Curriculum Coverage and Progression of Knowledge and Skills in Maths
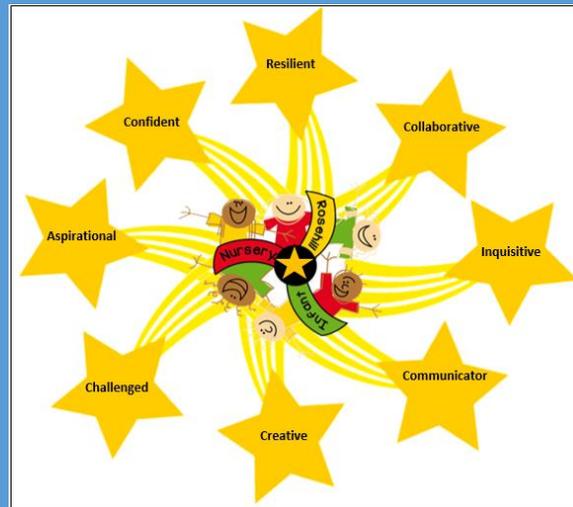
Nursery	Curriculum Objective Knowledge/Skills
Autumn Term **Me and My Community** **Autumn** **Sparkle and Shine** **3 and 4 B**	**Number:** • Knows that things exist, even when out of sight. • Beginning to organise and categorise objects, e.g. putting all the teddy bears together or teddies and cars in separate piles. • Says some counting words randomly. • Combine objects like stacking blocks and cups. Put objects inside others and take them out again. • Take part in finger rhymes with numbers. • React to changes of amount in a group of up to three items. **Shape, space and measure –** There is no specific ELG related to this unit. This unit supports the Development Matters statement Select, rotate and manipulate shapes in order to develop spatial reasoning. • Climb and squeezing selves into different types of spaces. • Build with a range of resources. • Attempts, sometimes successfully, to fit shapes into spaces on inset boards or jigsaw puzzles. • Uses blocks to create their own simple structures and arrangements • Enjoys filling and emptying containers. • Beginning to understand that things might happen 'now'.
Spring Term **Winter Wonderland** **Once upon a time** **3 and 4 Just At**	• **Compare amounts, saying 'lots', 'more' or 'same'.** • **Counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence.** • **Count in everyday contexts, sometimes skipping numbers - '1-2-3-5.'** • Selects a small number of objects from a group when asked, for example 'please give me one', 'please give me two' • Recites some number names in sequence. • Creates and experiments with symbols and marks representing ideas of number • Begins to make comparisons between quantities. • Uses some language of quantities, such as 'more' and 'a lot' • Knows that a group of things changes in quantity when something is added or taken away. **Shape , space and measure** There is no specific ELG related to this unit. This unit supports the Development Matters statement Select, rotate and manipulate shapes in order to develop spatial reasoning. • **Complete inset puzzles.** • **Compare sizes, weights etc. using gesture and language - 'bigger/little/smaller', 'high/low', 'tall', 'heavy'.** • **Notice patterns and arrange things in patterns.** • Notices simple shapes and patterns in pictures • Beginning to categorise objects according to properties, such as shape or size. • Begins to use the language of size. • Understands some talk about immediate past and future, e.g. 'before', 'later' or 'soon' • Anticipates specific time-based events, such as mealtimes or home time.

Summer Term One **Sunshine & Sunflowers** **Creep, Crawl & Wriggle** **Summer Term Two** **Animal Safari** **Big Wide World** **3 and 4 AT** **3 and 4 AB**	• Fast recognition of up to 3 objects, without having to count them individually ('subitising'). • Recite numbers past 5. • Say one number for each item in order: 1,2,3,4,5. • Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). • Show 'finger numbers' up to 5. • Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. • Experiment with their own symbols and marks as well as numerals. • Solve real world mathematical problems with numbers up to 5. • Compare quantities using language: 'more than', 'fewer **Shape , space and measure** There is no specific ELG related to this unit. This unit supports the Development Matters statement Select, rotate and manipulate shapes in order to develop spatial reasoning. • Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'. • Understand position through words alone – for example, "The bag is under the table," – with no pointing. • Describe a familiar route. • Discuss routes and locations, using words like 'in front of' and 'behind'. • Make comparisons between objects relating to size, length, weight and capacity. • Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. • Combine shapes to make new ones – an arch, a bigger triangle etc. • Talk about and identifies the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal than' language like 'pointy', 'spotty', 'blobs' etc. • Extend and create ABAB patterns – stick, leaf, stick, leaf. • Notice and correct an error in a repeating pattern. • Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'
Assessment opportunity	**Learning walks, book scrutiny, photographic evidence, drop in sessions, questioning, use of language and vocabulary**

Key Mathematics Vocabulary		
Autumn Term	**Spring Term**	**Summer Term**
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, number, count/count on/count back, forwards, backwards, represent, show, more, less, fewer, how many, altogether, largest, smallest, order, compare, add, take away, altogether, groups, same, different, amount, half, share, equal, each, first, then, now, next, finish,	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, number, count/count on/count back, forwards, backwards, represent, show, more, less, fewer, how many, altogether, largest, smallest, order, compare, add, take away, altogether, groups, same, different, amount, half, share, equal, each, first, then, now, next, finish,	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, number, count/count on/count back, forwards, backwards, represent, show, more, less, fewer, how many, altogether, largest, smallest, order, compare, add, take away, altogether, groups, same, different, amount, half, share, equal, each, first, then, now, next, finish,

Reception	Curriculum Objective	Knowledge/Skills
Autumn Term One Me and My Community **Autumn Term Two** Exploring Autumn & Sparkle and Shine **REC B**	**Unit 1** **Number –** Have a deep understanding of number to 10, including the composition of each number. **Numerical patterns** Subitise (recognise quantities without counting) up to 5. Recognise the pattern of the counting system. **Unit 2** **Numerical patterns** Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. Subitise (recognise quantities without counting) up to 5. **Unit 4** **Numerical patterns** Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. **Unit 5** **Numerical patterns** Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 and some number bonds to 10, including double facts. **Unit 3 and 6** There is no specific ELG related to this unit. This unit supports the Development Matters statement Select, rotate and manipulate shapes in order to develop spatial reasoning.	**Unit 1 –** Counting to 1, 2 and 3 - count to 3 and back from 3. They will link the skill of counting 3 concrete objects to the pictorial representation of 3, and then to the abstract numerals 1, 2 and 3 Counting to 4 – 1:1 correspondence to 4, Representations of 4 Counting to 5 - 1:1 correspondence to 5, Representations of 5 **Unit 2 –** Sorting into 2 groups - Comparing groups using more and fewer, Realising that quantities can be equal Comparing quantities of identical objects Comparing quantities of non-identical objects, Comparing groups of non-identical objects using one-to-one correspondence Comparing groups by matching or subitising, Representing groups to compare using cubes **Unit 3** Exploring 3D shapes Exploring 2D shapes **Unit 4-** One more - Adding one more with number stories, Exploring one more, with numbers to 5, Ordering one more stories One less- Finding one less with number stories, Exploring one less, with numbers to 5, Ordering one less stories **Unit 5 –** Introducing the whole part model **Unit 6 –** Spatial awareness
Spring Term One Winter wonderland **Spring Term Two** Once upon a time **REC Just At**	**Number ELG:** • Have a deep understanding of number to 10, including the composition of each number. • Automatically recall numbers bonds up to 5 and some number bonds to 10, including double facts • Subitise (recognise quantities without counting) up to 5. • Link the number symbol (numeral) with its cardinal number value. • Understand the 'one more than/one less than' relationship between consecutive numbers. • **Numerical Patterns ELG:** • 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 beyond 20, recognising the pattern of the counting system. **Unit 13** There is no specific ELG related to this unit. This unit supports the Development Matters statement Select, rotate and manipulate shapes in order to develop spatial reasoning.	**Unit 7 –** Introducing the part-whole model - Breaking a whole into two distinct parts, Recognising different representations of two parts, Finding different ways to break groups into parts Counting to 6, 7 and 8 - Cardinality to 8, Counting different representations up to 8, Representations of 8 Counting to 9 and 10 - Counting up to 10, Counting different representations up to 10, Different representations of 9 and 10 **Unit 8 –** Comparing groups up to 10 - Compare and represent numbers to 10, More than and fewer than, How many more? **Unit 9 –** Combining two groups to find the whole- Combining two parts to make a whole, Identifying the whole, Exploring misconceptions using the part-whole model **Unit 10 – Measure** Length, height and distance Weight **Unit 11 –**

		Using a ten frame - Exploring the composition of 10, Exploring the composition of 10 by reinforcing different representations of 10 The part-whole model to 10- Using the part-whole model to break 10 into two parts, Identifying whole and parts when variation is a factor, Using number bonds to 10 to break a whole into parts **Unit 12 –** Subtraction within 10 using ten frames and whole part models **Unit 13 –** Making simple patterns Exploring more complex patterns
Summer Term One Sunshine and Sunflowers **Summer Term Two** Moving On Are we there yet **REC AT/ REC AB**	**Number ELG:** • Have a deep understanding of number to 10, including the composition of each number. **Numerical Patterns ELG:** • Verbally count beyond 20, recognising the pattern of the counting system. • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally	**Unit 14 –** Add by counting on Taking away by counting back- Counting fluently backwards from 10, Counting back a given amount, Exploring the inverse relationship of counting on and counting back **Unit 15 –** Week 5: Counting to 20- Counting to 20 using ten frames, One more and one less (being flexible with numbers 11–20), Comparing numbers to 20 **Unit 16 –** Doubling- Recognising a double, Identifying a double where the arrangements of the two groups are not identical, Finding all double facts up to double 5 Halving and sharing- understand sharing and Using sharing to find half Odds and evens - Understanding that some groups of items cannot be shared equally into two equal groups, Beginning to recognise odd and even numbers, Recognising that there is a pattern in odd and even numbers **Unit 17 –** Composing and decomposing shapes **Unit 18 – Measure** Volume and capacity - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity Unit 19 and 20 – optional Sorting into 2 groups Time – My day
Assessment opportunity	**Learning walks, book scrutiny, photographic evidence, drop in sessions, questioning, use of language and vocabulary**	

Key Mathematical Vocabulary		
Autumn Term	**Spring Term**	**Summer Term**
Unit 1: 1, 2, 3, 4, 5, one, two, three, four, five, number h count, count forwards, count backwards h how many, total, altogether h five frame, cube h same, different h next, after, arrange Unit 2: sort, group, object, same, different, odd one out, size, shape, colour, pattern, triangle, square, bigger, smaller, counter, cube, how many, more than, describe, explain Unit 3: one, two, three, four, five, 1, 2, 3, 4 5, more, fewer, same, different, every, count, represent, match, sort, compare, equal, less than, fewer than, greater than, more than, equal amount Unit 4: count, forwards, backwards, how many, first, then, now, one less, one more, order, fewer, take away, add, altogether, number story, represent, five frame Unit 6: sort, group, parts, whole, part-whole model, how many, count/counting, more than, same, different	Unit 7: one, two, three, four, five, six, seven, eight, nine, ten, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, ten frame, count, how many, total, altogether, count forwards, count backwards, same, different, odd one out, more, fewer, collections, group, dice, method Unit 8: more, fewer/fewest, greater/greatest, smaller/smallest, large/largest, taller/tallest, shorter/shortest, compare, how many/how many more, different/difference Unit 9: count, part, whole, h altogether, how many, total, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, addition, adding together, counting, more, fewer Unit 10: group, count, counters, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, how many altogether, how many more, how many fewer, more than, fewer than, less than, each, ten frame, part-whole model, whole, part, bead string, missing number, one more, one less, add, number bond to 10	Unit 13: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, number, count on/count back, move forwards, go back, jump forwards, jump back, more, less, before, after, add, take away, forwards, backwards, direction, moves, jumps, start, stop, first, then, now, finish, altogether, total, number track, dice, largest, smallest, possibilities Unit 14: eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, count/count on/count back, forwards, backwards, represent, show, more, less, fewer, how many, altogether, largest, smallest, order, compare Unit 15 : double, equal groups, double facts, doubling, more, same, different, continue, pattern, next, predict, how many, altogether, count, groups, more, fewer, less, amount, teams, five frame, counters, dice, domino, number track, represent, half, halving, share, fair share, equal, each, uneven, unequal, fair, solution, odd, even, odd number, even number

Greater Depth in Maths

	EYFS
Examples of deeper thinking	Estimate a number of objects and check quantities by counting up to 20. Solve practical problems that involve combining groups of 2, 5 or 10. Solve practical problems that involve combining groups of 2, 5 or 10, or sharing into equal groups. Solve problems involving halving, doubling and sharing. Estimate, measure, weigh and compare and order objects. Talk about properties, position and time. Recognise and name a range of 2D and 3D shapes. Give simple one step instructions using positional and directional language.

Birth to three - babies, toddlers and young children will be learning to:	Examples of how to support this:
• Combine objects like stacking blocks and cups. Put objects inside others and take them out again.	Encourage babies and young toddlers to play freely with a wide range of objects – toddlers engage spontaneously in mathematics during nearly half of every minute of free play. Suggestions: when appropriate, sensitively join in and comment on: - interestingly shaped objects like vegetables, wooden pegs, spoons, pans, corks, cones, balls - pots and pans, boxes and objects to put in them, shape sorters - stacking cups: hiding one, building them into a tower, nesting them and lining them up
• Take part in finger rhymes with numbers. • React to changes of amount in a group of up to three items.	Use available opportunities, including feeding and changing times for finger-play, outdoors and inside, such as 'Round and round the garden'. Sing finger rhymes which involve hiding and returning, like 'Two little dicky birds'.
• Compare amounts, saying 'lots', 'more' or 'same'. • Counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence.	Draw attention to changes in amounts, for example, by adding more bricks to a tower, or eating things up. Offer repeated experiences with the counting sequence in meaningful and varied contexts, outside and indoors. Suggestions: count fingers and toes, stairs, toys, food items, sounds and actions.
• Count in everyday contexts, sometimes skipping numbers - '1-2-3-5.'	Help children to match their counting words with objects. Suggestions: move a piece of apple to one side once they have counted it. If children are saying one number word for each object, it isn't always necessary to correct them if they skip a number. Learning to count accurately takes a long time and repeated experience. Confidence is important.
• Climb and squeezing selves into different types of spaces. • Build with a range of resources. • Complete inset puzzles.	Describe children's climbing, tunnelling and hiding using spatial words like 'on top of', 'up', 'down' and 'through'. Provide blocks and boxes to play freely with and build with, indoors and outside. Provide inset puzzles and jigsaws at different levels of difficulty.
• Compare sizes, weights etc. using gesture and language - 'bigger/little/smaller', 'high/low', 'tall', 'heavy'.	Use the language of size and weight in everyday contexts. Provide objects with marked differences in size to play freely with. Suggestions: dolls' and adult chairs, tiny and big bears, shoes, cups and bowls, blocks and containers.
• Notice patterns and arrange things in patterns.	Provide patterned material – gingham, polka dots, stripes etc. – and small objects to arrange in patterns. Use words like 'repeated' and 'the same' over and over.

3 & 4-year-olds will be learning to:	Examples of how to support this:
• Fast recognition of up to 3 objects, without having to count them individually ('subitising').	Point to small groups of two or three objects: "Look, there are two!" Occasionally ask children how many there are in a small set of two or three.
• Recite numbers past 5.	Regularly say the counting sequence, in a variety of playful contexts, inside and outdoors, forwards and backwards, sometimes going to high numbers. For example: hide and seek, rocket-launch count-downs.
• Say one number for each item in order: 1,2,3,4,5.	
• Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').	Count things and then repeat the last number. For example: "1, 2, 3 – **3 cars**". Point out the number of things whenever possible; so, rather than just 'chairs', 'apples' or 'children', say 'two chairs', 'three apples', 'four children'.
• Show 'finger numbers' up to 5.	Ask children to get you a number of things, and emphasise the total number in your conversation with the child.
• Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.	Use small numbers to manage the learning environment. Suggestions: have a pot labelled '5 pencils' or a crate for '3 trucks'. Draw children's attention to these throughout the session and especially at tidy-up time: "How many pencils should be in this pot?" or "How many have we got?" etc.
• Experiment with their own symbols and marks as well as numerals.	Encourage children in their own ways of recording (for example) how many balls they managed to throw through the hoop. Provide numerals nearby for reference. Suggestions: wooden numerals in a basket or a number track on the fence.

• Solve real world mathematical problems with numbers up to 5.	Discuss mathematical ideas throughout the day, inside and outdoors. Suggestions:
	  - "I think Adam has got more crackers…"
	  - support children to solve problems using fingers, objects and marks: "There are four of you, but there aren't enough chairs…"
	  - draw children's attention to differences and changes in amounts, such as those in stories like 'The Enormous Turnip'

• Compare quantities using language: 'more than', 'fewer than'.	
• Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'.	Encourage children to play freely with blocks, shapes, shape puzzles and shape-sorters. Sensitively support and discuss questions like: "What is the same and what is different?"
	Encourage children to talk informally about shape properties using words like 'sharp corner', 'pointy' or 'curvy'. Talk about shapes as you play with them: "We need a piece with a straight edge."
• Understand position through words alone – for example, "The bag is under the table," – with no pointing.	Discuss position in real contexts. Suggestions: how to shift the leaves **off** a path, or sweep water away **down** the drain.
• Describe a familiar route. • Discuss routes and locations, using words like 'in front of' and 'behind'.	Use spatial words in play, including 'in', 'on', 'under', 'up', 'down', 'besides' and 'between'. Suggestion: "Let's put the troll under the bridge and the billy goat beside the stream."
	Take children out to shops or the park: recall the route and the order of things seen on the way.
	Set up obstacle courses, interesting pathways and hiding places for children to play with freely. When appropriate, ask children to describe their route and give directions to each other.

3 & 4-year-olds will be learning to:	Examples of how to support this:
	Provide complex train tracks, with loops and bridges, or water-flowing challenges with guttering that direct the flow to a water tray, for children to play freely with.
	Read stories about journeys, such as 'Rosie's Walk'.
• Make comparisons between objects relating to size, length, weight and capacity.	Provide experiences of size changes. Suggestions: "Can you make a puddle larger?", "When you squeeze a sponge, does it stay small?", "What happens when you stretch dough, or elastic?"
	Talk with children about their everyday ways of comparing size, length, weight and capacity. Model more specific techniques, such as lining up ends of lengths and straightening ribbons, discussing accuracy: "Is it **exactly**...?"
• Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. • Combine shapes to make new ones – an arch, a bigger triangle etc.	Provide a variety of construction materials like blocks and interlocking bricks. Provide den-making materials. Allow children to play freely with these materials, outdoors and inside. When appropriate, talk about the shapes and how their properties suit the purpose.
	Provide shapes that combine to make other shapes, such as pattern blocks and interlocking shapes, for children to play freely with. When appropriate, discuss the different designs that children make. Occasionally suggest challenges, so that children build increasingly more complex constructions.
	Use tidy-up time to match blocks to silhouettes or fit things in containers, describing and naming shapes. Suggestion: "Where does this triangular one /cylinder /cuboid go?"
• Talk about and identifies the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc. • Extend and create ABAB patterns – stick, leaf, stick, leaf. • Notice and correct an error in a repeating pattern. • Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'	Provide patterns from different cultures, such as fabrics.
	Provide a range of natural and everyday objects and materials, as well as blocks and shapes, for children to play with freely and to make patterns with. When appropriate, children to continue patterns and spot mistakes.
	Engage children in following and inventing movement and music patterns, such as clap, clap, stamp.
	Talk about patterns of events, in cooking or getting dressed. Suggestions: - 'First', 'then', 'after', 'before' - "Every day we..." - "Every evening we..."
	Talk about the sequence of events in stories.
	Use vocabulary like 'morning', 'afternoon', 'evening' and 'night-time', 'earlier', 'later', 'too late', 'too soon', 'in a minute'.
	Count down to forthcoming events on the calendar in terms of number of days or sleeps. Refer to the days of the week, and the day before or day after, 'yesterday' and 'tomorrow'.

Children in reception will be learning to:	Examples of how to support this:
• Count objects, actions and sounds.	Develop the key skills of counting objects including saying the numbers in order and matching one number name to each item.
	Say how many there are after counting – for example, "…6, 7, 8. There are 8 balls" – to help children appreciate that the last number of the count indicates the total number of the group. This is the cardinal counting principle.
	Say how many there might be before you count to give a purpose to counting: "I think there are about 8. Shall we count to see?"
	Count out a smaller number from a larger group: "Give me seven…" Knowing when to stop shows that children understand the cardinal principle.
	Build counting into everyday routines such as register time, tidying up, lining up or counting out pieces of fruit at snack time.
	Sing counting songs and number rhymes, and read stories that involve counting.
	Play games which involve counting.
	Identify children who have had less prior experience of counting, and provide additional opportunities for counting practice.
• Subitise.	Show small quantities in familiar patterns (for example, dice) and random arrangements.
	Play games which involve quickly revealing and hiding numbers of objects.
	Put objects into five frames and then ten frames to begin to familiarise children with the tens structure of the number system.
	Prompt children to subitise first when enumerating groups of up to 4 or 5 objects: "I don't think we need to count those. They are in a square shape so there must be 4." Count to check.
	Encourage children to show a number of fingers 'all at once', without counting.
• Link the number symbol (numeral) with its cardinal number value.	Display numerals in order alongside dot quantities or ten frame arrangements.
	Play card games such as snap or matching pairs with cards where some have numerals and some have dot arrangements.
	Discuss the different ways children might record quantities (for example, scores in games), such as tallies, dots and using numeral cards.
• Count beyond ten.	Count verbally beyond 20, pausing at each multiple of 10 to draw out the structure, for instance when playing hide and seek, or to time children getting ready.
	Provide images such as number tracks, calendars and hundred squares indoors and out, including painted on the ground, so children become familiar with two-digit numbers and can start to spot patterns within them.

Children in reception will be learning to:	Examples of how to support this:
• Compare numbers.	Provide collections to compare, starting with a very different number of things. Include more small things and fewer large things, spread them out and bunch them up, to draw attention to the number not the size of things or the space they take up. Include groups where the number of items is the same.

Use vocabulary: 'more than', 'less than', 'fewer', 'the same as', 'equal to'. Encourage children to use these words as well.

Distribute items evenly, for example: "Put 3 in each bag," or give the same number of pieces of fruit to each child. Make deliberate mistakes to provoke discussion.

Tell a story about a character distributing snacks unfairly and invite children to make sure everyone has the same. |
| • Understand the 'one more than/one less than' relationship between consecutive numbers. | Make predictions about what the outcome will be in stories, rhymes and songs if one is added, or if one is taken away.

Provide 'staircase' patterns which show that the next counting number includes the previous number plus one. |
| • Explore the composition of numbers to 10. | Focus on composition of 2, 3, 4 and 5 before moving onto larger numbers.

Provide a range of visual models of numbers: for example, six as double three on dice, or the fingers on one hand and one more, or as four and two with ten frame images.

Model conceptual subitising: "Well, there are three here and three here, so there must be six."

Emphasise the parts within the whole: "There were 8 eggs in the incubator. Two have hatched and 6 haven't yet hatched."

Plan games which involve partitioning and recombining sets. For example, throw 5 beanbags, aiming for a hoop. How many go in and how many don't? |
| • Automatically recall number bonds for numbers 0–10. | Have a sustained focus on each number to 10. Make visual and practical displays in the classroom showing the different ways of making numbers to 10 so that children can refer to these.

Play hiding games with a number of objects in a box, under a cloth, in a tent, in a cave, etc.: "Seven went in the tent and 2 came out. I wonder how many are still in there?"

Intentionally give children the wrong number of things. For example: ask each child to plant 4 seeds then give them 1, 2 or 3. "I've only got 1 seed, I need 3 more."

Spot and use opportunities for children to apply number bonds: "There are 6 of us but only 2 clipboards. How many more do we need?"

Place objects into a five frame and talk about how many spaces are filled and unfilled. |

Children in reception will be learning to:	Examples of how to support this:
• Select, rotate and manipulate shapes in order to develop spatial reasoning skills.	Provide high-quality pattern and building sets, including pattern blocks, tangrams, building blocks and magnetic construction tiles, as well as found materials.
	Challenge children to copy increasingly complex 2D pictures and patterns with these 3D resources, guided by knowledge of learning trajectories: "I bet you can't add an arch to that," or "Maybe tomorrow someone will build a staircase."
	Teach children to solve a range of jigsaws of increasing challenge.
• Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.	Investigate how shapes can be combined to make new shapes: for example, two triangles can be put together to make a square. Encourage children to predict what shapes they will make when paper is folded. Wonder aloud how many different ways there are to make a hexagon with pattern blocks.
	Find 2D shapes within 3D shapes, including through printing or shadow play.
• Continue, copy and create repeating patterns.	Make patterns with varying rules (including AB, ABB and ABBC) and objects and invite children to continue the pattern.
	Make a deliberate mistake and discuss how to fix it.
• Compare length, weight and capacity.	Model comparative language using 'than' and encourage children to use this vocabulary. For example: "This is heavier than that."
	Ask children to make and test predictions. "What if we pour the jugful into the teapot? Which holds more?"

Year One	Curriculum Objective	Knowledge/Skills
Autumn Term One **Superheroes** **Autumn Term Two** **Paws, Claws and Whiskers** **WTD**	Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens. Read and write numbers from 1 to 20 in numerals and words. Given a number, identify one more and one less Represent and use number bonds and related subtraction facts within 20. Read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs. Represent and use number bonds and related subtraction facts within 20. Using quantities and objects, children add and subtract 2 single-digit numbers and count on or back to find the answer. Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \blacklozenge - 9$ Using quantities and objects, children add and subtract 2 single-digit numbers and count on or back to find the answer. Add and subtract one-digit and two-digit numbers to 20, including zero. Recognise and name common 2D and 3D shapes, including: - 2D shapes (for example, rectangles (including squares), circles and triangles) - 3D shapes (for example, cuboids (including cubes), pyramids and spheres).	**Number - number and place value – numbers to 10 and within 10** Sorting objects to 10 Counting objects to 10 Writing numbers to 10 Counting backwards from 10 to 10 Counting one more to 10 Counting one less from 10 Comparing numbers using greater than, less than symbols Ordering objects and numbers Ordinal numbers Using the number line **Numbers to 20** Counting and writing numbers to 20 Partitioning - tens and ones Counting one more and less to and from 20 Comparing numbers up to 20 Ordering objects and numbers to 20 **Addition and subtraction within 10** Part-whole within 10 – related facts number bonds to 10 Finding number bonds within of numbers up to 10 including 10 Comparing number bonds Finding the whole by adding together Finding the whole by adding more Finding a part Finding and making number bonds Finding addition facts Solving word problems-addition Subtraction - how many are left Subtraction breaking a part Related facts addition and subtraction Subtraction – counting back Subtraction - finding the difference Solving subtraction word problems within 10 Comparing additions and subtractions Solving addition and subtraction word problems within numbers to 10 **Geometry - properties of shape** Naming 3D shapes Describing properties of 3D shapes Naming 2D shapes Describing properties of 2D shapes Making patterns with 2D and 3D shapes

Spring Term One **Moon Zoom** **Spring Term Two** **Dinosaur Planet** **WTS/EXB**	Represent and use number bonds and related subtraction facts within 20. Add and subtract one-digit and two-digit numbers to 20, including zero Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ♦ − 9. Read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs. Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. Given a number, identify one more and one less Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens (twos). Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. Compare, describe and solve practical problems for: - lengths and heights (for example, long/short, longer/shorter, tall/short, double/half) - mass/weight (for example, heavy/light, heavier than, lighter than) - capacity and volume (for example, full/empty, more than, less than, half, half full, quarter) - time (for example, quicker, slower, earlier, later) Measure and begin to record the following: - lengths and heights - mass/weight - capacity and volume - time (hours, minutes, seconds).	**Number and Place Value to 50** Counting to 50 Partitioning - tens and ones Representing numbers to 50 Comparing numbers of objects Comparing numbers Ordering objects and numbers to 50 Counting in 2s Counting in 5s Solving word problems – addition and subtraction to 50 **Addition and Subtraction within 20** Adding by counting on Adding ones Number bonds to 20 Add by making 10 Solving word problems – addition to 20 Subtracting ones Subtracting tens and ones Subtraction – crossing the 10 Solving word and picture problems – subtraction Addition and subtraction facts to 20 Comparing additions and subtractions Solving word and picture problems - addition and subtraction to 20 **Measurement** Comparing lengths and heights Non-standard units of measure Measuring length using a ruler Solving word problems – length Comparing weight Measuring weight Comparing weight using measuring Comparing capacity Measuring capacity Comparing capacity using measuring Solving word problems – weight and capacity
Summer Term One **The Enchanted Woodland** **Summer Term Two** **Bright Lights, Big City** **EXD/EXS/ GDC**	Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens (multiples of twos, fives and tens). Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. Recognise, find and name a half as one of two equal parts of an object, shape or quantity. Describe position, direction and movement, including whole, half, quarter and three-quarter turns. Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.	**Number and Place Value – numbers to 100** Counting in 10s, 5s and 2s Counting to 100 Exploring number patterns Partitioning numbers to 100 Comparing numbers to 100 Ordering numbers to 100 Number bonds to 100 **Multiplication** Making equal groups Adding equal groups Making simple arrays Making doubles

	Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.

Given a number, identify one more and one less.

Represent and use number bonds and related subtraction facts within 20.

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 to the hour and half past the hour and draw the hands on a clock face to show these times.

Measure and begin to record the following: - lengths and heights - mass/weight - capacity and volume - time (hours, minutes, seconds)

Compare, describe and solve practical problems for: - lengths and heights (for example, long/short, longer/shorter, tall/short, double/half) - mass/weight (for example, heavy/light, heavier than, lighter than) - capacity and volume (for example, full/empty, more than, less than, half, half full, quarter) - time (for example, quicker, slower, earlier, later)

Recognise and know the value of different denominations of coins and notes.

Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens. | Solving word problems – multiplication

Division
Making equal groups
Sharing equally
Solving word problems – Division

Fractions
Finding halves
Finding quarters
Solving word problems - halves and quarters

Geometry
Describing turns
Describing positions

Measurement
Using before and after
Telling time to the hour
Telling time to half the hour
Writing time
Comparing time
Solving word problems – time

Money
Recognising coins
Recognising notes
Counting with coins |
| **Assessment opportunity** | **Learning walks, book scrutiny, photographic evidence, drop in sessions, questioning, use of language and vocabulary, recount writing** | |

YEAR ONE

Examples of deeper thinking	- Count reliably well beyond 100. Say the number that is ten more or ten less than a number to 100. Know the signs < and >. - Apply knowledge of number to solve a one-step problem involving addition and subtraction. Add and subtract one digit and two digit numbers to 50, including 0. - Apply knowledge of number to solve a one-step problem involving simple multiplication and division. - Recognise all coins and notes, and know their value. Use coins to pay for items bought up to £1. Use knowledge of time to know when key periods of the day happen, for example, lunchtime, home time etc. - Recognise different 2D and 3D shapes in the environment. - Give complex instructions using positional and directional language.

Year Two	Curriculum Objective	Knowledge/Skills
Autumn Term One **Muck, Mess and Mixtures** **Autumn Term Two** **Towers, Tunnels and Turrets** **WTD**	Read and write numbers to at least 100 in numerals and in words Identify, represent and estimate numbers using different representations, including the number line Recognise the place value of each digit in a two-digit number (tens, ones). Compare and order numbers from 0 up to 100; use and = signs Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward. Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. 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. 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.	**Number - number and place value to 100** Counting objects to 100 Representing numbers to 100 Partitioning - tens and ones Representing numbers on a place value grid Comparing numbers Ordering numbers Counting in 2s, 5s and 10s Counting in 3s **Addition and subtraction - numbers to 100** Related facts – addition and subtraction to 100 Using number facts to check calculations Comparing number sentences Finding related facts Making number bonds to 100 Adding and subtracting 1s Finding 10 more and 10 less Adding and subtracting 10s Adding a 2-digit and 1-digit number Subtracting a 1-digit number from a 2-digit number Adding two 2-digit numbers Subtracting a 2-digit number from another 2-digit number Adding three 1-digit numbers Solving word problems - the bar model **Multiplication and Division** Making equal groups Multiplication as equal groups Adding equal groups Multiplication sentences Using arrays 2 times-table 5 times-table 10 times-table Solving word problems – multiplication **Measurement - Money** Counting money – coins Counting money – notes Counting money – coins and notes Showing equal amounts of money Comparing amounts of money Calculating the total amount Finding change Solving two step word problems
Spring Term One **Land Ahoy!**	Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs.	**Multiplication and Division** Making equal groups- division Sharing and grouping

| **Spring Term Two**

Street Detectives

WTS/ EXB | Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.

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.

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 =.

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.

Compare and sort common 2D and 3D shapes and everyday objects.

Identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line.

Identify and describe the properties of 3D shapes, including the number of edges, vertices and faces.

Order and arrange combinations of mathematical objects in patterns and sequences.

Identify 2D shapes on the surface of 3D shapes, (for example, a circle on a cylinder and a triangle on a pyramid).

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 . | Dividing by 2
Odd and even numbers
Dividing by 5
Dividing by 10
Bar modelling - grouping
Bar modelling – sharing
Solving word problems – division

Statistics
Making tally charts
Creating pictograms
Interpreting pictograms
Block diagrams
Solving word problems

Measurement
Measuring in centimetres
Measuring in metres
Comparing lengths
Ordering lengths
Solving word problems - length

Geometry
Recognising 2D and 3D shapes
Drawing 2D shapes
Counting sides on 2D shapes
Counting vertices on 2D shapes
Finding lines of symmetry
Sorting 2D shapes
Making patterns with 2D shapes
Counting faces on 3D shapes
Counting vertices on 3D shapes
Sorting 3D shapes
Making patterns with 3D shapes

Fractions
Introducing whole and parts
Making equal parts
Recognising a half
Finding a half
Recognising a quarter
Finding a quarter
Unit fractions
Understanding other fractions
Equivalence of half and 2 quarters
Understanding a whole
Understanding whole and parts
Counting in halves
Counting in quarters |

Summer Term One **Wriggle and Crawl** **Summer Term Two** **The Scented Garden** **EXD/EXS/ GDC**	Use place value and number facts to solve problems. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. 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. 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 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. 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. Know the number of minutes in an hour and the number of hours in a day Compare and sequence intervals of time Compare and order lengths, mass, volume/capacity and record the results using >, < and =. 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, describe and solve practical problems for: - lengths and heights (for example, long/short, longer/shorter, tall/short, double/half) - mass/weight (for example, heavy/light, heavier than, lighter than) - capacity and volume (for example, full/empty, more than, less than, half, half full, quarter) - time (for example, quicker, slower, earlier, later) 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). Order and arrange combinations of mathematical objects in patterns and sequences.	**Number and Place Value, addition and subtraction, multiplication and division** **Problem solving and efficient methods** Using number facts Using number facts and equivalence Using a 100 square Missing numbers Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems Mental addition and subtraction Efficient subtraction Problem solving using addition and subtraction Problem solving - multiplication and division Solving problems using the four operations **Measurement - time** Telling and writing time to the hour and the half hour Telling time to the quarter hour Telling time to 5 minutes Minutes in an hour Finding durations of time Comparing durations of time Finding the end time Finding the start time Hours in a day **Weight, volume and temperature** Comparing mass Measuring mass in grams Measuring mass in kilograms Comparing volume Measuring volume in millilitres Measuring volume in litres Measuring temperature using a thermometer Reading thermometers **Geometry – position and direction** Describing movement Describing turns Making patterns with shapes
Assessment opportunity	**Learning walks, book scrutiny, photographic evidence, drop in sessions, questioning, use of language and vocabulary, recount writing**	

Greater Depth in Maths

YEAR TWO	
Examples of deeper thinking	• Reason with numbers showing an understanding of place value. • Count on and back in 3's from any given number to beyond 100. • Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. Solve unfamiliar word problems that involve more than one step. • Recall and use multiplication and division facts for 2, 5 and 10, and make deductions outside known multiplication facts. Solve unfamiliar word problems that involve more than one step. • Find and compare fractions of amounts. • Read scales where not all numbers on the scale are given, and estimate points in between. Read the time on a clock to the nearest 5 minutes. • Describe similarities and differences of 2D and 3D shapes using their properties. • Answer questions analysing the data.

Maths Vocabulary Progression

Nursery	Reception			Year 1			Year 2		
	Autumn Term	**Spring Term**	**Summer Term**	**Text Book 1A**	**Text Book 1B**	**TextBook 1C**	**Text Book 2A**	**Text Book 2B**	**Text Book 2C**
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, number count/count on/count back, forwards backwards represent show more less fewer how many altogether largest smallest order compare add take away altogether groups same different amount half share equal each first then now next finish	**Unit 1:** 1, 2, 3, 4, 5, one, two, three, four, five, number count, count forwards, count backwards, how many, total, altogether, five frame, cube same, different next, after, arrange **Unit 2:** sort, group, object, same, different, odd one out, size, shape, colour, pattern, triangle, square, bigger, smaller, counter, cube, how many, more than, describe, explain **Unit 3:** one, two, three, four, five, 1, 2, 3, 4 5, more, fewer, same, different, every, count, represent, match, sort, compare, equal, less than, fewer than, greater than, more than, equal amount **Unit 4:** count, forwards, backwards, how many, first, then, now, one less, one more, order, fewer, take away, add, altogether, number	**Unit 7:** one, two, three, four, five, six, seven, eight, nine, ten, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, ten frame, count, how many, total, altogether, count forwards, count backwards, same, different, odd one out, more, fewer, collections, group, dice, method **Unit 8:** more, fewer/fewest, greater/greatest, smaller/smallest, large/largest, taller/tallest, shorter/shortest, compare, how many/how many more, different/difference **Unit 9:** count, part, whole, h altogether, how many, total, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, addition, adding together, counting, more, fewer	**Unit 13:** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, number, count on/count back, move forwards, go back, jump forwards, jump back, more, less, before, after, add, take away, forwards, backwards, direction, moves, jumps, start, stop, first, then, now, finish, altogether, total, number track, dice, largest, smallest, possibilities **Unit 14:** eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, count/count on/count back, forwards, backwards, represent, show, more, less, fewer, how many, altogether, largest, smallest, order, compare	**Unit 1** sort group number track digit pattern one more one less matched fewer greater than (>) less than (<) equal to (=) most least fewest greatest number line **Unit 2** plus part-whole model whole part number sentence **Unit 3** altogether add in total count on missing part plus **Unit 4** How many are left? in total taken away take away subtract part subtraction addition count backwards How many more? How many fewer?	**Unit 7** add altogether ones (1s) tens (10s) number bond part-whole predict **Unit 8** subtract take away find the difference How many are left? tens ones number bond part-whole fact family **Unit 9** tens ones compare order less than (<) greater than (>) **Unit 10** long, longer, longest short, shorter, shortest tall, taller, tallest length height compare measure distance ruler centimetre	**Unit 12** equal groups array row column double twice **Unit 13** equal groups share **Unit 14** half halves quarter **Unit 15** turn half turn quarter turn three-quarter turn whole turn position left right forwards backwards above below top middle bottom up down in between **Unit 16** 100 square number square place value grid	**Unit 1** tens ones place value grid partition more fewer fewest greatest smallest **Unit 2** fact family number sentence number bond column 10 more 10 less **Unit 3** total tens ones subtract difference bar model represent **Unit 4** pound (£) pence (p) coin note change **Unit 5** equal groups multiplication (×) times-table times	**Unit 6** divide (÷) division share group odd even times-table **Unit 7** tally chart pictogram key **Unit 8** length centimetre (cm) metre (m) longer shorter metre stick height width compare distance Metre **Unit 9** quadrilateral polygon prism hexagon octagon vertex vertices hemisphere symmetry line of symmetry symmetrical curved surface pentagon edge	**Unit 11** clockwise anticlockwise forwards backwards left right middle turn half turn quarter turn three-quarter turn **Unit 12** number fact calculate mentally bar model number line part-whole model 100 square Partition **Unit 13** o'clock half past quarter past quarter to minute hand hour hand duration **Unit 14** mass balance weighing scales gram (g) kilogram (kg) litre (l) millilitre (ml) volume capacity temperature thermometer degrees Celsius (°C) estimate

	story, represent, five frame **Unit 6:** sort, group, parts, whole, part-whole model, how many, count/counting, more than, same, different	**Unit 10:** group, count, counters, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, how many altogether, how many more, how many fewer, more than, fewer than, less than, each, ten frame, part-whole model, whole, part, bead string, missing number, one more, one less, add, number bond to 10	**Unit 15 :** double, equal groups, double facts, doubling, more, same, different, continue, pattern, next, predict, how many, altogether, count, groups, more, fewer, less, amount, teams, five frame, counters, dice, domino, number track, represent, half, halving, share, fair share, equal, each, uneven, unequal, fair, solution, odd, even, odd number, even number	difference count on **Unit 5** 3D cube cuboid sphere pyramid cylinder cone 2D circle triangle square rectangle face repeated **Unit 6** tens (10s) ones (1s) more fewer order smallest one more one less	**Unit 11** heavier, heaviest lighter, lightest capacity balance scales full empty compare weight, weigh balanced measure estimate	**Unit 17** before after yesterday today tomorrow day week slower faster month year calendar date minute hand hour hand o'clock half past second minute hour **Unit 18** pound pence coin note pence (p)		**Unit 10** whole equal equal parts 1/2 fraction denominator fraction bar numerator 1/4 third 1/3 unit fraction non-unit fraction equivalent 3/4	approximation heavier than lighter than