Hampshire Services
HIAS SCHOOL IMPROVEMENT

HIAS MOODLE+ RESOURCE

HIAS Scheme of Learning for Mathematics

Medium Term Plans for Year Four

HIAS Maths Team
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Final version

Hampshire County Council

www.hants.gov.uk

Overview

This document contains…
Long-term curriculum map for Y4
Medium-term overview plans for Y4 designed to support single age classes

Points to consider when using this resource
This medium-term plan identifies the key objectives in each unit.
For more detail and a break-down of these objectives please refer to the relevant unit plan.
Unit plans identify a learning journey, required prior knowledge, misconceptions, key vocabulary, and suggested tasks.
Appropriate models, images , concrete resources, and visual representations are an implicit element in all units.

National curriculum statutory end of year objectives are in **bold.** The content of the lessons highlighted in **red** at the end of each unit should be used to secure knowledge and understanding of the end of year objectives as required.

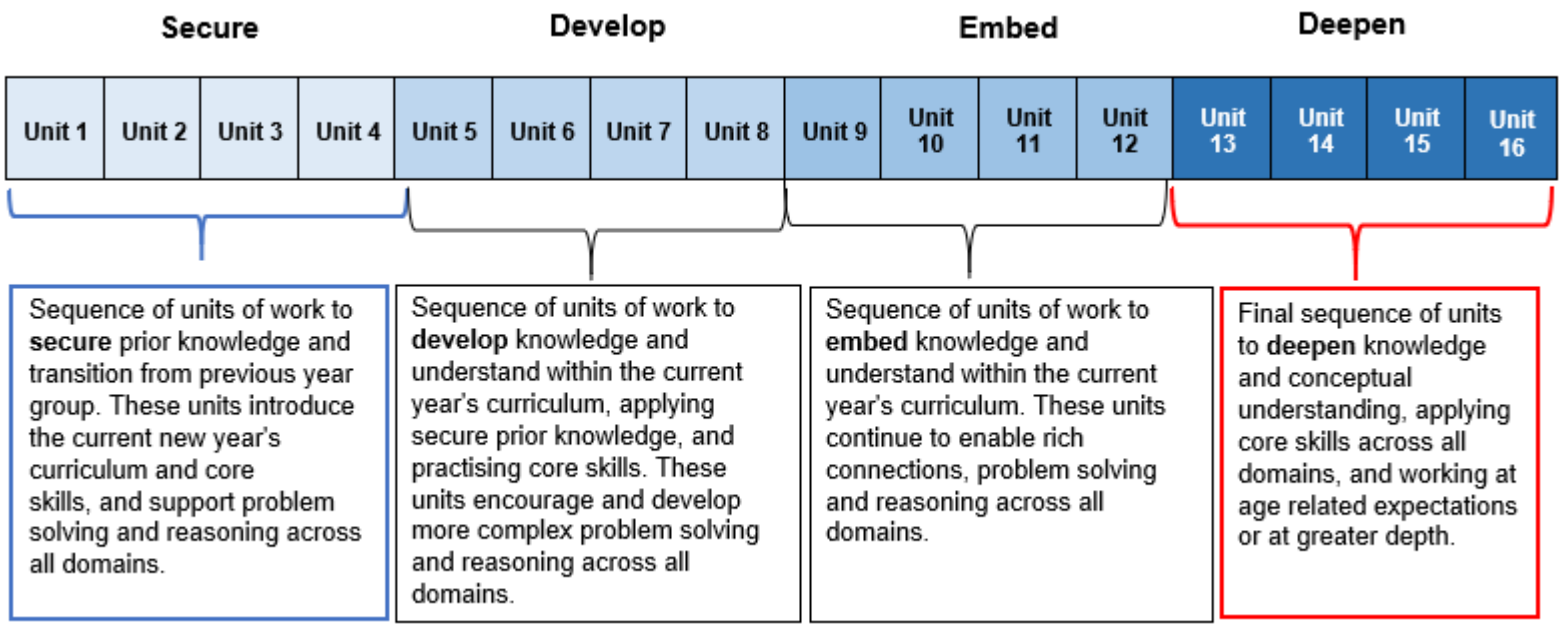
A suggested schedule for assessment is included as colour-coded bands, linked to the Hampshire Assessment Model if required.

Plans are based on a 14-week term and will need to be adjusted on a term-by-term basis

Long term curriculum map for Year 4

	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	4.1 Number: Place Value Addition and Subtraction			4.2 Addition and subtraction with Measurement (Money, Length)		4.3 Multiplication and Division		4.4 Fractions and Geometry				4.5 Number: Place Value with Measurement (Length, Mass, Time)		
	Measurement: Time : Utilise everyday opportunities to tell the time from an analogue clock and a 24-hour clock. Estimate and read time with increasing accuracy to the nearest minute. Convert from hours to minutes, minutes to seconds, years to months, weeks to days.													
Spring	4.6 Fractions and Geometry			4.7 Subtraction and addition			4.8 Measurement: Time	4.9 Multiplication and Division with Fractions (To include times tables)				4.10 Subtraction and addition with statistics Measurement (volume, capacity and scales)		
	Measurement: Time: Utilise everyday opportunities to tell the time, including on a clock face with Roman numerals. Convert to 12-hour and 24-hour time. Read Roman numerals to 100 (C). Practise counting in multiples of 25 and 1000 from zero													
Summer	4.11 Multiplication and division			4.12 Geometry		4.13 Addition and subtraction with statistics		4.14 Multiplication and Division with Fractions			4.15 Measurement (Money, Time)	4.16 Measurement (Length)		

Overview of curriculum intent



Key for assessment bands

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

YEAR 4 Autumn Term

Measurement: Find everyday opportunities to tell the time from an analogue clock and a 24-hour clock. Estimate and read time with increasing accuracy to the nearest minute. Convert from hours to minutes, minutes to seconds, years to months and weeks to days

Subsequent units should continue to revisit material from previous units to deepen learning, encourage automaticity and allow rich connections to be made across the year.

A.M	Unit	Hours	Domain	Y4 objectives
	4.1	5	Number & Place Value	• **Solve number problems and practical problems involving:** • **Recognise the place value of each digit in a 4-digit number (thousands, hundreds, tens and ones)** Up to 10,000 • **Identify, represent, and estimate numbers using different representations** including number-lines • **Find 10 ,100, 1000 more or less than a given number** • **Round any number to the nearest 10,100,1000** (represent on a number line)
		10	Addition and Subtraction	• Y2:**Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100** • Y3:**Compare and order numbers from zero up to 1000; using < , > and = signs** • **Read and write numbers to at least 1000 in numerals and in words** • Y3: **Add and subtract numbers mentally including a 3-digit number and ones and a 3-digit number and hundreds.** • **Estimate the answer to a calculation and use inverse operations to check answers** • **Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.**

A.M	Unit	Hours	Domain	Y4 objectives
	4.2	5	Addition and subtraction with Measurement (money)	• Add and subtract amounts of money to give change using both £ and p to solve problems • Use known and derived facts to work out change from £1 (100p), £10 , £100 • Know 100p = £1; 2 x 50p = £1; 10 x 10p = £1; 5 x 20p = £1; 20 x 5p = £1; 50 x 2p = £1; relate to multiplication facts/ repeated addition in the context of money. • Record addition and subtraction money calculations using pictorial representations such as a number-line and bar-models. • **Estimate, compare and calculate money in £ and p** • **Convert between units (£ and p)**
		5	Addition and subtraction with Measurement (length)	• **Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m** • **Convert between units (km-m, m-cm, cm-mm (x) and vice versa (÷))** • Know 1000m = 1km;Derive 500m = ½ km, 250 m = ¼ km , 750 km = ¾ km and 100m = 1/10 km • **Solve problems involving all of the above** • Order and compare numbers beyond 1000 (represent on number lines)
Half term				
	4.3	10	Multiplication and division	• **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 • **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 x 8 = (30 x 8) + (7 x 8).

A.M	Unit	Hours	Domain	Y4 objectives
	4.4	10	Fractions	• **Count up and down in tenths (proper and decimal fractions); recognise that tenths arise from dividing and object into ten equal parts.** Record using number lines (making explicit links with decimals) and bar models • **Round decimals with one decimal place to the nearest whole number** using different representations, including the number line • **Find the effect of dividing a one-or two-digit number by 10 and 100;** use place value understanding**.** • **Recognise and show, using diagrams, families of common equivalent fractions** • Count in halves, quarters and thirds on a number-line. • **Add and subtract fractions with the same denominator** (number-lines and bar-models)
		10	Geometry	• **Compare and classify geometric shapes, including quadrilaterals based on their properties and sizes** • **Identify acute and obtuse angles** • **Complete a simple symmetric figure with respect to a specific line of symmetry** • **Describe positions on a 2-D grid as co-ordinates in the first quadrant** ((x,y) co-ordinates) • **Find the area of rectilinear shapes by counting squares** (relate to tables facts on array grids)

A.M		Unit	Hours	Domain	Y4 objectives
		4.5	15	Number and PV with Measurement (length, mass, time)	• **Measure and compare lengths (mm/cm/m/ km)** • **Convert between units (km to m, m to cm, cm to mm (x) and vice versa (÷)** • **Measure and compare mass (g/kg)** • Know that there are 1000g = 1 kg and derive associated facts: 500g = ½ kg ; 250 g = ¼ kg ; 750 g = ¾ kg; 100g = 1/10 kg; 10g = 1/100 kg • **Count up and down in hundredths; recognising that hundredths arise from dividing an object by 100 and dividing tenths by 10.** (bar-model and number-line) • **Recognise the place value of each digit in a 4-digit number (1000s,100s, 10s and ones)** • **Find 1000 more or less than a given number** • **Order and compare numbers beyond 1000** (represent on number lines) • **Read, write and convert time between analogue and digital 12 and 24-hour clocks** • **Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days**
Christmas					

Year 4 Spring Term

Measurement

Find every day opportunities to tell the time, including on a clock face with Roman numerals. Convert to 12-hour and 24-hour time. Read Roma numerals to 100 (C).Practise counting in multiples of 25 and 1000 from zero.

A.M		Unit	Hours	Domain	Y4 objectives
		4.6	10	Fractions	• **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 ¼, ½ and ¾** (represent on number lines and bar models)
			5	Geometry	• **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.**

A.M		Unit	Hours	Domain	Y4 objectives
		4.7	15	Subtraction and addition	• Recall and use complements to 100 and 1000 to support mental strategies. • Record and addition and subtraction calculations using a combination of representations e.g. bar model, number-line, number sentence. • Add three numbers, with a sum of up to 1000. • **Estimate and use inverse operations to check answers to a calculation** • **Add and subtract numbers with up to four digits using formal written methods** building on the use of structured concrete resources to ensure conceptual understanding. • Solve addition and subtraction two-step problems in context, deciding which operations and methods to use and why.
		4.8	5	Measurement (Time)	• **Read, write, and convert time between analogue and digital 12-hour and 24-hour clocks**. • **Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days**. • Represent time intervals on a number-line • Know 1 hour = 60 minutes; ½ hour = 30 minutes, ¼ hour = 15 minutes, ¾ hour = 45 minutes • Know I minute = 60 seconds; 365 days in a year (366 in a leap year); 14 days in a fortnight
Half term					

A.M	Unit	Hours	Domain	Y4 objectives
	4.9	10	Multiplication and division	• Y3: **Recall and use multiplication and division facts for the 2,3,4,5,8 and 10 multiplication tables.** • Represent multiplication and division facts as arrays using a grid (rather than dots) and on a number-line • **Count in multiples of 6,7 and 9 from zero.** • Derive, **recall, and use multiplication and division facts for up to 12 x 12** • **Use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1, dividing by 1, multiplying together three numbers** • 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
		10	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 one tenth of an amount by dividing by ten and one hundredth by dividing by one hundred. • Know one tenth = 0.1 • Count in tenths and record on a number line beyond one

A.M	Unit	Hours	Domain	Y4 objectives
	4.10	10	Addition and Subtraction with Statistics	• **Compare and order numbers beyond 1000** • **Round any number to the nearest 10,100, 1000** • **Identify, represent, and estimate numbers using different representations** • **Solve number and practical problems that involve** an understanding of place value and with increasingly large positive numbers. • **Add and subtract numbers with up to four digits using formal written methods** building on the use of structured concrete resources to ensure conceptual understanding. • **Solve comparison, sum and difference problems using information presented in bar charts, pictograms and other graphs, e.g. bar charts for discrete data and time graphs for continuous data**
		5	Measurement (Volume, capacity, and scales)	• Measure, compare, add, and subtract volume/capacity (l / ml) • **Convert between different units of measure (ml/l)** • **Solve number and practical problems that involve** an understanding of place value and with increasingly large positive numbers. • **Add and subtract numbers with up to four digits using formal written methods** building on the use of structured concrete resources to ensure conceptual understanding.
Easter				

Year 4 Summer Term

Find everyday opportunities to count fluently in multiples of 2,4,8 ; 3,6,9,12 ; 5,10. Use knowledge of commutativity to increase fluency. Notice and describe number patterns

A.M	Unit	Hours	Domain	Y4 objectives
	4.11	15	Multiplication and division	• **Multiply two-digit and three-digit numbers by a one-digit number** • **Recognise the place value of each digit in a 3-digit number (100s, 10s and ones)** • **Use place value understanding to divide single digit and 2-digit numbers by 10.** • **Recognise that tenths arise from dividing one-digit numbers or quantities by 10.** • **Count from zero in multiples of 3,4,8,50 and 100** • Y2: **Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables**. • Represent multiplication and division facts as arrays using a grid (rather than dots) and a number-line • Derive, **recall and use multiplication and division facts for 3 , 4 and 8 multiplication tables** • Understand the links within and between tables facts (‘one, ten, five, derive’) • **Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, using mental strategies** • **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.

A.M	Unit	Hours	Domain	Y4 objectives
	4.12	10	Geometry	• **Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.** • **Identify acute and obtuse angles and compare and order angles up to two right angles by size** • **Plot specified points on a 2-D grid as coordinates in the first quadrant and draw sides to complete a given polygon.** • **Find the area of rectilinear shapes by counting squares (on a grid)** • Solve more complex problems involving fractions and area of shapes e.g. 'If ¼ of my bedroom is covered in a rug, how much is not?' and 'If 3/7 of a field is planted with carrots and the rest with onions, what fraction of the field is planted with onions and how much area if taken up by onions if the whole field has an area of 140m^2 ?'
	4.13	10	Addition and subtraction with statistics	• **Add and subtract with numbers up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate** • **Estimate and use inverse operations to check answers to a calculation** • **Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why** • **Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs** • **Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs**
Half term				

A.M	Unit	Hours	Domain	Y4 objectives
	4.14	10	Multiplication and division	• **Recall 2/3/4/5/6/8 multiplication and division facts for multiplication tables up to 12 x 12** • **Use place value, known and derived facts to multiply and divide mentally, including by 0 and 1; dividing by 1; multiplying three numbers together.** • **Recognise and use factor pairs and commutativity in mental calculations** • **Multiply two-digit and three-digit numbers by a one-digit number using formal written layout** • **Solve problems involving multiplying and adding including using the distributive law to multiply two-digit numbers by one digit (37 x 8 = (30 x 8) + (7 x 8)**), the associative law (2 × 3) × 4 = 2 × (3 × 4))**. integer scaling problems** (six times taller) **and harder correspondence problems such as n objects are connected to m objects** (e.g. the numbers of choices of a meal on a menu, or three cakes shared equally between 10 children**).** • Combine knowledge of number facts and rules of arithmetic to solve mental and written calculations for example, 2 x 6 x 5 = 10 x 6 = 60. • Solve two-step problems in contexts, choosing the appropriate operation, working with increasingly harder numbers**.** • **Find the effect of dividing a one-or two-digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths**
	4.14	5	Fractions	• **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** • **Add and subtract fractions with the same denominator** • **Recognise and write decimal equivalents of any number of tenths or hundredths** • **Recognise and write decimal equivalents to ½; ½ ; ¾**

A.M	Unit	Hours	Domain	Y4 objectives
	4.15	10	Measurement (money and time)	• **Solve simple money problems involving fractions and decimals to two decimal places** • **Estimate, compare and calculate with money in £ and p** • **Read, write and convert between analogue and digital 12 and 24-hour clocks** • **Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days**
	4.16	10	Measurement (length) *review mass, volume and capacity if required*	• **Convert between kilometres, metres, centimetres, and millimetres** • **Estimate, compare and calculate with measures of length** • **Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres** • **Solve length problems involving fractions and decimals to two decimal places** • **Round decimals** in the context of length **to the nearest whole number** • **Compare** lengths **with the same number of decimal place (up to two decimal places)**
Summer				

HIAS Maths Team contacts

Jo Lees – Area Inspector
Email: jo.lees@hants.gov.uk

Jacqui Clifft – Area Inspector
Email: jacqui.clifft@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

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