

Number & Place Value: Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit.

Learning focus	Read large numbers, recognising when to change between hundreds, thousands, millions, etc., by counting the
	digits to the left of any decimal place in chunks of three.
	Write large numbers accurately, optionally inserting commas every three places to the left of the decimal place for
	numbers larger than 999 (but not to the right - 4,567·123456 is correct).

Creater Depth Challenge: What is the value of the 5 in 4750.9? Can you give an example of using the digit 5 in a different place value? Explain these using sentence starters such as: The value of the 5 is (tens) because The value of the 5 cannot be (hundreds) because	Creater Depth Challenge:Make the 4 in 4750.9 ten times bigger.Can you show me an example of a number where the 4 is ten times bigger?
Greater Depth Challenge: How many thousand <u>ths</u> are in one thousand? How do you know?	Greater Depth Challenge: Sarah says that any number with seven digits is worth at least one million. Is Sarah always correct? Explain your answer!



Learning focusPartition numbers into millions, hundred thousands, ten thousands, thousands, hundreds, tens and ones, using
apparatus if require, e.g., digit cards or a place value grid.
Partition up to seven-digit numbers in different ways, e.g., 92,150 = 80,000 + 12,000 + 100 + 50.

*MathsHUBS MathsHUBS **Greater Depth Challenge: Greater Depth Challenge:** How many hundred thousands are there Write a six digit number where the 5 has a ten between **3897652** and **8729373**? thousand value. Explain your reasoning. Could you make your number 10 times larger in value but keeping the 5 as ten thousand? Explain your reasoning. MathsHUBS MathsHUBS London South Wes ondon South West **Greater Depth Challenge: Greater Depth Challenge:** True or False Billy has partitioned a number. He says that... 5,345,675= 600 + 300,000 + 70 + 5,000,000 + 40,000 + 5 +5000"6,392,836 = 500 + 6 + 300,000 + 300 + 2000 + 6.0000.000+90.000+30" 72,538 = 40,000 + 10,000 + 22,000 + 500 + 30 + 8 Is he right? Explain your answer. Prove this.



Learning focusKnow the value of any digit in a number up to 1 million, e.g., Explain which has the greater value, the
5 in 3,215,067 or the 5 in 856,207.

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Greater Depth Challenge:

Write down 2 numbers between 500000 and 3000 that have the digit 4.4 has to be 100 times bigger in your first number than

in your second number.

Is there more than one solution?

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Greater Depth Challenge:

5012345, 015234, 012354, 01234.5

What pattern do you notice in this sequence?

Greater Depth Challenge:

I think of a five digit number. The difference between the thousand digit and the hundreds digit is 2 The tens digit is one less than the hundreds digit. The ones digit is the same as the ten thousand digit.

> What could my number be? How many solutions can you find?

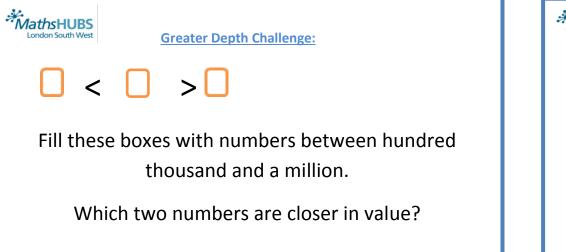


Learning focusOrder whole numbers with up to seven-digits and know that the number of digits to the left of any decimal place is
the first consideration followed by the size of the digits in the corresponding position

Greater Depth Challenge: House A costs £1870246 House B costs £1786999 Sam says House B cost more. Is Sam correct? Explain how you know!	Greater Depth Challenge: What is the mistake? 9967 > 21999Can you think about how this mistake might have been made?
Creater Depth Challenge: Tom says that "To compare two numbers the first step is to count how many digits each number has and the number with more digits is bigger." Is Tom correct? Can you think of an example where his method would not work?	Greater Depth Challenge: Explain why 0.123 is smaller than 0.13 . Using the digits 1, 2 and 3, can you think of two other numbers that are greater than 0.123



Learning focus Compare large numbers, e.g., Use 3 different six-digit numbers to make this number sentence true -



Greater Depth Challenge: 567823 < 667362> 666123 Can you add hundred thousand to any of these numbers to keep the number sentence true?



<u>Number & Place Value</u>: Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.

Learning focus	Count in steps of 10, 100, 1,000, 10,000, and 100,000 from any given number.
	Understand the result of counting in steps of powers of 10

MathsHUBS London South West Greater Depth Challenge:	Condon South West Greater Depth Challenge:
Find the missing number.	
	What number did I miss out in the sequence?
4568923, 4578923, 🔲, 4598923	8309246, <mark>828246</mark> , 827246, <mark>826246</mark>
What is happening to the sequence?	How did you work this out?



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Learning focus Adding and subtracting multiples of powers of 10, using place value knowledge.

Greater Depth Challenge:

375782, 395782, 415782, 435782

What is the rule of this sequence?

What would be the 8th term?

Greater Depth Challenge: Look at the number **349721** How many ten thousands would you need to subtract to get to zero?

Prove your answer.

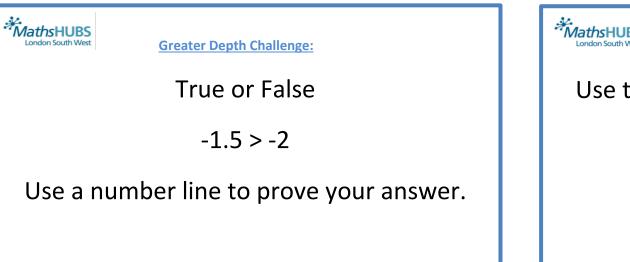


Number & Place Value: Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero.

Learning focus Count forwards and backwards in different step numbers of equal size through the zero boundary MathsHUBS * MathsHUBS **Greater Depth Challenge: Greater Depth Challenge:** In a quiz, teams get 2 points for every correct answer The temperature in Moscow is -3. and -2 for every wrong answer. In Oslo the temperature is -8. Team A have a score of -12. It is more than twice as cold in Oslo than Moscow? What is the minimum number of correct answers they True or False? need to get a score of 20? Explain your thinking. **MathsHUBS London South West **Greater Depth Challenge:** -50 50 Estimate where the following numbers would go on this numberline: 10 $\mathbf{\Omega}$ 55



Learning focusUnderstand that the further away from zero a negative number is, the smaller the size, e.g., -36 is further to the left
than -14 so it is a smaller number.
Position negative numbers accurately on a blank number line and compare them.
Use the < and > signs to record statements such as -13 < -1 > -2.



 Greater Depth Challenge:

 Use the following digits and symbols and write 3 number sentences.

 -22, 2, -17, 0, <, >

MathsHUBS Number & Place Value: Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000.

Learning focus Confidently round larger numbers to round to the nearest 10, 100 and 1,000.



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Which number is closest to ten thousand?

9995, 10009, 9989, 10003

Explain how you came to this decision?

Condon South West	Greater Depth Challenge:	
I'm thinking of a number.		
When	rounded to the nearest 1000 it is 1000.	
When r	When rounded to the nearest hundred it is 500.	
What could my number be?		
Hc	w many solutions can you think of?	
Do you know	how many possible solutions there are in total?	



Learning focus Round numbers to the nearest 10,000, 100,000 and 1,000,000 using a number line to visualise and position a number between relevant powers of 10, e.g., round 227,842 to the nearest 10,000.

MathsHUBS London South West Greater Depth Challenge:

To win the game you need to be the closest to ten

thousand.

Ryan scored 999897 and Jo scored 1000010.

Who won the game?

Explain your thinking.

Greater Depth Challenge: Imagine you are teaching rounding to a Year 4 class. Using a number line and a series of steps, explain to them how to round a number to the nearest 10000. MathsHUB

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Learning focus Apply the rule of 5 when rounding to the nearest 10 and the scaling of this when rounding to powers of 10 (nearest 50 if rounding to nearest 100, etc.).

Greater Depth Challenge:

What is the smallest value number that when rounded to the nearest 100 rounds to 2000?

Explain why a number smaller than this will not round to 2000 when rounded to the nearest 100.

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Greater Depth Challenge:

A stadium holds 50,000 people. The local team sold a number of tickets.

The manager counted them and said, "When I round the number of tickets sold to the nearest 10,000 I get 50,000 and when I round to the nearest 100,000 the number of tickets sold comes to 100,000."

Do you think all the people who bought tickets will fit in the stadium? Explain why you think this!