

Dereham Church of England Infant and Nursery Academy- Mathematics

	Year group: 1	Area/topic: Mathematics- Place value within 100
	Count to and across 100, forwards and backwards, beginning with zero or 1, or from any given number Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least	

Prior learning	Future learning
In the spring term the children completed a block focusing on place value to 50	This place value will be applied and used in all future maths areas.

What pupils need to know or do to be secure	
Key knowledge and skills	Possible evidence
Count from 50 to 100	Say a starting number and ask children to count on from that number together. You could point up or down to indicate whether they need to count forwards or backwards. To extend this activity, children could give you a starting number and you could make some deliberate mistakes for them to spot.

Provide children with hundred squares, dice and counters. In pairs, children take turns to roll a dice and move a counter the corresponding numbers of spaces on a hundred square. Encourage children to say the number on each space as they move, not the number they have rolled on the dice. The aim of the game is to be the first to reach 100. Children could also start at 100 and race backwards to zero.

Read *One Is a Snail, Ten Is a Crab* by April Pulley Sayre and Jeff Sayre. Ask children to select a creature, count the number of legs and place that number of counters on ten frames. The aim of the game is to be the first to 100. Encourage children to count on as they place their counters on their ten frames.

Tom writes the numbers in a hundred square.

Help him to fill in the gaps.

1	2	3	4	5	6	7	8	9	10
	12	13	14	15	16	17		19	20
21	22	23	24	25	26	27	28		
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48		
	52	53		55	56	57	58	59	60
61	62	63	64	65		67	68	69	
	72	73	74	75	76	77			80
	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98		

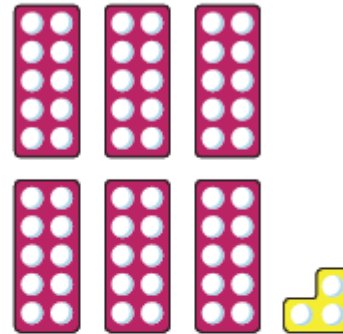
How did you know which numbers to write?



Tens to 100

Show children representations of numbers, some of which show multiples of 10 and some that do not. Ask them to decide if the number shown is a multiple of 10 and to explain how they know.

Tiny uses number pieces to make a number.



$$6 + 3 = 9$$

What mistake has Tiny made?

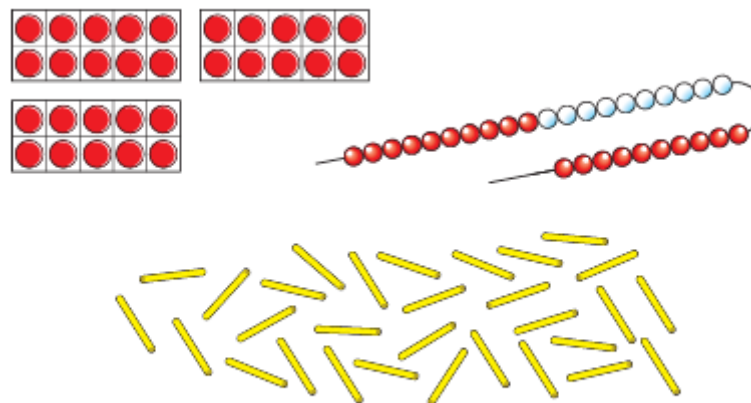
What number is shown?

How do you know?



Partition into tens and ones

What is the same? What is different?

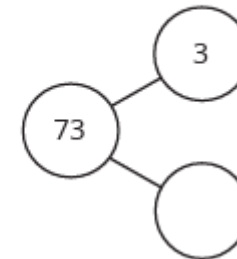
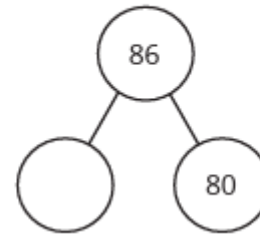
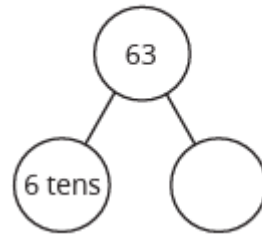


Which is easiest to count? Why?

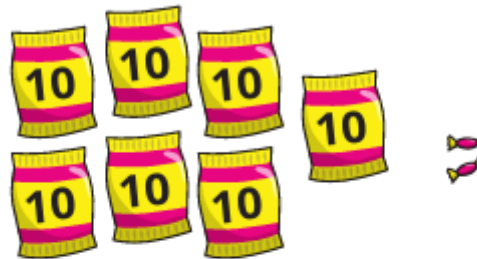
Read Penguin Place Value by Kathleen L. Stone and ask questions about the book. How many fish have the penguins caught? How many groups of ten were there? How many extra ones are there? Ask children to draw a part-whole model for the number of fish caught.

Provide children with 9 tens and 9 ones in base 10 and ask them to make a number using some of their base 10. They can then partition their number into tens and ones. Ask children to complete a part-whole model to show their number.

- Complete the part-whole models.



Tiny is working out how many sweets there are.



There are
9 sweets.

Do you agree with Tiny?
Explain your answer.

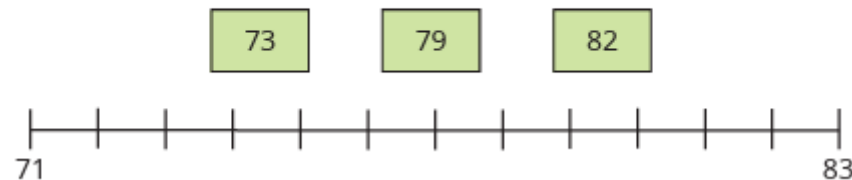


The numberline to 100

Use chalk to draw number lines with different start and end point values on the playground so that the number line is always counting in 1s. Children practise starting on a given number and hopping to another. Discuss which numbers they land on.

Provide children with a number line and digit cards from 0 to 9. Children take turns to pick a digit card to complete the 2-digit number. They then write their number in the correct position on the number line. This could be extended to number lines with different start and end point values for example 54 to 66, to see if there are other 2-digit numbers that could be made using the digit cards.

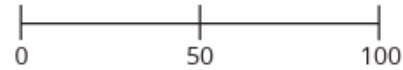
Draw arrows to show where the numbers belong on the number line.



Tiny estimates where the numbers belong on the number line.



21	53	94	48
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I know that
21 is to the left
of 50

Explain why Tiny is correct.



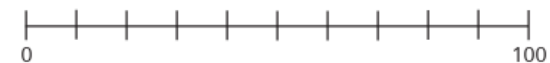
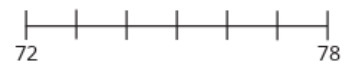
Write **left** or **right** to complete the sentences.

53 is to the _____ of 50

94 is to the _____ of 50

48 is to the _____ of 50

Label 75 on each number line.



Which number line was easiest to label?

Which number line was hardest to label?



One more, one less

Choose a number. On a hundred square, remove or cover up the numbers before and after your number. Ask children to tell you 1 more and 1 less than your number.

Ask children to build different 2-digit numbers using base 10. They then explore how to use the base 10 to find 1 more or 1 less than their starting number. Discuss what happens if their number has 9 ones and they find 1 more, or zero ones and they find 1 less.

Provide children with a 3×3 grid to play "1 more, 1 less bingo". Ask children to put a number between 50 and 100 in each box. Call out numbers between 50 and 100. Children can only cross out a number on their grid if it is 1 more or 1 less than the number called out.

- Part of a hundred square has been cut out.

		37			
	46	47			
55		57			
65					

Fill in the missing numbers.

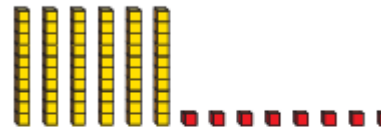
Compare numbers with the same number of tens

Move 2 ones to make the statements correct.

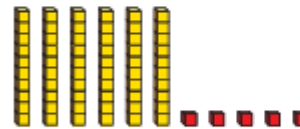
- Ron has 1 more than Kim
- Jo has 1 less than Kim



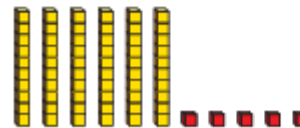
Kim



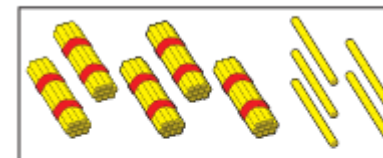
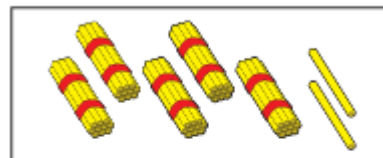
Ron



Jo



Complete the sentences to compare the numbers.



There are _____ tens in each number.

2 ones is _____ than 5 ones.

So 52 is _____ than 55

Complete the statements.

$80 < 8_$

$75 > 7_$

$66 < 6_$

$51 > 5_$

$98 < 9_$

Is there more than one way to complete any of the statements?



When I compare 2-digit numbers with the same number of tens, I only need to compare the number of ones.

Do you agree with Tiny?

Explain your answer.



Compare any two numbers

Put children into pairs. Each child needs base 10 and two 0-9 dice. Both children roll their dice to make a 2-digit number. The first dice gives the number of tens and the second dice the number of ones. Children then use base 10 to build their numbers and compare them using the inequality symbols.

- Estimate where the numbers belong on the number line.



Write $<$, $>$ or $=$ to compare the numbers.

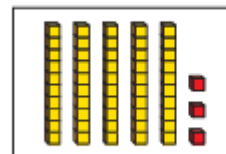
55 75

69 75

75 81

81 69

What could the missing number be?



$>$

$>$

7 ones and
4 tens

How many possible answers can you find?



Key vocabulary	
After, before, similar, tens, ones, whole, parts, before, after, value, more, less, digit, greater than, less than, more, fewer,	
Common misconceptions	Books linking to this area
Children may struggle to count when crossing a tens boundary, for example 59, 60, 61 Children may confuse the pronunciation of the “teen” numbers with the “ty” numbers, for example fifteen and fifty. Children may not see the equivalence between 10 ones and 1 ten. Children may partition the number into its digits, rather than considering the value of each digit, for example stating that 64 is made up of 6 and 4 Children may find it confusing if the parts are shown in a non-standard order and may write that, for example, 2 and 80 are equal to 280 or 28 rather than 82 Children may struggle to label a number line if it crosses a multiple of 10 Children may assume that all number lines start at zero or count in 1s. Children can find counting backwards more challenging and miss out numbers or say them in the wrong order. Children may struggle to identify 1 more or 1 less when the number crosses a multiple of 10 When using base 10, children may add or remove a ten rather than a one piece. As a result, they find 10 more or less rather than 1 more or less. Children may confuse the inequality symbols	One is a snail, ten is a crab by April Pulley Sayre and Jeff Sayre Penguin place by Kathleen L sone

Memorable first hand experiences	Opportunities for communication
Play a selection of games as listed in the suggested activities above Chalk a range of large number lines on the playground Play bingo Use a range of manipulatives including dienes/base 10	Ask key questions and discuss Share possible sentences stems and explore

DCINA Reasonable adjustments for pupils with SEND

Communication and Interaction Use a range of visual aids Give clear instructions one at a time Repetition Provide simple instructions Pre teach vocabulary Use working wall where modelling is displayed Give children thinking time Model task	Cognition and Learning Check understanding regularly Allow rest breaks Give thinking time Colour code signs that could be confusing Work checklists Break down tasks into small steps Give opportunities for over-learning
Social, Emotional and Mental health Allow access to a quiet and calm space Give child a special role to increase self esteem Provide a visual support- what to do if you are stuck Provide a movement break Seat pupil by more confident peer Now and next board Sand timers Movement breaks Break down tasks into small steps	Sensory and Physical Consider carpet space position Reduce background noise Provide a range of manipulatives- dienes may be too small Appropriate seating Wobble boards Writing slope Enlarge text Variety of writing tools available