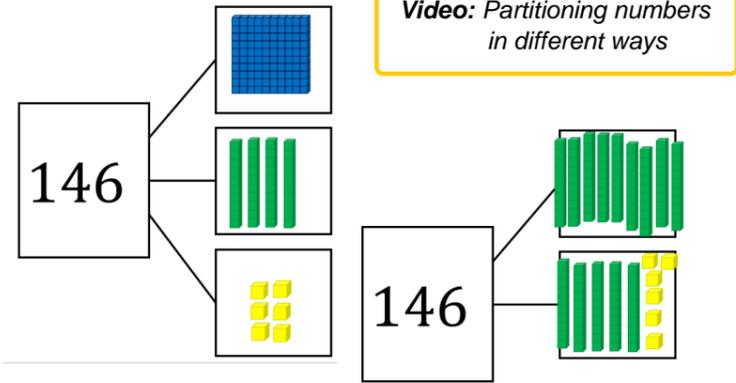


# Year 3 Unit 2: Place Value (2 weeks)

**Before you start...**

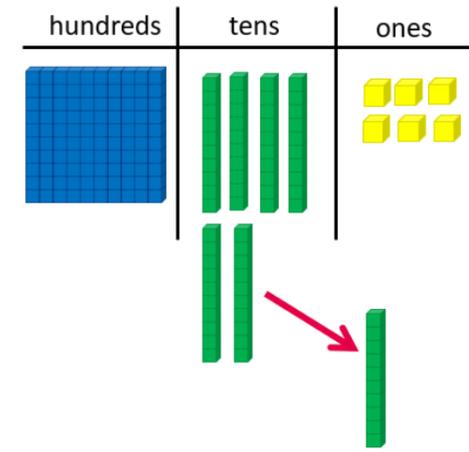
- How can you ensure that pupils are secure with place value of 2-digit numbers?
- What experience have pupils had with representations of number such as Dienes blocks, number lines and bead strings? Do you need to spend time exploring these before the unit?



**Video:** Partitioning numbers in different ways

**Integer Place Value SKEW**

At this time of year many classes are likely exploring number and place value too. Use this opportunity to develop your subject knowledge together in a staff meeting. The **SKEW** explores number systems and the different aspects of place value that need to be understood to have a deep conceptual understanding of a complex set of ideas.



**Create a maths story**

Encourage pupils to come up with their own situations that involve adding or subtracting 10 or 100.

**Understanding number**

L1 Recognise place value of each digit in a 3-digit number  
 L2 Partition numbers  
 L3 Order and compare numbers

Dienes blocks are used to support pupils in developing a secure understanding of the value of each digit in 3-digit numbers. Pupils should be given opportunities to explore and play with numbers and be encouraged to partition numbers in different ways using Dienes equipment (see video above). Pupils can then apply their understanding of place value to ordering and comparing numbers.

? How will you encourage pupils to partition numbers in multiple ways?  
 ? How will you use the suggested models and images to support pupils in understanding why we consider the digit with the greatest value first when ordering?

**Identifying 10 and 100 more or less**

L4 Add and subtract 10 and 100 to/from a 3-digit number

Using their understanding of place value, pupils calculate 10 or 100 more or less. Pupils should continue to use Dienes blocks so that they can explore how adding and subtracting 10 or 100 changes the magnitude of the number.

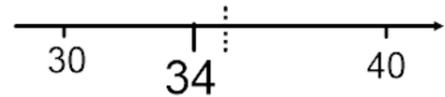
? What would you expect pupils to say when explaining when and why they need to regroup?

**Video:** What is place value?

There is one consolidation lesson in this unit. Use assessments to make an informed decision about where in the unit to use this.

**Video:** Developing understanding of rounding

**Video:** Developing number sense



**Solving problems using place value understanding**

L8-9 Apply place value knowledge to problems

Pupils solve place value problems such as finding the smallest/largest 3-digit number made from a selection of digit cards. Constraints can be added such as finding the smallest odd number, largest multiple of 5 and so on.

In lesson 9 pupils explore a range of problems where there is more than one possible answer. Pupils are asked if they can find all the possibilities for each problem and asked to explain how they know they have found all the possibilities.

? How will your formative assessment from across the unit inform the content of these lessons?  
 ? What would expect your pupils to do when asked to use pictorial or concrete representations to show their answers?

**Rounding numbers**

L5-6 Round numbers to the nearest multiple of ten  
 L7 Round numbers to the nearest multiple of 100

Pupils use number lines and bead strings to support their understanding of rounding to the nearest multiple of ten.

Ensure pupils have opportunity to fully explore rounding to the nearest multiple of ten before moving on to rounding to the nearest multiple of 100. One way to do this is to explore all possible numbers that could be rounded to a particular multiple; this is the suggested activity for lesson 6.

? How will you use the suggested representations to ensure pupils make connections to their prior knowledge of place value?

**Understanding rounding**

It is important that pupils develop a secure understanding of where the nearest multiple of ten/hundred 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 and bead strings 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 34 lie between?" to support pupils in finding the nearest multiple.