Year 4 Unit 1: Reasoning with 4-digit numbers (2 weeks)
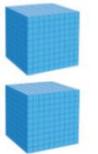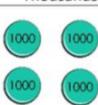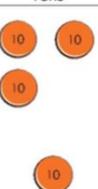
Before you start…
- With 3-digit numbers, can pupils:
  - identify the value of each digit?
  - order and compare using <, > and = ?
  - find 10 and 100 more or less than a given number?
  - round to the nearest multiple of 10 or 100?

Thousands	Hundreds	Tens	Ones
2	5	3	1

Video: Representing numbers with Dienes and place value counters

Thousands	Hundreds	Tens	Ones

Video: Developing number sense

Video: Comparing and ordering 4-digit numbers with Dienes and place value counters

In L1 -4, if pupils are not secure in the relative magnitude of numbers continue representing numbers with Dienes rather than place value counters.

4731 4741

Video: Comparing numbers: Using the inequalities

Understanding our number system

L1 Recognise the place value of each digit in a 4-digit number
L2 & 3 Order and compare numbers beyond 1000

Using Dienes and place value counters on a place value chart, pupils recognise how the position of a digit affects its value. Pupils apply this knowledge to order and compare numbers, learning to compare digits with the greatest value first.

? *How will you use the suggested models and images to reinforce the importance of zero as a place holder (e.g. writing three thousand and sixty-seven as 3067 not 367)?*

Identifying 10, 100, 1000 more or less

L4 Find 10, 100, 1000 more or less than a given number

This lesson applies learning, including representations, from L1-3 to develop a sense of how numbers relate to each other. Identifying 1, 10, 100 and 1000 more or less than a number can focus attention on which digits change and which stay the same. This is an opportunity to make connections with regrouping and ensure confidence with the fact that ten hundreds is equal to one thousand.

? *How would you respond to a pupil who states that finding 100 less will only affect the digit in the hundreds column?*

L5 is the suggested time for a consolidation lesson. Ensure pupils are secure in their place value knowledge before moving onto rounding. You may wish to split L4 across two lessons to explore adding and subtracting in more depth.

Video: What is place value?

Integer Place Value SKEW

At this time of year many year groups are likely exploring place value too. Use this opportunity to ask your MMSL to lead a SKEW. This gives you the opportunity to work in a different base, realising the different aspects of place value that need to be understood to have a deep conceptual understanding of a complex set of ideas.

Video: Developing understanding of rounding

3760   3765   3770

3764
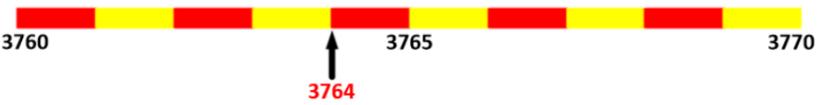
Understanding rounding

It is important that pupils develop a secure understanding of where the nearest multiple of ten/hundred/thousand lies. Just learning rules such as "1-4 rounds down" will mean pupils are less likely to be able to apply their learning in other situations.

Using number lines as tools for reasoning will support pupils in visualising sequences of numbers and build connections to prior place value lessons. These should be used together with precise questioning such as "which two multiples of ten does 354 lie between?" to support pupils in finding the nearest multiple.

Applying learning

L9 Use knowledge of place value and rounding to reason with 4-digit numbers

Pupils apply learning from the unit to reason and justify which number from a set is the odd one out. This should involve generating many different possible reasons for each number being the odd one out.

? *How will you make connections between different reasons pupils provide for the odd one out? Can you make connections for learning within the unit as well as across the curriculum?*

Rounding numbers of up to 4-digits with accuracy

L6 Round numbers to the nearest 10
L7 Round numbers to the nearest 100
L8 Round numbers to the nearest 1000

Pupils use number sense to develop a depth of understanding when rounding, estimating the position of the given number to decide which is the nearer multiple of 10, 100 or 1000. Make connections to real life contexts to discuss when it's suitable to round to different degrees of accuracy.

? *How will you encourage pupils to pattern seek when rounding? Can they spot instances when digits don't change (e.g. 3600 to the nearest 100), when all digits change (e.g. 4999 to the nearest 10) or when a number will round to zero (e.g. 499 to the nearest 1000)?*

L10 is the suggested time for a consolidation lesson. You may wish to provide further opportunities to apply learning from the unit or to secure understanding in rounding prior to L9.