

HIAS MOODLE+ RESOURCE

Year 3 Unit Plan: 3.6

Spring Term

HIAS Maths Team
September 2019
Final version

© Hampshire County Council



Overview

In this document

Year 3 Unit Plans linked to Medium Term Overview

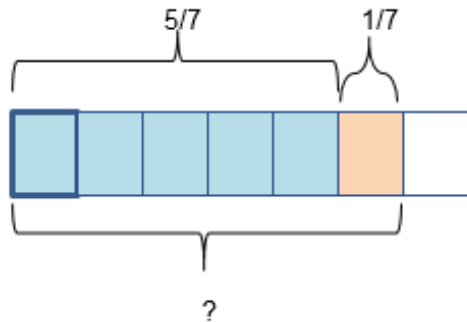
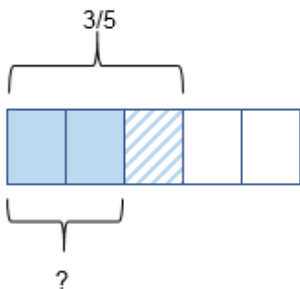
Points to consider when using this resource

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 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 3 Unit 3.6

This unit is about revisiting some of the work from Unit 3.4 to deepen conceptual understanding of fractions using multi-representations (concrete resources, pictures from the context of the problem, bar models and number lines) and solving problems within a range of contexts. It also develops pupils' understanding of recognising angles as a property of shape, recognising right angles and linking to amount of turn e.g. two right angles make a half-turn, three right angles make $\frac{3}{4}$ of a turn and four right angles make a complete whole turn, also identifying whether angles are greater than or less than a right angle.

Daily opportunities should also be provided for pupils to tell the time, including on a clock face with Roman numerals and practise counting e.g. in multiples of 3, 4, 50 and in 100s from any number.

Session	Unit Objectives	Types of task
1-2	- Recognise and use unit fractions as numbers (on a number-line) - Compare and order unit fractions	Use of number line to compare and order fractions Provide pupils with a range of unit fractions on cards to match with bar models and model how to compare and order on a number line (from 0 to 1). Relate to splitting one whole bar into equal pieces (represented by the denominator).
3-5	Recognise and show, using diagrams, equivalent fractions with small denominators (construct 'fraction families' as bar models e.g. whole / half/ quarters, eighths; whole/ thirds/ sixths etc)	Constructing 'fraction families' as bar models Provide pupils with strips of paper to fold into two equal parts to represent $\frac{1}{2}$, then fold the paper again to get four equal parts to represent $\frac{1}{4}$, then repeat to get eight equal parts. Repeat for other fraction families. Record as bar models. What do you notice about numerators and denominators of equivalent fractions? What fraction of a chocolate bar would you prefer and why?
6-8	Add and subtract fractions with the same denominator within one whole e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$ (represent/ interpret using bar models and number lines)	Draw bar models to support adding and subtracting fractions e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$  e.g. There are 5 pieces of a cake. Two pieces have already been eaten. I am going to eat one piece. How many pieces will be left? Each piece is $\frac{1}{5}$ of the cake. There are $\frac{3}{5}$ of the cake before I take $\frac{1}{5}$. $\frac{3}{5} - \frac{1}{5} = \frac{2}{5}$ 
9-10	Solve problems that involve all of the above	

11-15	• Recognise angles as a property of shape • Recognise that two right-angles make a half-turn • Recognise that three right-angles make three-quarters of a turn and four, a complete turn • Identify whether angles are greater than or less than a right angle	Repeat for other examples within one whole within a range of contexts for problem solving. 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. Angles as a property of shape Model how to recognise angles as a property of shape when describing shapes. Play 'Who am I?' game by placing shapes in a feely bag to model key vocabulary. Use of bar model for right angles Link right angles as a fraction of one whole complete turn e.g. one whole bar split into four equal parts to represent right angles as quarters. Make link to previous learning within fractions on equivalent fractions e.g. two right angles = two quarters of a turn which is the same as a half turn. Make a 'right angle tester' and then use it to find right angles and compare angles within shapes – which are greater than or less than a right angle? Introduce key vocabulary: acute (less than a right angle) and obtuse (greater than a right angle). Revise using < > symbols to compare angles to a right angle.
-------	---	---

Check and refresh	Watch out for...	Building fluency
• Able to independently record families of fractions as bar models • Able to compare and order unit fractions on a number line • Ability to recognise that tenths arise from dividing an object into ten equal parts	• Accurate use of vocabulary for fractions e.g. equal parts, numerator, denominator, whole, equivalent fractions • When constructing 'fraction families' ensure that the length of the whole bar is the same to enable accurate comparison • Accurate use of vocabulary for geometry e.g. right angles, acute angle, obtuse angle, amount of turn	• Know and understand the role of the denominator in a fraction e.g. $x/6$ is 6 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. $1/2$, $1/4$ and $1/8$ etc.

HIAS Maths Team

Jo Lees – Area Inspector

Email: jo.lees@hants.gov.uk

Jacqui Clifft – Area Inspector

Email: jacqui.clifft@hants.gov.uk

Jenny Burn – Inspector/Adviser

Email: jenny.burn@hants.gov.uk

Tessa Ingrey – Teaching & Learning Adviser (P/T)

Email: tessa.ingrey@hants.gov.uk

Natalie Ivey – Inspector/Adviser (P/T)

Email: natalie.ivey@hants.gov.uk

Dave Parnell – Teaching & Learning Adviser

Email: dave.parnell@hants.gov.uk

Rebecca Vickers – Teaching & Learning Adviser

Email: rebecca.vickers@hants.gov.uk

Brenda Robertson – Inspector/Adviser

Email: brenda.robertson2@hants.gov.uk

Kate Spencer – Teaching & Learning Adviser

Email: kathryn.spencer@hants.gov.uk

For further details on the full range of services available please contact us using the following details:

Tel: 01962 874820 or email: hias.enquiries@hants.gov.uk

HTLC Professional Learning Moodle

- Searchable course catalogue linked to the Learning Zone.
- Course updates.

- In-house training opportunities.
- Online calendar of events.
- Publications and online resources.
- Bespoke consultancy services.

Link: <https://hias-totara.mylearningapp.com/>



Terms and conditions

Terms of licence

Moodle+ subscribers are licenced to access and use this resource and have agreed to pay the annual subscription fee. This authority starts when the fee is paid and ends when the subscription period expired unless it is renewed. This file is for personal or classroom use only. By using it, you agree that you will not copy or reproduce this file except for your own personal, non-commercial use. HIAS have the right to modify the terms of this agreement at any time; the modification will be effective immediately and shall replace all prior agreements.

You are welcome to:

- download this resource
- save this resource on your computer
- print as many copies as you would like to use in your school
- amend this electronic resource so long as you acknowledge its source and do not share as your own work.

You may not:

- claim this resource as your own
- sell or in any way profit from this resource
- store or distribute this resource on any other website or another location where others are able to electronically retrieve it
- email this resource to anyone outside your school or transmit it in any other fashion.