Hampshire County Council
Improvement and Advisory Service

HIAS MOODLE+ RESOURCE

Year 3 Unit Plan 3.1

Number and Place Value

Addition and Subtraction

Autumn Term

HIAS Maths Team
September 2026
Final version

Overview

This document contains…

Year 3 Unit Plans linked to the Hampshire 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 required prior learning, some common misconceptions and an indication of key skills pupils need to secure 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.

National Curriculum Links:

Number and Place Value

- count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number
- recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
- compare and order numbers up to 1000
- identify, represent and estimate numbers using different representations
- read and write numbers up to 1000 in numerals and in words
- solve number problems and practical problems involving these ideas.

Addition and Subtraction

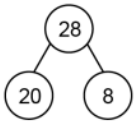
- add and subtract numbers mentally, including:
    - a three-digit number and ones
    - a three-digit number and tens
    - a three-digit number and hundreds
- add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
- estimate the answer to a calculation and use inverse operations to check answers
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

This unit revisits key Year 2 objectives to ensure pupils have a secure foundation before moving on to the Year 3 curriculum. Through carefully structured tasks and representations, pupils consolidate their understanding of place value, number relationships, and mental strategies for addition and subtraction. The focus is on developing fluency, reasoning, and metacognitive skills, enabling pupils to apply known facts confidently and flexibly. This consolidation is essential for preparing pupils to work with three-digit numbers and more complex problem-solving in subsequent units.	**Notional Time: 15 sessions**

Check and Refresh - *skills and knowledge that pupils need to know*	**Verbal coding-** *precise mathematical language to model during worked examples*	**Mastering Key Facts in Key Stage 2 –** developing fluency and automaticity
Partition numbers up to 100 using both standard and flexible methods. Identify midpoints and estimate positions on number lines up to 20. Recognise number patterns, e.g. 1 more than 9 makes a multiple of 10, and adding multiples of 10 only affects the tens digit**.** Recall number bonds within 10 and 20 fluently. Add and subtract two-digit numbers without bridging.	___ is ___ tens and ___ ones ___ is the whole; __ is a part, ___ is a part The midpoint between ___ and ___ is ____ *The midpoint between 70 and 80 is 75* 35 is halfway between ___ and ___ I need to add ___ to ___ to make 10. I need to subtract ___ from ___ to make 10.	Number bonds and deriving number bond up to 1000 Recall multiples of 2, 5 and 10 up to 12 x in any order, including missing number.

Mathematical Concepts- *important pieces of information learners should take away from the unit*	**Watch out for**	**DfE Ready -to- progress criteria**
Use concrete, pictorial and mental strategies confidently. Apply known facts to support calculations rather than counting in ones. Know that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.	Pupils who confuse the value of digits. Pupils who misinterpret number lines. Pupils who rely on counting in ones instead of using known facts. Pupils who struggle to bridge 10 when adding or subtracting. Pupils who struggle to identify the steps in a one-step or multi-step problem.	**2NPV – 2** **2NF -1** **2AS-3** **2AS-4** **Formative assessment questions** *- key questions to support pupil reasoning and teacher assessment* • What is the same and what is different? • What if I change…? • Can you give me an example of… and another…and another? • Which is harder and which is easier…? • If I know this, then what else do I know?

Visual coding: key representations



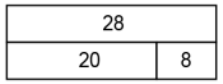
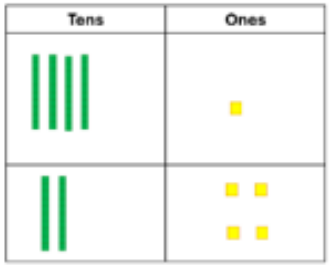


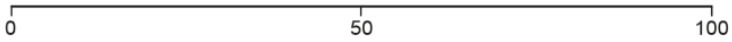
Figure 42: partitioning 28 into 20 and 8

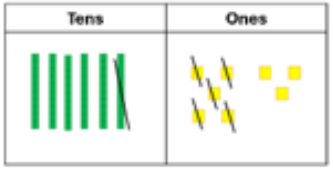
$20 + 8 = 28$ $28 - 20 = 8$
$8 + 20 = 28$ $28 - 8 = 20$

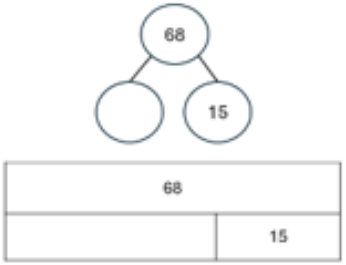
$28 = 20 + 8$ $8 = 28 - 20$
$28 = 8 + 20$ $20 = 28 - 8$

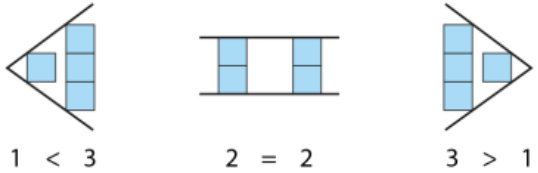


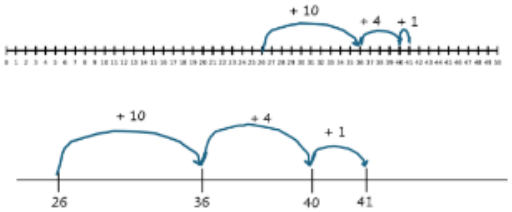
Estimate the position of 60 on this number line:

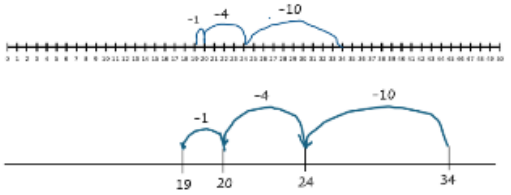








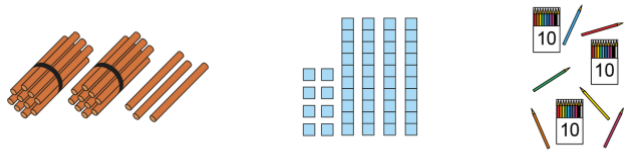
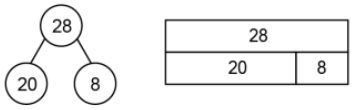


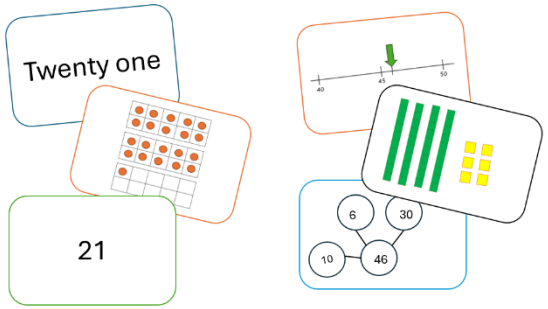


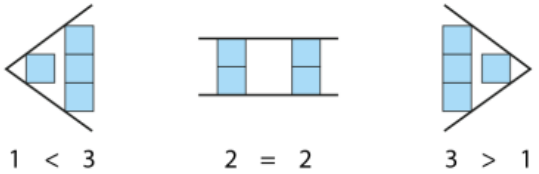
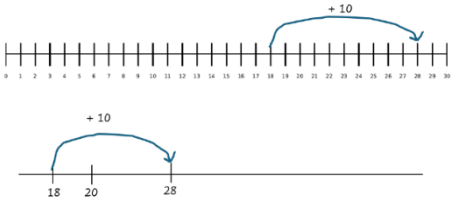
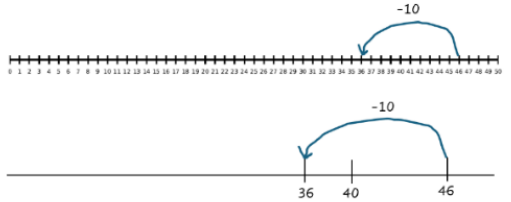
Learning Journey – Number and Place Value			
Autumn unit 3.1 (1 week)	**Autumn unit 3.5 (1 week)**	**Spring 3.10 (1 week)**	**Summer 3.16 (1 week)**
I can count from 0 in multiples of 10. I can count from 0 in multiples of 3. I can recognise the place value of each digit in a two-digit number. I can reason about the location of a two-digit number on a number line. I can identify and represent two-digit numbers. I can use 'less than', 'greater than' and 'equal to' when comparing numbers up to 100. I can find 10 more or 10 less than a given number (up to 100). I can read and write numbers up to 100 in numerals and in words.	I can count from 0 in multiples of 100. I can recognise the place value of each digit in a three-digit number. I can identify and represent three-digit numbers. I can reason about the location of a three-digit number on a number line. I can find 10 more or 10 less than a given number (up to 1000). I can find 100 more or 100 less than a given number (up to 1000). I can read and write numbers up to 1000 in numerals and in words.	I can count from 0 in multiples of 50. I can count from 0 in multiples of 4. I can count from 0 in multiples of 8. I can recognise the place value of each digit in a three-digit number. I can identify, represent and estimate numbers using different representations. I can compare and order numbers up to 1000. I can read and write numbers up to 1000 in numerals and in words.	I can count from 0 in multiplies of 4, 8, 50 and 100 I can find 10 or 100 more or less. I can compare and order numbers up to 1000. I can solve number problems and practical problems involving these ideas.

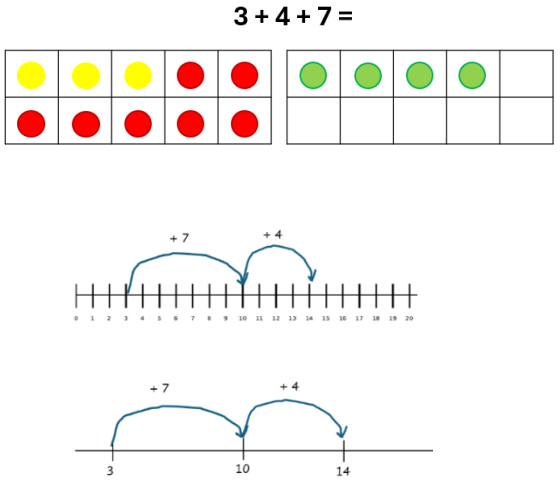
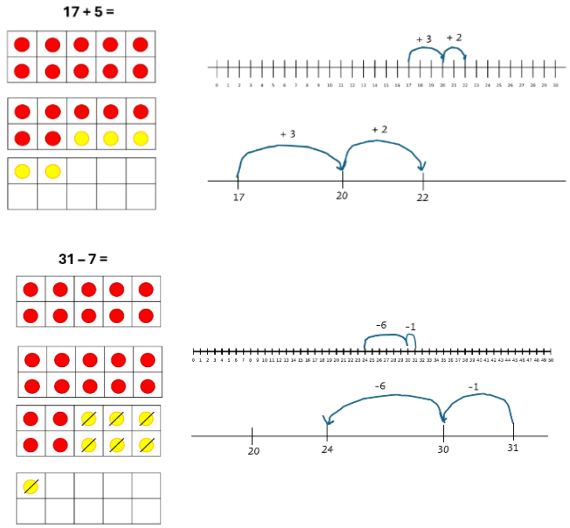
Learning Journey – Addition and Subtraction			
Autumn unit 3.1 (2 weeks)	**Autumn unit 3.2 (1 week)**	**Spring unit 3.7 (3 weeks)**	**Spring unit 3.10 (1 week)**
I can add three one-digit numbers. I can add and subtract a two-digit numbers and ones using concrete and pictorial representations with bridging. I can add and subtract a two-digit numbers and tens using concrete and pictorial representations with bridging. I can add and subtract a two-digit and a two-digit number using concrete objects and pictorial representations. I can solve one-step problems with addition and subtraction. I can solve missing number problems. I can solve multi-step problems with addition and subtraction.	I can and subtract mentally a two-digit number and ones. I can and subtract mentally a two-digit number and tens. I can estimate the answer to a calculation and use inverse operations to check answers. I can solve problems, using number facts (complements to 100). I can solve problems, including missing number problems.	I can add and subtract mentally a three-digit number and ones (not bridging). I can add and subtract mentally a three-digit number and ones (bridging). I can add and subtract mentally a three-digit number and tens (not bridging). I can add and subtract mentally a three-digit number and tens (bridging). I can add and subtract mentally a three-digit number and hundreds.	I can add and subtract number with up to three digits, using formal written methods (no regroup or exchange). I can add and subtract number with up to three digits, using formal written methods (one regroup or exchange). I can add and subtract number with up to three digits, using formal written methods (two regroups or exchanges). **Summer unit 3.13 (2 weeks)** I can add and subtract mentally a three-digit number and ones. I can add and subtract mentally a three-digit number and tens. I can add and subtract mentally a three-digit number and hundreds. I can estimate the answer to a calculation and use inverse operations to check answers. I can add and subtract numbers with up to three digits, using formal written methods. I can solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction.

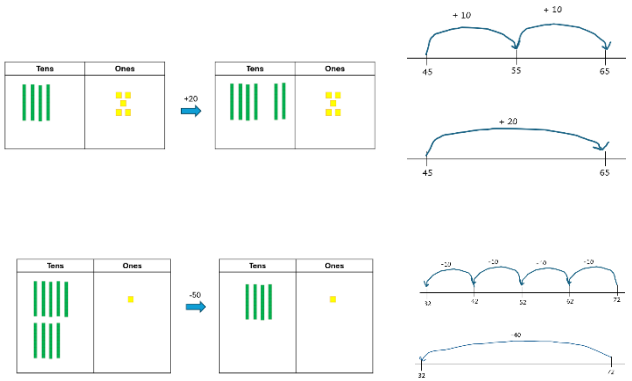
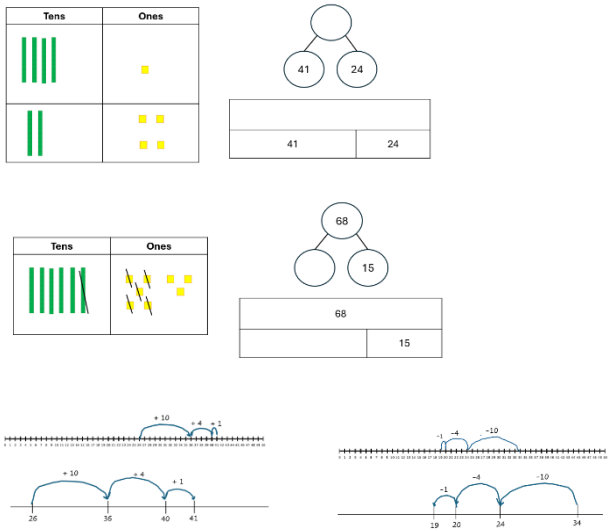
Proposed lesson sequence to support development of mathematical concepts

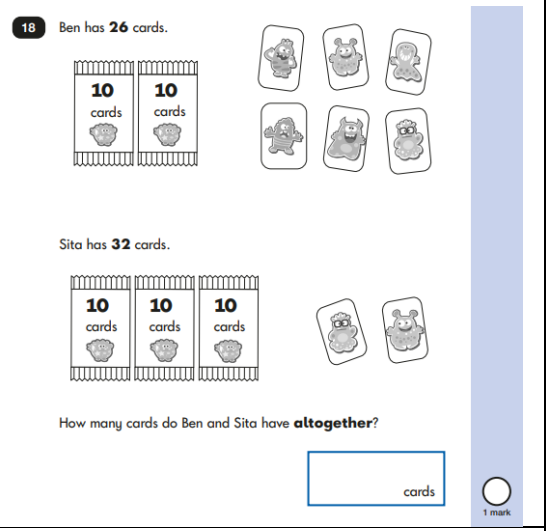
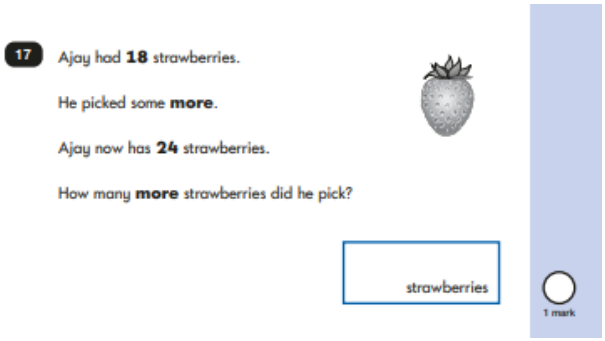
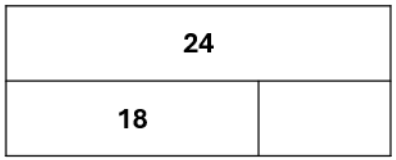
Developing fluency and automaticity – ongoing daily practice	
Mastering Key Facts in Key Stage 2	**Autumn 1 Ongoing Mental Fluency Practice** • I can read and write numbers up to 100 in numerals and in words. • Number bonds and deriving number bond up to 1000 • Recall multiples of 2, 5 and 10 up to 12 x in any order, including missing number.
Counting Fluency	• I can count from 0 in multiples of 10. • I can count from 0 in multiples of 3. • Moodle: Primary Daily Count Resource
I can…	**Mathematical Concepts, Key Skills and Suggested Tasks**
5 sessions - NPV	
I can recognise the place value of each digit in a two-digit number.	To support pupils in consolidating foundational place value understanding before progressing into Year 3 objectives, it is essential to revisit Year 2 learning. This repeated step reinforces conceptual understanding and prepares them for working with three-digit numbers in unit 3.5. To demonstrate mastery of the Year 2 national curriculum objectives, pupils should be able to group objects into tens, with some left-over ones, to count efficiently and to demonstrate an understanding of the number. Pupils need to be capable of identifying the total quantity in different representations of groups of ten and additional ones. Within these representations, the relative positions of the tens and the ones should be varied.  **Figure 41: varied representations of two-digit numbers as groups of ten and additional ones** Pupils need to be able to partition two-digit numbers into tens and ones, and represent this using diagrams, and addition and subtraction equations. It is also important for pupils to be able to think flexibly about number, learning to: • partition into a multiple of ten and another two-digit number, in different ways (for example, 68 can be partitioned into 50 and 18, into 40 and 28, and so on) • partition into a two-digit number and a one-digit number, in different ways (for example, 68 can be partitioned into 67 and 1, 66 and 2, and so on)  **Figure 42: partitioning 28 into 20 and 8** $20+8=28$ $28-20=8$ $8+20=28$ $28-8=20$ $28=20+8$ $8=28-20$ $28=8+20$ $20=28-8$

I can reason about the location of a two-digit number on a number line.	To strengthen pupils' proportional reasoning and prepare them for future work on rounding, it is important that they embed the skill of estimating the position of a two-digit number on an unmarked number line. Pupils should be encouraged to use reasoned estimation strategies, rather than relying on counting from a start or end point. Estimate the position of 60 on this number line: 0 — 50 — 100 For example, "60 is about here on the number line because it is just over half-way". To support this, pupils should mark key reference points, such as: • the midpoint (e.g. 50 between 0 and 100) • multiples of 10 This skill enables pupils to identify the two multiples of 10 that a given two-digit number lies between, and to estimate its position more accurately on a number line. For example, recognising that 78 lies between 70 and 80, and that 75 is the midpoint between those two multiples, helps pupils develop a sense of number magnitude. This understanding lays the groundwork for future rounding strategies, as pupils begin to reason about which multiple of 10 a number is closer to. Mathematics guidance: key stages 1 and 2 (covers years 1 to 6) – **2NPV-2**
I can identify, represent and estimate numbers using different representations.	In this step, pupils learn to see numbers not just as digits but as quantities that can be broken down, grouped, and visualised in different ways. ___ is the whole; __ is a part, ___ is a part *Watch out for some pupils assuming that a whole can only have 2 parts.* **Suggested tasks:** • Choose a two-digit number and ask pupils to represent it with concrete resources such as Dienes or tens frames, on a number line and as a part whole model or bar model. • Pupils match cards with different representations of the same number (numbers, number bonds, number line positions, concrete and pictorial representations). • Sort cards into groups based on which multiples of 10 they fall between. **Key Questions** • What does each part of your representation show? • How do you know these representations show the same number? • Which representation is easiest for you to understand? Why? 

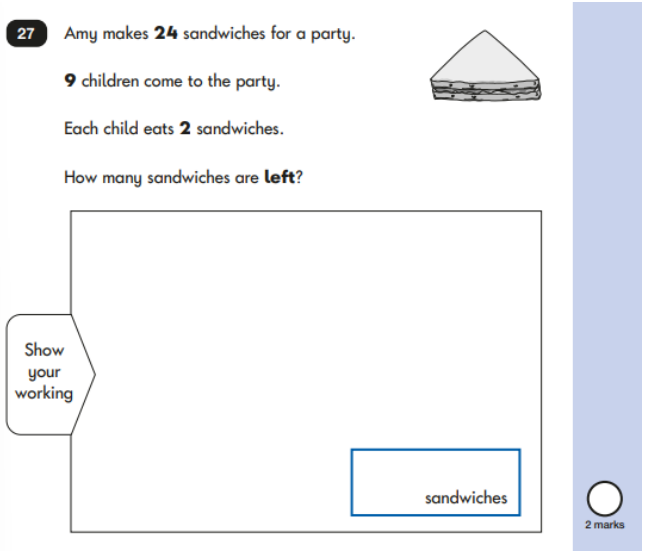
I can use ‘less than’, ‘greater than’ and ‘equal to’ when comparing numbers up to 100.	Encourage pupils to use full comparative sentences alongside symbols to justify their reasoning, for example: *“71 is less than 79 because 79 has more ones”* and *“64 is greater than 46 because 64 has 6 tens and 46 has 4 tens.”* Pupils may use manipulatives or pictorial representations (including the number line) to compare numbers, while others may use them to prove their reasoning. The focus is on developing clear explanations and accurate use of mathematical language. It is important that adults avoid using informal mnemonic devices, such as *“the smallest number eats the biggest number”*, when teaching comparison symbols. While these phrases may seem helpful, they can hinder pupils’ conceptual understanding by encouraging surface-level recall rather than deep reasoning. Instead, pupils should be supported to understand the meaning of comparison symbols through structured representations, such as stacks of cubes or other visual models. These help pupils see and compare quantities directly, reinforcing the idea that symbols like <, >, and = represent relationships between values. To the right is a generalised representation using cube stacks, which visually demonstrates how one quantity is less than, equal to, or greater than another, providing a meaningful foundation for interpreting the mathematical symbols. 
I can find 10 more or 10 less than a given number (up to 100).	Pupils began finding ten more and ten less in Year 2, using concrete resources such as Dienes and a hundred square to recognise patterns. In the summer term, pupils began finding 10 more and 10 less on a number line. Pupils should be discouraged from counting in ones on a number line. Use concrete resources such as Dienes or tens frame if pupils are unable to recognise that adding or subtracting 10 affecting only the tens digit, while the ones digit remains unchanged  Encourage pupils to explain their reasoning, for example: *“18 is 1 ten and 8 ones. Adding 10 gives me 2 tens and 8 ones, so 18 + 10 = 28.”* *“46 is 4 tens and 6 ones. Subtracting 10 gives me 3 tens and 6 ones, so 46 – 10 = 36.”*  This approach reinforces place value understanding and prepares pupils for efficient mental calculation.

10 sessions – Addition & Subtraction		
I can add three one-digit numbers.	This step provides an opportunity to assess whether pupils have secured the Year 2 skill of adding three one-digit numbers, using concrete objects, pictorial representations and mentally. Assessment should focus on pupils' ability to: • use known facts to support calculations, rather than relying on counting in ones. • use commutativity to choose the most effective order of calculation • identify pairs of numbers that make 10 This approach helps pupils develop flexible thinking and strengthens their ability to spot number relationships. For example, when adding 3 + 7 + 5, recognising that 3 + 7 makes 10 allows them to quickly add the remaining 5 to reach 15. **Checking for understanding questions:** • Does it matter what order you add the numbers in? • Can you see any number bonds to 10?	
I can add and subtract a two-digit numbers and ones using concrete and pictorial representations with bridging.	This step provides an opportunity to assess whether pupils have secured the Year 2 skill of adding and subtracting two-digit numbers and ones, using concrete objects, pictorial representations and mental strategies. Assessment should focus on pupils' ability to: • use known facts to support calculations, rather than relying on counting in ones. • add and subtract two-digit numbers and ones without bridging • add and subtract two-digit numbers and ones with bridging • solve missing number problems with confidence and accuracy *For further detail or context regarding the progression of learning in Year 2, refer to Unit 2.5, which outlines the foundational knowledge and skills that underpin this step.*	

I can add and subtract a two-digit numbers and tens using concrete and pictorial representations with bridging.	This step provides an opportunity to assess whether pupils have secured the Year 2 skills of adding and subtracting two-digit numbers and tens, using concrete objects, pictorial representations and mental strategies. Assessment should focus on pupils' ability to: • recognise that the tens digit changes, while the ones digit stays the same • add two-digit numbers and tens • subtract two-digit numbers and tens • solve missing number problems with confidence and accuracy. *For further detail or context regarding the progression of learning in Year 2, refer to Unit 2.4 and unit 2.8, which outlines the foundational knowledge and skills that underpin this step.*	
I can add and subtract a two-digit and a two-digit number using concrete objects and pictorial representations.	This step provides an opportunity to assess whether pupils have secured the Year 2 skill of adding and subtracting two two-digit numbers, using concrete objects, pictorial representations and mentally. Assessment should focus on pupils' ability to: • use known facts to support calculations, rather than relying on counting in ones. add and subtract two-digit numbers and tens • add and subtract two-digit numbers and ones without bridging • add and subtract two-digit numbers and ones with bridging *For further detail or context regarding the progression of learning in Year 2, refer to Unit 2.4 and unit 2.8, which outlines the foundational knowledge and skills that underpin this step.*	

I can solve one-step problems with addition and subtraction.	In this step, adopt a problem-solving approach to help pupils develop their metacognitive skills when tackling one-step problems. Encourage pupils to think aloud, plan their strategy, and reflect on their choices. Use this opportunity to consolidate addition and subtraction strategies taught previously, ensuring pupils can apply them flexibly in unfamiliar contexts. Carefully select numbers that reduce cognitive load, allowing pupils to focus on the strategy rather than the answer, and to reason clearly about their approach. Contains material developed by the Standards and Testing Agency for 2023 national curriculum assessments and licensed under Open Government Licence v3.0' http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/ 
I can solve missing number problems.	Pupils are applying the key learning from this unit to help them solve missing number problems. Using 'First, Then, Now' helps pupils visualise word problems by showing how a situation changes. Pupils should then be encouraged to use bar models to represent known and unknown parts of a calculation so that they can apply inverse operations to find missing numbers.  "*First Ajay had 18 strawberries,* *Then he picked some more,* *Now he has 24 strawberries.*" 18 + ? = 24 24 – 18 = ?  Contains material developed by the Standards and Testing Agency for 2024 national curriculum assessments and licensed under Open Government Licence v3.0' http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/

I can solve multi-step problems with addition and subtraction.	Once pupils are confident using a problem-solving approach for one-step and missing number problems, introduce multi-step problems. The focus should be on helping pupils identify: • How many steps are needed, • Which operations to use, • Why those operations are appropriate. To reduce cognitive load, simplify the numbers so pupils can concentrate on the reasoning rather than complex calculations. Encourage pupils to visualise the problem using part-whole diagrams, bar models, or other representations, and provide concrete resources to support their thinking. This scaffolding enables pupils to plan, sequence, and check their steps, building confidence and metacognitive awareness.



HIAS Resources to support:

- Reasoning and Intelligent Practice Tasks: Reasoning and Intelligent Practice Tasks
- Faded Scaffolds and Intelligent Practice: Faded Scaffolds and Intelligent Practice
- Paired Examples: Paired Examples
- Entry and Exit tickets: Entry and Exit Tickets
- Interleaving, Recall and Retrieval: Interleaving, Recall and Retrieval (hants.gov.uk)
- Connect4Maths: Connect4Maths - Primary
- Moderation Documents: Moderation Documents
- KS1 Key Facts: Key Stage 1 Key Facts Document
- Mastering Times Tables: Mastering Times Tables

NCETM Resources to support:

- Exemplification of ready -to -progress criteria (RTPS): Exemplification of ready-to-progress criteria | NCETM
- NCETM Professional Development materials spine 1: Number, Addition and Subtraction | NCETM ;
- The NCETM Mastery Task booklets can be used as a source of tasks to support end of year teacher assessment for both EXS and GDS Teaching for Mastery Booklets Yr1-6

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- Maths
- Science
- Geography
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- Leadership
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