

HIAS MOODLE+ RESOURCE

Year 6 Unit Plan: 6.1

Autumn Term

HIAS Maths Team
May 2019
Final Version

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Overview

In this document

Year 6 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 students. 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 students 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 students alongside procedural fluency.

Year 6 Unit 6.1 Plan – Number and Place Value, Addition and Subtraction

This unit is about number and place value and addition and subtraction. Within this unit pupils will look at numbers up to 10,000,000 and are required to represent numbers using the concrete, pictorial, abstract approach. Pupils will be confident to compare numbers on a number and understand when larger numbers may be used in real life situations. Pupils will be required to solve multi-step problems and taught to reason about efficiency. Pupils will apply mental strategies to solving area and perimeter problems in which missing sides are included.

Session	Unit Objectives	Types of task
1-5	Solve number and practical problems involving: Read, write, order and compare numbers to at least 10,000,000 and determine the value of each digit. Identify, represent and estimate numbers using different representations including number-lines Round any whole number to a required degree of accuracy (represent on a number line)	Practical experiences of larger numbers: Use a numberline and Dienes to look at the proportional size of 10,000,000 in comparison with 1,000,000. Refer to a Gattengo chart for support (Year 5) How could I represent the number 1,980,000 using dienes? Read and write numbers: Look at place value of all numbers and include numbers that have a zero within the number. Pupils should be encouraged to count forwards and backwards from a range of given numbers, including 10s, 100s, 1000s and including bridging. Make predictions about what the next number will be and check with a calculator. Include real life examples of when larger numbers are used such as house prices. Compare the value of different houses and order on a numberline. <i>Helen is looking to buy a house. She has been told that she can borrow one million, thirty thousand from the bank. She views two properties. The first property was £1,023,500 and the other was £1,310,000. Are both properties within Helen's price range? Explain how you know.</i> Rounding – Share real life examples and when pupils will be required to round such a population of people in different places and how population may have changed. Ask questions that require pupils to be accurate and require pupils to round. <i>How many more people lived in St Lucia in 2003 than 2006?? To the nearest 100, how many people lived in St Lucia in 1993?</i>

		Key Facts Focus: Ensure that pupils understand the relationship between 999,999 and 1,000,000. Teach the rules of rounding numbers and how to make appropriate estimations according to the problem. Teach numbers facts such as $\frac{1}{2}$ of 10,000,000 is 5,000,000. Use a bar model and a numberline to find $\frac{1}{4}$, $\frac{1}{5}$, $\frac{3}{4}$, $\frac{1}{10}$ etc
6-15	• Add and subtract whole numbers with more than 4 digits. Represent solutions appropriately using informal and formal written methods. • Perform mental calculations, including with mixed operations and large numbers • Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy • Solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why. • Measure and calculate the perimeter of composite rectilinear shapes in cm and m. • Recognise with the same areas can have different perimeters and vice versa • Use knowledge of the order of operations to carry out calculations involving the four operations	Efficient strategies for addition and subtracting: Ensure that pupils are aware of when to select formal written methods and when mental strategies may be more efficient. Give pupils a range of number sentences and encourage them to reason about whether a formal written method should be used or a mental strategy. Mental strategies: Teach mental strategies such as: Rounding and adjusting Application of number bonds to bigger numbers Estimation Problem solving: Solve problems in which pupils are required to select the most efficient strategy. Include problems in which more than one operation is required. Perimeter and area: Apply strategies taught to questions that include area and perimeter. Remind pupils of how to find the perimeter of different shapes. Include real life context to ensure pupils can explain what is meant by area and perimeter and what is the difference between the two. <i>Farmer Joe wanted to make a fence for his cattle. The field has six sides but not all sides are the same length. The total perimeter of the field is 126.4m. What could the sides of the field be?</i> Include decimals as well as larger numbers. Give pupils time to make estimations in relation to perimeter before solving. Find perimeter of composite shapes where missing sides have been included and pupils must find the value of the side using the measurements given, before finding the area and perimeter. Investigate the area and perimeter of shapes. Pupils are to become aware that if a shape is adjusted, the area may stay the same, but the perimeter may not.

Check and refresh	Watch out for	Building fluency
Understanding of place value to 1,000,000. Formal written method for addition and subtraction Mental strategies to support calculation The formula for finding the area and perimeter of shapes.	Pupils reading numbers aloud that consist of zeros. Pupils not selecting the most efficient strategy to solve calculations.	Rounding and adjusting – recognising the relationship with nearby numbers. Application of number bonds to larger number Formula for finding the area and perimeter of shapes Compare and order numbers using $<$, $>$ and $=$ signs Know and use families of facts (add/sub) as related facts, inverse commutativity

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