

HIAS MOODLE+ RESOURCE

Year 4 Unit Plan:4.7

Spring Term

HIAS Maths Team
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Final version

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Overview

In this document

Year 4 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 4 Unit 4.7 – Subtraction and Addition

This unit is about developing understanding of place value calculations with 3/ 4 digit numbers to support recall of key facts when judging reasonableness of answers and deciding whether to use mental strategies. There are opportunities to use a range of concrete resources and mathematical diagrams to represent place value and structures in addition and subtraction. Time is given to working on formal methods, modelled with concrete resources such as dienes, for both addition **and** subtraction using 2./3 digit numbers to focus on developing conceptual understanding. Pupils should also be able to work out the answers mentally whilst practising a formal method approach. Pupils need to consider whether it would be better to work mentally or with a formal method and to record solutions to calculations in different ways, including formal methods. Problem solving in this unit could be in the context of measurement eg whole £s or length to revisit and deepen previous units of work (Unit 4.2).

Session	Unit Objectives	Types of task
4	- Recall and use complements to 100 and 1000 to support mental strategies. - Record and addition and subtraction calculations using a combination of representations e.g. bar model, number-line, number sentence. - Add three numbers, with a sum of up to 1000. Estimate and use inverse operations to check answers to a calculation	Number and place value revision of 4 digit numbers Use dienes, place value counters and arrow cards to compare numbers and to model add/ subtract multiples of 1,10,100,1000 to/from them E.g. which number is larger 7849 or 7652? etc E.g. use concrete resources to model this number sequence: 6032, 6132,6232 etc (discuss what stays the same and what is changing) E.g. order these numbers from smallest to largest: 1039,3109,1093 Rounding to nearest multiple of 100,1000 on a number line Using bar models to record family of facts for addition and subtraction using 3/ 4 digit numbers (inverse, commutativity) Eg $500 + 275 = 775$; $775 - 500 = 275$; $275 + 500 = 775$; $775 - 275 = 500$ etc
6	Add and subtract numbers with up to four digits using formal written methods building on the use of structured concrete resources to ensure conceptual understanding.	Modelling formal methods: addition and subtraction Use dienes and place value counters to model method. Ensure pupils can record each calculation as number sentence, bar model, formal method, number line to maintain their sense of reasonableness of answer and support decisions about whether the calculation is more easily solved with mental strategies and jottings. E.g. $45 - 19$; $700 - 19$; $500 - 375$ etc
5	Solve addition and subtraction two-step problems in context, deciding which operations and methods to use and why.	Two step problem solving involving decisions about whether to add or subtract (take away/ difference models); use formal methods or mental strategies based on known facts. Context could be measurement to revisit previous work. 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.

		E.g. Stacey, Laura and Bob are playing a computer game. The winner needs 2000 points. Stacey has collected 450 points, Laura has 80 fewer points than Stacey and Bob has 1999 points. How many points do they have altogether? How many more points do they each need to win? Show solutions using different representations. Adapt the question to: • give practise with mental methods and recall of key facts, • make decision about whether to add/subtract using formal methods
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Check and refresh	Watch out for...	Building fluency
• Relationship between addition and subtraction (inverse, commutativity) • Pupils understanding that 10 units = 1 ten, 10 tens = 100; 340 = 300 + 40 and 34 tens etc	• Pupils using place value counters and getting correct answers but not really understanding their value. • Pupils defaulting to only using formal methods for all calculations	• Working with 3/4 digit numbers representing them in different ways. • Using rounding to support mental strategies • Confident recall and application of PV number bonds using patterns in calculations eg 9+1; 90+10; 900+100; 9000+1000

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