

HIAS MOODLE+ RESOURCE

Year 5 Unit Plan 5.1

Autumn Term

HIAS Maths Team
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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 number fluency pupils need to develop towards automaticity. It is assumed that pupils will have access to appropriate concrete resources to support conceptual understanding and that teachers will use a CPA (concrete, pictorial and abstract) approach to teaching.

Year 5 Unit 5.1 Plan - NPV (5), Addition and Subtraction (10), Measurement (length including perimeter)

This unit is about addition and subtraction in the context of measurement (length including perimeter). There are opportunities for pupils to see how a number line can be labelled with cm/ m. Converting between units can be a focus in length using key facts. Extend this to knowing related facts to support mental calculation as well as paper and pencil recording.

Session	Unit Objectives	Types of task
1-5	Solve number and practical problems involving: • Read, write, order and compare numbers to at least 100,000 and determine the value of each digit. • Identify, represent and estimate numbers using different representations including number-lines • Round any number to the nearest 10,100,1000, 10,000 and 100,000 (represent on a number line)	Possible contexts: Comparing and finding the difference between the numbers of people attending say a large sports event or a music festival provides a good context to think about larger numbers. Pictorial representations: When extending children's knowledge of the number system number lines provide a key image to help children to develop understanding of the magnitude of the numbers and their relative position in the number system. Starting with a 0 to 10,000 and revising the position of the numbers might be a good starting point. Ask questions like "If I started here on 9000 and counted back 5 what number would I now be on? Where should I record it on the number line?" "If I counted back in 3 jumps of 250 from 3500 where should I start and which number would I be on now? Can you mark that position on the number line?" The number line is also crucial to support learners when developing their understanding of how rounding numbers works. The use of Gattegno charts, place value grids, base 10 apparatus, place value counters is also important for all learners. Key facts focus: Using the Hampshire Mathematics Team number facts progression documents check back to children's number facts knowledge from the year 4 expectations. Address as necessary and get started on learning the year 5 facts as soon as appropriate. Solving problems What is the difference between the number of people attending the match between Southampton and Leicester (29,489) and those attending the Wexham and Dover (5,378) match?

		The number of people attending a popular music festival last year was 72,497. What was this rounded to the nearest 1000?
6-15	• 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. • Measure and calculate the perimeter of composite rectilinear shapes in cm and m • Use all four operations to solve problems involving measure (length), using decimal notation.	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. Key facts focus: Use PV charts for conversion of units multiplying and dividing by 10 and 100 eg $240\text{mm} = 24\text{cm}$, $150\text{cm} = 1.5\text{m}$, $500\text{cm} = 5\text{m}$, $2300\text{m} = 2\text{km}$ 300m 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. Measurement provides a good context for rounding numbers. This can support estimating when calculating and rounding answers to the nearest cm/m etc. Possibly around 3 lessons on rounding might be appropriate. Solving problems Finding the perimeters of different shapes and problem contexts eg fences and gardens, regular shapes (use different units to use key facts and conversion of units). An equilateral triangle has a perimeter of 1.26m. What is the length of one side in cm? In mm? A regular pentagon has sides that are 54mm long. What is the perimeter of this regular pentagon in cm? Kate needs to buy fencing for her garden. She measures and finds she needs two lengths measuring 13m and one length measuring 11m. Fence panels measure 1.8m x 1.8m and the posts are 2.3m high and 75mm in width. Each panel is supported by a post at each end. How many posts and panels does Kate need?

Check and refresh	Watch out for...	Building fluency
How many mm=cm? cm=m? What do we need to do to convert 12.5m into cm? Use of bar models to show links.	Children recording their written methods – exchanging and recording this correctly. Unreasonable estimates or failing to estimate first when calculating. Pupils lacking flexibility in their calculation methods eg selects a written method for 7003 - 2998. Place value errors (ensure the Y4 expectations are sound). Children not being able to explain their calculation methods (including with practical equipment) Children not drawing their number lines and bar models using the correct proportions.	Frequent opportunities to consolidate: Check and revise as necessary the year 4 expectations for addition and subtraction– length number facts and measurement (see the Hampshire maths team’s Number Facts Documents. Begin to learn: 1mm= 1/10 cm 1mm= 1/1000 m

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