

HIAS MOODLE+ RESOURCE

Year 3 Unit Plan: 3.7

Spring Term

HIAS Maths Team
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Final version

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Overview

In this document

Year 3 Unit Plans linked to Medium Term Overview

Points to consider when using this resource

These unit plans provide an example of how medium term planning could be developed into units of work. These unit plans will need to be adapted to meet the needs of pupils. The unit plan provides an outline of a possible learning journey with suggestions of types of tasks that could be used. They also identify key prior learning; some common misconceptions and an indication of key skills pupils need to develop towards competency. It is assumed that teachers will make use of appropriate mathematical representations (manipulatives, visuals and symbolic) to support conceptual understanding for pupils alongside procedural fluency.

Year 3 Unit 3.7

This unit is about developing understanding of place value calculations with 3-digit numbers using a range of mental strategies to support recall of key facts when judging reasonableness of answers. There are opportunities to use a range of concrete resources and mathematical diagrams to represent place value, addition and subtraction alongside the use of mental jottings. The unit also builds upon some of the work from Unit 3.1 and Unit 3.2 in deepening pupils' conceptual understanding of the structure of addition and subtraction. Problem solving in this unit could be in the context of measurement e.g. money or length to revisit and deepen previous units of work.

Daily opportunities should also be provided for pupils to tell the time, including on a clock face with Roman numerals and practise counting e.g. in multiples of 3, 4, 50 and in 100s from any number.

Session	Unit Objectives	Types of task
1-5	• Add and subtract numbers mentally including a 3-digit number and ones, 3-digit number and tens, 3-digit number and hundreds.	Provide practical experiences of using a range of concrete resources to support mental strategies Use of number line to count on / count back in ones, tens, hundreds from a range of 3-digit numbers; encourage pupils to use Diennes / place value counters to show how to add the ones e.g. $312 + 5$, make 312 in Diennes and then add on 5 ones to make a total of 317. Pupils make reference to a place value chart to recognise the changes to the different columns (place value headings) when adding / subtracting ones, tens and hundreds from a range of 3-digit numbers. What patterns do they notice?
6-7	• Add and subtract numbers with up to three digits	Unstructured number line to support mental strategies Encourage pupils to use a range of mental strategies when adding / subtracting e.g. partitioning, use of number bonds (particularly for bridging tens / hundreds), rounding and adjusting and model use of informal jottings to support these particularly on a number line e.g. $243 + 9$, add 10 and then subtract 1 The diagram shows a horizontal number line with three points marked: 243, 252, and 253. A large curved arrow starts at 243 and points to 252, with the label '+10' written below it. A smaller curved arrow starts at 252 and points to 253, with the label '-1' written below it. Model how to use concrete resources for crossing the tens / hundreds boundary Demonstrate using Diennes / place value counters how to regroup when crossing the tens / hundreds boundary on a place value chart Use of a bar model to show part / part / whole and relationship between addition and subtraction Encourage pupils to represent problem as a number sentence alongside drawing a bar model to show the relationship between the different parts. How can pupils check their answers? Encourage use of inverse operation.
8-10	• Estimate the answer to a calculation and use inverse operations to check answers	
11-12	• Compare and order numbers up to 1000	
13-15	• Read and write numbers up to 1000 in numerals and in words • Solve number problems and practical problems involving these ideas, including in the context of measurement.	

		Problem solving Identify a few key tasks involving addition and subtraction in one / two-step problems in context. When solving problems, encourage pupils to estimate answers, show solutions using a range of representations including: bar model, equation, number line, part-part-whole, checking for reasonableness of answers particularly within the given context.
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Check and refresh	Watch out for...	Building fluency
- Relationship between addition and subtraction (inverse, commutativity) - Pupils understanding that 10 ones = 1 ten, 10 tens = 100 - Pupils understanding of place value e.g. that $340 = 300 + 40$ and 34 tens etc...	- Pupils labelling unstructured number lines carefully underneath jumps made - Pupils being secure in their place value e.g. using place value counters and getting correct answers but not really understanding their value (as they all look the same size)	- Working with 3-digit numbers and representing them in different ways - Using rounding to support mental strategies - Using number bonds / partitioning numbers in different ways to support mental strategies for addition / subtraction

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