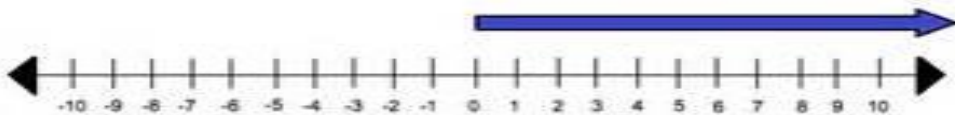


## Number & Place Value: Count from 0 in multiples of 4, 8, 50 and 100:

Learning focus	Count in multiples of 4 Count forwards in multiples of 4 from 0. Count backwards in multiples of 4 from any multiple up to 12×.
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### Greater Depth Challenge:



If you start on 8 and count backwards in 4, what will happen?  
Can you explain what you notice?  
What is the same? What is different?

### Greater Depth Challenge:

Start on an even number and count in 4s.  
What are the next 5 numbers?

Start on an odd number and count in 4s.  
What are the next 5 numbers?

What do you notice about the numbers in each sequence?  
What rule can you create?

### Greater Depth Challenge:

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

What patterns do you notice?

Why does it occur?

What rules can you create?

### Greater Depth Challenge:

Sarah says the following numbers are multiples of 4:

**144, 140, 136, 124**

How can you prove this?

What are the next 4 numbers in the sequence?

Learning focus	Count in multiples of 8 Count forwards in multiples of 8 from 0. Count backwards in multiples of 8 from any multiple up to 12x.
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Greater Depth Challenge:

Billy says “If you can count in 4s then you can use this to help you count in 8s...”

Is he right?

How many different ways can you use to prove this?

Greater Depth Challenge:

Start on an even number and count in 8s.

What are the next 5 numbers?

Start on an odd number and count in 8s.

What are the next 5 numbers?

What do you notice about the numbers in each sequence?

What rule can you create?

Greater Depth Challenge:

Sarah says the following numbers are multiples of 8:

**“152, 144, 136, 128...”**

How can you prove this?

What are the next 4 numbers in the sequence?

Are any of these multiples of 4?

What is the connection?

Greater Depth Challenge:

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Can you mark the multiples of 8?  
What do you notice?  
Can you create a rule?

Learning focus

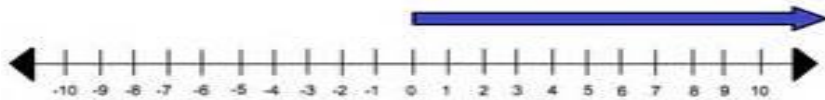
Count in multiples of 50

Count forwards in multiples of 50 from 0.

Count backwards in multiples of 50 from any multiple up to  $12 \times$ .

Greater Depth Challenge:

**144, 94, 44, \_**



What is the next number in the sequence?  
What is happening? Can you explain it?

Greater Depth Challenge:

10	20	30	40	50	60	70	80	90	100
110	120	130	140	150	160	170	180	190	200
210	220	230	240	250	260	270	280	290	300
310	320	330	340	350	360	370	380	390	400
410	420	430	440	450	460	470	480	490	500
510	520	530	540	550	560	570	580	590	600
610	620	630	640	650	660	670	680	690	700
710	720	730	740	750	760	770	780	790	800
810	820	830	840	850	860	870	880	890	900
910	920	930	940	950	960	970	980	990	1000

Think of the multiples of 5.  
Can you use this knowledge to identify the multiples of 50?  
What is the relationship between multiples of 5 and 50?

Learning focus

Count in multiples of 100  
Count forwards in multiples of 50 from 0.  
Count backwards in multiples of 50 from any multiple up to  $12\times$ .

Greater Depth Challenge:

If I start counting in 10s from 7 my sequence will be:

**7,17,27,37**

What will my sequence be if I start at 70 and count in 100s?

What is the relationship between 10 and 100?

Greater Depth Challenge:

I am counting in 100s from 779.

Annie says the sequence should continue as:

**“779, 879, 979, 10079...”**

Do you agree? How can you explain your reasoning?

**Number & Place Value: find 10 or 100 more or less than a given number**

Learning focus	Record the number that is 10 more or 10 less than any number. Explain the effect on the digits when counting in 10s and the impact of crossing boundaries when moving between 100 and 100s.
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Greater Depth Challenge:

$$299 + 10 = \square - 10$$

What is the missing number?  
How do you know?  
Can you prove it?

Greater Depth Challenge:



$$39 - 10 \square 35 + 10$$

<, >, =

What is the missing symbol?  
How do you know?

Greater Depth Challenge:

Here is 99:

Hundreds	tens	ones
		

What will it look when you add 10?  
What happens to each column and why?  
Can you draw it?

Greater Depth Challenge:

Joshua says " $899 + 10 = 9009$ "

Is he correct?

Explain how you know.

Can you explain how Joshua found his answer?

Learning focus

Record the number that is 100 more or 100 less than any number.  
Explain the effect on the digits when counting in 100s and the impact of crossing boundaries when moving between 100s and 1,000

Greater Depth Challenge:

$$589 + 100 = \square - 100$$

What is the missing number?

How do you know?

Can you prove it?

Greater Depth Challenge:

$$509 - 100 \square 35 + 10$$

<, >, =

What is the missing symbol?

How do you know?

**Number & Place Value: Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).**

Learning focus	<p>Know the value of any digit in a three-digit number, including 0 as a place holder, e.g., Know that 500, has a zero in the tens and ones columns.</p> <p>Know that, in a three-digit number, the hundreds digit is the most significant in determining size, followed by the tens then the ones.</p>
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Greater Depth Challenge:

Billy says **“499 is larger than 501 because it has two 9s.”**

Do you agree?

Explain why/ why not.

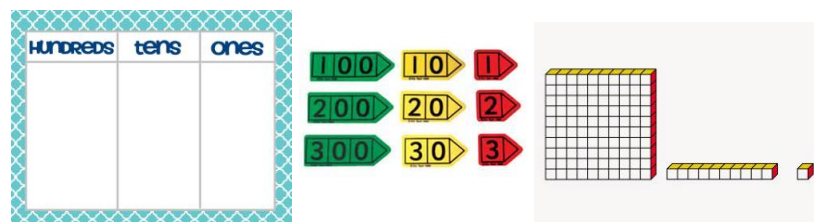
Why do you think Billy thinks this?

Greater Depth Challenge:

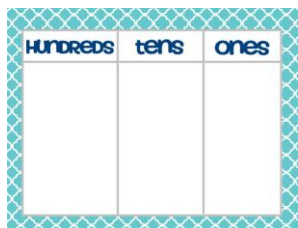
Sarah says **“601 is smaller than 579 because it has a zero in it.”**

Can you use each of these models to explain if she is correct or incorrect?

You can use diagrams and drawings to help



Greater Depth Challenge:



Amy says **“406, 604, 460 and 640 will all be represented by the same place value counters because they have the same digits.”**

Is she correct?

Can you prove it? Draw on the place value counters to help you.

Greater Depth Challenge:

Annie and Sam are playing a game using number cards. They each choose three number cards to create the largest number. Whoever has the largest number, wins the game.

**Annie's cards**

4 8 1

**Sam's cards are**

6 7 5

Who should win the game? Can you explain how you know?

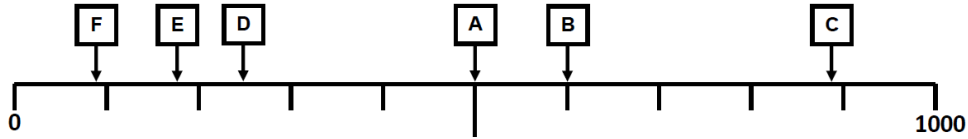
Learning focus

Identify and accurately position three-digit numbers on a number line, with and without interval markings.

Greater Depth Challenge:

What numbers do you think each of these letters could represent?

Explain your reasoning!





Learning focus

Partition three-digit numbers into hundreds, tens and ones in different ways, e.g.,  $146 = 100$  and  $40$  and  $6$ ,  $146 = 130$  and  $16$ .

Greater Depth Challenge:

Billy partitioned 657 in the following ways:

$$600 + 50 + 7$$

$$640 + 17$$

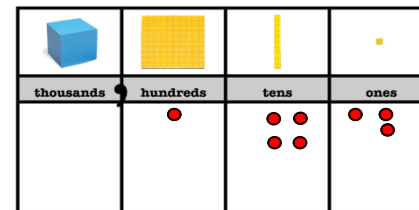
What is the same?

What is different?

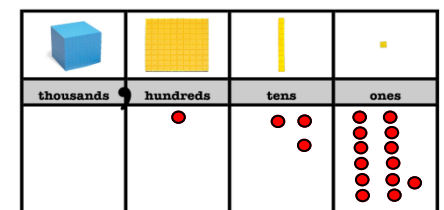
Greater Depth Challenge:

Annie has partitioned 143 in two different ways. How did she do both ways? Can you explain what the same is and what is different?

Place Value Chart



Place Value Chart



**Number & Place Value: Compare and order numbers.**

Learning focus	Describe the positional relationship between two numbers, e.g., 345 is larger than 300 but smaller than 400.. Compare numbers / quantities, e.g., 306 is larger than 105 but smaller than 456. Use symbols < >, correctly orientated, and = to compare numbers up to 1,000, e.g., Place a number and a symbol to make this number sentence correct, $\square < 312$ $\square > 321$ .
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Greater Depth Challenge:

Phoebe says that the closest hundreds to 345 are 200 and 400.

Can you draw a number line to prove if she is correct or incorrect?

Why do you think she said this?

Greater Depth Challenge:

What number should go in the box?

Billy says it should be 300. Do you agree? Why/ why not?



Greater Depth Challenge:

463

$< 500$

Which box would you match each number with?

163

$< 1000$

Is there more than one possibility for each number?

999

$< 170$

99

$< 100$

349

$< 350$

Why is this?  
How many different possibilities can you find?

Learning focus

Order a selection of numbers / quantities up to 1,000 in ascending / descending order.

Greater Depth Challenge:

**2 9**

**4**  **1**

**0 9**

**6**

Insert a digit into each box so that the numbers are in descending order.

Is there more than one way of doing this?  
Which digits can you place into the first and last number to create the largest difference?

**Number & Place Value: Read and write numbers up to 1,000 in numerals and in words.**

Learning focus

Read numbers 1 to 1,000 in numerals on number lines, etc.

Write a given numbers in numerals, using place keeping zeros accurately, e.g., 909.

Greater Depth Challenge:

Sally has **756**.

In my number I have **0 ones and 0 tens** but my number is still larger than Sally's!

What could my number be?

How can you prove this?

Greater Depth Challenge:

Sally and Tom pick 3 number cards each.

Sally says "My number is closer to 1000 but Tom's number is closer to 0."

What 3 cards could they each have picked?

