

Year 5 Unit 1: Reasoning with larger whole numbers (2 weeks)

You will notice that the progression of lessons in this unit has been re-ordered in contrast to the order used in the original planning guides. This is to cluster the lessons into key themes.

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.

Look carefully at the progression of the learning within lessons and follow a sequence which allows for revisiting and consolidation of key skills with six-digit integers.

Before you start...

- How familiar are pupils with using Dienes and place value counters to represent integers?
- How confident are pupils with Roman numerals?
- Are pupils able to explain the process of rounding to different

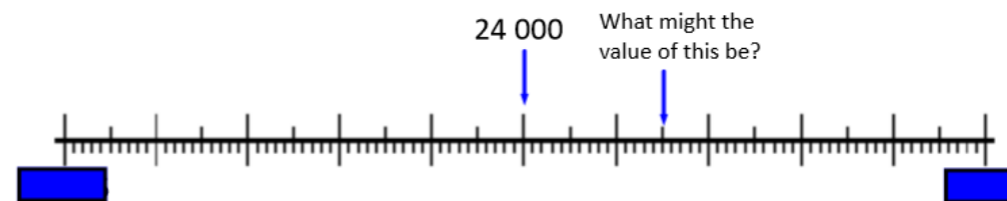
The number is _____

The digit ___ has a value of 20.
The digit ___ represents three hundreds.
The digit 3 has a value of _____
There is a place holder in the _____ place.

_____ = _____ + _____ + _____ + 20

Ten thousands	Thousands	Hundreds	Tens	Ones
	●●●	●●●●	●●	●

Video: Developing number sense



Developing understanding of place value with large integers

- L1 Read and write 5-digit numbers and identify place value of each digit
- L5 Read and write 6-digit numbers and identify place value of each digit

Pupils represent 5-digit numbers in a variety of ways including with place value counters and in words. Using Dienes to build and imagine representations of larger integers supports understanding of the magnitude and relationships between these values. They identify the value of each digit and write the sum of its place value parts. Pupils will extend their understanding of the number system and place value to 6-digit whole numbers, finding 1, 10, 100, 1000 and 10 000 more or less.

- ? Do you have enough Dienes to build a representation of 10 000?
- ? How will you ensure pupils have a secure conceptual understanding when rounding?

Video: What is place value?

Place value

This [article](#) discusses the importance of place value in the classroom.

Roman numerals explained

This [website](#) explains the basic principles behind Roman numerals along with some examples.



Video: Representing Roman numerals

Comparing and ordering 5- and 6-digit numbers

- L2 Order numbers with up to 5-digits within a given context
- L3 Compare and order 5-digit numbers
- L6 Order up to 6-digit numbers within a context
- L7 Compare and order 6-digit numbers

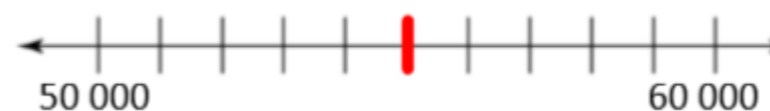
Pupils generate 5- and 6-digit numbers before comparing and ordering. Number lines are used to position numbers and identify other values based on their relative position, developing pupils' number sense.

- ? How might you incorporate deliberate errors, such as incorrect comparison of integers that have different amounts of digits, into your teaching?

Video: Developing understanding of rounding

Video: Comparing numbers: Using the inequalities

Video: Comparing and ordering integers



Solving problems with a range of strategies

- L10 Read Roman numerals and compare this system to our own number system

The Roman numerals system is similar to our number system in some ways and different in others. It is not a base ten system and dedicating time to comparing this structure can deepen understanding of our base ten system. Pupils are challenged to create concrete representations that can be used to represent Roman numerals in order to calculate.

- ? What everyday examples of Roman numerals might you use to contextualise learning?

From your assessments, consider how secure pupils are in identifying the place value of larger integers. Consolidation may be required before moving on.

Rounding larger numbers including when in context

- L4 Round 5-digit numbers to the nearest 100, 1000 or 10 000
- L8 Round 6-digit numbers to the nearest 1000, 10 000 or 100 000
- L9 Apply rounding skills

Pupils round 5-digit numbers by identifying the multiples either side, applying this in context. Pupils continue to develop their understanding of rounding by extending this to 6-digit numbers. A deeper understanding of rounding is developed through exploration of numbers which round to the same multiples of a power of ten. Opportunities are provided for pupils to solve problems involving rounding.

- ? How will you ensure correct language structures are used to describe the rounding procedure, instead of 'up' or 'down'?
- ? How will you ensure pupils have a secure conceptual understanding when rounding?

Let's talk about nothing

This [article](#) discusses the role that zero has to play in various number systems around the world.