

HIAS MOODLE+ RESOURCE

Year 5 Unit Plan: 5.7

Spring Term

HIAS Maths Team
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Final version

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Overview

In this document

Year 5 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 5 Unit 5.7

This unit is about addition and subtraction of whole numbers and fractions. Ensuring children have a good understanding of how the calculation methods they learn work through the use of concrete and pictorial resources is vital in ensuring they develop depth in their knowledge. Children have a greatly increased chance of correctly recalling the methods they have learnt and selecting the most appropriate ones, if they have learnt them with understanding. Their calculation methods should be appropriate, understood, reliable and increasingly efficient.

Session	Unit Objectives	Types of task
1 – 15 Whole numbers 10 Fractions (5)	- Add and subtract whole numbers with more than 4 digits. Represent solutions appropriately using informal and formal written methods. - Add and subtract mentally with increasingly large numbers e.g. $12,462 - 2300 = 10,612$ - Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. - Add and subtract fractions with the same denominator beyond one and multiples of the same number. Use diagrams such as bar models to show part-part-whole relationships - Solve problems involving number up to three decimal places. - Use addition and subtraction to solve problems involving measure using decimal and fraction notation. E.g. $3\frac{3}{4} \text{ m} + 50 \text{ cm} = 1.25 \text{ m}$ (or $1\frac{1}{4} \text{ m}$)	Initial task Before planning the children's learning journey start by assessing what they know already: give the children a variety of calculations involving adding and subtracting a mix of 4, 5 and 6 digit numbers, fractions with the same denominator beyond one and multiples of the same number (ensure the calculations include some that could be solved efficiently either mentally, with jottings or using formal written methods). Start by asking the pupils to sort the calculations in a table with three columns with those headings. Once they have done so ask them to solve the calculations. Encourage them to change their minds if they wish about the most appropriate method for a calculation if they discover a better way of performing it. Pictorial representations: Children should further consolidate their understanding of the relationship between addition and subtraction using the bar model. For any addition and subtraction equation they should be able to draw proportionally a suitable bar model. They should also be able to state related equations using the inverse operation. Children should be able to represent their calculations using Diennes apparatus, place value counters and the bar model. See the <i>Images and mathematical models to support year 5 conceptual understanding underpinning the facts</i> from the Hampshire Number Facts Year 5 document. Developing flexible and reliable calculation methods: While extending children's ability to perform formal written methods with understanding there should be frequent opportunities to discuss and make sensible choices about the selection of mental, mental with jottings or formal written methods. All children need to develop these and to value each one. Key facts focus: The work on adding and subtracting fractions whose denominators are all multiples of the same number provides an opportunity to link the work in previous units on multiples and factors.

		Consolidate as necessary the fraction equivalences e.g. $1 \div 100 = 1/100 = 0.01$ up to $10 \div 100 = 10/100 = 0.1$ etc. Solving problems Three pieces of wood measuring 36cm, 0.25m and 176mm in length are to be glued together to make one long piece. What will the length of the new piece of wood be in cm? What would it be in mm and what would it be in metres? Food recipes with ingredients expressed in g/kg, ml/l could be considered. If this recipe gives the correct amounts for two people what would be the correct amounts for three people? My kitchen scales show I have 0.25 kg of spinach. The recipe needs 180g. Have I got enough?
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Check and refresh	Watch out for...	Building fluency
Counting forwards and backwards using simple fractions and decimals noting equivalences.	Children who have little idea of the correct relative position of fractions and decimals on the number line (this is very important for developing their estimation skills) Children not being able align the numbers correctly to add and subtract decimals and integers when alignment using the decimal point is required e.g. $0.375 + 6 + 1.3$ Pupils who cannot relate facts (whole number or those involving fractions) to concrete and pictorial representations. Children who can get formal written subtraction calculations correct but intermittently “flip” digits e.g. when subtracting a 4 from a 2 in a column fail to realise, they need to exchange and record 2 as the answer.	The skills of rounding and estimating should get a lot of attention. This needs to be modelled frequently and the value of it for achieving accurate answers consistently emphasised.

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