HIAS Maths Team
Planning and Assessment Documents

Webinar: 24 March or 21 April 2021

Summer Term 2021

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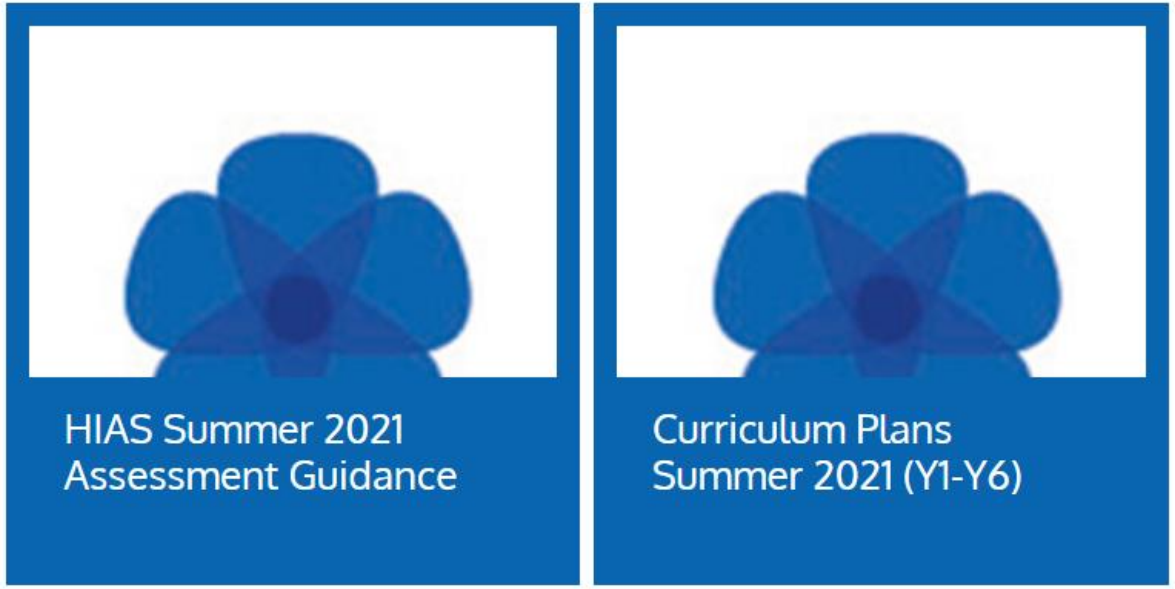
Maths Moodle: Planning Documents

Summer 2021 planning and assessment

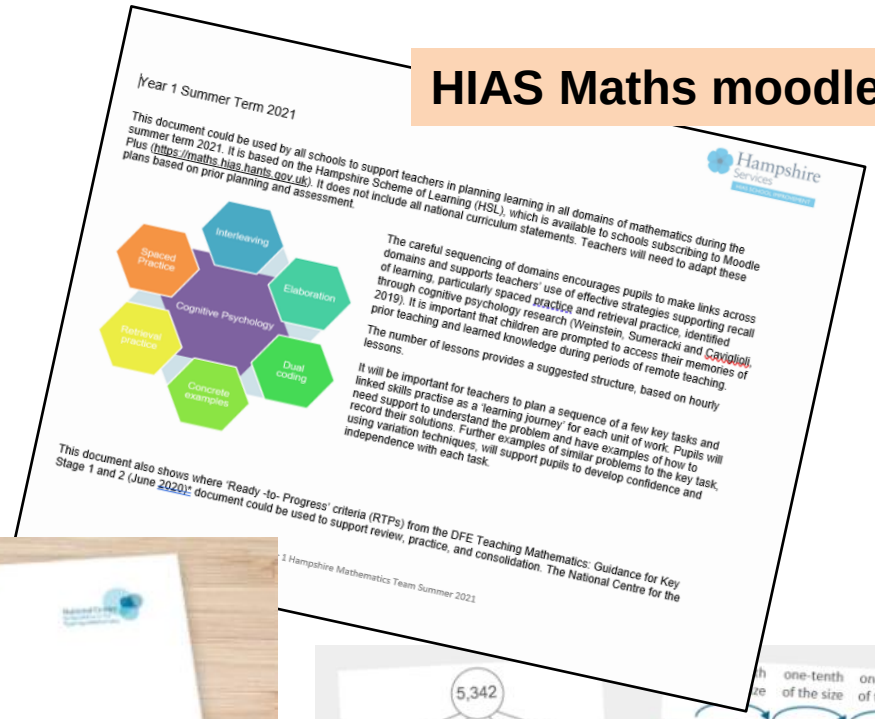


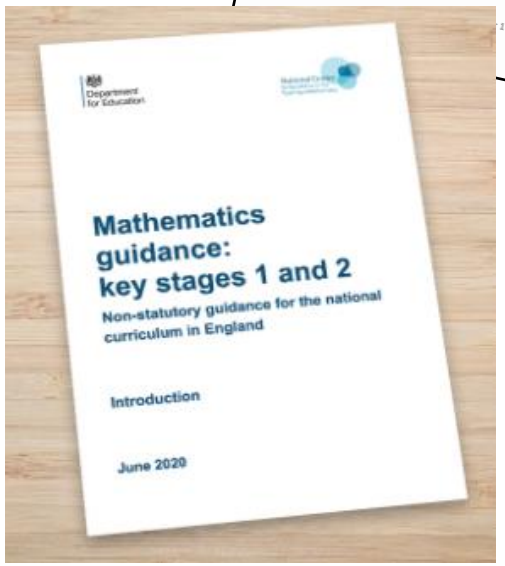
Curriculum Plans for the summer term

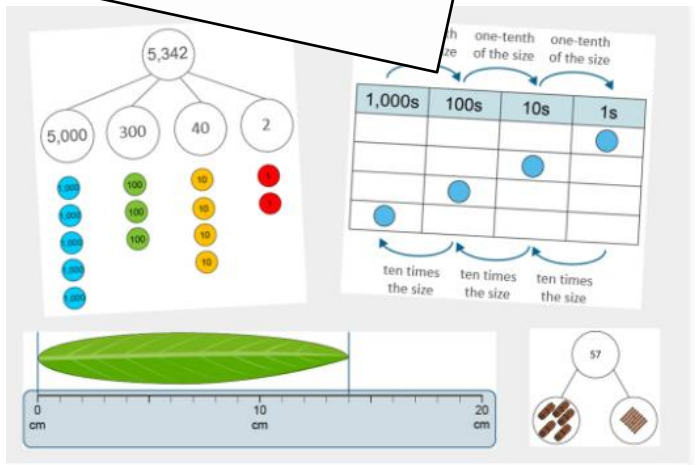
Year 1 to Year 6

- Planning for 2/3 week units of work covering all domains across the term
- Can be used alongside school's own resources eg White Rose, text books
- DfE 'Ready- to- Progress' (RTPs) criteria identified as appropriate in units of work
  - Each of the RTPs have ppt resources developed by NCETM
  - RTPs could be used to support interventions

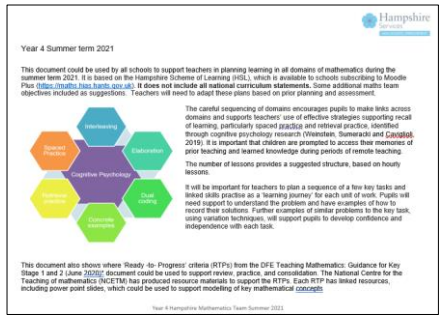
HIAS Maths moodle







[Support with 2020 DfE guidance | NCETM]



Year 4 Summer term 2021

This document could be used by all schools to support teachers in planning learning in all domains of mathematics during the summer term 2021. It is based on the Hampshire Scheme of Learning (HSL), which is available to schools subscribing to Moodle Plus (https://maths.hias.hants.gov.uk). **It does not include all national curriculum statements.** Some additional maths team objectives included as suggestions. Teachers will need to adapt these plans based on prior planning and assessment.

The careful sequencing of domains encourages pupils to make links across domains and supports teachers' use of effective strategies supporting recall of learning, particularly spaced practice and retrieval practice, identified through cognitive psychology research (Weinstein, Sumeracki and Caviglioli, 2019). It is important that children are prompted to access their memories of prior teaching and learned knowledge during periods of remote teaching.

The number of lessons provides a suggested structure, based on hourly lessons.

It will be important for teachers to plan a sequence of a few key tasks and linked skills practise as a 'learning journey' for each unit of work. Pupils will need support to understand the problem and have examples of how to record their solutions. Further examples of similar problems to the key task, using variation techniques, will support pupils to develop confidence and independence with each task.

This document also shows where 'Ready -to- Progress' criteria (RTPs) from the DFE Teaching Mathematics: Guidance for Key Stage 1 and 2 (June 2020)' document could be used to support review, practice, and consolidation. The National Centre for the Teaching of mathematics (NCETM) has produced resource materials to support the RTPs. Each RTP has linked resources, including power point slides, which could be used to support modeling of key mathematical concepts

Year 4 Hampshire Mathematics Team Summer 2021

Summer term: Year 4

Summer 1

Find everyday opportunities to develop children's understanding of time.

lessons	Content Domain	Objectives (HSL Unit 4.11)	DfE RTPs
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') division, recording solutions with a range of representations to include number-lines, bar-models and arrays.	4NF-1 4NF-2 4NF-3 4MD-1 4MD-2 4MD-3

3 week block: Multiplication and Division (NPV)

Lessons	Domains	Objectives (HSL Unit 4.12)	DfE RTPs
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 …res (on a grid) …rea 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 140m²?'	4G-1 4G-2 4G-3

2 (1) week block on Geometry

Lessons	Domains	Objectives (HSL Unit 4.13)	DfE RTPs
10	Addition and subtraction (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 charts, pictograms, tables and other graphs	

2 week block on Addition and Subtraction (NPV)

Summer 2

Lessons	Domains	Objectives (HSL 4.14)	DfE RTPs
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 • 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	4MD-1 4MD-2 4MD-3 4F-1 4F-2 4F-3
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; ¼; ¾	

3 week block: Multiplication and Division; Fractions

Lessons	Domains	Objectives (HSL 4.15)	DfE RTPs
10	Measure (money (5) and time (5))	• 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	

2 week block on Measurement (money, NPV)

Lessons	Domains	Objectives (HSL 4.16)	DfE RTPs
10	Measurement (length) (*Mass, volume, capacity could also be addressed here if*	• 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	4NPV-1 4NPV-3 4NPV-4

2 week block on Measurement (length, capacity, mass, NPV)

Provides a possible structure to adapt-
Use AfL for appropriate objectives

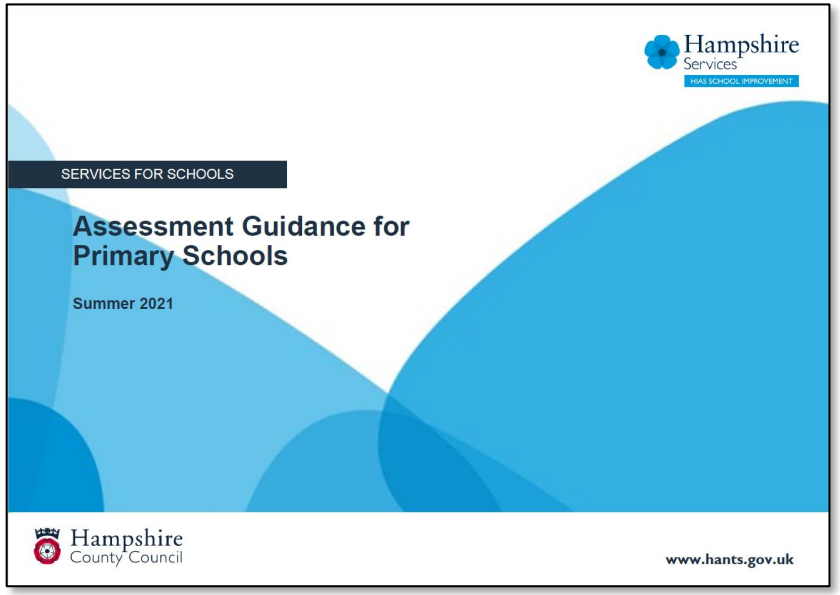
HIAS Assessment Guidance for primary schools: English and mathematics

- HIAS assessment, English, and mathematics teams

- aims to influence how assessment can be used to shape the curriculum and support transition into the next academic year.

The document is organised in 2 sections:

- support for formative assessment to inform curriculum planning
- supports schools in undertaking meaningful summative assessment at the end of the summer term



The PDF of the full guidance document (English and maths) sent out to schools by email (Thursday 18 March 2021)

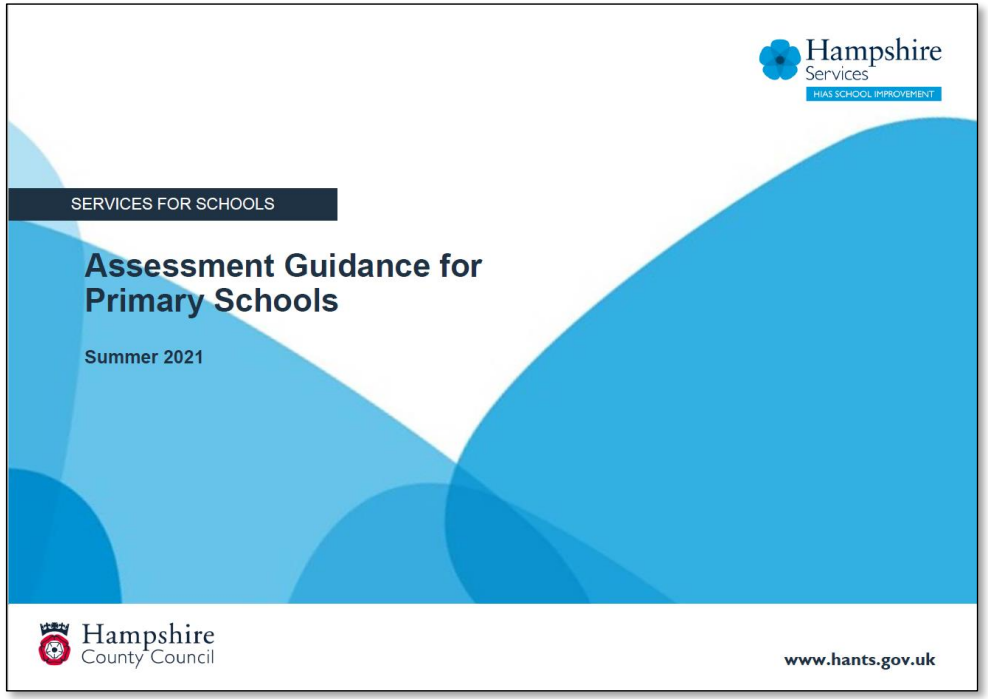
HIAS Summer 2021 Assessment Guidance

[Online Training - Maths Moodle: Summer 2021 planning and assessment (hants.gov.uk)]

Mathematics

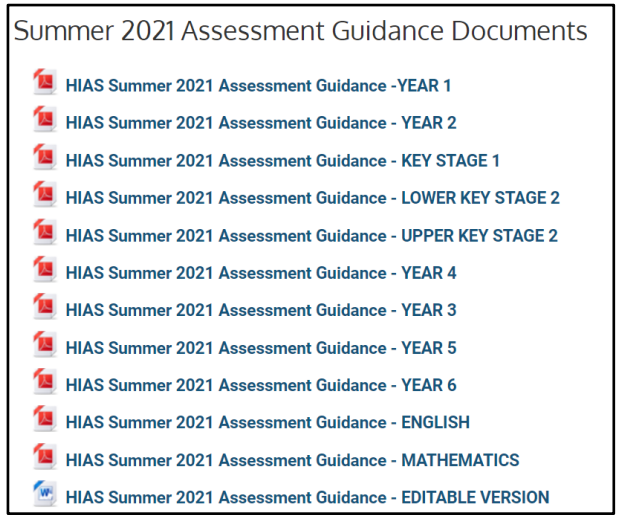
- Assessment Guidance
- National Curriculum summary descriptors

- **Year group versions and editable versions available on HIAS Assessment in Moodle Plus**

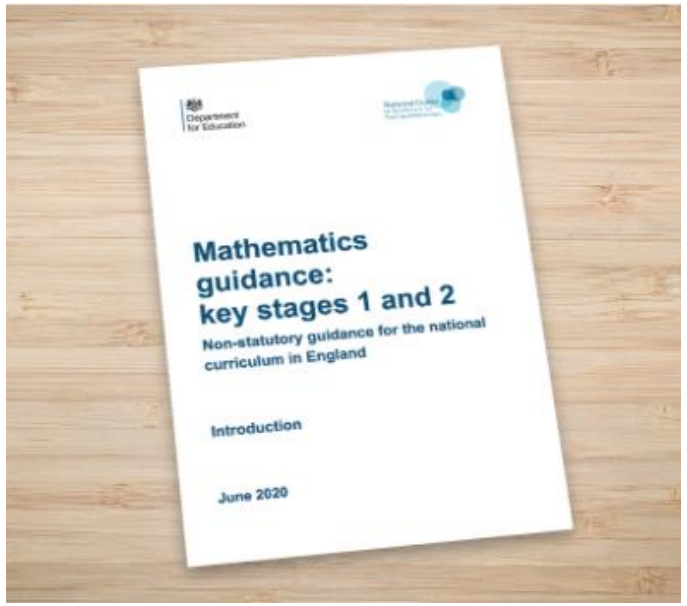


HIAS Assessment Moodle

[Online Training - Course: Summer 2021 Assessment Guidance (hants.gov.uk)]



DfE: Ready –to- Progress Criteria (RTPs)



[Teaching mathematics in primary schools - GOV.UK (www.gov.uk)]

The ready-to-progress criteria in this document are organised into 6 strands

- Measurement and Statistics are integrated as applications of number criteria,
- elements of measurement that relate to shape are included in the Geometry strand.

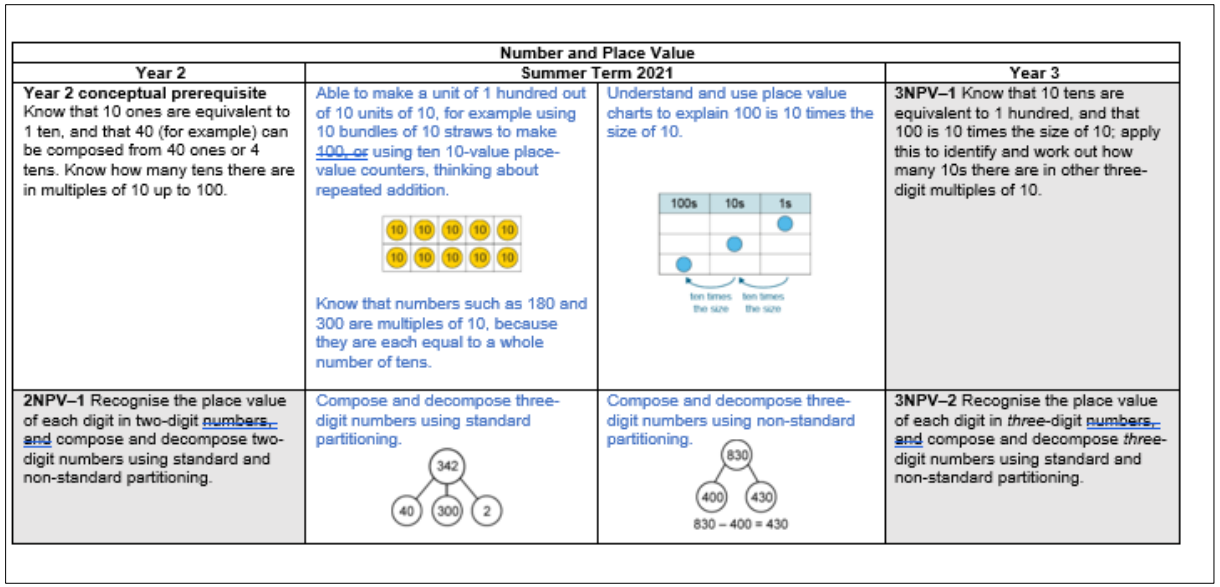
Ready-to-progress criteria strands	Code
Number and place value	**NPV**
Number facts	**NF**
Addition and subtraction	**AS**
Multiplication and division	**MD**
Fractions	**F**
Geometry	**G**

Assessment Guidance

Year 1 to Year 6:

- **Based around the RTPs and a few national curriculum objectives**
- RTP criteria identify the most important conceptual knowledge and understanding within each year group pupils need in order to progress successfully into the following year group's curriculum
- HIAS maths team have provided interim checkpoints to support assessment towards end of year attainment
- Not a 'learning journey' or scheme of learning.

Statutory requirement to teach the whole curriculum



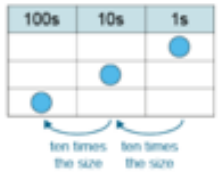
Number and Place Value			
Year 2	Summer Term 2021		Year 3
Year 2 conceptual prerequisite Know that 10 ones are equivalent to 1 ten, and that 40 (for example) can be composed from 40 ones or 4 tens. Know how many tens there are in multiples of 10 up to 100.	Able to make a unit of 1 hundred out of 10 units of 10, for example using 10 bundles of 10 straws to make 100, or using ten 10-value place-value counters, thinking about repeated addition. Know that numbers such as 180 and 300 are multiples of 10, because they are each equal to a whole number of tens.	Understand and use place value charts to explain 100 is 10 times the size of 10.	**3NPV–1** Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10.
2NPV–1 Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning.	Compose and decompose three-digit numbers using standard partitioning.	Compose and decompose three-digit numbers using non-standard partitioning.	**3NPV–2** Recognise the place value of each digit in *three*-digit numbers, and compose and decompose *three*-digit numbers using standard and non-standard partitioning.

DfE Ready to Progress Criteria: 6 strands

NPV (Y1- Y6); Number Facts (Y1-Y5); Addition and subtraction (Y1-3,Y6); Multiplication and Division (Y2-Y6); Fractions (Y3-Y6), Geometry (Y1-Y6)

E.G Y3 Assessment Guidance

Summer term steps

Number and Place Value			
Year 2	**Summer Term 2021**		**Year 3**
Year 2 conceptual prerequisite Know that 10 ones are equivalent to 1 ten, and that 40 (for example) can be composed from 40 ones or 4 tens. Know how many tens there are in multiples of 10 up to 100.	Able to make a unit of 1 hundred out of 10 units of 10, for example using 10 bundles of 10 straws to make ~~100, or~~ using ten 10-value place-value counters, thinking about repeated addition.  Know that numbers such as 180 and 300 are multiples of 10, because they are each equal to a whole number of tens.	Understand and use place value charts to explain 100 is 10 times the size of 10. 	**3NPV–1** Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10.
2NPV–1 Recognise the place value of each digit in two-digit ~~numbers, and~~ compose and decompose two-digit numbers using standard and non-standard partitioning.	Compose and decompose three-digit numbers using standard partitioning. 	Compose and decompose three-digit numbers using non-standard partitioning.  830 – 400 = 430	**3NPV–2** Recognise the place value of each digit in *three*-digit ~~numbers, and~~ compose and decompose *three*-digit numbers using standard and non-standard partitioning.

RTPs (or NC objectives)

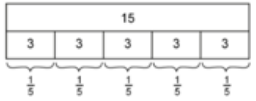
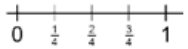
National curriculum objectives identified for fractions in KS1 and measurement in KS2

Interim steps

NC objectives

Key concept

RTPs

Fractions			
Year 2	**Summer term 2021**		**Year 3**
National Curriculum Y2 Write simple fraction e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4} = \frac{1}{2}$	Describe unit fractions of a shape/area, measure (e.g. a length of ribbon or beaker of water) and set using precise language. E.g. Shape: The whole is divided into 3 equal parts. 1 of these parts is shaded. Set: a group of sheep where all are white except one, which is black	Interpret and write proper fractions to represent 1 (unit fractions) or several parts of a whole (non-unit fractions) that is divided into equal parts. E.g. The whole is divided into 8 equal parts and 5 of those parts are shaded. $\frac{5}{8}$ of the shape is shaded. $\frac{5}{8}$ is 5 one-eighths.	**3F–1** Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.
National Curriculum Y2 Recognise, find, name and write fractions $\frac{1}{3}, \frac{1}{4}, \frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity.	Use part whole models to represent dividing by unit fractions linked to known tables facts e.g. $\frac{1}{2}$ of 16 = 16 ÷2 Find $\frac{1}{2}, \frac{1}{5}, \frac{1}{10}, \frac{1}{4}, \frac{1}{8}$, of quantities linked to 2, 5, 10, 4 and 8 multiplication tables.	Use division facts to find a unit fraction of a quantity.  E.g. to find $\frac{1}{5}$ of 15, we divide 15 into 5 equal parts. 15 divided by 5 is equal to 3, so $\frac{1}{5}$ of 15 = 3.	**3F–2** Find unit fractions of quantities using known division facts (multiplication tables fluency).
Year 2 conceptual prerequisite Reason about the location of whole numbers in the linear number system.	Know and understand a fraction as a number and therefore has a position on a number line.  	Reason about the location of any fraction within 1 in the linear number system.  	**3F–3** Reason about the location of any fraction within 1 in the linear number system.
Year 2 conceptual prerequisite Automatically recall addition and subtraction facts within 10. Unitise in tens: understand that 10 can be thought of as a single unit of 1 ten, and that these units can be added and subtracted.	Add fractions with the same denominator, within 1. E.g. $\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$  	Subtract fractions with the same denominator, within 1. E.g. $\frac{5}{8} - \frac{2}{8} = \frac{3}{8}$  	**3F–4** Add and subtract fractions with the same denominator, within 1.

NC objectives

Measurement			
Year 2	**Summer Term 2021**		**Year 3**
National Curriculum Y2 Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. Compare and order lengths, mass, volume/capacity and record the results using >, < and =	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).	Measure the perimeter of simple 2D shapes.	**National Curriculum Y3** • Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). • Measure the perimeter of simple 2D shapes.
National Curriculum Y2 Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.	Add and subtract amounts of money to give change, using **either** £ or p (of the same unit) in practical contexts.	Add and subtract amounts of money to give change, using **both** £ or p (including mixed units) in practical contexts.	**National Curriculum Y3** • Add and subtract amounts of money to give change, using both £ and p in practical contexts.
National Curriculum Y2 Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.	Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight.	Know the number of seconds in a minute and the number of days in each month, year and leap year. Compare durations of events. E.g. to calculate the time taken by particular events or tasks.	**National Curriculum Y3** • Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight. • Know the number of seconds in a minute and the number of days in each month, year and leap year. • Compare durations of events.

NC objectives

HIAS Maths team: National Curriculum summary descriptors

End of year assessment: 'Minimum sufficiency' and 'Typically'

For Year 1 to Year 6

Still need to secure to make progress in next curriculum…

Aim for 'typically' before moving on…

Minimum sufficiency within year 3	Typically by the end of year 3
Learners will be developing formal and informal written and mental methods using the four operations of addition, subtraction, multiplication, and division. They understand and use the inverse relationship between addition and subtraction. They can add and subtract 1,10 and 100 to and from 3 - digit numbers Learners are able to: • solve a range of number and place value problems. • calculate complements to 1000 with multiples of 100. • compare different shapes with reference to angles. • use measuring instruments, making reference to standard units of measure • tell the time: including minutes past and to the hour • recall multiplication tables for 2x, 3x, 4x, 5x and 10x and derive division facts for 2x 5x and 10x • read and write simple unit fractions	Learners will be developing formal and informal written and mental methods using the four operations of addition, subtraction, multiplication, and division, including number facts and the concept of place value in numbers to 1000. They understand and use the inverse relationship between addition and subtraction. They can accurately perform calculations with whole numbers. Learners are able to: • solve a range of number and place value problems. • calculate complements to 1000. • compare different shapes with reference to angles. • use measuring instruments, making reference to standard units of measure • tell the time accurately • recall multiplication tables for 2x, 3x, 4x, 5x, 8x and 10x and derive associated division facts. • read and write simple fractions and decimals (e.g. 0.5, 0.1)

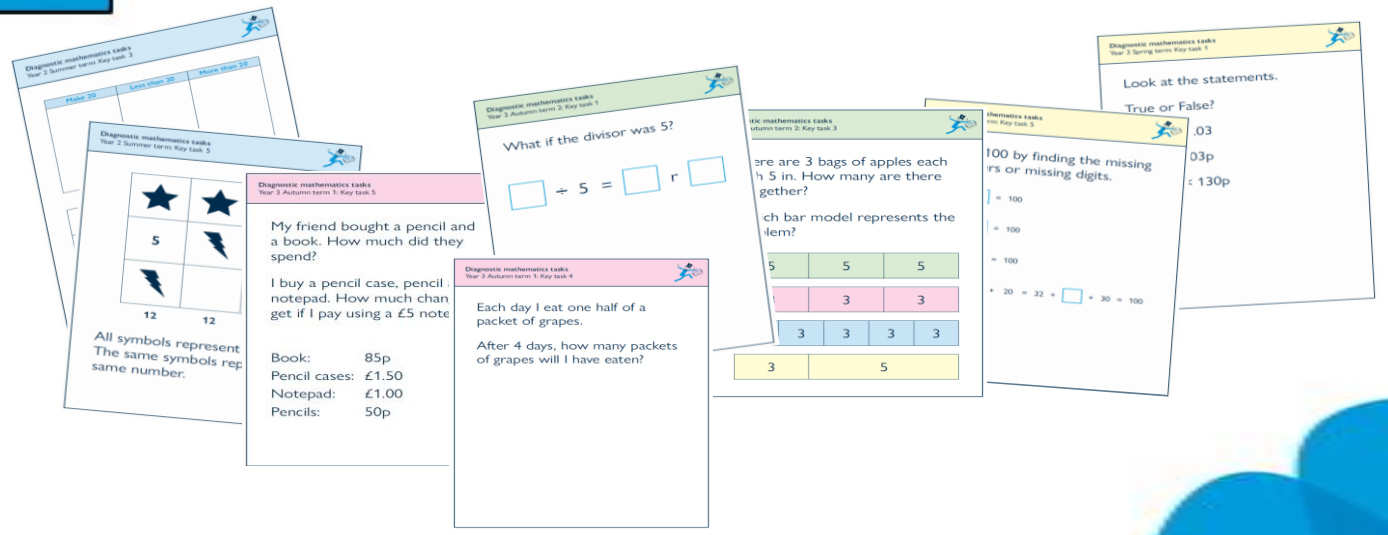
enable children to progress into the adapted autumn curriculum…

Diagnostic Mathematics Tasks
Key Stage 1 and 2

Hampshire Services
HIAS SCHOOL IMPROVEMENT

Each pack contains:

- Introductory rationale and principles booklet
- Teacher booklet containing 24 tasks and suggested questions with NC links
- Teacher booklet with space for notes
- Individual A5 task cards for using with pupils



New Year R to Year 1 available

YR to Year 1
Year 1 to Year 2
Year 2 to Year 3
Year 3 to Year 4
Year 4 to Year 5
Year 5 to Year 6

Hampshire County Council

£45 per individual set
£40 per set when purchasing two or more sets

Further support for planning and assessment summer to autumn term

Mathematics Planning and assessment webinar (Learning Zone)

- Class teachers and maths manager
- (Core Provision meetings in June)

Year 1/ 2:

10 May 2021

Year 3/ 4:

12 May 2021

Year 5/ 6:

13 May 2021

Further support through:

Core Provision meetings start again in June-

Bespoke MP support

Leadership support to :

- develop bespoke curriculum plans KS1/2
- Develop intervention strategies for individuals and groups of pupils

Planning with class teachers to

- meet the range of learners
- Identify steps in learning for pupils with SEND

Using Diagnostic Tasks – Learning zone

2 x half day course

- 29 April (Infant)
- 6 May 2021 (Primary/ Junior)