Old Town Infant School and Nursery

Coastal Learning PARTNERSHIP

MATHS MEDIUM TERM PLANNING

Year 1 – Place Value within 20 (Approximately 3 weeks)	
Objectives from Progression Document	**count to 20, forwards, beginning with 0 or 1** **count to 20, forwards and backwards, beginning with any given number** **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 20 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	**automatically recall number bonds to 5 (ELG)** **automatically recall some number bonds to 10 (ELG** **understand different ways of making numbers up to 10 (ELG)** **use visual representations* such as part-part whole up to 10** **solve real world mathematical problems with numbers up to ten** **Represent and use number bonds within 10** **add one-digit numbers to 10, including zero**
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 one more is one more 1 added To know that the numbers 11 to 19 ('teens' numbers) are one ten and some more ones To know that 10 is one ten and no more ones To know that 20 is two tens and no more ones
Number facts for fluency	Fluency Bee Stage 3: Introduction to addition and subtraction – add parts; subtract by partitioning; first, then, now (add more); first, then, now (take away) 1 more (within 10)
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 **1NPV-2** Reason about the location of numbers to 20 within the linear number system, including comparing using < > and = pages 13-15
NCETM Ready to Progress Exemplification https://www.ncetm.org.uk/classroom-resources/exemplification-of-ready-to-progress-criteria/	**1NPV-2** Numbers to 20 in the linear number system
Problem Solving and Reasoning Skills Objectives	explain why an answer is correct or incorrect show the working out and the answer clearly
Pre-assessment:	EYFS/Year 1 (autumn) place value – place value within 10

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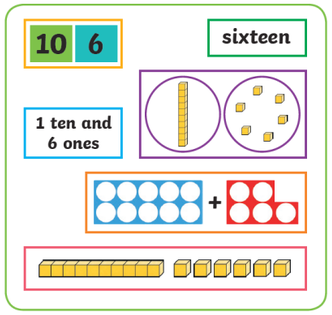
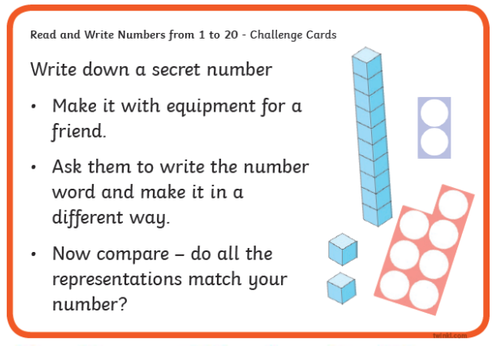
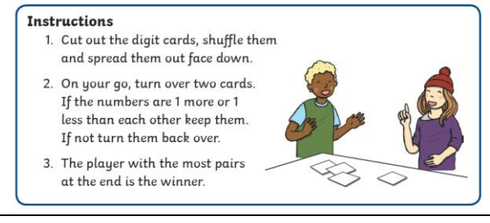
Sequence of Learning						Extension and greater depth opportunities
White Rose Small Steps	**Learning Intention**	**Key Questions**	**Sentence Stems**	**Comments**	**Problem-solving links**	
Count within 20 (1NPV 1)	**To count forwards and backwards within 20**	What number comes after ___? What number comes before ___? Which numbers sound different? Why? Which numbers after 10 do not include "teen"? How can you count 20 cubes/counters/pencils/ glue sticks? What songs do you know that count to 20?	The number that comes after ___ is ___. The number that comes before ___ is ___. There are ___ cubes.	Children may find the numbers 11, 12, 13 and 15 confusing, as they cannot hear the 1, 2, 3 and 5 within them. Children may find writing teen numbers tricky, in particular reversing the digits.	Biscuit Decorations (maths.org) Counting and skip counting. Introduction to language of ordinal numbers	
Understand 10	**To understand and represent 10 in different ways**	How many ways can you make 10? How do you know that you have made 10? Is 10 greater than 9 or less than 9? How many ones make 10? If you have one full ten frame, what number have you got? What is this piece of base 10 worth? How do you know?	The ten frame is full, so I know that I have made ___. There are ___ ones in 10. There are ___ ones in ten.	Children may struggle to understand that 1 ten is made up of 10 ones. Where 10 is represented using a single piece of equipment, children may struggle to recognise the 10 ones as they cannot physically break the representation apart.	Matching Numbers (maths.org) Match numeral to visual image. Reinforces abstract nature of numbers	
Understand 11, 12 and 13	**To understand that 11, 12 and 13 are made of 1 ten and some ones**	How can you show me 11 in three different ways? How much more than 10 is 12? How can you write the numbers 11, 12 and 13? Can you see 11/12/13 anywhere in the classroom? Does anyone have a brother or sister who is 11, 12 or 13? How many ones are there in 13? What is the same and what is different about 11, 12 and 13?	11 has ___ ten and ___ one. 12 has ___ ten and ___ ones. 13 has ___ ten and ___ ones.	Children may combine 10 with 1, 2 or 3 when writing the numbers, e.g. 103 instead of 13, because they can see 10 and 3 in their representation.		
Understand 14, 15 and 16	To understand and represent the numbers 14, 15 and 16 in different ways	How can you show me 14/15/16 in three different ways? How much more than 10 is 14/15/16? How can you write the numbers 14, 15 and 16? Can you see 14/15/16 anywhere in the classroom? Does anyone have a brother or sister who is 14, 15 or 16? How many ones are there in 16? What is the same and what is different about 14, 15 and 16?	14 has ___ ten and ___ ones. 15 has ___ ten and ___ ones. 16 has ___ ten and ___ ones	Children may reverse the digits, for example writing 41 instead of 14, because they say the 4 before "teen".	Writing Digits (maths.org) Supports representation of numbers	
Understand 17, 18 and 19	**To subitise empty spaces within a tens frame to identify 17, 18 and 19**	How can you show me 17/18/19 in three different ways? How much more than 10 is 17/18/19? How can you write the numbers 17, 18 and 19? Can you see 17/18/19 anywhere in the classroom?	17 has ___ ten and ___ ones. 18 has ___ ten and ___ ones. 19 has ___ ten and ___ ones. There are ___ empty spaces on the ten frame.	Children may reverse the digits, for example writing 71 instead of 17, because they say the 7 before "teen".		

What number could each child have made?

Which is the odd one out? How do you know?

Choose a number of your own. Show this number in different ways but make one incorrect. Ask your partner to find the odd one out.



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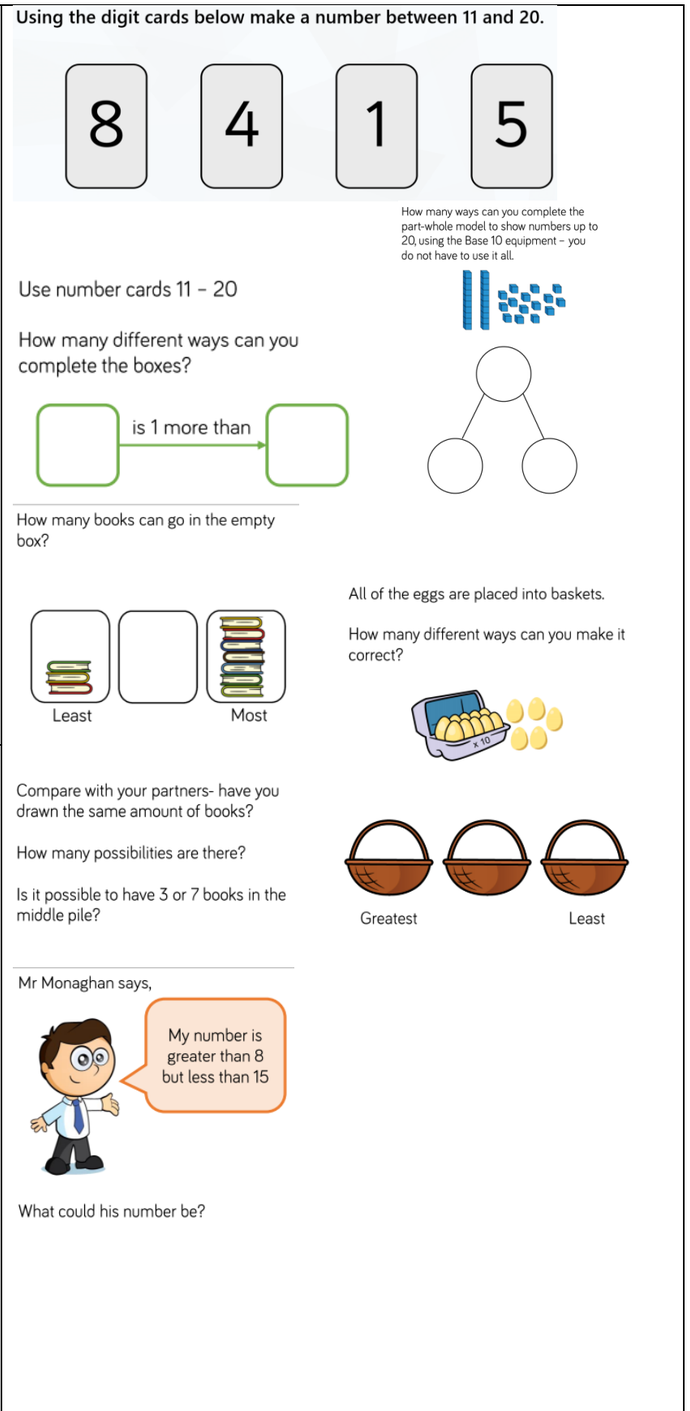
		How many ones are there in 19? What is the same and what is different about 17, 18 and 19? When you make 18 on a ten frame, how many spaces are empty?			
Understand 20	**To understand that 20 is made up of 2 tens**	How many ways can you make 20? How do you know that you have made 20? Is 20 greater than 19 or less than 19? How many ones make 20? How many tens make 20? If you have two full ten frames, what number have you got? How many pieces of base 10 do you need to make 20?	Two ten frames are full, so I know that I have made ___. There are ___ ones in 20. There are ___ tens in 20.	Where 20 is represented using two single pieces of equipment, children may struggle to recognise the 10 ones in each ten as they cannot physically break the representation apart. Children may not understand that, when counting, 20 comes after 19.	
One more and one less (1NPV 1)	**To count one more and one fewer with numbers 11 to 20**	How can you show the number ___? How can you find 1 more? How does this change the number? Which digit changes? How can you find 1 less? How does this change the number? What is the same and what is different about finding 1 more and finding 1 less? When you are finding 1 more or 1 less, which digit changes? Is it always the same digit?	___ is 1 more than ___. ___ is 1 less than ___. 1 more than ___ is ___. 1 less than ___ is ___.	Children who are not are fully secure with counting and one-to-one correspondence may struggle with 1 more and 1 less.	
The number line to 20	**To count forwards and backwards within 20, using 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 can you use a number line to decide which number is greater? How much is each jump on the number line?	The first number on the number line is ___. The last number on the number line is ___.	When labelling a number line, children may write the numbers in between divisions, as they do on number tracks, rather than on divisions. Children may assume that all number lines start at zero.	
Use a number line to 20	To understand how to label a number line to 20	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? What does each jump on the number line represent?	The first number on the number line is ___. The last number on the number line is ___. To find 1 more/less, I need to…	When completing a partially labelled number line, children may assume that the number line starts at 1, not zero, or they may try to guess the numbers, rather than count to check.	
Estimate on a number line to 20	To identify half way when estimating on a number line to 20	What does “estimate” mean? Can you find halfway? What number is halfway on the number line? Is 7 more or less than the number?	___ is halfway along the number line. ___ is closer to ___ than ___	Some children may be reluctant to estimate in case they get it wrong. Introduce estimation in a fun, game-like way.	



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		Will halfway on the number line always be 5? What if the number line starts at zero and ends at 20? What number is halfway now? Can you explain your thinking? Where is 15 on the number line? How do you know?				
Compare numbers to 20 (1NPV 2)	**To compare two numbers up to 20**	When you count from zero, which of the numbers do you say first? Which number is further along the number line? Which number is greater? How do you know? Which is the smaller number? How do you know? What does each symbol mean? Can you tell me a number that is less/greater than ____?	___ is less/greater than ___. ___ is equal to ___.	Children may think that, for example, 7 is greater than 15 because 7 is greater than 5. Children may find it more difficult to compare numbers to zero as it is harder to visualise.		
Order numbers to 20(1NPV 2)	**To use place value to order sets of numbers up to 20**	How did you compare the groups? How do you know that group has the most/fewest? How do you know that group is the greatest/smallest? How can you show the numbers using cubes or counters? Do you need to start with the smallest or the greatest number? Which number is the greatest/smallest? How do you know? Do all the numbers have tens? How does this help?	___ has ___ ten and ___ ones. ___ ones is greater/less than ___ ones, so ___ is greater/less than ___. The greatest/smallest number is ___.	Children may compare the ones in a number without considering the tens and so think that 8 is greater than 15, because 8 is greater than 5. Children may struggle with descending order, and think that numbers can only be ordered from smallest to greatest.		
Post-assessment: WRH end of block place value assessment – snip as feel appropriate						