

HIAS MOODLE+ RESOURCE

Year 4 Unit Plans: 4.3

Autumn 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 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 4 Unit 4.3 Plan – Multiplication and Division

This unit is about developing conceptual understanding, mental strategies and fluent recall of tables facts through the example of learning new tables facts (i.e. $x6 \times 7$) linked to counting in 6s and 7s, representing this on a number line and in a bar model using counters and as an array model (using squares) to support both multiplication and division within each set of tables i.e. dividing into groups of 6 and 7 using multiples and non-multiples (remainders). Look at the links between $x3$ (year 3 work) and $x6$ and then $x6$ linked to $x12$. Opportunities to consider different strategies for working out tables facts need to be modelled and discussed. Problem solving context should be used to support practise, reasoning and recording of solutions. There is a need to provide regular ongoing practise of recall of tables facts throughout the year. Maths team document Learning Tables Facts by Year 4 and Number Facts documents also support this unit.

Session	Unit Objectives	Types of task
2	- Use place value, known and derived facts to multiply and divide mentally - Y2/3: Recall and use multiplication and division facts for the 2,3,4,5,8,10 multiplication tables. - Represent multiplication and division facts as arrays using a grid (rather than dots) and a number-line	Using counters to model multiplication on number lines and as arrays (grid) making links between the two representations. Practising counting in 6s and 7s identifying specific places where pupils get stuck in the number sequence, looking at ways to work out those products using reasoning with known related facts eg recalling 6×9 could be linked to knowing $6 \times 10 = 60$ or 6×3 is double 3×3 etc
5	- Count in multiples of 3 and 4 from zero. - Derive, recall and use multiplication and division facts for $6x$ and $12x$ multiplication tables - Solve problems including missing number problems involving multiplication and division, recording solutions with a range of representations to include number-lines, bar-models and arrays. - Solve problems involving multiplying and adding (partitioning and recombining). E.g. $37 \times 8 = (30 \times 8) + (7 \times 8)$.	Applying tables facts to solve problems: multiplication Representing solutions to problems involving groups of 6 and 7 with arrays, number lines and bar models alongside the number sentence. Inc examples of needing to multiply by 16 and 17 to consider partitioning and recombining eg $16 \times 8 = 10 \times 8 + 6 \times 8$ Derive families of facts for particular tables linked to arrays eg 7×8, 8×7, $56 \div 7$, $56 \div 8$. Using tables facts to solve division facts focused on groups of 6 and 7. Use representations as above to show solutions Use word problems and missing box calculation examples
3		Division (groups of 6 and 7) involving remainders using non-multiples Show how to use number lines and arrays to model remainders alongside number sentence. Solve problems involving remainders with non-multiples of 6 and 7

Check and refresh	Watch out for...	Building fluency towards automaticity
• Independent use of number lines, arrays and bar models using counters to model tables fact previously learnt • Using one fact to derive another through doubling/ halving adding/ subtracting a multiple • Able to record a multiplication fact using X and + eg $7+7+7= 7 \times 3$ • Use and understand division as repeated subtraction	• In correct use of language 'multiples of' 'groups of' 'divided by', '6 groups / groups of 6' • Pupils only linking multiplication or division to only arrays or number lines – need to be able to transform between these two representations • Not able to model remainders or giving a remainder larger than the divisor eg $31 \div 6 = 4r7$	• Fluent recall of 2×5 and $10 \times$; $3 \times$, $4 \times$ and $8 \times$ facts including linked division facts • Know and use links between tables eg $2 \times$, $4 \times$, $8 \times$ etc • Understand x any 2 -digit number can be partitioned in to multiple of $10 \times$ plus tables fact and combined eg $17 \times 5 = 10 \times 5 + 7 \times 5$

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