequence of events, real or fictions using words such as first, then...

Continue, copy and create repeating patterns.

Revisited Knowledge

New knowledge



2D shapes and simple patterns	<p>2D Shape Children need to know that...</p> <ul style="list-style-type: none"> A 2D shape is a shape that has 2 dimensions (width and height). It is flat and can only ever be drawn, not held. 2D shapes have sides. 2 side of a 2D shape meet at a corner. Sides can be straight or curved, flat or round. A straight line does not curve. A curved line is bent. The properties of the following shapes: <table border="1" data-bbox="371 667 1469 1165"> <thead> <tr> <th>Shape</th> <th>Image</th> <th>Sides</th> <th>Corners</th> </tr> </thead> <tbody> <tr> <td>Circle</td> <td></td> <td>1</td> <td>0</td> </tr> <tr> <td>Triangle</td> <td></td> <td>3</td> <td>3</td> </tr> <tr> <td>Square</td> <td></td> <td>4</td> <td>4</td> </tr> <tr> <td>Rectangle</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Pentagon</td> <td></td> <td>5</td> <td>5</td> </tr> <tr> <td>Hexagon</td> <td></td> <td>6</td> <td>6</td> </tr> </tbody> </table>		Shape	Image	Sides	Corners	Circle		1	0	Triangle		3	3	Square		4	4	Rectangle				Pentagon		5	5	Hexagon		6	6	<p>Children need to know how...</p> <ul style="list-style-type: none"> To talk about and explore 2D shapes using informal and mathematical language such as sides, corners, straight, flat, round. To talk about and identify the patterns around them. To begin to describe a sequence of events (real or fictional) using words such as first, then, next, finally. To continue, copy and create repeating patterns. 	<p>Children need to know when...</p> <ul style="list-style-type: none"> They can see a pattern based on noticing repeating elements. They are looking at a shape based on its sides and corners. An event happens within a sequence of events. <p>Children need to know why...</p> <ul style="list-style-type: none"> We learn to describe shapes using their technical names. Having a shared knowledge of the meaning of a shape's name allows us to quickly describe what we are looking at without having to talk about the number of sides etc. We use sequential language like first and next when we are describing sequences of events. This helps the person we are communicating with to understand what the sequence of events looked like. Many patterns are repeating. Repeating patterns are beautiful. Humans are naturally designed to see and think in patterns. Because of this they are seen often in art and architecture.
Shape	Image	Sides	Corners																													
Circle		1	0																													
Triangle		3	3																													
Square		4	4																													
Rectangle																																
Pentagon		5	5																													
Hexagon		6	6																													
Vocabulary	2D SHAPE	A shape with 2 dimensions (flat). They have width and height. They can only be drawn, not held.	SIDE	The line which defines the outside of a shape.	CORNER	The points at which two sides of a shape meet.																										
	STRAIGHT	A line which does not curve. These are drawn with a ruler.	CURVED	A line that is bent. Usually this is smooth and continuous.	SEQUENCE	The order in which things happen or are seen.																										

	EVENT	Something which happens.	FICTION	Something which is made up – it comes from your imagination	REAL	Something which happens or has happened in real life.
	PATTERN	A repeated design.				
Enrichment	Winter Gift Shop Winter Crafts					

Year R Spring 1

Milestone LO:
 Have a deep understanding of number to 10
 Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity
 Verbally count to 10, recognising the pattern of the counting system

Development Matters:
 To count objects, actions and sounds up to and including 10
 To be able to link the number symbol (numeral) with its cardinal number value up to and including 10.
 Compare numbers up to and including 10.
 Understand the ‘one more than/ one less than’ relationship between consecutive numbers.

Revisited Knowledge
 New knowledge

Domains	Declarative Knowledge (Substantive Knowledge)	Procedural Knowledge (Disciplinary Knowledge)	Conditional Knowledge (Knowing the when and the why)
Number and Place Value	<ul style="list-style-type: none"> All numbers have meaning. (Year R Autumn 1) Numbers can be represented by numerals. (Year R Autumn 1) 0 refers to nothing. (Year R Autumn 1) The value of 0, 1, 2, 3, 4 and 5. (Year R Autumn 1) The names of the numerals 0, 1, 2, 3, 4 and 5. (Year R Autumn 1) One to one correspondence is when we count a group of objects, actions or sounds by assigning one number to each object and only counting each object once. (Year R Autumn 1) Numbers increase (become greater) as they go up in the number system. (Year R Autumn 1) Subitising means looking at a collecting of things and being able to say how many are there without counting individually. (Year R Autumn 1) Compare has two meanings. The first means to look at what is the same and different. Greater than means there are more than (a larger amount or quantity). (Year R Autumn 1) Less than means there are fewer (a smaller amount or quantity). (Year R Autumn 1) ‘The same as’ means neither has more or less, because the amount is identical, even if the objects are arranged differently, or are different colours, shapes and sizes. (Year R Autumn 1) Equal means the same. (Year R Autumn 1) The value of 6, 7, 8, 9, and 10. The names of the numerals 6, 7, 8, 9, and 10. The numerals for the numbers 0-9 are one-digit numbers because they only have one digit. A digit is a written symbol. 10 is a two-digit number because (similar to ‘special friends’ (digraphs) in phonics) there are two digits that make up one number. There is one lot of ten, therefore there 	Children need to know how... <ul style="list-style-type: none"> To count objects, actions and sounds up to and including 5 by using one to one correspondence accurately. (Year R Autumn 1) To verbally count to 5. (Year R Autumn 1) To subitise (recognise quantities without counting) 1, 2, 3, 4 and 5. To link the number symbol (numeral) with its cardinal value for numbers up to and including 5, by <ul style="list-style-type: none"> counting/ subitising and finding or recording the matching numeral recognising a numeral and making/drawing a corresponding amount. (Year R Autumn 1) To compare and describe quantities using the language of ‘greater than’, ‘less than’ and ‘the same as (equal to).’ (Year R Autumn 1) To count objects, actions and sounds up to and including 10, by using one to one correspondence accurately. To verbally count to 10. To subitise (recognise quantities without counting) 6, 7, 8, 9 and 10. To link the number symbol (numeral) with its cardinal value for numbers up to and including 10, by <ul style="list-style-type: none"> counting/ subitising and finding or recording the matching numeral recognising a numeral and making/drawing a corresponding amount. 	Children need to know when... <ul style="list-style-type: none"> We count, we assign one number to each object, action or sound and we count each only once. (Year R Autumn 1) When we rote count, numbers in the number system increase in value (they become greater) (Year R Autumn 1) When we see a small group of objects, we might be able to determine how many there are by subitising. (Year R Autumn 1) When we see a greater quantity, we may need to count in order to know how many there are. (Year R Autumn 1) Children need to know why... <ul style="list-style-type: none"> We count. We count because counting helps us find a total (how many of something there are altogether). (Year R Autumn 1) We need to count carefully, using one to one correspondence. We need to do this, so that our counting is accurate, and we find the correct total. (Year R Autumn 1)



	is the digit 1 in the 'tens' column. There are no extra ones, therefore the digit 0 is in the 'ones' column.					
Vocabulary	NUMBER	An abstract way of representing a quantity (e.g. 2, 26, fifty-nine, $\frac{1}{2}$, 0.322)	NUMERAL	Words or symbols used to represent numbers, made up of digits.	DIGIT	The ten single symbols 0-9, used to represent numbers when placed in sequence.
	COUNT	To work out the total number of a collection of items. This often involves counting in sequence.	INCREASE	Getting bigger.	ONE-TO-ONE CORRESPONDANCE	When counting objects, to assign one numeral to one object in the correct order so each item is only counted once.
	SUBITISE	The rapid, confident and accurate judgement of the value of small number of objects/pictures without counting. The normal limit of objects to subitise is 6 or 7.	COMPARE	Two meanings: a) to say what is the same or what is different. b) to identify the mathematical difference between numbers.	THE SAME AS	Where the number represented in two different images is identical.
	GREATER THAN	Where a number has a higher value than another.	LESS THAN	Where a number has a lower value than another.	EQUAL	The same as.
	ONE DIGIT NUMBER	A numeral which only contains one digit.	TWO DIGIT NUMBER	A numeral which contains two digits. The first digit has a value of ten-times the digit. The second digit has a value of one-times the digit.	ONES	Where the digit represents the quantity exactly.
	TENS	A digit value where the digit represents ten-times the quantity. There are ten ones in a ten.				

Milestone LO:
Development Matters:
 Talk about and explore 3D shapes using informal and mathematical language: sides, corners, straight, flat, round.
 Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc.
 Combine shapes to make new ones.
 Select, rotate and manipulate shapes to develop spatial reasoning skills.
 Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.

Revisited Knowledge
 New knowledge

3D Shapes and Simple Patterns	<p>3D Shapes Children need to know that...</p> <ul style="list-style-type: none"> A 2D shape is a shape that has 2 dimensions (width and height). It is flat and can only ever be drawn, not held. (Year R Autumn 2) 2D shapes have sides. (Year R Autumn 2) 2 side of a 2D shape meet at a corner. (Year R Autumn 2) Sides can be straight or curved, flat or round. (Year R Autumn 2) A straight line does not curve. (Year R Autumn 2) A curved line is bent. (Year R Autumn 2) A 3D shape has three dimensions (width, height and depth). It can be held. 3D shapes have sides/edges. 3 or more sides/edges of a 3D shape meet at a corner. 3D shapes have surfaces (flat or curved) <p>Simple Patterns Children need to know that...</p> <ul style="list-style-type: none"> A shape's properties make it suitable for doing different things. Shapes can be combined to make new shapes. 	<p>Children need to know how...</p> <ul style="list-style-type: none"> To talk about and explore 2D shapes using informal and mathematical language such as sides, corners (vertices), straight, flat, round. (Year R Autumn 2) To talk about and identify the patterns around them. (Year R Autumn 2) To begin to describe a sequence of events (real or fictional) using words such as first, then, next, finally. (Year R Autumn 2) To continue, copy and create repeating patterns. (Year R Autumn 2) To talk about and explore 3D shapes using informal and mathematical language such as sides, edges, corners, straight, flat, round. To select appropriate shapes to meet their purpose (e.g. using flat surfaces to build upon; using triangular prisms to make a roof) To combine shapes to make new ones. To select, rotate and manipulate shapes. 	<p>Children need to know when...</p> <ul style="list-style-type: none"> They can see a pattern based on noticing repeating elements. (Year R Autumn 2) They are looking at a shape based on its sides and corners. (Year R Autumn 2) A shape contains other shapes. A shape will be appropriate for their purpose. <p>Children need to know why...</p> <ul style="list-style-type: none"> We learn to describe shapes using their technical names. Having a shared knowledge of the meaning of a shape's name allows us to quickly describe what we are looking at without having to talk about the
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	<ul style="list-style-type: none"> • Shapes can be rotated and manipulated to suit a purpose. • Shapes can have other shapes within them, just like numbers can. 	<ul style="list-style-type: none"> • To decompose shapes, recognising that a shape can have other shapes within it. 	<p><i>number of sides etc. (Year R Autumn 2)</i></p> <ul style="list-style-type: none"> • We use sequential language like first and next when we are describing sequences of events. This helps the person we are communicating with to understand what the sequence of events looked like. (Year R Autumn 2) • Many patterns are repeating. Repeating patterns are beautiful. Humans are naturally designed to see and think in patterns. Because of this they are seen often in art and architecture. (Year R Autumn 2) • Shapes can contain other shapes. A shape is just a way of describing what you see based on sides and corners. A shape can be cut into other parts, each of which will be a shape. • Some shapes are better suited to different purposes. The properties of shapes affect how strong they are, how they fit together and how they balance. 			
Vocabulary	2D SHAPE	A shape with 2 dimensions (flat). They have width and height. They can only be drawn, not held.	SIDE	The line which defines the outside of a shape.	CORNER	The points at which two sides of a shape meet.
	STRAIGHT	A line which does not curve. These are drawn with a ruler.	CURVED	A line that is bent. Usually this is smooth and continuous.	3D SHAPE	A shape with 3 dimensions (height, width and depth). These can be held as well as drawn.
	CORNER/ VERTEX	The point at which three or more edges meet.	EDGE/SIDE	The line where two faces meet.	SURFACE	The outside layer of something.
	COMBINE	Put together	DECOMPOSE	Break apart	ROTATED	Spin around a point.
Enrichment	NSPCC Number Day					

FOXHILLS FEDERATION



Year R - Spring 2

Milestone LO:

Automatically recall number bonds (including subtraction facts) to and within 10 (without reference to rhymes, counting or other aids).
Have a deep understanding of the composition of each number up to 10.

Development Matters:

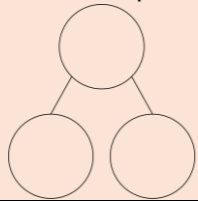

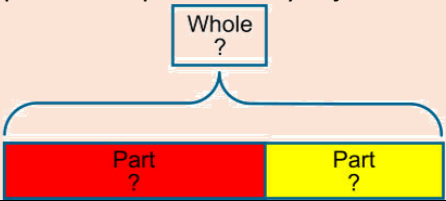
Explore the composition of numbers to 10.
Automatically recall number bonds for numbers 0 – 5 and some to 10.

Revisited Knowledge

New knowledge

Domains	Declarative Knowledge (Substantive Knowledge)	Procedural Knowledge (Disciplinary Knowledge)	Conditional Knowledge (Knowing the when and the why)
Addition and Subtraction	<p>Number and Place Value Children need to know that...</p> <ul style="list-style-type: none"> All numbers have meaning. (Year R Autumn 1) Numbers can be represented by numerals. (Year R Autumn 1) 0 refers to nothing. (Year R Autumn 1) The value of 0, 1, 2, 3, 4 and 5. (Year R Autumn 1) The names of the numerals 0, 1, 2, 3, 4 and 5. (Year R Autumn 1) One to one correspondence is when we count a group of objects, actions or sounds by assigning one number to each object and only counting each object once. (Year R Autumn 1) Numbers increase (become greater) as they go up in the number system. (Year R Autumn 1) Subitising means looking at a collecting of things and being able to say how many are there without counting individually. (Year R Autumn 1) Compare has two meanings. The first means to look at what is the same and different. Greater than means there are more than (a larger amount or quantity). (Year R Autumn 1) Less than means there are fewer (a smaller amount or quantity). (Year R Autumn 1) 'The same as' means neither has more or less, because the amount is identical, even if the objects are arranged differently, or are different colours, shapes and sizes. (Year R Autumn 1) Equal means the same. (Year R Autumn 1) The value of 6, 7, 8, 9, and 10. (Year R Spring 1) The names of the numerals 6, 7, 8, 9, and 10. (Year R Spring 1) The numerals for the numbers 0-9 are one-digit numbers because they only have one digit. (Year R Spring 1) A digit is a written symbol. (Year R Spring 1) 10 is a two-digit number because (similar to 'special friends' (digraphs) in phonics) there are two digits that make up one number. There is one lot of ten, therefore there is the digit 1 in the 'tens' column. There are no extra ones, therefore the digit 0 is in the 'ones' column. (Year R Spring 1) <p>Addition and Subtraction. Children need to know that...</p> <ul style="list-style-type: none"> A number bond is a pair of numbers that totals a given amount. (Year R Autumn 2) 	<p>Children need to know how...</p> <ul style="list-style-type: none"> To count objects, actions and sounds up to and including 10 by using one to one correspondence accurately. (Year R Spring 1) To verbally count to 10. (Year R Spring 1) To subitise (recognise quantities without counting) up to 10. (Year R Spring 1) To link the number symbol (numeral) with its cardinal value for numbers up to and including 10, by <ul style="list-style-type: none"> counting/ subitising and finding or recording the matching numeral recognising a numeral and making/drawing a corresponding amount (Year R Spring 1) To compare and describe quantities using the language of 'greater than', 'less than' and 'the same as (equal to).' (Year R Autumn 1) Number bonds can be found by taking a total amount of resources (within 5) and splitting them into two parts or groups. Sometimes these groups may be equal, but often there will be a different amount in each part. (Year R Autumn 2) Mathematicians use models to represent (show) concepts in maths. E.g. Part-part-whole models, bar models, tens frames and bead strings can be used to show number bonds. (Year R Autumn 2) Mathematicians also represent their ideas pictorially. We can draw the models we know how to use, so that other people can see our understanding. (Year R Autumn 2) Mathematicians also represent calculations by writing number sentences. (Year R Autumn 2) Number bonds can be found by taking a total amount of resources (within 10) and splitting them into two parts or groups. Sometimes these groups may be equal, but often there will be a different amount in each part. 	<p>Children need to know when...</p> <ul style="list-style-type: none"> We count, we assign one number to each object, action or sound and we count each only once. (Year R Autumn 1) When we rote count, numbers in the number system increase in value (they become greater) (Year R Autumn 1) When we see a small group of objects, we might be able to determine how many there are by subitising. (Year R Autumn 1) When we see a greater quantity, we may need to count in order to know how many there are. (Year R Autumn 1) Two numbers (parts) are put together, this is called a number bond. (Year R Autumn 2) Two numbers (parts) are put together, they total the whole amount. (Year R Autumn 2) We add, the total will be greater than the parts we added. (Year R Autumn 2) We subtract, the part we have left will be fewer (less than) the amount we started with (the whole). (Year R Autumn 2) <p>Children need to know why...</p> <ul style="list-style-type: none"> We count. We count because counting helps us find a total (how many of something there are altogether). (Year R Autumn 1)

	<ul style="list-style-type: none"> • <i>Partition means to split an amount (a whole or total) into smaller parts. (Year R Autumn 2)</i> • <i>A whole is the total amount, which will always be greater than the parts. (Year R Autumn 2)</i> • <i>Parts are a section of the whole. The parts will always be fewer (less than) the whole. (Year R Autumn 2)</i> • <i>Number bonds to 1, 2, 3, 4 and 5 (introduce all, see number mapping to identify bonds where quick recall is expected) (Year R Autumn 2)</i> • <i>Number bonds are commutative (e.g. 3 and 2 is equal to 2 and 3). (Year R Autumn 2)</i> • <i>Addition is finding the total of two or more sets of objects or numbers. (Year R Autumn 2)</i> • <i>+ is a symbol that means add. (Year R Autumn 2)</i> • <i>Words that mean we may need to carry out an addition are: add, plus, total, altogether and sum of. (Year R Autumn 2)</i> • <i>= is a symbol that means 'is equal to' (the same as). (Year R Autumn 2)</i> • <i>Subtraction is taking one quantity and removing a part of it to find out how much is left.</i> • <i>- is a symbol that means subtract. (Year R Autumn 2)</i> • <i>Words that mean we may need to carry out a subtraction are subtract, minus and take away. (Year R Autumn 2)</i> • <i>Number bonds to 6,7,8,9 and 10 (introduce all, see number mapping to identify bonds where quick recall is expected)</i> 		<ul style="list-style-type: none"> • <i>We need to count carefully, using one to one correspondence. We need to do this, so that our counting is accurate, and we find the correct total. (Year R Autumn 1)</i> • <i>We use number bonds. We use number bonds because they can help us add and subtract bigger numbers more efficiently (taking fewer steps, so that the risk of making mistakes is reduced). (Year R Autumn 2)</i> • <i>The whole is greater than the parts and the parts are fewer (less than) the whole. This is because, the whole is the total amount (how many altogether) and the parts are smaller sections of this. (Year R Autumn 2)</i>
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Vocabulary	PARTITION	To split a whole into parts.	EQUAL	The same as.	PART	A section of the whole.
	WHOLE	A total amount. This is always the sum of the parts.	REPRESENTATION	A way of showing a mathematical idea using objects, pictures or numerals.	MANIPULATIVE	A physical object used to help represent mathematics (e.g. beadstring, Base 10).
	CONCRETE	A representation of a mathematical idea using manipulatives or real-life objects.	PICTORIAL	A representation of a mathematical idea using pictures.	ABSTRACT	A representation of a mathematical idea using symbols (e.g. numerals)
	PART-PART WHOLE MODEL	A pictorial representation of number showing the relationship between parts and wholes. 	BEADSTRING	A manipulative where coloured beads are placed on a string in alternating colours (10 red, 10 white, 10 red...) to support counting in ones and tens. 	BAR MODEL	A form of part-part whole model where the parts are represented by adjacent bars. 
	ADDITION	Combining parts.	SYMBOL	An abstract image used to represent an idea (e.g. digits, +, =)	NUMBER BOND	Addition and subtraction number facts which we memorise to support efficient calculation.
	COMMUTATIVE	A calculation which will give the same answer, regardless of the order in which it is performed. Addition and multiplication are commutative.	COUNTING ON	Starting from a number and counting forwards in the number system. This can be used as a strategy to solve addition and subtraction problems.	NUMBER SENTENCE	A way of representing a mathematical operation using symbols (+, -, x, ÷, = etc)
	SUBTRACTION	Removing a part from the whole.	COUNTING BACK	Starting from a number and counting backwards. This can be used as a strategy for solving subtraction problems.		

Milestone LO:

Development Matters:

To make comparisons between objects relating to size, length, weight and capacity.

Compare length, weight and capacity.

Revisited Knowledge

New knowledge

Measure	Children need to know that... <ul style="list-style-type: none"> • <i>Compare has two meanings. The first means to look at what is the same and different (Year R Autumn 1)</i> • Comparative language can be used to compare objects, including <ul style="list-style-type: none"> ○ Size <ul style="list-style-type: none"> ▪ Big means something has relatively great size. ▪ Small means something has relatively little size. ○ Length <ul style="list-style-type: none"> ▪ Long means something has relatively great length. ▪ Short means something has relatively little length. ○ Weight <ul style="list-style-type: none"> ▪ Heavy means something has relatively great weight. ▪ Light means something has relatively little weight. ○ Capacity <ul style="list-style-type: none"> ▪ Full is when a container can hold no more. There is no more capacity. ▪ Empty is when a container holds nothing. There is full capacity left. 			Children need to know how... <ul style="list-style-type: none"> • To make comparisons between objects, looking at <ul style="list-style-type: none"> ○ Size ○ Length ○ Weight ○ Capacity 	Children need to know when... <ul style="list-style-type: none"> • We use different types of measure in real life. Children need to know why... <ul style="list-style-type: none"> • We cannot measure everything in the same way. There are many different properties of objects which we can use to describe them. Different forms of measure allow us to describe them in different ways. 	
Vocabulary	DESCRIBE	To say what something is like.	SIZE	A measure of 'bigness'.	LENGTH	A measure of how far something is.
	WEIGHT	A measure of heaviness.	CAPACITY	A measure of the amount of something a container can hold.	COMPARE	Two meanings: a) to say what is the same or what is different. b) to identify the mathematical difference between numbers.
Enrichment						

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Year R - Summer 1

Milestone LO:

Verbally count beyond 20, recognising the pattern of the counting system.

Automatically recall number bonds (including subtraction facts) to and within 10 (without reference to rhymes, counting or other aids), **including double facts.**

Explore and represent patterns within numbers up to 10, **including evens and odds and double facts.**

Development Matters:

N/A

Revisited Knowledge

New knowledge

Domains	Declarative Knowledge (Substantive Knowledge)	Procedural Knowledge (Disciplinary Knowledge)	Conditional Knowledge (Knowing the when and the why)
Number	<p>Place Value Children need to know that...</p> <ul style="list-style-type: none"> • <i>All numbers have meaning. (Year R Autumn 1)</i> • <i>Numbers can be represented by numerals. (Year R Autumn 1)</i> • <i>0 refers to nothing. (Year R Autumn 1)</i> • <i>The value of 0, 1, 2, 3, 4 and 5. (Year R Autumn 1)</i> • <i>The names of the numerals 0, 1, 2, 3, 4 and 5. (Year R Autumn 1)</i> • <i>One to one correspondence is when we count a group of objects, actions or sounds by assigning one number to each object and only counting each object once. (Year R Autumn 1)</i> • <i>Numbers increase (become greater) as they go up in the number system. (Year R Autumn 1)</i> • <i>Subitising means looking at a collecting of things and being able to say how many are there without counting individually. (Year R Autumn 1)</i> • <i>Compare has two meanings. The first means to look at what is the same and different.</i> • <i>Greater than means there are more than (a larger amount or quantity). (Year R Autumn 1)</i> • <i>Less than means there are fewer (a smaller amount or quantity). (Year R Autumn 1)</i> • <i>'The same as' means neither has more or less, because the amount is identical, even if the objects are arranged differently, or are different colours, shapes and sizes. (Year R Autumn 1)</i> • <i>Equal means the same. (Year R Autumn 1)</i> • <i>The value of 6, 7, 8, 9, and 10. (Year R Spring 1)</i> • <i>The names of the numerals 6, 7, 8, 9, and 10. (Year R Spring 1)</i> • <i>The numerals for the numbers 0-9 are one-digit numbers because they only have one digit. (Year R Spring 1)</i> • <i>A digit is a written symbol. (Year R Spring 1)</i> • <i>10 is a two-digit number because (similar to 'special friends' (digraphs) in phonics) there are two digits that make up one number. There is one lot of ten, therefore there is the digit 1 in the 'tens' column. There are no extra ones, therefore the digit 0 is in the 'ones' column. (Year R Spring 1)</i> • <i>Numbers after 10 are teen numbers, because they have a ten and some ones.</i> • <i>The names and values of the numerals 11 → 20</i> • <i>20 has two tens and 0 ones.</i> • <i>Even numbers end in 0,2,4,6,8</i> 	<p>Children need to know how...</p> <ul style="list-style-type: none"> • <i>To count objects, actions and sounds up to and including 10 by using one to one correspondence accurately. (Year R Spring 1)</i> • <i>To verbally count to 10. (Year R Spring 1)</i> • <i>To subitise (recognise quantities without counting) up to 10. (Year R Spring 1)</i> • <i>To link the number symbol (numeral) with its cardinal value for numbers up to and including 10, by</i> <ul style="list-style-type: none"> ○ <i>counting/ subitising and finding or recording the matching numeral</i> ○ <i>recognising a numeral and making/drawing a corresponding amount (Year R Spring 1)</i> • <i>To compare and describe quantities using the language of 'greater than', 'less than' and 'the same as (equal to)'. (Year R Autumn 1)</i> • <i>Number bonds can be found by taking a total amount of resources (within 10) and splitting them into two parts or groups. Sometimes these groups may be equal, but often there will be a different amount in each part. (Year R Autumn 2)</i> • <i>Mathematicians use models to represent (show) concepts in maths. E.g. Part-part-whole models, bar models, tens frames and bead strings can be used to show number bonds. (Year R Autumn 2)</i> • <i>Mathematicians also represent their ideas pictorially. We can draw the models we know how to use, so that other people can see our understanding. (Year R Autumn 2)</i> • <i>Mathematicians also represent calculations by writing number sentences. (Year R Autumn 2)</i> • <i>To verbally count to 20.</i> • <i>To recall doubles facts (up to double 10 is 20).</i> • <i>To describe the patterns of odd and even numbers using manipulatives.</i> • <i>To list odd and even numbers up to 20.</i> 	<p>Children need to know when...</p> <ul style="list-style-type: none"> • <i>We count, we assign one number to each object, action or sound and we count each only once. (Year R Autumn 1)</i> • <i>When we rote count, numbers in the number system increase in value (they become greater) (Year R Autumn 1)</i> • <i>When we see a small group of objects, we might be able to determine how many there are by subitising. (Year R Autumn 1)</i> • <i>When we see a greater quantity, we may need to count in order to know how many there are. (Year R Autumn 1)</i> • <i>Two numbers (parts) are put together, this is called a number bond. (Year R Autumn 2)</i> • <i>Two numbers (parts) are put together, they total the whole amount. (Year R Autumn 2)</i> • <i>We add, the total will be greater than the parts we added. (Year R Autumn 2)</i> • <i>We subtract, the part we have left will be fewer (less than) the amount we started with (the whole). (Year R Autumn 2)</i> • <p>Children need to know why...</p> <ul style="list-style-type: none"> • <i>We count. We count because counting helps us find a total (how many of something there are altogether). (Year R Autumn 1)</i> • <i>We need to count carefully, using one to one correspondence. We need to do this, so that our counting is accurate and</i>

- Odd numbers end in 1,3,5,7,9
- When represented with Numicon, odd numbers have a point; even numbers have a flat top.
- Double is when you have two lots of.

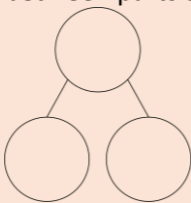

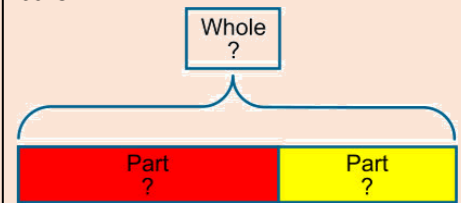
Addition and Subtraction.

Children need to know that...

- A number bond is a pair of numbers that totals a given amount. (Year R Autumn 2)
- Partition means to split an amount (a whole or total) into smaller parts. (Year R Autumn 2)
- A whole is the total amount, which will always be greater than the parts. (Year R Autumn 2)
- Parts are a section of the whole. The parts will always be fewer (less than) the whole. (Year R Autumn 2)
- Number bonds to and within 10 (introduce all, see number mapping to identify bonds where quick recall is expected) (Year R Spring 2)
- Number bonds are commutative (e.g. 3 and 2 is equal to 2 and 3). (Year R Autumn 2)
- Addition is finding the total of two or more sets of objects or numbers. (Year R Autumn 2)
- + is a symbol that means add. (Year R Autumn 2)
- Words that mean we may need to carry out an addition are: add, plus, total, altogether and sum of. (Year R Autumn 2)
- = is a symbol that means 'is equal to' (the same as). (Year R Autumn 2)
- Subtraction is taking one quantity and removing a part of it to find out how much is left.
- - is a symbol that means subtract. (Year R Autumn 2)
- Words that mean we may need to carry out a subtraction are subtract, minus and take away. (Year R Autumn 2)

we find the correct total. (Year R Autumn 1)

- **We use number bonds.** We use number bonds because they can help us add and subtract bigger numbers more efficiently (taking fewer steps, so that the risk of making mistakes is reduced). (Year R Autumn 2)
- **The whole is greater than the parts and the parts are fewer (less than) the whole.** This is because, the whole is the total amount (how many altogether) and the parts are smaller sections of this. (Year R Autumn 2)

Vocabulary	PARTITION	To split a whole into parts.	EQUAL	The same as.	PART	A section of the whole.
	WHOLE	A total amount. This is always the sum of the parts.	REPRESENTATION	A way of showing a mathematical idea using objects, pictures or numerals.	MANIPULATIVE	A physical object used to help represent mathematics (e.g. beadstring, Base 10).
	CONCRETE	A representation of a mathematical idea using manipulatives or real-life objects.	PICTORIAL	A representation of a mathematical idea using pictures.	ABSTRACT	A representation of a mathematical idea using symbols (e.g. numerals)
	PART-PART WHOLE MODEL	A pictorial representation of number showing the relationship between parts and wholes. 	BEADSTRING	A manipulative where coloured beads are placed on a string in alternating colours (10 red, 10 white, 10 red...) to support counting in ones and tens. 	BAR MODEL	A form of part-part whole model where the parts are represented by adjacent bars. 
	ADDITION	Combining parts.	SYMBOL	An abstract image used to represent an idea (e.g. digits, +, =)	NUMBER BOND	Addition and subtraction number facts which we memorise to support efficient calculation.
	COMMUTATIVE	A calculation which will give the same answer, regardless of the order in which it is performed.	COUNTING ON	Starting from a number and counting forwards in the number system. This can be used as a	NUMBER SENTENCE	A way of representing a mathematical operation using symbols (+, -, x, ÷, = etc)

		Addition and multiplication are commutative.		strategy to solve addition and subtraction problems.		
	SUBTRACTION	Removing a part from the whole.	COUNTING BACK	Starting from a number and counting backwards. This can be used as a strategy for solving subtraction problems.	DOUBLE	2 lots of.
	ODD NUMBER	A number ending in 1,3,5,7,9 ones.	EVEN NUMBER	A number ending in 0,2,4,6,8 ones.		
Enrichment						



Year R - Summer 2

Milestone LO:

Verbally count beyond 20, recognising the pattern of the counting system.
Explore and represent patterns within numbers up to 10, including: **how quantities can be distributed equally.**

Development Matters:

N/A

Revisited Knowledge

New knowledge

Domains	Declarative Knowledge (Substantive Knowledge)	Procedural Knowledge (Disciplinary Knowledge)	Conditional Knowledge (Knowing the when and the why)
Number	<p>Place Value Children need to know that...</p> <ul style="list-style-type: none"> • All numbers have meaning. (Year R Autumn 1) • Numbers can be represented by numerals. (Year R Autumn 1) • 0 refers to nothing. (Year R Autumn 1) • The names and values of value of the numerals 0 → 20 0, 1, 2, 3, 4 and 5. (Year R Summer 1) • One to one correspondence is when we count a group of objects, actions or sounds by assigning one number to each object and only counting each object once. (Year R Autumn 1) • Numbers increase (become greater) as they go up in the number system. (Year R Autumn 1) • Subitising means looking at a collecting of things and being able to say how many are there without counting individually. (Year R Autumn 1) • Compare has two meanings. The first means to look at what is the same and different. • Greater than means there are more than (a larger amount or quantity). (Year R Autumn 1) • Less than means there are fewer (a smaller amount or quantity). (Year R Autumn 1) • 'The same as' means neither has more or less, because the amount is identical, even if the objects are arranged differently, or are different colours, shapes and sizes. (Year R Autumn 1) • Equal means the same. (Year R Autumn 1) • The numerals for the numbers 0-9 are one-digit numbers because they only have one digit. (Year R Spring 1) • A digit is a written symbol. (Year R Spring 1) • 10 is a two-digit number because (similar to 'special friends' (digraphs) in phonics) there are two digits that make up one number. There is one lot of ten, therefore there is the digit 1 in the 'tens' column. There are no extra ones, therefore the digit 0 is in the 'ones' column. (Year R Spring 1) • Numbers after 10 are teen numbers, because they have a ten and some ones. (Year R Summer 1) • 20 has two tens and 0 ones. (Year R Summer 1) • Even numbers end in 0,2,4,6,8 (Year R Summer 1) • Odd numbers end in 1,3,5,7,9 (Year R Summer 1) • When represented with numicon, odd numbers have a point; even numbers have a flat top. (Year R Summer 1) • Double is when you have two lots of. (Year R Summer 1) • The names of numbers beyond 20. 	<p>Children need to know how...</p> <ul style="list-style-type: none"> • To count objects, actions and sounds up to and including 10 by using one to one correspondence accurately. (Year R Spring 1) • To verbally count to 20. (Year R Spring 1) • To subitise (recognise quantities without counting) up to 10. (Year R Spring 1) • To link the number symbol (numeral) with its cardinal value for numbers up to and including 10, by <ul style="list-style-type: none"> ○ counting/ subitising and finding or recording the matching numeral ○ recognising a numeral and making/drawing a corresponding amount (Year R Spring 1) • To compare and describe quantities using the language of 'greater than', 'less than' and 'the same as (equal to)'. (Year R Autumn 1) • Number bonds can be found by taking a total amount of resources (within 10) and splitting them into two parts or groups. Sometimes these groups may be equal, but often there will be a different amount in each part. (Year R Autumn 2) • Mathematicians use models to represent (show) concepts in maths. E.g. Part-part-whole models, bar models, tens frames and bead strings can be used to show number bonds. (Year R Autumn 2) • Mathematicians also represent their ideas pictorially. We can draw the models we know how to use, so that other people can see our understanding. (Year R Autumn 2) • Mathematicians also represent calculations by writing number sentences. (Year R Autumn 2) • To recall doubles facts (up to double 10 is 20). (Year R Summer 1) • To describe the patterns of odd and even numbers using manipulatives. (Year R Summer 1) • To list odd and even numbers up to 20. (Year R Summer 1) • To verbally count beyond 20 • To pay for objects costing up to 20p with pennies. • To pay for objects costing up to £20 with pound coins. • To recognise the 1 pence coin. 	<p>Children need to know when...</p> <ul style="list-style-type: none"> • We count, we assign one number to each object, action or sound and we count each only once. (Year R Autumn 1) • When we rote count, numbers in the number system increase in value (they become greater) (Year R Autumn 1) • When we see a small group of objects, we might be able to determine how many there are by subitising. (Year R Autumn 1) • When we see a greater quantity, we may need to count in order to know how many there are. (Year R Autumn 1) • Two numbers (parts) are put together, this is called a number bond. (Year R Autumn 2) • Two numbers (parts) are put together, they total the whole amount. (Year R Autumn 2) • We add, the total will be greater than the parts we added. (Year R Autumn 2) • We subtract, the part we have left will be fewer (less than) the amount we started with (the whole). (Year R Autumn 2) • <p>Children need to know why...</p> <ul style="list-style-type: none"> • We count. We count because counting helps us find a total (how many of something there are altogether). (Year R Autumn 1)



Addition and Subtraction.

Children need to know that...

- A number bond is a pair of numbers that totals a given amount. (Year R Autumn 2)
- Partition means to split an amount (a whole or total) into smaller parts. (Year R Autumn 2)
- A whole is the total amount, which will always be greater than the parts. (Year R Autumn 2)
- Parts are a section of the whole. The parts will always be fewer (less than) the whole. (Year R Autumn 2)
- Number bonds to and within 10 (introduce all, see number mapping to identify bonds where quick recall is expected) (Year R Spring 2)
- Number bonds are commutative (e.g. 3 and 2 is equal to 2 and 3). (Year R Autumn 2)
- Addition is finding the total of two or more sets of objects or numbers. (Year R Autumn 2)
- + is a symbol that means add. (Year R Autumn 2)
- Words that mean we may need to carry out an addition are: add, plus, total, altogether and sum of. (Year R Autumn 2)
- = is a symbol that means 'is equal to' (the same as). (Year R Autumn 2)
- Subtraction is taking one quantity and removing a part of it to find out how much is left.
- - is a symbol that means subtract. (Year R Autumn 2)
- Words that mean we may need to carry out a subtraction are subtract, minus and take away. (Year R Autumn 2)

Multiplication and Division



Children need to know that...

- Equal means the same as
- Even amounts can be shared equally into two groups.

Money

Children need to know that

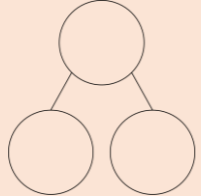

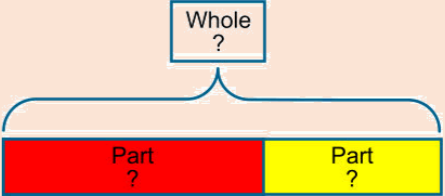
- The word money describes a currency (system) used to pay for things we want.
- In the UK, we use pounds and pence.
- Pence are small.
- Pounds are big.
- We can buy objects using money.
- To recognise some coins

Coin	Picture	Name
1p		1 penny/pence
£1		1 pound

- To share amounts into equal groups.

- **We need to count carefully, using one to one correspondence.** We need to do this, so that our counting is accurate and we find the correct total. (Year R Autumn 1)
- **We use number bonds.** We use number bonds because they can help us add and subtract bigger numbers more efficiently (taking fewer steps, so that the risk of making mistakes is reduced). (Year R Autumn 2)
- **The whole is greater than the parts and the parts are fewer (less than) the whole.** This is because, the whole is the total amount (how many altogether) and the parts are smaller sections of this. (Year R Autumn 2)
- **When we share, there needs to be the same amount in each group.** Sharing needs to be fair. Having the same amount in each group makes it fair.

Vocabulary	PARTITION	To split a whole into parts.	EQUAL	The same as.	PART	A section of the whole.
	WHOLE	A total amount. This is always the sum of the parts.	REPRESENTATION	A way of showing a mathematical ideas using objects, pictures or numerals.	MANIPULATIVE	A physical object used to help represent mathematics (e.g. beadstring, Base 10).
	CONCRETE	A representation of a mathematical idea using manipulatives or real-life objects.	PICTORIAL	A representation of a mathematical idea using pictures.	ABSTRACT	A representation of a mathematical idea using symbols (e.g. numerals)

	PART-PART WHOLE MODEL A pictorial representation of number showing the relationship between parts and wholes. 	BEADSTRING A manipulative where coloured beads are placed on a string in alternating colours (10 red, 10 white, 10 red...) to support counting in ones and tens. 	BAR MODEL A form of part-part whole model where the parts are represented by adjacent bars. 
	ADDITION Combining parts.	SYMBOL An abstract image used to represent an idea (e.g. digits, +, =)	NUMBER BOND Addition and subtraction number facts which we memorise to support efficient calculation.
	COMMUTATIVE A calculation which will give the same answer, regardless of the order in which it is performed. Addition and multiplication are commutative.	COUNTING ON Starting from a number and counting forwards in the number system. This can be used as a strategy to solve addition and subtraction problems.	NUMBER SENTENCE A way of representing a mathematical operation using symbols (+, -, x, ÷, = etc)
	SUBTRACTION Removing a part from the whole.	COUNTING BACK Starting from a number and counting backwards. This can be used as a strategy for solving subtraction problems.	DOUBLE 2 lots of.
	ODD NUMBER A number ending in 1,3,5,7,9 ones.	EVEN NUMBER A number ending in 0,2,4,6,8 ones.	MONEY The objects used to pay for items. In the UK, we use pounds and pennies (which can be found in coins and notes or electronically).
	PAY To provide money in exchange for something.	COIN A small, flat piece of metal which represents a particular amount of money.	POUND The larger 'unit' of money in the GBP currency. Represented by £
	PENCE The smaller 'unit' of money in the GBP. Represented by p.	EQUAL The same as	SHARE Splitting a whole into groups of the same size.
Enrichment	HSBC Financial Services Outreach Attending Y6 enterprise fayre		

