

HIAS MOODLE+ RESOURCE

Year 4 Unit Plan: 4.6

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

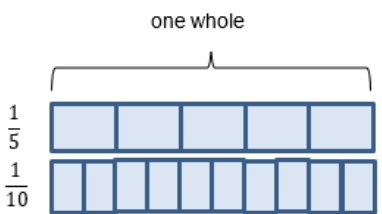
Points to consider when using this resource

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 4.6 – Fractions and Geometry

This unit is about revisiting some of the work from Unit 4.4 and Unit 4.5 to deepen conceptual understanding of fractions using multiple representations (pictures from the context of the problem, bar models, number lines and 100 squares/ dienes 100 squares) and solving problems. There is also an opportunity to revisit and deepen conceptual understanding of decimals using dienes, number line and bar model representations. This supports conceptual understanding for measurement. The unit also develops understanding of criteria for classifying triangles building on from and deepening the work on quadrilaterals in Unit 4.4.

Session	Unit Objectives	Types of task
3	• Recognise and show using diagrams, families of common equivalent fractions. • Solve problems involving increasingly harder fractions to calculate quantities and fractions to divide quantities, including non-unit fractions where the answer is a whole number. • Find the effect of dividing a one -or two- digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths. • Count up and down in hundredths (represent on number lines) • Recognise that hundredths arise when dividing and object by a hundred and dividing tenths by ten. • Round decimals with one decimal place to the nearest whole number (represent on number lines) • Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$ (represent on number lines and bar models)	Counting and calculating with tenths Use concrete resources to model counting in tenths (cut up whole objects into 10 equal parts eg a chocolate bar) placing the equal parts on a number line and recording in tenths underneath (fractions and decimals). Continue counting beyond one whole chocolate bar. Consider how many tenths = to 1.3 etc Solve problems involving adding and subtracting tenths recording solutions as number sentences, bar models and number lines
3		Counting and calculating with hundredths Use 100 squares/ dienes to model counting in $\frac{1}{100}$ s. eg $\frac{3}{100}$, $\frac{4}{100}$, $\frac{5}{100}$; $\frac{43}{100}$, $\frac{44}{100}$, $\frac{45}{100}$; $\frac{97}{100}$, $\frac{98}{100}$, $\frac{99}{100}$. $\frac{100}{100}$, $\frac{101}{100}$. Discuss $\frac{101}{100}$ = mixed number 1 whole and $\frac{1}{100}$ etc Use segments of number lines to model counting in hundredths eg between 4.3 and 4.4 recording as decimals.
4		Solve addition/ subtraction problems using contexts involving 100 items as the whole. Record solutions on 100 squares, number lines, number sentences.eg $\frac{45}{100} + \frac{3}{100} = \frac{48}{100}$
		Counting and calculating with any unit fractions eg $\frac{1}{6}$ Revisit unit fractions: fractions greater than one whole- mixed numbers and then improper fractions Develop number line representations for 6, $6\frac{1}{6}$, $6\frac{2}{6}$, $6\frac{3}{6}$ to then $\frac{5}{6}$, $\frac{6}{6}$, $\frac{7}{6}$, $\frac{8}{6}$ etc (Or $\frac{1}{5}$ s to link with tenths) Solve problems adding and subtracting multiples of the unit fraction eg $\frac{5}{6}$ plus $\frac{5}{6}$ etc. Record solutions on number lines and bar models

		Use bar models to show equivalence between decimals and fractions.  Repeat for other examples where solutions involve calculating over one whole. Find examples where pupils need to use simple equivalence between fractions including decimals (tenths). Use jottings of bar models alongside equations to support reasoning. Encourage pupils to label the bar model with information from the context of the problem.
5	• Compare and classify geometric shapes (triangles) based on their properties and sizes. • Identify acute and obtuse angles • Identify lines of symmetry in 2-D shapes presented in different orientations • Describe positions on a 2-D grid as co-ordinates in the first quadrant ((x,y) co-ordinates) • Describe movements between positions as translations of a given unit to the left / right and up/down.	Focus on triangles Make and draw different triangles, including using coordinates in first quadrant and classifying different types. Revise quadrilaterals revisit criteria for classification and comparison of different types including regular and irregular Compare angles in different 2D shapes with whether more or less than a right angle using the vocabulary of right angle, acute and obtuse

Check and refresh	Watch out for...	Building fluency
• Able to identify equivalent fractions for half • Able to record counting in fractional steps (eg $\frac{1}{3}$ s; $\frac{3}{4}$ s etc) using a number line model, including over the whole boundary • Can round numbers to the nearest 10 and 100	• Accurate use of vocabulary for fractions eg equal parts, numerator, denominator etc • Accurate use of vocabulary for geometry eg regular, irregular, acute, obtuse • When constructing 'fraction families' ensure that the length of the whole bar is the same to enable accurate comparison.	• Know 10 tenths = 1 whole • Know 100 hundredths = 1 whole • Find one tenth of an amount by dividing by 10 • Find one sixth of an amount by dividing by 6

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