Old Town Infant School and Nursery

MATHS MEDIUM TERM PLANNING

Coastal Learning PARTNERSHIP

Year 2 – Place Value (Approximately 4 weeks)	
Objectives from Progression Document	**count in multiples of threes, fives and tens** **estimate one and two digit numbers using different representations*** **estimate one and two digit numbers using the number line** **count, read and write numbers to 100 in numerals and words** **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 **solve problems related to place value and number**
Previous Learning	**count to and across 100, forwards, beginning with 0 or 1** **count to and across 100, forwards and backwards, beginning with any given number** **count to and across 100, backwards, beginning with any given number** **count in multiples of twos** **begin to recognise odd and even numbers** **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**
Vocabulary	numbers to one hundred, hundreds, partition, recombine
Key fact(s)	To know that 10 ones can be grouped as one 10 To know that numbers can be partitioned in different ways
Number facts for fluency	Fluency Bee Stage 1: Composition of 6 and 7 Composition of 8 and 9
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	**2NPV-1** Place Value in 2-digit numbers page 12-13 **2NPV -2** 2-digit numbers in the linear number system pages 13 -16
NCETM Ready to Progress Exemplification https://www.ncetm.org.uk/classroom-resources/exemplification-of-ready-to-progress-criteria/	**2NPV-1** Place value in 2 digit numbers **2NPV -2** Two digit numbers in the linear number system
Problem Solving and Reasoning Skills Objectives	justify their reasoning logically, using phrases, such as 'I know that… so… ' or 'I am sure of that because… explain why an answer is correct or incorrect explain what they have found out using mathematical language
Pre-assessment:	Year 1 place value – numbers within 10; numbers within 20, numbers within 100

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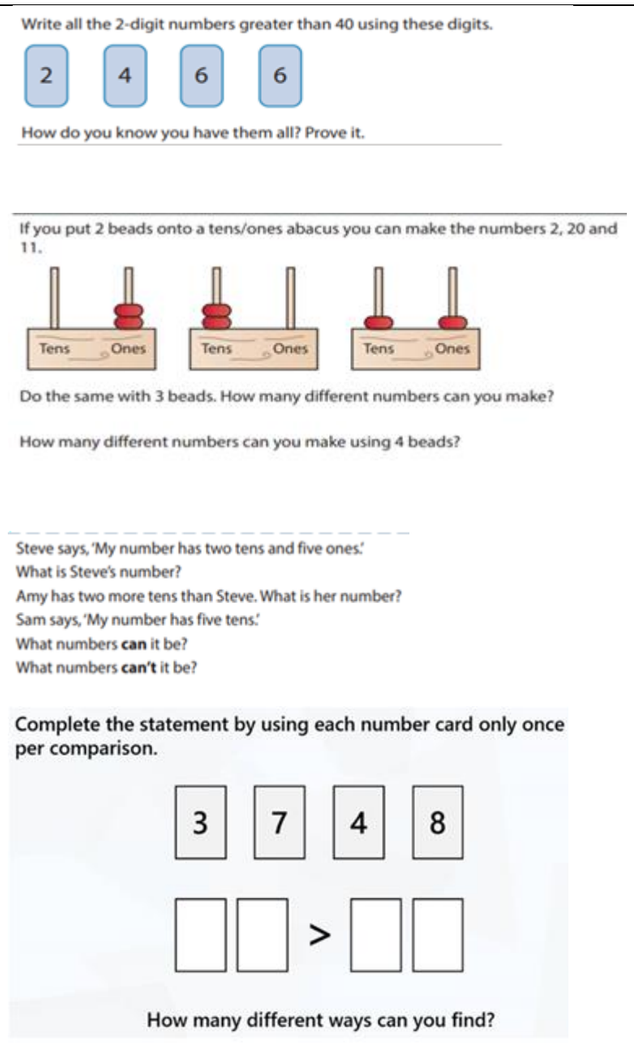
Sequence of Learning						
White Rose Small Steps	**Learning Intention**	**Key Questions**	**Sentence Stems**	**Comments**	**Problem-solving links**	**Extension and Greater Depth Opportunities**
Numbers to 20 *(Revisit from Year 1)*	**To represent numbers to 20.**	How many are there? How did you count them? What number comes before/after? How do you write in words? How do you write in numerals? What number is made up of 1 ten and ones?	There is 1 ten and___ ones. The number is____ The number after___ is ___ The number before___ is____ ____ in words is ____ ____ in numerals is ____	Numbers such as 11, 12, 13 and 15 can often be sticking points for children as the word does not make specific reference to the number of ones as it does later in the number system. Children may write, for example, 12 as "ten-two" in words rather than "twelve" Children may mix up the tens and ones digits when writing 2-digit numbers.	Writing Digits (maths.org) Practising and writing numbers to 20.	
Count objects to 100 by making 10s	To represent numbers to 100 by making 10s.	How many are there? How did you count them? How many are in each group/bundle? How many extra are there? How many are there in total? How do you write in numerals? What number is made up of tens and ones?	There are ___ groups of 10 and ____more. The number is____	The use of straws can support this learning as children can physically bundle them into tens to support their counting. This then helps children to understand the structure of a number. Children may try to count only in ones rather than making bundles of 10, which is less efficient and is more likely to result in basic counting errors Children may find it harder to make numbers that have been said out loud, for example being told "thirty-five" rather than seeing "35" written.	Snail One Hundred (maths.org) Game to practise counting to 100.	
Recognise tens and ones	To represent numbers to 100 in tens and ones	How many are there? How did you count them? What does each piece represent? Where can you see the ten? Do you need to count each one individually? How many are there in each box/pack?	There are ____ groups of 10 and ____ more. There are ___ in total. There are ____ tens and ____ ones. The number is____	Some children may revert to counting in ones rather than using their earlier learning of making tens.	6 Beads (maths.org) Investigating making TO numbers with 6 beads on an abacus. Reasoning about place value, positivity about mathematics.	
Use a place value chart	To understand how 2-digit numbers are built from tens and ones using a place value chart	What number is represented? How many tens/ones are there? How does the place value chart show the number? What do you do if there are no ones? What does the digit represent? Which column do you write in? Why can you not write a digit greater than 9 in a place value column?	There are ___ tens and ___ ones. The number is____ ____ is made up of ___ tens and ___ ones	Children will need practice with numbers such as 20 and single digit numbers.		
Partition numbers to 100	To use a part-whole model to represent tens and ones in a 2-digit number	How many tens are there? How many ones are there? What is the number? What is the whole? What are the parts? Does it matter which way round you draw the parts?	There are ___ tens and ___ ones. The number is ___ ___ is a part and ___ is a part. The whole is ___	Children may partition a number into its digits rather than considering the value of each digit, for example stating that 32 is made up of 3 and 2 When the parts of a part-whole model are "the wrong way round", children may interpret the whole incorrectly.		
Write numbers to 100 in words	To represent numbers to 100 in numerals.	How many tens are there? How do you write that in words? How many ones are there?	____ tens in words is____ and____ ones in words is____ There are___ tens. In words, this is___.			

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		How do you write that in words? How do you write in words? How do you write in numerals?	There are ____ones. In words, this is____		
Flexibly partition numbers to 100	**To understand that a 2-digit number can be partitioned in multiple ways.**	How many tens are there? How many ones are there? How many straws are there in each bundle? If you unbundle one lot of 10, how many tens are there now? How many ones? How many ones are there in each ten? How else can you partition the number?	There are ___ tens and ___ ones. The number is___. _____ can be partitioned into ____ and ____	While there are numerous ways to partition numbers flexibly, the focus here is on "unbundling" 10s rather than more unusual partitions. Children may think you are not "allowed" to have more than 9 individual objects, such as 1 bundle of 10 straws and 17 more straws	
Write numbers to 100 in expanded form	To represent and record numbers to 100 in the expanded form.	How many tens are there in___? How many ones are there in___? How do you write that as a number sentence? What number is equal to ___+___? How does the part-whole model link to the number sentence? How can you write the other partitions as a number sentence?	There are ___ tens and ___ones. The number is ___ ___ is a part, ____ is a part and the whole is____ ____is made up of ___ tens and___ ones. ____ is equal to____ plus____	Incorrect mathematical language can hinder understanding. For example, if children refer to the = symbol as "makes", then "32 makes 30 plus 2" makes less sense than "32 is equal to 30 plus 2".	
10s on the number line to 100	To use a number line to represent numbers to 100	What is the value at the start point of the number line? What is the value at the end point of the number line? How many intervals are there? What is the number line counting up in? How do you know? Where would be on the number line? How do you know? What number is the arrow pointing to? How do you know?	The start point is____ and the end point is____ There are ____ intervals on the number line. Each interval is worth ____ The number line is counting up in _____s.	While it is not always necessary to label every division when identifying or finding the position of a number, it can promote good habits, so encourage children to do this step as a method of checking their answers	Tug of War (maths.org) Moving forwards and back along a number line.
10s and 1s on the number line to 100	To use a number line to represent numbers to 100	What is the value at the start point of the number line? What is the value at the end point of the number line? How many intervals are there? What is the number line counting up in? How do you know? Where would_____ be on the number line? How do you know? What number is the arrow pointing to? How do you know?	The start point is____ and the end point is____ There are____ intervals on the number line. Each interval is worth ____ The number line is counting up in _____	It is important that children can label a number line. Using this knowledge, they can identify and find the position of given numbers on the number line.	
Estimate numbers on a number line	To use knowledge of tens and ones to estimate where to place a number on a number line.	What is the value at the start point? What is the value at the end point? Which two intervals is ____ between? What number is halfway between____ and____ ?	The start point is____ and the end point is_____ There are_____ intervals on the number line. Each interval is worth_____ The number line is counting up in_____	Encourage children to use their number sense to first decide which two intervals a number lies between,	

How many two digit numbers can you make using the digit cards?

What is the largest number?
Prove it by using concrete resources.

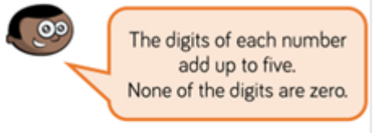
What is the smallest number?
Prove it by using concrete resources.

Why can't the 0 be used as a tens number?

How many two digit numbers can you make that have the same number of tens and ones?

Show each one on a place value chart.

Mo has written a list of 2-digit numbers.



Can you find all the numbers Mo could have written?

Write the numbers in order from smallest to largest.

What strategy did you use?

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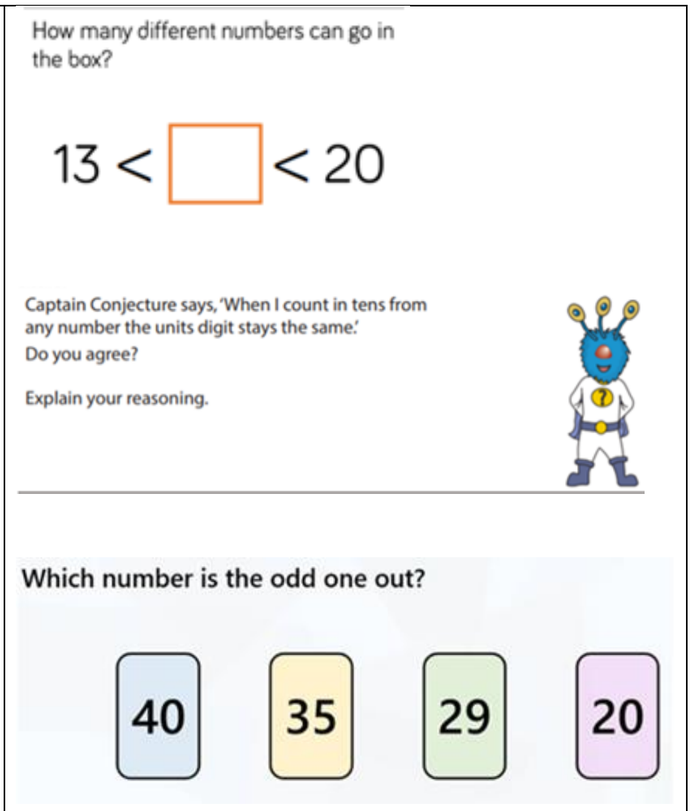
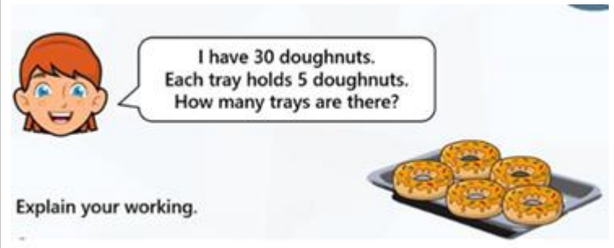
		Which multiple of 10 is ____ closer to? Why can you only estimate the position of _____ on the number line?	_____ is closer to ____ than to ____	
Compare objects (NPV 2)	**To compare visual representations of numbers**	How can you arrange the objects to make them easy to compare? How did you count the objects? Do groups of 10 help you to count? Why? Do groups of 10 help you to compare? Why? Which shows more? How do you know?	There are ____ objects in set A than in set B. Tom has ____ objects. Kim has ____ objects. Tom has ____ objects than Kim. Kim has ____objects than Tom	Children may only count the total number of objects rather than considering the value of each individual object The use of the inequality symbols can often be a sticking point and some children will require a recap of these.
Compare numbers (NPV 2)	**To compare numbers to 50**	Can you show your answers using base 10/counters/cubes? Can you show your answers by drawing a picture? Is there more than one answer? How does a number line help you to compare numbers? Do you need to work out the number sentences to decide which is greater/smaller?	____ is equal to____ tens and ____ones. ____ tens is ____ than tens. ____ is greater than____ because … ____ is less than ____ because …	The use of the inequality symbols can often be a sticking point and some children will require a recap of these.
Order objects and numbers **(NPV 2)**	**To order sets of objects and numbers up to 50**	How does the number line help you order the numbers? How does base 10 show that your order is correct? How do you know which picture shows the smallest/greatest number? Did you look at the tens or ones to help you order?	____ has the most balloons because ... ___ is greater than because … ____ is less than because … ____The greatest number is because The smallest number is ____ because…	Children may use inequality symbols incorrectly, thinking that they can write, for example, 3 < 5 > 1. Make children aware that inequality symbols cannot be used in this way and that the correct way to record this would be either 1 < 3 < 5 or 5 > 3 > 1. When using more than one symbol in a chain, it should be the same symbol.
Count in 2s, 5s and 10s	To be able to count in 2s, 5s and 10s.	How many do you need to count on each time? How do you know? When counting forwards, do the numbers get greater or smaller? When counting backwards, do the numbers get greater or smaller? Do you notice any patterns? What happens to the ones digit when counting in 10s? What do you notice about the numbers when you are counting in 5s? What do you notice about the numbers when you are counting in 2s?	When counting forwards/backwards in 2s/5s/10s, the number after___ is ____	The use of concrete resources such as counters and Rekenreks can support children's understanding of counting in multiples of 2, 5 and 10. Encourage them to spot patterns within numbers when counting, for example recognising that when counting in 10s, the ones digit does not change.
Count in 3s	To be able to count in 3s	How many do you need to count on each time? How do you know? When counting forwards, do the numbers get greater or smaller?	When counting forwards in 3s, the number after____ is____ When counting backwards in 3s, the number after____ is ____	Children may not cross the 10 boundary and instead use 3 ones as the starting point each time.





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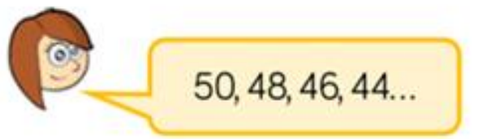
		When counting backwards, do the numbers get greater or smaller? Do you notice any patterns? What do you notice about the numbers when you are counting in 3s? What is different about counting in 2s and counting in 3s? How many jumps do you need to draw on the number line each time? How do you know?				Rosie counts back from 50 in 2s. Amir counts up from 12 in 2s.   They say their numbers together. Who will say 30 first.
Post-assessment:	WRH end of block place value assessment – snip as feel appropriate Previous addition and subtraction SATs questions – snip as feel appropriate					