

HIAS MOODLE+ RESOURCE

Year 3 Unit Plan 3.4

Autumn Term

HIAS Maths Team
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Final Version

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Overview

In this document

Year 3 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 3 Unit 3.4

This unit is about fractions, particularly tenths in preparation for the unit on measurement (Unit 3.5) and the concept of equivalence particularly through the use of bar models and number lines. There is a focus on securing key representations for fractions i.e. number lines and bar models and using the context of shape to make domain links. The unit also develops understanding of criteria for sorting and classifying 2D and 3D shapes using their properties. Pupils' accurate use of vocabulary when sharing solutions to problems is a key focus.

Session	Unit Objectives	Types of task
1-4	• Recognise , find and write fractions of a discrete set of objects: unit fractions (include $1/10$) • Compare and order fractions with the same denominators (show on a bar-model) • Count up and down in tenths; recognise that tenths arise from dividing and object into ten equal parts. • Build on the idea of 'fraction families' (Y2: $\frac{1}{2} = \frac{2}{4}$) developing to halves, quarters and eighths; thirds and sixths ; fifths and tenths (use a bar model or fraction wall to explore equivalence)	Counting in fractional steps recording on a number line: revise $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{3}$ and then look at $1/5$ths and $1/10$ths. Discuss the links between a number line showing $1/5^{\text{th}}$ and $1/10$ths. Identify examples of equivalence e.g. $\frac{1}{2} = \frac{2}{4} = \frac{5}{10}$ etc Model this using same length bars eg Solve problems needing to count in fractional steps Show solutions using number lines, bar models and fraction notation. e.g. I eat $1/10$ of a bar of chocolate on Monday, Tuesday and Wednesday. How much do I eat? After 5 days? After 1 week? etc $1/10 + 1/10 + 1/10 = 3/10$; $1/10 + 1/10 + 1/10 + 1/10 + 1/10 = 5/10 = \frac{1}{2}$ etc Revise drawing bar models to show families of fractions e.g. $\frac{1}{2}$, $\frac{1}{4}$, $1/8$ and $1/3$, $1/6$ and $1/5$, $1/10$
5-6	• Count in halves, quarters and thirds on a number-line.	Model tenths with Diennes Using Diennes 'tens stick' to represent one whole and units to represents a tenth of the whole 'tens stick.' Record using bar model to show ten equal parts in a whole
7-10		Comparing fractions with the same denominator and identifying equivalent fractions Use problems like: Would you rather have $1/3$ or $\frac{1}{2}$ of the same bar of chocolate? Would you rather have $5/10$ of £30 or $\frac{1}{2}$ of £30? Put these fractions in order: $5/10$, $3/10$ and $7/10$ Use jottings of bar models alongside to support reasoning. Record solutions on number lines.

11-12	• Draw 2-D shapes and make 3-D shapes using modelling materials (include simple nets) • Identify right angles • Identify horizontal and vertical lines.	As indicated by the NC statement... Draw 2D shapes and make 3D shapes (including simple nets) using modelling materials. Model how to describe the 2D and 3D shapes using key vocabulary.
13-16	• Sort and classify using different diagrams (Carroll diagrams, Venn diagrams, decision trees). • Sort and classify using properties such as symmetry; faces, edges and vertices.	Use sorting diagrams e.g. Carroll and Venn diagrams to classify a range of 2D shapes (regular polygons) looking at number of sides, number of right angles etc. Repeat for 3D shapes classifying by properties such as symmetry, number of faces, edges and vertices.
17-18	• Introduce first quadrant co-ordinates and plot simple 2-D shapes using (x,y) points	Geometry/Fractions link: Find different ways to fold a cut out square or rectangle in half (and quarters) and explore finding non-examples of a half and a quarter e.g. a square folded into two parts that are not equal. Record different solutions- discuss what is the same and what is different. Make links with fractions of a shape.
19-20		Use a coordinate grid to plot simple 2D shapes.

Check and refresh	Watch out for...	Building fluency
• $\frac{1}{2}$; $\frac{1}{4}$; $\frac{2}{4}$, $\frac{3}{4}$, $\frac{1}{3}$ (Year 2 work) • Able to independently record families of fractions as bar models • Able to use a number line to record counting in fractional steps • Able to identify some equivalent fractions particularly $= \frac{1}{2}$	• Accurate use of vocabulary for fractions e.g. equal parts, numerator, denominator, whole, tens / tenths etc • Accurate use of vocabulary for geometry: • Polygon, right angles, symmetry, horizontal and vertical lines, faces, edges and vertices etc	• Know and understand the role of the denominator in a fraction e.g. $\frac{x}{4}$ is 4 equal parts • Know how many equal parts needed to make the 'whole'. • Use conceptual understanding of links between denominators to work out equivalent fractions e.g. $\frac{1}{3}$s and $\frac{1}{6}$s

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