

MATHS MEDIUM TERM PLANNING

RECEPTION - Summer 1

Links to progression document

count objects, actions and sounds matching one number name to each item
 subitise to 5 (ELG) and count to check
 count beyond 20 verbally (ELG)
 link the number symbol with its cardinal number value to 10
 write recognisable numbers to 10
 compare quantities up to 10 using the language of greater than/less than, more than,/fewer, the same (ELG)
 understand the one more/one less relationship between consecutive numbers
 recognise the pattern of the counting system counting verbally
 double numbers and quantities of objects up to 5+5 (ELG)
 recognise even and odd numbers to 10 (ELG)
 solve real world mathematical problems with numbers to 10
 compare length, using comparative language, such as 'than'
 use comparative language to group objects
 use everyday language related to time
 order and sequence two or three familiar events
 measure short periods of time in simple ways
 copy increasingly complex 2D pictures and patterns with these 3D resources
 see how a shape can have other shapes within it e.g. squares on the faces of a cube
 select, rotate and manipulate shapes in order to develop spatial reasoning skills.
 count how many objects share a particular simple property
 present results using practical resources, pictures, drawings or numerals
 say what they are trying to find out
 sort familiar objects into two or more groups based on comparisons e.g. long/short/tall
 describe ways they have sorted objects using comparative language e.g. longer/shorter
 think aloud how to work things out
 answer questions by choosing and using suitable equipment
 record simple numerical and pictorial representations
 use concrete objects to work out the answer
 explain to an adult how they worked out the answer

Guidance	Key Questions	Sentence Stems	Key vocabulary	Fluency
Time – order and sequence				
In this small step, children are encouraged to use simple strategies to discuss time and then progress to ordering and sequencing simple events. Children will not yet understand standard units of time; however, pointing out when key events are happening, such as the clock showing twelve for lunchtime, can help to develop this. Use real life scenarios to support children to sequence events that require a time, such as baking or preparing snack. Enacting stories that follow a sequence of events or the days of the week will support children to sequence time in simple ways.	What do we do/happens first, then, next, finally? What do we do before/after?	First, then, after we will..... Today is/tomorrow is/yesterday was.....	First, then, after, finally, next, before, after, tomorrow, today, yesterday	Count forwards and backwards to 30 Subitising: Models of 6, 7 and 8 Re-visit: Number bonds to 5
Compare length and height				
Children are encouraged to explore objects and use the language of size to describe them e.g. big and small. Children will be taught more specific language, such as 'tall' and 'short' when	Which object is small/big; long/short; tall/short? Which is longer/shorter/taller?	The ____ is big/small/long/short/tall.	Big, small, long, short, tall, longer, longest,	Count forwards and backwards to 40

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<p>describing height and 'long' and 'short when comparing length. Children should be shown how to make the ends of objects line up so that they can see the difference and should be taught that 'length' is the distance between two points. They will also explore objects by height and will learn that height is a type of length. Children should be introduced to the language of both 'short' objects and 'tall' objects through experiences. Going on walks and seeing buildings and trees that are tall in comparison to themselves and to other objects is a way to support this. Join children in their play to make tall towers and short towers in box modelling or construction, modelling the language of height. Children then build on their explorations of length and height to then make comparisons e.g. shorter/longer/taller than.</p>	<p>Can you find the longest/shortest/tallest?</p>	<p>This is the longest/shortest/tallest ____.</p>	<p>shorter, shortest, taller, tallest</p>	<p>Subitising: Models of 9 and 10</p> <p>Re-visit: Pattern</p>
<p>Make pairs – explore even and odd</p>				
<p>Children build on their earlier work matching numerals to quantities by now finding and making pairs. They begin to understand that a pair is two. Provide collections of items that come in pairs. Encourage children to arrange quantities into pairs and to notice that some quantities will have an odd one left over with no partner. Use every day routines and practical activities, such as talking partners and P.E. games, to point out where we have odd or even amounts. Encourage children to notice pairs and odd and even numbers through games involving matching pairs, such as snap or memory games. Show children the pair-wise pattern of filling a ten frame and how this can support them to notice odd and even numbers. When objects cannot make a pair, there is an odd number. Encourage children to solve problems by using mathematical graphics to draw out their thinking. By doing this, children can be supported to explain their reasoning of why a number of objects may be odd or even. Adults can then prompt children to explain how they know by using key questions and supporting them to use stem sentences.</p>	<p>How many do you have? How many do we need to make a pair? Is this a pair? How do you know? Is this an odd number or an even number? Does the group have two equal/unequal groups? How do you know?</p>	<p>I know this is a pair because..... ____ is an odd/even number because... I have ____ groups of 2. I know this in an equal/unequal group because ...</p>	<p>Pairs (two) Odd/even Left over</p>	<p>Count forwards and backwards to 40</p> <p>Subitising: Five and a bit hands</p> <p>Re-visit: 6, 7, 8</p>
<p>Doubles to 10 (find and make)</p>				
<p>Children are introduced to the concept of doubling and they learn that this means 'twice as many'. They should be given opportunities to see a range of visual representations of doubles and to find them in patterns, in pictures and in arrangements of manipulatives. Encourage children to use familiar equipment to find doubles and make double collections. Model finding doubles, for example, on a dice: "There are 3 here and 3 here, so double 3 makes 6!" They should be given opportunities to build doubles in many different contexts. Encourage children to use their fingers and make the same amount on each hand then tap their hands together to show doubles during carpet times. Building numbers using the pair-wise pattern on ten frames will help children to see the doubles. Mirrors and barrier games are a fun way for children to see doubles as they build and explore early symmetry. Provide examples that represent doubles and not doubles for children to sort and explain how they know. A good way to embed this concept and encourage children to see doubles is to make up rhymes that use the language of doubling.</p>	<p>Where can you see a double? Is this double or not double? How do you know? What is double ____? What double have you made? Is it a double or not a double? How do you know?</p>	<p>I have found double ____. There are ____ here and ____ there. Double ____ is ____. ____ is double ____.</p>	<p>Double Twice as many Pair Pair-wise pattern</p>	<p>Count forwards and backwards to 50</p> <p>Subitising: Tens frame five wise and tens frame twos wise</p> <p>Re-visit: Capacity</p>

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3D Shapes				
<p>Children will focus on the concept of 3-D shapes and their properties. Children will learn to recognise and name cubes, cuboids, cylinders, pyramids, cones and spheres. They will recognise that whereas a 2-D shape is completely flat, 3-D shapes are solid objects. Children will then extend their knowledge of recognising and naming 3-D shapes to finding and identifying the 2-D shapes on the flat faces of 3-D shapes. Exploring the idea of flat faces and curved surfaces in activities such as printing will support children to see the 2-D shapes within the 3-D shapes. This can be reversed so that children use reasoning skills to find which shape could have made a pre-printed footprint. Whilst building with children, give reference to what shapes are being used. Support children to determine what are the best 3-D shapes for tasks such as rolling or stacking, to develop children's understanding. They consider why this is the best shape as well as what different 3-D shapes do or do not have in common. Support children by prompting them to make more complex structures. Block play can be enhanced by children bringing in further props to allow them to build for a purpose, e.g. creating a rocket for an astronaut. Provide opportunities for children to notice shapes in the environment and use the language of 2-D and 3-D shapes interchangeably to support children's fascinations.</p>	<p>What do you notice about your shape? Which shapes are the same as yours? Why? How do you know they are the same/different? How can you sort the shapes? What shapes can you see? What do you notice about your shape? Which 2D shapes can you see within the 3D shapes? Which shape have you chose and why? Does your shape roll/stack? What can you tell me about your shape? Where can you see shapes within shapes?</p>	<p>This shape is a _____. This shape is the same/different because..... The _____ has flat faces/a flat face/a curved surface. I can see a ____ on the _____. This shape has a _____ face. I have chosen this shape because..... I know this shape is/is not a _____ because.....</p>	<p>2D, 3D, flat, solid Cube, cuboid, cylinder, pyramid, cone, sphere Flat face Curved surfaces</p>	<p>Count forwards and backwards to 50 Subitising: Structured dot arrangements Re-visit: Addition</p>
Compare numbers to 10				
<p>Children continue to make comparisons with the numbers and amounts to 10. Encourage children to compare amounts directly by lining the items up with one-to-one correspondence. Through exploring comparison, they will develop an understanding of equivalence and non-equivalence. They understand that when making comparisons, a set can have more items, fewer items, or the same number of items as another set. Model counting each set carefully and make comparisons by comparing the position in the counting order. As children's sense of number develops, so does their knowledge of where each number sits on a mental number line in relation to other numbers. They begin by comparing two quantities and progress to ordering three or more quantities. Children may also naturally begin to subitise and compare numbers on ten frames.</p>	<p>How many different ways can you find _____? How many did you count? How do you know? Which has more? Which has fewer?</p>	<p>_____ has more/fewer than _____. There are ____ more/fewer than _____. There are the same number of _____.</p>	<p>more/fewer same/equal compare order</p>	<p>Count forwards and backwards to 50 Subitising: Collections of two, tell a story about two and what's missing from two? Re-visit: Taking away</p>

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RECEPTION - Summer 2

Links to progression document

count objects, actions and sounds matching one number name to each item
 subitise to 5 (ELG) and count to check
 count beyond 20 verbally (ELG)
 link the number symbol with its cardinal number value to 10
 write recognisable numbers to 10
 recognise the pattern of the counting system counting verbally
 understand different ways of making numbers up to 10 (ELG)
 use visual representations* such as part-part whole up to 10
 share even objects to 10, recognising that numbers can be split equally (ELG)
 solve real world mathematical problems with numbers to 10 and beyond ten
 recognise that a group of objects can be shared equally between two people (ELG)
 begin to use everyday language related to money in role play
 see how a shape can have other shapes within it e.g. two triangles can make a square
 develop spatial reasoning skills by selecting, rotating and manipulating shapes
 present results using practical resources, pictures, drawings or numerals
 recognise and describe simple repeating patterns involving numbers or shapes e.g. AABBAABB, ABCABC
 continue simple repeating patterns involving numbers or shapes
 create simple repeating patterns involving numbers or shapes
 say what they are trying to find out
 think aloud how to work things out
 answer questions by choosing and using suitable equipment
 record simple numerical and pictorial representations
 use concrete objects to work out the answer
 explain to an adult how they worked out the answer

Guidance	Key Questions	Sentence Stems	Key vocabulary	Fluency
Sharing				
<p>Children will investigate what sharing is and describe equal sharing as fair and unequal sharing as unfair. Sharing involves dividing a set equally between a certain number of groups. Children may remember from previous steps the concepts of even and odd numbers relating to this. Children will share practically for a purpose by having a number of objects to share between various people or groups. Children will learn that to share we need to take one object at a time and give it to one child before taking the next object and giving it to the next child, repeating this process until all the objects are gone or each child has an equal amount. This small step will also address what happens if an amount cannot be shared equally by the number of children that we have; they will identify that, at times, there will be leftover objects that cannot be shared fairly. Children may have ideas on what should be done with leftover objects.</p>	<p>Is it fair? How do you know? Are the groups equal? Do all the groups have the same amount? How will you share the ___ equally? How do we make sure everyone has the same amount? Are there any left over?</p>	<p>It is fair because... It is not fair because... The ___ have/have not been shared equally. There are ___ altogether. They are shared equally between ___ groups.</p>	<p>Share Fair/unfair Equal Leftover Groups</p>	<p>Count forwards and backwards to 60 Subitising: How do you see three? And collections of three Re-visit: Number bonds to 10</p>

<p>need additional support, first encourage them to copy small sections of patterns before combining them to make the full pattern, then they can attempt to continue it.</p>				
Numbers beyond 10				
<p>In this block, children become more familiar with numbers beyond 10 and the pattern (stable order) of numbers to 20 and beyond. Children will be familiar with larger numbers from daily routines such as counting children or the days in the month. This small step focuses on numbers beyond 10. First, ensure that children can say the numbers 11-20 and support them to use one-to-one correspondence to count items beyond 10. Provide varied opportunities for building the numbers 10-20 to support children's understanding. Encourage children to play games that involve these numbers, and count on and back to improve children's knowledge of the stable order counting principle. Provide opportunities for children to recognise that the numbers 1 to 9 repeat after every full ten. So, they have 1 ten and 1, 1 ten and 2, 1 ten and 3, etc. Encourage children to count on and back from different starting points, to say what comes before or after a given number and to place numbers in order.</p>	<p>How will you build the number 10-20? Where can you find 10-20? What number have you built? What do you notice about that number? What number comes after ____ ? What pattern can you see?</p>	<p>I can see ____. I can build ____. 10-20 has ____ ten and ____ more. I can see 1 ten and ____. ____ and ____ makes ____. ____ comes after ____.</p>	<p>Tens, ones Order Teens</p>	<p>Count forwards and backwards to 70</p> <p>Subitising: Tell a story about four and what's missing from four?</p> <p>Re-visit: Length and height</p>
Make Connections (2-3 weeks)				
<p>In this block, the focus is on making connections between all the aspects of maths that have been covered through the year. We are looking at deepening this understanding through developing children's reasoning and problem-solving strategies. Children should be given opportunities to explore and investigate relationships between numbers, shapes and patterns to further deepen their understanding and explore possibilities. Give children plenty of opportunities to engage in extended problem solving and develop their critical thinking skills. These problems can be linked to familiar stories, children's interests or real problems that arise as they play. Children may need support to carry out their plans and make adaptations. Ask children open-ended questions to explore their thinking. Afterwards, encourage children to review and discuss their strategies. Support children to enact scenarios where they have to think of more than just one answer.</p>	<p>What can you see? Explain how you see it. What number story can you make? What strategy did you use? Did it work? Why do you think that happened? How can we try again? How do you know? What do we need? How can we check? Is there another answer?</p>	<p>There are ____ altogether. I can ____ her and ____ there. The ____ worked because.... I used ____ because..... I know my ideas has worked because... To make a ____ I need ____. My plan is</p> <p>I decided this because.....</p>	<p>Problem Solve Strategy</p>	<p>Count forwards and backwards to 80, then 90 and then 100</p> <p>Subitising: How do you see five? Collections of five Make a pentomino Tell a story about five How many more to five? What's missing from five?</p> <p>Re-visit: Mass/Number bonds</p>