Mathematics Moderation Guidance

Year 6

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Overview

This document contains guidance and resources to support the moderation process of pupils' work in mathematics. It offers a consistent framework and clear criteria for evaluating pupils' work and will support teachers in making accurate and confident teacher judgements. Teachers should use the document to facilitate professional dialogue and shared understanding, allowing educators to make informed and accurate decisions about pupil strengths and next steps.

Points to consider when using this resource
- The milestones align with the Hampshire Assessment Model (HAM).
- This is not to be used as an assessment document but to support the professional conversation during moderation.
- Only a few National Curriculum objectives have been selected for each milestone, but all National Curriculum objectives should be considered when planning and assessing.

Long term curriculum map for Year 6
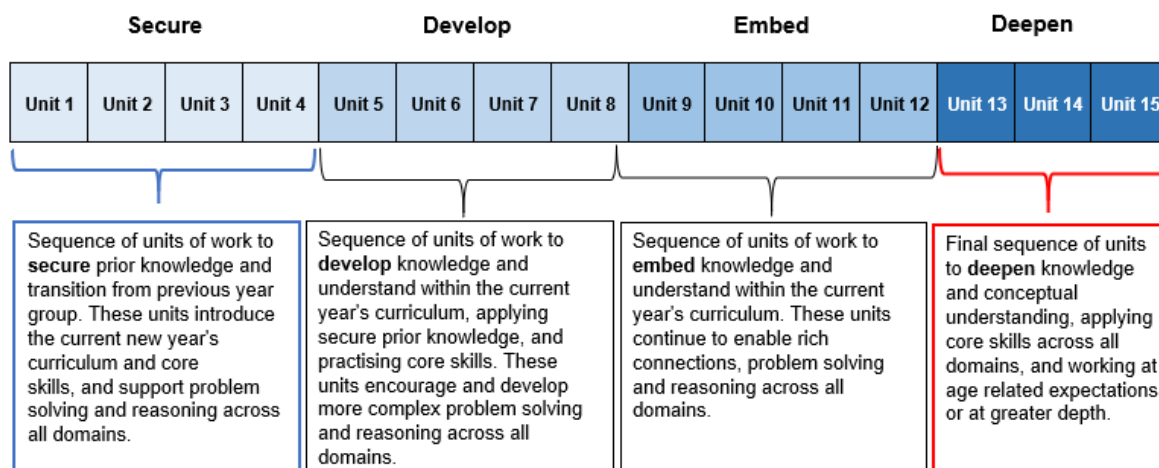
Year 6 – Yearly Overview — Hampshire Services HIAS SCHOOL IMPROVEMENT — HIAS MOODLE+ RESOURCE

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Autumn	6.1 Number and Place Value Addition and Subtraction			6.2 Multiplication and Division			6.3 Fractions	6.4 Percentages	6.4 Time	6.4 Geometry			6.5 Number and Place Value And Measurement with the Four Operations	
	Utilise everyday opportunities to develop fluency with a broad range of arithmetic strategies in the context of the current unit of work. Revise and consolidate key facts for measurement and conversion of units of measure.													
Spring	6.6 Fractions and Ratio		6.6 Geometry and Measurement	6.7 Addition and Subtraction (Fractions) with Algebra		6.8 Statistics	6.9 Measurement	6.9 Algebra	6.10 Four Operations with Statistics		6.11 Geometry	6.11 Fractions		
	Utilise everyday opportunities to develop fluency with a broad range of arithmetic strategies in the context of the current unit of work. Revise and consolidate key facts for measurement and conversion of units of measure.													
Summer	6.12 Multiplication and Division			6.13 Statutory Tests	6.14 Fractions	6.15 Four Operations and Algebra		6.16 Fraction with Geometry. Ratio and Proportion			6.17 Multiplication and Division		6.18 Measurement	

Please find more information about the [long-term curriculum maps on Moodle+](#)

Overview of curriculum intent

	Secure				Develop				Embed				Deepen		
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	Unit 12	Unit 13	Unit 14	Unit 15

Sequence of units of work to **secure** prior knowledge and transition from previous year group. These units introduce the current new year's curriculum and core skills, and support problem solving and reasoning across all domains.

Sequence of units of work to **develop** knowledge and understand within the current year's curriculum, applying secure prior knowledge, and practising core skills. These units encourage and develop more complex problem solving and reasoning across all domains.

Sequence of units of work to **embed** knowledge and understand within the current year's curriculum. These units continue to enable rich connections, problem solving and reasoning across all domains.

Final sequence of units to **deepen** knowledge and conceptual understanding, applying core skills across all domains, and working at age related expectations or at greater depth.

Key Assessment Bands

AM1	AM2	AM3	ARE
Assessment Milestone 1	Assessment Milestone 2	Assessment Milestone 3	Assessment ARE

What makes a successful moderation?

Completing a whole school moderation allows for a professional conversation to take place and provides you the opportunity to talk about their pupils. To be forensic regarding the pupil work and ask questions, it is important to select a few objectives to focus upon. It is not possible to look at all objectives across the National Curriculum and show evidence as this would mean looking at a lot of pieces of work and would dilute the professional conversations. We have selected a small number of objectives from across the curriculum to allow for different domains to be discussed which will help to inform areas which further interventions may be required as well as particular strengths to celebrate.

What does 'on track' look like?

As part of the moderation session, you should consider what evidence would look like to show a pupil was on track to meet age related expectations by the end of the year. Agree this from the start of the conversation so that teachers know what they are looking for.

Look at the tasks as well as the pupil responses.

When moderating pupil work look carefully at the tasks. Think about whether the task has enabled the pupil to demonstrate a good understanding of the standard. Sometimes it is not the pupils' response but instead the task that has not allowed the children to show a good enough understanding of the given objective. This will help to inform future planning and support teachers to select tasks carefully when planning a learning journey.

Look for all 3 aims.

Fluency, Reasoning and Problems Solving. The 3 aims from the National Curriculum that all pupils should experience and be taught objectives through. When moderating, ensure that you look for each of the aims. Evidence of fluency, reasoning and problem solving do not need to be shared for each individual objective but across the body of work shared, there should be evidence of all 3. Use moderation as an opportunity to look out for this and then inform planning for the next half term.

Moderation is an opportunity to be diagnostic

Being provided with the opportunity to share pupil work and discuss individual pupils also provides us the opportunity to be diagnostic and identify individual and cohort next steps. Take time after a moderation session to make some notes. Knowing exactly what to do next, can make the whole experience worthwhile and informative.

- What do you need to do next to secure age related expectations / the greater depth standard?
- What domains need more time?
- What adaptations need to be made to long-term planning?
- What interventions would benefit individual / groups of pupils.

Holding a professional conversation

When moderating with our colleagues, it is sometimes difficult to know the types of questions to ask. Below I have included a possible list of questions to provide a starting point:

- *Can you provide me with a further context to this lesson?*
- *What was the child saying/doing that makes you think they are secure with this objective?*
- *How can you be sure the objective is mastered?*
- *Is the child able to apply the knowledge to reasoning and problem-solving questions?*
- *How much support was provided to complete the task?*
- *At what point was the support/scaffold removed?*
- *Where are the opportunities for independent practice?*
- *Are you able to evidence that the child is still secure with the objective?*

Number Place Value: Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit. Round any whole number to a required degree of accuracy.

Strengths:	Next steps:

Addition and Subtraction: Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Strengths:	Next steps:

Multiplication and Division: Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.
Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.
Perform mental calculations, including with mixed operations and large numbers.

Strengths:	Next steps:

Algebra: Use simple formulae.
Generate and describe linear number sequences.

Strengths:	Next steps:

Fractions: Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.
Multiply simple pairs of proper fractions, multiply one-digit numbers with up to two decimal places by whole numbers.

Strengths:	Next steps:

Ratio and Proportion: Solve problems involving the calculation of percentages (e.g. of measures) such as 15% of 360 and the use of percentages for comparison.	
Strengths:	*Next steps:*

Measurement: Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.	
Strengths:	*Next steps:*

Geometry: Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons. Describe positions on the full coordinate grid (all four quadrants)	
Strengths:	*Next steps:*

Statistics: Calculate and interpret the mean as an average	
Strengths:	*Next steps:*

Moderation Year 6 – Milestone 2

Number Place Value: Uses negative numbers in context and calculate intervals across zero.

Strengths:	Next steps:

Addition and Subtraction: Use their knowledge of the order of operations to carry out calculations involving the four operations

Strengths:	Next steps:

Multiplication and Division: Identify common factors, common multiples and prime numbers.

Strengths:	Next steps:

Algebra: Find pairs of numbers that satisfy number sentences involving two unknowns. Enumerate all possibilities of combinations of two variables.

Strengths:	Next steps:

Fractions: Divide proper fractions by whole numbers (e.g. $1/3 \div 2 = 1/6$)

Strengths:	Next steps:

Ratio and Proportion: Solve problems involving ratio and proportion.

Strengths:	Next steps:

Measurement: Calculate the area of parallelograms and triangles

Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units such as mm^3 and km^3.

Strengths:	*Next steps:*

Geometry: Recognise, describe and build simple 3-D shapes, including making nets.

Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

Strengths:	*Next steps:*

Statistics: Interpret and construct pie charts and line graphs and use these to solve problems.

Strengths:	*Next steps:*

Moderation Year 6 – Milestone 3

Number Place Value: Round any whole number to a required degree of accuracy Use negative numbers in context, and calculate intervals across zero	
Strengths:	*Next steps:*

Addition and Subtraction: Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	
Strengths:	*Next steps:*

Multiplication and Division: Solve problems involving addition, subtraction, multiplication and division. Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.	
Strengths:	*Next steps:*

Algebra: Use simple formulae Find pairs of numbers that satisfy an equation with two unknowns.	
Strengths:	*Next steps:*

Fractions: Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. Solve problems which require answers to be rounded to specified degrees of accuracy.	
Strengths:	*Next steps:*

Ratio and Proportion: Solve problems involving ratio and proportion Solve problems involving similar shapes where the scale factor is known or can be found Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples	
Strengths:	*Next steps:*

Measurement: Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.	
Strengths:	*Next steps:*

Geometry: Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons. Draw and translate simple shapes on the coordinate plane,and reflect them in the axes.	
Strengths:	*Next steps:*

Statistics: Interpret and construct pie charts and line graphs and use these to solve problem. Calculate and interpret the mean as an average.	
Strengths:	*Next steps:*

Moderation Year 6 – Milestone 4

<table>
<tr><td colspan="2">Number Place Value: Round any whole number to a required degree of accuracy
Use negative numbers in context, and calculate intervals across zero
Solve number and practical problems that involve all of the above.</td></tr>
<tr><td>Strengths:</td><td>Next steps:</td></tr>
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Strengths:	*Next steps:*

Measurement: Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.	
Strengths:	*Next steps:*

Geometry: Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.	
Strengths:	*Next steps:*

Statistics: Interpret and construct pie charts and line graphs and use these to solve problem. Calculate and interpret the mean as an average.	
Strengths:	*Next steps:*

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