Old Town Infant School and Nursery

MATHS MEDIUM TERM PLANNING

Coastal Learning PARTNERSHIP

RECEPTION - Autumn 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)
recognise the pattern of the counting system counting verbally
understand different ways of making numbers up to 10 (ELG)
use positional language such as top, bottom, middle, between, inside
describe their relative position such as 'behind' or 'next to' or 'in front'
use comparative language to group objects
sort familiar objects into three or more obvious groups e.g., different colours
sort familiar objects into two or more groups based on comparisons
describe ways they have sorted objects using comparative language
think aloud how to work things out
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
Getting to know you				
Opportunities for settling in, introducing the areas of provision and getting to know the children. Key times of day, class routines. Exploring the continuous provision inside and out. Where do things belong?				
Match				
Children are introduced to the concept of matching – object to object, object to picture and then picture to picture. Provide many opportunities for children to recognise the attributes of familiar objects and point out how they are the same. Encourage children to say why they match and how they know. It is important to also identify objects that do not match using the language 'same' and 'different' to extend children's vocabulary. Children are also introduced to the concept of identifying sets of different objects i.e. setting table for lunch (fork, knife and plate). Encourage them to see groups of objects as a set. Model making sets - It is important for teachers to model making these sets correctly at first but then to make deliberate mistakes, which children should correct.	Can you find a match? Why do the objects match? How do you know that they match? What is the same about these objects? What is different about these objects? Can you find one that is different to mine? Which object matches the picture? How do you know that the picture matches the object? What is the same about the picture and the object? Why is the picture different from the object? How do you know this is a set? Why is this not a set? What else do you need to make it a set? Is this set correct? Does your set match mine? What is the same about these sets?	The ____matches the _____. They are the same. The ____are different. They do not match because..... The _____ and the _____ are/are not a set because… This set is the same/different because...	Match, same, set	Sing Number Rhymes and songs

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Sort and compare amounts				
Children are introduced to the term 'sorting' and learn that collections of objects can be sorted based on attributes such as colour, size or shape. Sorting enables children to consider what is the same about all the objects and what is different. By asking open-ended questions, children can be supported to explain how they have sorted the objects. It is important to model to children that the same set of objects can be sorted in lots of different ways and by different attributes. Model games such as 'Guess my rule', where children must figure out why certain objects have been sorted into a group. Show children collections containing one incorrect item so that they can spot the odd one out and correct you. Once children have sorted collections into sets, they learn that these sets can be compared. They understand that when making comparisons a set can have more, the same or fewer than another set. It is easier for children to make comparisons when the difference between the sets is greater. Start by asking children to compare sets of 5 and 2 objects rather than sets of 5 and 6 objects. Children can visually see which has more/fewer. Encourage children to line the objects up to check.	How can you sort the objects? How do you know they are the same/different? How could you sort the objects a different way? Can you sort the objects the same way as me? What is your rule for sorting the objects? Can you guess my rule? How do you know that is my rule? Which is the odd one out? Which set has more? Which set has fewer? Which sets have the same? How do you know?	I have sorted the objects by _____. These are ____These are not _____. These objects are the same because……. These objects are not the same because……. This does not belong in my set because… My rule is ... This set has _____objects than this set. These sets have _____. This set has ____ because _____.	sort, set, same, match, criteria, different more, fewer, same	Sing Number Rhymes and songs Count forwards to 10
Find, subitise and represent 1, 2, 3				
Children explore 1, 2 and 3. Children will perceptually subitise. This form of subitising refers to instantly recognising the number of objects or items in a group without needing to count them. Encourage children to subitise groups of 1, 2 and 3 items. This will allow them to develop an understanding of what each number looks like, and what it is made up of. Dice and spinners with dots are useful in helping support children to develop their subitising skills. It is important that they see the dots or other objects in different arrangements so that they don't think a number representation such as 3 always appears in the same way. Check subitising by counting – touching each object as they count/recognising the final number they say is the quantity in that set. Ensure children can confidently say the number names 'one', 'two' and 'three' out loud. Encourage children to find objects in provision and notice 1, 2 and 3 in the environment. Introduce numeral (no. formation linked to kinetic letters) Create their own different representations of 1, 2 and 3 using different objects. Provide opportunities for children to match their different representations to cards showing the numerals. This idea can be extended further to include groups of 1, 2 and 3 sounds or movements. For example, children could use a drum to count sound beats. Alternatively, they could jump or clap up to 3.	What can you see? How do you see it? Where can you see 1/2/3? How many? Can you find 1, 2 and 3? How many altogether?	I can see _____. There are ____ dots altogether. I counted _____. We jumped/clapped/twirled ___ times.	One, two, three, subitise, count, represent	Count forwards to 10 Introduce book vote – compare amounts (do not need to count at this point – visually compare – using more, fewer, same vocabulary. Can line them up if needed to match) Re-visit find my match

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Composition of 1, 2 and 3				
Children are introduced to the idea that all numbers are made up of smaller numbers, and these are referred to as the parts of the number. Learning to see a whole number and its parts at the same time is a key development in children's number understanding. Give children practical opportunities to explore a range of ways to partition a whole number, so they can find different parts, which make the same whole. Then show children how to explore the different ways that numbers can be partitioned into more than two parts. For example, 3 can be composed of 1 and 1 and 1 Although the focus of this step is on numbers to 3, children may choose to notice and explore the composition of greater numbers in their play. Encourage hidden parts i.e. show 3 objects, cover 2 of them, how many can we see? How many are hiding?	How many different ways can you make 1/2/3? How can you show 2/3 in a different way? How many did you count? How do you know? What number have I made? Can you make the same number in a different way? What can you see? How do you see it? How many are hiding? How many have gone away?	___ and _____ is the same as _____. I can see ____ is made up of ___ and ____ . I can see ____ is made up of ____ , ____ and ____. There is ____ here and ____ there so there must be _____ altogether.	Part, whole, hidden/gone	Count forwards to 10 Subitising: Lots of ones and one of something Lots of twos and two of something Re-visit guess my rule (sorting)
Describe position				
Children hear and begin to use positional language such as ' in', 'on', 'under ', 'over ', 'beside', 'between', 'in front of', 'around', 'through' and 'behind' to describe how items are positioned in relation to other items. Model using these words in play. Story time is a great opportunity to focus on positional language and journeys. While reading stories, use gestures to emphasise what the vocabulary means. Once children are familiar with these stories, they can be used as hooks into activities about position. Encourage children to use positional language on a larger scale outside, building large-scale models of stories and journeys. Children could take photographs of each other in different places outside and the class could then describe where they are standing.	Where is the _____ ? How are you going to move around the _____ ? Where are you going to go next?	The _____ is _____ the _____ . Go _____the _____ . Next, go _____ the _____ .	in, on, under, over, beside, between, in front of, around, through, behind	Count backwards from 10 Subitising: One or two? Re-visit number recognition 1, 2, 3

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RECEPTION - Autumn 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
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
automatically recall number bonds to 5 (ELG)
understand different ways of making numbers up to 10 (ELG)
compare weight, using comparative language, such as 'heavier 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
develop spatial reasoning skills by selecting, rotating and manipulating shapes
copy increasingly complex 2D pictures and patterns
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. heavy/light, heavier/lighter
describe ways they have sorted objects using comparative language e.g. heavier/lighter
think aloud how to work things out
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
Find, subitise and represent 4 and 5				
Children explore 4 and 5. Children will perceptually and conceptually subitise. Conceptual subitising refers to the ability of children to identity a whole quantity as a result of composing smaller quantities (recognised through perceptual subitising) that make up the whole. Encourage children to subitise familiar arrangements of 4 and 5 i.e. dice formation, tens frame pattern, numicon tile, etc. as well as give opportunities to begin to conceptually subitising by noticing smaller numbers within (1, 2 and 3) This will allow them to develop an understanding of what each number looks like, and what it is made up of. Dice and spinners with dots are useful in helping support children to develop their subitising skills. It is important that they see the dots or other objects in different arrangements so that they don't think a number representation such as 4/5 always appears in the same way. Check subitising by counting – touching each object as they count/recognising the final number they say is the quantity in that set. Ensure children can	What can you see? How do you see it? Where can you see 4/5? How many different ways can you find 4/5? How many? Can you find 4/5? How many altogether?	There are 4/5 _____ . I know there are _____because..... I can see _____. There are ____ dots altogether. I counted _____. We jumped/clapped/twirled ___ times.	four five Subitise Count Represent altogether how many?	Count backwards from 10 Subitising: One or two on a five frame Re-visit: guess my rule (sorting)

confidently say the number names 'one', 'two', 'three', 'four' and 'five' out loud. Encourage children to find objects in provision and notice 4 and 5 in the environment. Introduce numeral (no. formation linked to kinetic letters) Create their own different representations of 4 and 5 using different objects. Provide opportunities for children to match their different representations to cards showing the numerals. Prompt children to represent up to 5 objects on a five frame. Support them to understand that if the frame has 1 empty space, there are 4 objects. If the frame is full, there are 5 objects. This idea can be extended further to include groups of 4/5 sounds or movements. For example, children could use a drum to count sound beats. Alternatively, they could jump or clap up to 5.				
Composition of 4 and 5				
Children are introduced to the idea that all numbers are made up of smaller numbers and that these are referred to as parts. Learning to see a whole number and its parts at the same time is a key development in children's number sense. Give children practical opportunities to explore a range of ways to partition a whole number, so they can find different parts, which make the same whole. Then show children how to explore the different ways that numbers can be partitioned into more than two parts. For example, 4 can be composed of 2 and 1 and 1. Although the focus of this step is on numbers 4 and 5, children may choose to notice and explore the composition of greater numbers in their play. Encourage hidden parts i.e. show 5 objects, cover 2 of them, how many can we see? How many are hiding? Teach use of fingers to support them (encourage subitising so put fingers down quickly rather than counting them).	How many ways can you make 4/5? How can you show 4/5 in a different way? What parts can you see? What is the whole?	___ and _____ is the same as _____. _____ is a part and_____ is a part. The whole is _____. If_____ is a part, then the other part must be_____ .	part whole partition	Count forwards and backwards to 10 Subitising: Lots of threes and three of something Re-visit: pattern
One more, one less (within 5)				
Children are introduced to the concept of 1 more and 1 less, working with numbers up to 5. They begin to understand that as they count forwards, each number they say is 1 more than the previous number and as we count back, each number is 1 less than the number before. Children notice how numbers increase in size when 1 more is added and get smaller because they are taking 1 away. Prompt children to recognise that the order of the numbers when counting does not change. This is the stable order principle. Use a range of representations to support this understanding, including stories, songs and rhymes that include finding 1 more or 1 less. Encourage children to represent the '1 more' and '1 less' pattern as they count, using manipulatives such as cubes to model this (on five frame).	How many are there? How many are there now? What is 1 more/less than _____? What is the number after/before ____?	There are _____. There are _____ altogether. _____ is 1 more/less than _____. 1 more/less than ____ is _____.	more less	Count forwards and backwards to 10 Subitising: Two or three? Re-visit: find my match (4 and 5)

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Shapes (Circles, triangles and 4 sided shapes)				
Children notice circles, triangles, squares and rectangles all around them and begin to describe their properties. Children may use informal language such as 'pointy' or 'sharp' to describe what they notice. They should also be introduced to mathematical language for describing the properties, such as 'sides ', 'straight', 'corners ' and 'round'. Children learn that triangles are flat shapes with three straight sides and three corners, that circles are flat shapes which are perfectly round and that both rectangles and squares have 4 straight sides and 4 corners. They also begin to understand that squares are a special kind of rectangle, where each of the 4 sides are equal in length. When using physical representations of 2-D shapes, ensure that they are as thin as possible to support children's understanding about them being flat. Support children to talk about the properties of the shapes and to explain how they know it is the same shape, even if the orientation or the size is different. Provide different opportunities for children to notice shapes in the classroom, outside and on walks around the local area. Encourage children to play with shape tiles in order to create pictures/patterns, talk about the properties of the shapes they can see and to compare the shapes. For example, "This shape has straight sides but that shape is round".	What do you notice about your shape? Can you see another shape that is the same/different? How do you know they are the same/different? How have you sorted the shapes? Is there another way? How do you know it is a circle/triangle/square/ rectangle? Where can you see small shapes? Where can you see large shapes? Which shape could these two/three shapes make? What shape could this make when you fold it? How many different shapes can we make by folding the paper? Where can you see shapes within shapes?	This shape is a _____ . I know this shape is a ____because….. This shape is the same/different because….. These shapes have been sorted by ____ . I can see a _____. I know this shape is/is not ___because… This shape has ____sides/corners. The shapes make a _____ . I can fold this shape to make a _____ . I need _____to build a square/rectangle.	circle triangle square rectangle corner side flat 2D	Count forwards and backwards to 10 Subitising: 1, 2 and 3 on a five frame Re-visit: position
Comparing mass				
Children are introduced to the vocabulary of mass and learn that objects can be compared and ordered by their mass. Children may be more familiar with the word 'weight', and there is no harm in using the words interchangeably at this stage. Model use of language such as 'heavy' and 'light' and give children the opportunity to pick up different objects to develop their understanding of the words. When introducing balance scales, children should develop the understanding that the heavier object is lower on the balance scale and the lighter object is higher. It is important to model this to children and point out that the objects have the same mass if the scale is balanced. To avoid misconceptions, give children the opportunity to explore large objects that are light and small objects that are heavy.	Which object is heavier? How do you know? Which object is lighter? How do you know? What has happened to the balance scale? What can you balance? Are large objects always heavier than small objects? What does it mean when the scale is balanced?	The _____is heavier than the _____ . The _____ is lighter than the_____ . The heavier object is _____on the balance scale. The lighter object is _____on the balance scale. The_____ is heavier/lighter than the _____because..... The scale is balanced because……	compare mass/weight balance/same/equal heavy, heavier, heaviest light, lighter, lightest	Count forwards and backwards to 10 Subitising: Conceptual subitising (finding no's within 4) Re-visit: one more
Time				
Children will begin to distinguish and talk about the difference between the key events in their daily routine. They will recognise what occurs during the day compared to at night. They will use language such as 'first', 'then', 'after', 'before', 'day', 'night', 'morning', 'afternoon', 'today' and 'tomorrow' to describe different events. Children begin to measure time in simple ways by counting how many days or sleeps are left until an important event. The concept of time can often be difficult for children to understand. Building blocks can be used to represent the number of days or sleeps there are until an event i.e. Christmas, removing one each day to support children's understanding.	What are we going to do now/next/later/this afternoon? What do you do during the day? What do you do at night-time?	First/then we will……. Before/after _____we will……. There are _____days/sleeps until….. During the day we……. At night-time/lunchtime we……	Day, night, first, then, after, before, morning, afternoon, today, tomorrow, yesterday	Count forwards and backwards to 20 Subitising: Conceptual subitising (finding no's within 5) Re-visit: 2D shape

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