Old Town Infant School and Nursery

MATHS MEDIUM TERM PLANNING

Coastal Learning PARTNERSHIP

Year 1 – Place Value within 10 (Approximately 5 weeks)	
Objectives from Progression Document	**identify and represent one and two digit numbers using objects and pictorial representations*** **identify and represent numbers using the number line** **count, read and write numbers to 100 in numerals** **read and write numbers from 1 to 20 in words** **given a number, identify one more and one less** **use the language of equal to, more than, less than, most, least, (fewer)** know and use <, > and = signs for numbers within 10 **solve problems related to place value and number**
Previous Learning	**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**
Vocabulary	digit, numeral, figure(s), compare, order/a different order, size, value, between, halfway between, above, below, tens, ones
Key fact(s)	To know that 0 means nothing To know that zero comes before 1
Number facts for fluency	Fluency Bee Stage 2: Composition of 6 and 7 (subitise, composition and bonds)
DfE Ready to Progress Guidance Pages https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897806/Maths_guidance_KS_1_and_2.pdf	**1NPV-1** Count within 100, forwards and backwards, starting with any number pages 11-13
NCETM Ready to Progress Exemplification https://www.ncetm.org.uk/classroom-resources/exemplification-of-ready-to-progress-criteria/	**1NPV-1** Count forwards and backwards within 100
Problem Solving and Reasoning Skills Objectives	use diagrams (e.g. three separate circles) to sort objects into three or more separate groups according to a given criterion suggest a different criterion for grouping the same objects say what they have found out (with support) use concrete objects or pictures to help work out the answer

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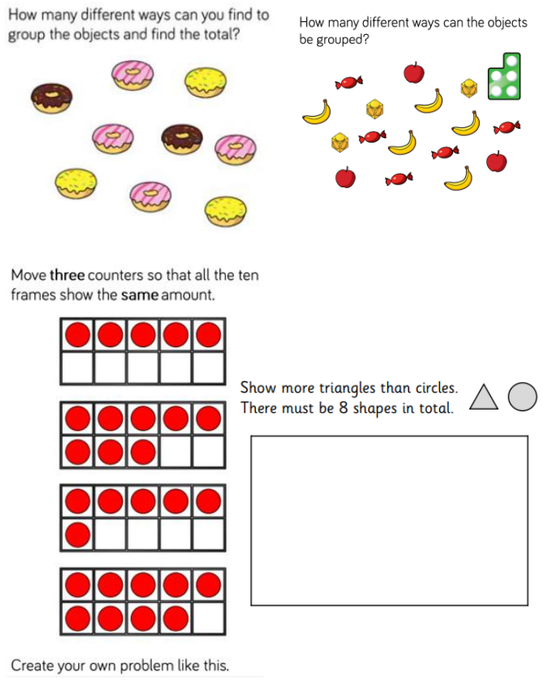
Pre-assessment:	EYFS place value – composition of numbers to 10

Sequence of Learning

White Rose Small Steps	Learning Intention	Key Questions	Sentence Stems	Problem-solving links	Extension and greater depth opportunities	Comments
Sort objects	To sort objects into different groups	What is the same about all the objects in the set? What is different about the sets? Can you find an object that belongs to this set? Can you find an object that does not belong to this set? Why does it not belong? Can you think of a different way to sort the objects?	This set of objects has been sorted by … I could also sort the objects by… …does belong in the set because... …does not belong in the set because ...	Henry's Map (maths.org) (story book suggestion) Golden Beans (maths.org) Encourages counting, describing, reasoning Eightness of Eight (maths.org) Helps with subitising, understanding conservation of number, composition of number Dotty Six (maths.org) Representing numbers.	 *Show me 8 cubes.* *Pupils should demonstrate one to one correspondence, cardinality and conservation of number.* **The start number on the number track below is more than 4. The last number on the number track is 10 or less.** ? ? ? ? ? **How many different ways can it be completed?** How many different starting points could you have if you wanted to count backwards and stop at 3?	Children may think that a group of objects can only be sorted in one way. Children may not focus on a single similarity, but instead on different attributes, leading to incorrect placement of objects in some sets.
Count objects (1NPV 1)	**To use ten frames to count objects**	How many objects are there? If I move them around, are there still the same number of objects? Does it matter which object you count first? Can you count how many claps I do? Should you start counting at 1 or zero? How do you know you have counted all the objects? How do you know you have not counted any objects more than once?	The last number I said was…, so there are … objects in total.			Focus on the five counting principles when assessing children's ability to count accurately – see notes and guidance for key counting principles Children may count objects more than once or miss an object out. Encourage children to touch objects as they count and say the number.
Count objects from a larger group	To count a certain number of objects from a group of 10	How many objects are there? If I move them around, are there still the same amount? Does it matter which object you count first? How do you know which objects you have counted and which you have not counted? Did you need to count them all? How many are left?	The last number I said was…, so there are … objects in total. I need to count … objects from the group. There are … objects left in the group.			Children need a secure understanding of the cardinal counting principle. Children may count objects more than once or miss an object out that needs to be counted. Encourage children to line up objects and touch each one as they count, saying one number per object. The objects that have been counted may get mixed up with the rest of the objects.
Represent objects	To represent objects to help with counting objects	How many apples are there? So how many counters do you need? How can you use cubes to show how many leaves you have? Draw circles to show the sweets. How many circles will you draw? I have 7 counters. Which picture do they match?	I can use a_____ to represent each____ There are ____ carrots. I am using 1 counter to represent each carrot. I need ____ counters. There are _____frogs, so I need _____cubes/counters.			They also match numerals to a set of objects, but do not yet use the written words. The purpose is to ensure that children realise that they can represent anything with mathematical equipment or pictures and it can still be counted in the same way. Children may be able to say the correct number of objects but write the wrong numeral.
Recognise numbers as words	To represent numbers to 10 in words	How many words can you match to the numerals? Which ones are left? Which word begins with the letter "n"? Which numeral does this match? Which word begins with the letter "z"? Which numeral does this match? Does the greatest number always have the most letters in the word? Does the smallest number always have the fewest letters in the word?	The numeral for five is____ The numeral for is ___			In this small step, children learn to recognise each numeral as a word. At this point, children are not expected to write the words independently
Count on from any number (1NPV 1)	**To count forwards to 10 using different images**	What number are you starting from? What number comes next? If I add another counter, what number is shown? If I add another counter, what number is shown now?	I need to start counting from_____ The number that comes after is ____ I will say the number ____ because ...			In this small step, children count on from any number while staying within 10. Ten frames and number tracks are useful tools to support children with this concept. When used side by side, they help children to continue to link a representation to the numeral and/or the word

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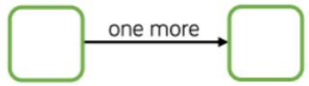
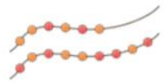
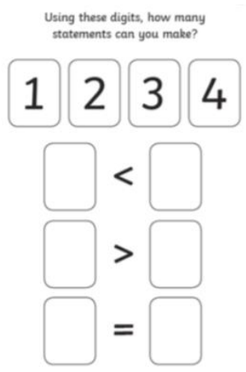
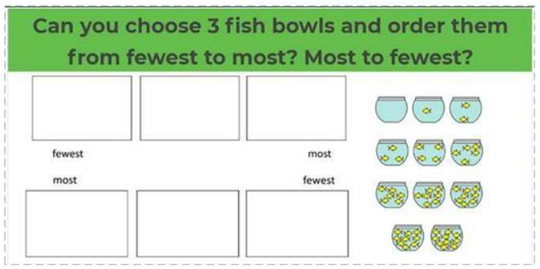
		Do you always need to start at zero to count to 10? Which numbers did you not need to say? Why?	I will not say the number ____ because …			Children who are not yet confident with counting may want to go back to starting at zero or 1 rather than starting at a different number.
1 more (1NPV 1)	**To count forward one more using different representations**	What does "1 more" mean? How can you show 1 more? Where is 1 more than on the number track? Do you need to count from zero every time you find 1 more? How many did you start with? Then what happened? How many are there now? What is 1 more than ?	1 more than____ is ___ ____is 1 more than____ First there were … Then … Now there are …		 Using number cards 0 – 10, how many ways can you make the statement correct? _____ is more than _____	Once children are confident placing numbers on a track, the language of "1 more" can be introduced. Children need to know that 1 more is the number after Cubes are a useful manipulative to show the concept of "1 more", as children can link this to the everyday activity of climbing the stairs.
Count backwards within 10 (1NPV 1)	**To count backwards from 10 using different images**	What is the same and what is different about counting forwards to 10 and counting backwards from 10? When counting backwards, do you say the same words as when counting forwards? Should you stop counting at 1 or zero? Can you think of times you might need to count backwards in real life? When counting backwards, do the numbers get bigger or smaller?	The number that comes before ____ is____ When counting backwards from____ the numbers I will say are …		Using number cards 0 to 10, how many different ways can you complete the boxes below? 	Up to this point, children have focused on counting forwards and will have got into a rhythm. Understandably, they will need some time to gather a rhythm for counting backwards. Use completed number tracks to support them as they count backwards aloud
1 less (1NPV 1)	**To count back one fewer using different representations**	What does "1 less" mean? How can you show 1 less? How can counting help you with finding 1 less? Where is 1 less than on the number track? What is 1 less than ? What is the same and what is different about finding 1 more and finding 1 less?	1 less than ___ is____ ____is 1 less than____		Compare amounts. What's the same? What's different? *Children compare the bead strings and notice:* *One has 9 beads and the other has 6 beads.* *9 is 3 more than 6.* *6 is 3 less than 9.* 	Children need to know that 1 less is the number before and they should use their counting skills or a number track to help them. Cubes are a useful manipulative to show the concept of "1 less", as children can link this to the everyday activity of walking down the stairs
Compare groups by matching	**To know that groups of objects can be compared to see if they are the same**	What does "match" mean? How can you show you have matched the objects/pictures? What can you use to represent the picture? How can you check if the groups match? Are there enough objects/pictures to match them all up? Are there any left over? Why has that happened?	There are ____ children and ____ presents. Each child can/can not have a present because … I know that there are/are not enough objects/pictures to match them all up because …		I am going to count on from 7. Will I say the number 3? Convince me.  Draw counters on the ten frames so that they are ordered from greatest to smallest. How many ways can you find? Greatest Smallest	Children should be exposed to situations where there are too many, not enough or just the right amount. At this stage, children do not need to know the exact difference between the groups if there is a difference.
Fewer, more, same (1NPV 2)	**To use the correct language when comparing objects**	How do you know the towers are the same? How do you know that tower has fewer/more cubes than this tower? Which ten frame has more? How do you know? Who has fewer/more cubes than you? Who has the same number of cubes as you?	Sam has____ cubes than Mo. There are ____ counters in box A than box B. There are fewer/more ____ than____ There are the same number of ____ as ____			They need to practise using the words in a variety of contexts in the same way that they need to practise working with numbers in a variety of contexts. In particular, the word "fewer" can be tricky, as many adults tend to incorrectly use the word "less" instead. "Fewer" is used when talking about a number of things or objects, whereas "less" is used when talking about values
Less than, greater than, equal to (1NPV 2)	To understand the meaning of less than, greater than and equal to	How can you use cubes to show that 6 is less than 7? How can you use a number track to find a number less than 5? How can you use cubes to show that 3 is equal to 3? How many different ways can you show that 7 is greater than 4?	____ is less than____ ____ is greater than__ ___ is equal to____ ___ <_____ ___ > ____ ___ = ____			Number tracks are particularly useful in this step and children will begin to see that smaller numbers are to the left of greater numbers. Children may want to use the word "bigger" rather than "greater". For consistency of language, encourage children to use the word "greater". "Bigger" often refers to the size of an object rather than a number, for example a bigger teddy or a bigger slide.

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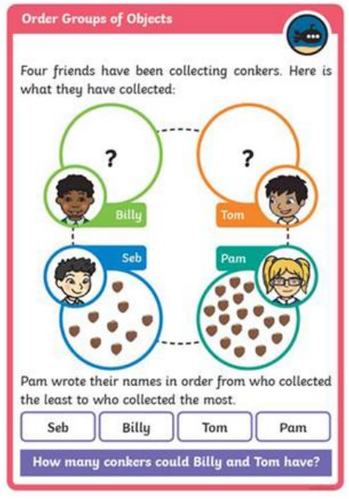
Compare numbers (1NPV 2)	**To compare numbers to 10 using numerals, words and symbols**	When you count forwards from zero, which of the numbers do you say first? Which number is further along the number track? Which number is greater? How do you know? Which is the smaller number? How do you know? What does each symbol mean? If 5 is less than 6, what else do you know?	___ is less/greater than___ ___ is equal to___ ___ = ___ ___ < > ___		Use 10 cubes. Place them into 3 piles. Order the piles from greatest to smallest. How many different ways can you find?	Children can also use their knowledge of representing numbers using objects to help them identify which of a pair of numbers is greater or less than the other. When zero is involved in a question, children may find this more challenging, as they find it harder to picture
Order objects and numbers (1NPV 2)	**To order sets of objects and numbers (up to 10)**	How did you compare the piles/groups? How do you know that group is the greatest? How do you know that group is the smallest? How many answers are there? How can you show this with cubes? How have these objects/numbers been ordered?	Group____ has the greatest amount of___ Group____ has the smallest amount of___ Group____ has the most___ Group____ has the fewest____		Game Roll a die.  Place a counter on the number line covering the number shown by the die. Work out how many jumps to 0 and how many to 10 Which is closer? If you rolled a 6 and did three jumps, what numbers could you land on? Can you roll a number where there are 7 and 3 jumps to 10 or 0? Which numbers could they be?	Expose children to different methods for ordering, such as comparing two groups initially, and lining groups up. Alongside the objects, introduce numbers so that children can begin to order a set of three numbers Children may misunderstand the language. Ensure you are consistent with your wording, particularly with the word "greatest". Often it gets replaced with "largest" or "biggest", which can be confusing for young children
The number line (1NPV 2)	**To recognise and count numbers to 10 on a number line**	How can you label the number line? How do you know where to put the numbers? What does each mark on the number line represent? Where does the number line start/end? How do you find 1 more/less on a number line? How can you use a number line to decide which number is greater? How much is each jump on the number line?	The first/last number on the number line is___ To find 1 more/less, I need to …			So far, children have only used number tracks, so they may be tempted to label the numbers in between the divisions on the number line
Post-assessment	WRH end of block place value assessment – snip as feel appropriate					