

HIAS MOODLE+ RESOURCE

Year 2 Unit Plan 2.4

Number and Place Value
Addition and Subtraction
Statistics

Autumn Term

HIAS Maths Team
September 2026
Final version

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Overview

This document contains...

Year 2 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 in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward
- recognise the place value of each digit in a two-digit number (tens, ones)
- identify, represent and estimate numbers using different representations, including the number line
- compare and order numbers from 0 up to 100; use and = signs
- read and write numbers to at least 100 in numerals and in words
- use place value and number facts to solve problems.

Addition and Subtraction

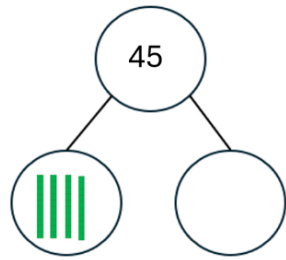
- solve problems with addition and subtraction:
 - using concrete objects and pictorial representations, including those involving numbers, quantities and measures
 - applying their increasing knowledge of mental and written methods
- recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
- add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
 - a two-digit number and ones
 - a two-digit number and tens
 - two two-digit numbers
 - adding three one-digit numbers
- show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
- recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Statistics

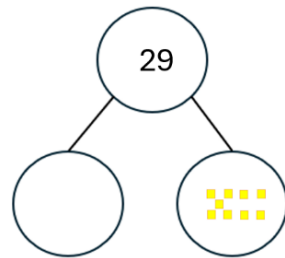
- interpret and construct simple pictograms, tally charts, block diagrams and simple tables
- ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
- ask and answer questions about totalling and comparing categorical data.

<p>In this unit, pupils deepen their understanding of number and place value by exploring how two-digit numbers are composed of tens and ones. They learn to partition numbers both in standard and flexible ways, compare numbers using mathematical language and symbols, and develop fluency in identifying one more, one less, ten more, and ten less. In addition and subtraction, pupils build on their place value knowledge to add and subtract multiples of ten and two-digit numbers using concrete and pictorial representations. Pupils learn to organise, interpret and compare data presented in a range of representations to answer simple questions.</p>	<p>Notional Time: 20 sessions</p>	
<p>Check and Refresh - <i>skills and knowledge that pupils need to know</i></p>	<p>Verbal coding- <i>precise mathematical language to model during worked examples</i></p>	<p>Mastering Key Facts in Key Stage 1 – developing fluency and automaticity</p>
<p>Secure understanding of number sequences, confidently counting forwards and backwards within 100.</p> <p>Understanding that two-digit numbers are made up of tens and ones.</p> <p>Knowing number bonds to 10 and 20 and using facts like $4 + 3 = 7$ to support mental strategies, including applying known facts to tens (e.g. $40 + 30 = 70$).</p>	<p>___ is the whole; ___ is a part; ___ is a part.</p> <p>One more/less than ___ is ___.</p> <p>Ten more/less than ___ is ___.</p> <p>___ is greater than ___</p> <p>___ is less than ___</p> <p>___ is equal to ___</p>	<p>Autumn 1: Recall number bonds for 10 (addition and subtraction)</p> <p>Autumn 2: Recall number bonds within 10 (addition and subtraction) Focusing on 2, 3, 4, 5 <i>Make reference to doubles and near doubles.</i></p>
<p>Mathematical Concepts- <i>important pieces of information learners should take away from the unit</i></p>	<p>Watch out for</p>	<p>DfE Ready -to- progress criteria</p>
<p>Pupils will understand how two-digit numbers are made up of tens and ones, and use this knowledge to partition, compare and manipulate numbers.</p> <p>Pupils will use partitioning and place value to add and subtract tens and two-digit numbers efficiently.</p> <p>Pupils will use concrete and pictorial representations and mathematical language to represent and explain their strategies clearly.</p> <p>Pupils will read, interpret and compare quantities in pictograms, block diagrams, tally charts and tables.</p>	<p>Pupils who do not understand that numbers can be partitioned in different ways.</p> <p>Pupils who do not understand and cannot talk about 'part-whole' relationships.</p> <p>Pupils who cannot see small numbers within a larger collection.</p> <p>Pupils who cannot automatically recall number bonds up to 10.</p> <p>Pupils who think that different representations show different amounts rather than the same data in different formats.</p>	<p style="text-align: center;">1 NPV-2 2NPV-1</p> <p style="text-align: center;">2NF-1</p> <p>Formative assessment questions - key questions to support pupil reasoning and teacher assessment</p> <ul style="list-style-type: none"> • 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?

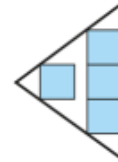
Visual coding: key representations



45 = 4 tens and ___ ones



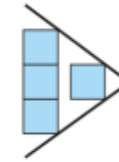
29 = ___ tens and 9 ones



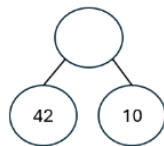
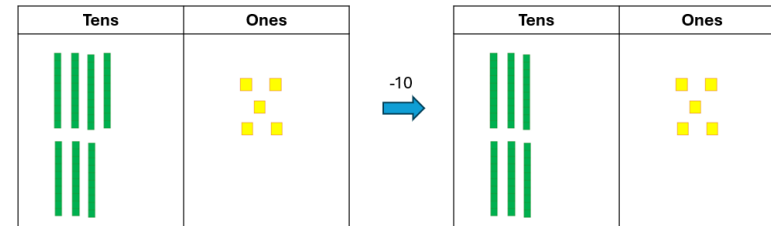
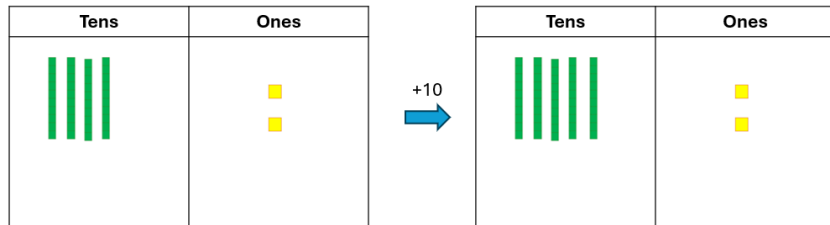
1 < 3



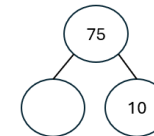
2 = 2



3 > 1



42	10



75	
	10

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Learning Journey – Number and Place Value

Autumn unit 2.1 (2 weeks)	Autumn unit 2.4 (1 week)	Spring unit 2.8 (1 week)	Summer unit 2.12 (1 week)
I can read and write numbers to at least 100 in numerals and in words			
<p>I can count in steps of 10 from 0.</p> <p>I can count in steps of 2 from 0.</p> <p>I can partition numbers up to 20 into tens and ones.</p> <p>I can use 'less than', 'greater than' and 'equal to' when comparing numbers up to 20.</p> <p>I can find one more than a number.</p> <p>I can find one less than a number.</p> <p>I can order numbers on a number line (up to 20).</p>	<p>I can count in steps of 10 from any number.</p> <p>I can partition numbers up to 50 into tens and ones.</p> <p>I can flexibly partition numbers up to 50.</p> <p>I can use 'less than', 'greater than' and 'equal to' when comparing numbers up to 50.</p> <p>I can partition numbers up to 100 into tens and ones.</p> <p>I can flexibly partition numbers up to 100.</p> <p>I can find ten more than a given number.</p> <p>I can find ten less than a given number.</p>	<p>I can count in steps of 5 from 0.</p> <p>I can reason about the location of a two-digit number on a number line.</p> <p>I can use 'less than', 'greater than' and 'equal to' when comparing numbers up to 100.</p> <p>I can find one more than a number.</p> <p>I can find one less than a number.</p> <p>I can find ten more than a given number.</p> <p>I can find ten less than a given number.</p>	<p>I can count in steps of 3 from 0.</p> <p>I can recognise the place value of each digit in a two-digit number.</p> <p>I can identify, represent and estimate numbers using different representations, including the number line.</p> <p>I can use place value and number facts to solve problems.</p>

Learning Journey – Addition and Subtraction

Autumn unit 2.1 (2 weeks)	Autumn unit 2.2 (2 weeks)	Autumn unit 2.4 (2 weeks)	Spring unit 2.5 (2 weeks)
<p>I can represent and use number bonds within 10.</p> <p>I can represent and use number bonds to 10.</p> <p>I can represent and use number bonds and related subtraction facts within 10.</p> <p>I can represent and use number bonds and related subtraction facts within 20.</p>	<p>I can add a two-digit number and ones using concrete objects (without bridging)</p> <p>I can subtract a two-digit and ones using concrete objects (without bridging)</p> <p>I can partition numbers up to 30 into tens and ones.</p> <p>I can add a two-digit number and ones using concrete objects (with bridging)</p> <p>I can subtract a two-digit and ones using concrete objects (with bridging)</p> <p>I can derive and use related facts up to 100 (tens + tens).</p>	<p>I can add a two-digit number and tens using concrete objects and pictorial representations.</p> <p>I can subtract a two-digit and tens using concrete objects and pictorial representations.</p> <p>I can add a two-digit number and two-digit number using concrete objects and pictorial representations (partitioning)</p> <p>I can subtract a two-digit and a two-digit number using concrete objects and pictorial representations (partitioning)</p>	<p>I can add a two-digit number and ones using pictorial representations (without bridging)</p> <p>I can subtract a two-digit and ones using pictorial representations (without bridging)</p> <p>I can add a two-digit number and ones using pictorial representations (with bridging)</p> <p>I can subtract a two-digit and ones using pictorial representations (with bridging)</p> <p>I can add three one-digit numbers.</p>
Spring unit 2.8 (2 weeks)		Summer unit 2.12 (3 weeks)	
<p>I can use the inverse relationship between addition and subtraction and use this to check calculations</p> <p>I can add a two-digit and tens using pictorial representations.</p> <p>I can subtract a two-digit and tens using pictorial representations.</p> <p>I can add a two-digit number and a two-digit number using pictorial representations (with bridging).</p> <p>I can subtract a two-digit number and a two-digit number using pictorial representations (with bridging).</p> <p>I can solve missing number problems.</p>		<p>I can add and subtract numbers using concrete objects, pictorial representations and mentally including:</p> <ul style="list-style-type: none"> • A two-digit and ones • A two-digit and tens • Two two-digit numbers • Adding three one-digit numbers <p>I can show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.</p> <p>I can solve one-step problems with addition and subtraction.</p> <p>I can solve multi-step problems with addition and subtraction.</p>	

Learning Journey – Statistics

Autumn unit 2.4 (1 week)

Summer unit 2.13 (1 week)

I can count in 10s

I can count in 2s

I can count in 5s

I can compare groups of objects to answer simple questions.

I can interpret simple pictograms.

I can interpret block diagrams.

I can interpret tally charts.

I can interpret simple tables.

I can count and compare groups of objects to answer simple questions.

I can count and compare groups of objects to ask simple questions.

I can interpret and construct simple pictograms.

I can interpret and construct block diagrams.

I can interpret and construct tally charts.

I can interpret and construct simple tables.

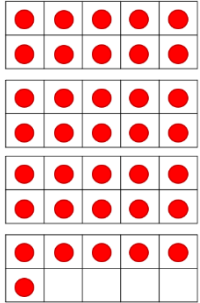
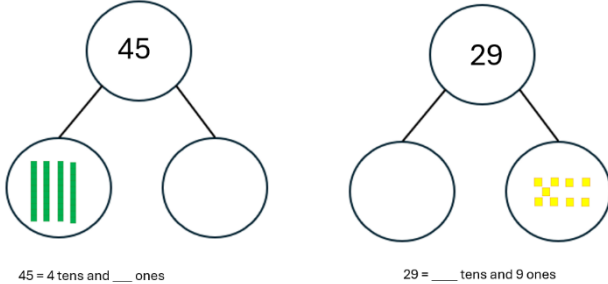
Proposed lesson sequence to support development of mathematical concepts

Developing fluency and automaticity – ongoing daily practice

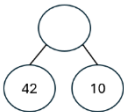

Mastering Key Facts in Key Stage 1	Autumn 2 Ongoing Mental Fluency Practice <ul style="list-style-type: none"> Recall number bonds within 10 (addition and subtraction) <ul style="list-style-type: none"> Focusing on 2, 3, 4, 5 Doubles and near doubles.
Counting Fluency	<ul style="list-style-type: none"> I can count in steps of 10 from any number I can count in steps of 2 from any number I can count in steps of 5 from any number

I can... Mathematical Concepts, Key Skills and Suggested Tasks

5 sessions - NPV

<p>I can partition numbers up to 50 into tens and ones.</p>	<p>Pupils are building on their earlier learning of partitioning numbers up to 20, using the sentence stem “___ tens and ___ ones.” The focus now shifts to standard partitioning, where numbers are broken into tens and ones. For example, 36 is partitioned as 3 tens and 6 ones.</p> <p>To support understanding, a tens frame model can be used to represent 36 as 3 full tens frames and 6 of the next ten. Once secure with this understanding, dienes rods will offer a more efficient and abstract representation, helping pupils recognise that a ten rod and a full tens frame both represent the same value.</p> <p>Pupils should be encouraged to use concrete and pictorial representations to partition numbers, recording their thinking in part-whole models and place value grids before moving on to writing addition statements (e.g. $36 = 30 + 6$).</p> <p>Suggested Tasks:</p> <ul style="list-style-type: none"> Part-whole model fill-in: Give pupils a number and a partially completed part-whole model. Ask them to complete the part-whole model and fill in the sentence stem. Base Ten Blocks Matching: Ask pupils to match numbers and/or sentence stems to concrete or pictorial representations. Missing number challenge: Provide a sentence stem with one part missing (e.g. ___ tens and 4 ones = 34) and ask pupils to fill in the blank. Can they use concrete or pictorial representations to show their understanding? 	
	<p>Suggested Tasks:</p> <ul style="list-style-type: none"> Part-whole model fill-in: Give pupils a number and a partially completed part-whole model. Ask them to complete the part-whole model and fill in the sentence stem. Base Ten Blocks Matching: Ask pupils to match numbers and/or sentence stems to concrete or pictorial representations. Missing number challenge: Provide a sentence stem with one part missing (e.g. ___ tens and 4 ones = 34) and ask pupils to fill in the blank. Can they use concrete or pictorial representations to show their understanding? 	

<p>I can flexibly partition numbers up to 50.</p>	<p>Pupils should be encouraged to develop flexibility in partitioning numbers up to 50, recognising that a whole number can be broken into parts in multiple ways to support mental calculation and number sense.</p> <p>Encourage pupils to explore and describe different ways of seeing the parts within a number. This helps them understand that numbers are made up of parts that can be equal or unequal, and that there is more than one correct way to partition a number.</p> <ul style="list-style-type: none"> • Two parts (“36 is the whole, 20 is a part and 16 is a part”) • Many parts (“36 is the whole, 10 is a part, 10 is a part, 10 is a part and 6 is a part”) • Equal parts (36 is the whole, 18 is a part and 18 is a part”) • Unequal parts (“36 is the whole, 25 is a part, 5 is a part, 6 is a part”) <p>Use concrete resources to help pupils physically build and break apart numbers. Pupils should record their partitions using part-whole models, bar models and/or number sentences.</p> <p>Prompt pupils to explain their thinking: <i>“How did you know that 20 and 16 make 36?”</i> and <i>“Can you find a different way to split 36?”</i></p> <p>Watch out for some pupils assuming that a whole can only have 2 parts.</p>
<p>I can use ‘less than’, ‘greater than’ and ‘equal to’ when comparing numbers up to 50.</p>	<p>Pupils progress on from comparing numbers to 20 to numbers up to 50. Focus on concrete and visual representations to build meaning.</p> <p>Explicitly teach that:</p> <ul style="list-style-type: none"> • “Greater than” means the same as “more than” • “Fewer than” can also be used when comparing quantities <p>Encourage pupils to use full comparative sentences alongside the symbols. When assessing against this step, look for pupils who can confidently use comparative language, justify their comparison using representations (concrete or pictorial) and accurately apply symbols in context.</p> <p>Suggested Tasks:</p> <ul style="list-style-type: none"> • True or False? Present statements like: $45 < 39$, $22 = 22$, $8 > 25$. Pupils decide if they are true or false and explain their reasoning. • Card sort: provide number cards up to 50. Ask pupils to sort them into groups – less than 25, greater than 25, equal to 25. Extend pupils by comparing numbers to 25 and writing comparison sentences. • Number hunt: hide numbers in the outdoor area. Pupils work in pairs or small groups to find two number cards. Once they collect two, return to ‘base’ and use chalk, whiteboards or clipboards to write a comparison sentence. Encourage use of both words and symbols.

<p>I can partition numbers up to 100 into tens and ones.</p>	<p>Pupils are building on their earlier learning of partitioning numbers up to 50. In this step, pupils are encouraged to use standard partitioning where numbers are broken into tens and ones. For example, 72 is partitioned as 7 tens and 2 ones.</p> <p>Pupils should be encouraged to use concrete and pictorial representations to partition numbers, recording their thinking in part-whole models and place value grids before moving on to writing addition statements (e.g. $85 = 80 + 5$).</p>								
<p>I can flexibly partition numbers up to 100.</p>	<p>Similarly to the earlier step, pupils are not flexibly partitioning numbers to 100.</p> <p>Encourage pupils to explore and describe different ways of seeing the parts within a number. This helps them understand that numbers are made up of parts that can be equal or unequal, and that there is more than one correct way to partition a number.</p> <ul style="list-style-type: none"> • Two parts (“66 is the whole, 50 is a part and 16 is a part”) • Many parts (“66 is the whole, 20 is a part, 20 is a part, 20 is a part and 6 is a part”) • Equal parts (66 is the whole, 22 is a part, 22 is a part and 22 is a part”) • Unequal parts (“66 is the whole, 65 is a part, 1 is a part”) <p>Use concrete resources to help pupils physically build and break apart numbers. Pupils should record their partitions using part-whole models, bar models and/ or number sentences.</p> <p>Prompt pupils to explain their thinking: “How did you know that 22, 22 and 22 make 66?” and “Can you find a different way to split 66?”</p>								
<p>I can find ten more than a given number.</p>	<p>This step builds on pupils’ understanding of partitioning numbers into tens and ones and introduces how to increase a number by 10 without counting in ones. It’s a crucial part of developing place value understanding, as pupils learn that adding 10 affects the tens digit, while the ones digit remains unchanged. Pupils can begin to visualise and mentally calculate ten more by recognising patterns in numbers.</p> <p>To support pupils with this, use dienes to add one more “ten stick” and a hundred square to jump down one row.</p> <p>e.g. $42 + 10$</p> <p>42 is 4 tens and 2 ones. Ten more gives us 5 tens and 2 ones.</p> <p>$42 + 10 = 52$</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr><th style="padding: 2px;">Tens</th><th style="padding: 2px;">Ones</th></tr> </thead> <tbody> <tr><td style="padding: 5px;"> </td><td style="padding: 5px;">●●</td></tr> </tbody> </table> → <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr><th style="padding: 2px;">Tens</th><th style="padding: 2px;">Ones</th></tr> </thead> <tbody> <tr><td style="padding: 5px;"> </td><td style="padding: 5px;">●●</td></tr> </tbody> </table> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;">   </div>	Tens	Ones		●●	Tens	Ones		●●
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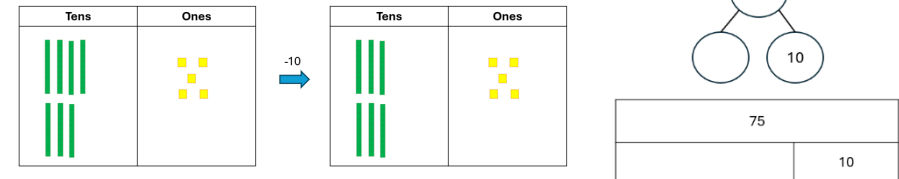
I can find ten less than a given number.

This step continues to build on pupils' understanding of partitioning numbers into tens and ones and develops their ability to decrease a number by 10 without counting backwards in ones. To support pupils with this, use dienes to remove one "ten stick" and a hundred square to jump up one row.

e.g. $75 - 10$

75 is 7 tens and 5 ones. Ten less gives us 6 tens and 5 ones.

$75 - 10 = 65$.



To strengthen pupils' reasoning and number sense, provide hundred squares with selected boxes left blank. This encourages pupils to use their understanding of one more, one less, ten more, and ten less to identify missing numbers and explain their thinking.

Prompt pupils to verbalise their reasoning using questions like:

- "Where did you start? Why?"
- "What did you notice about the numbers around the blank?"
- "How did you use the pattern of the hundred square to help you?"
- "What do you know about the number that comes one less or ten more?"

1	2	3	4	5	6		8	9	10
11	12	13	14	15	16	17	18		20
21	22		24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55		57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88		90
	92	93	94	95	96	97	98	99	100

1				5					10
11									20
21									30
31									40
41									50
51									60
61									70
71									80
81									90
91					95				100

10 sessions – Addition & Subtraction

Why we are not using number lines yet: At this point in their learning, pupils are developing a mental image of place value and beginning to understand why ten is an important and useful unit in our number system. Introducing number lines too early can lead pupils to rely on counting in ones, rather than recognising the structure of numbers and the efficiency of working with tens and ones.

Instead, we want pupils to visualise numbers as tens and ones, understand that adding or subtracting tens changes the tens digit and see ten as a building block for efficient calculation.

Once pupils have a secure understanding of place value and can confidently partition and manipulate numbers using tens and ones, number lines can then be introduced to support and extend their strategies - not replace them.

I can add a two-digit number and tens using concrete objects and pictorial representations.

This step builds on pupils' earlier understanding of adding ten more, and extends it to adding larger multiples of ten. It deepens their grasp of place value and helps them see how the tens digit changes, while the ones digit stays the same.

e.g. $45 + 20$

45 is 4 tens and 5 ones.

I know 20 is 2 tens.

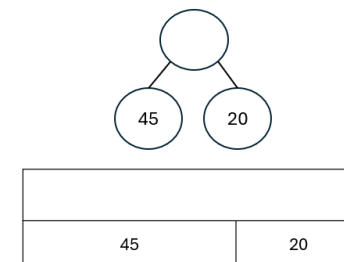
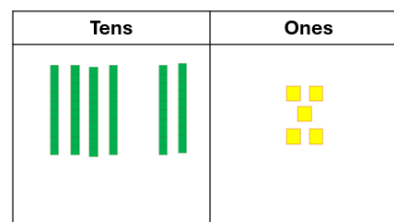
4 tens + 2 tens is 6 tens

6 tens and 5 ones is 65.

$45 + 20 = 65$



+20
→



Once pupils are secure in using part-whole models and can confidently represent and explain number relationships, encourage them to begin recording their thinking using bar models. This supports a smooth transition to more abstract representations while maintaining a clear visual link to the structure of the numbers involved.

I can subtract a two-digit and tens using concrete objects and pictorial representations.

This step helps pupils learn how to take away multiples of ten from a two-digit number using concrete resources and visual models to support their thinking.

e.g. $91 - 50$

91 is 9 tens and 1 one.
I know 50 is 5 tens.

9 tens - 5 tens is 4 tens

4 tens and 1 one is 41.

$91 - 50 = 41$

The visual models include: a ten-frame with 9 tens rods and 1 one unit; a ten-frame with 5 tens rods; a ten-frame with 4 tens rods and 1 one unit; a number bond with 91 at the top and two empty circles below; and a bar model with 91 on the top bar and 50 on the bottom right bar.

I can add a two-digit number and two-digit number using concrete objects and pictorial representations (partitioning)

This step enables pupils to add two-digit numbers efficiently by partitioning them into tens and ones, rather than counting on in ones. Pupils use their number bond knowledge and place value understanding to support this method. By breaking numbers into their tens and ones, pupils can add the tens first, then add the ones and finally combine both to find the total.

This approach lays a strong foundation for formal written methods as pupils progress into Key Stage 2. At this stage, the ones digits should not total more than 10, to keep calculations manageable and focus on the structure of the method rather than regrouping.

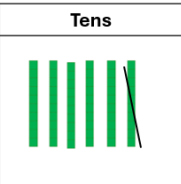
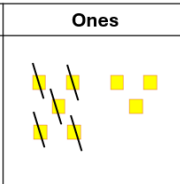
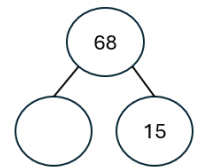
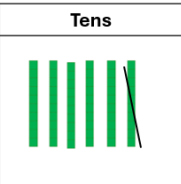
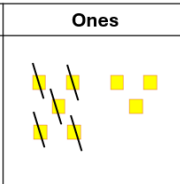
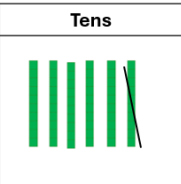
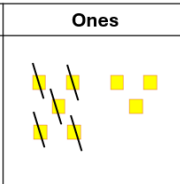
e.g. $41 + 24 =$

4 tens + 2 tens = 6 tens

1 one + 4 ones = 5 ones

6 tens and 5 ones = 65

The visual models include: a ten-frame with 4 tens rods and 1 one unit; a ten-frame with 2 tens rods and 4 one units; a ten-frame with 6 tens rods and 5 one units; a number bond with 41 at the top and two empty circles below; and a bar model with 41 on the bottom left bar and 24 on the bottom right bar.

<p>I can subtract a two-digit and a two-digit number using concrete objects and pictorial representations (partitioning)</p>	<p>This step enables pupils to subtract two-digit numbers efficiently by partitioning them into tens and ones, rather than counting back in ones. By breaking numbers into their tens and ones, pupils can subtract the tens first, then subtract the ones and finally combine both steps to find the answer.</p> <p>At this stage, the ones in the number being subtracted should not be greater than the ones in the starting number, to avoid the need for regrouping. This keeps the focus on understanding the method rather than managing exchanges.</p> <p>e.g. $68 - 15 =$ $6 \text{ tens} - 1 \text{ ten} = 5 \text{ tens}$ $8 \text{ ones} - 5 \text{ ones} = 3 \text{ ones}$ $5 \text{ tens and } 3 \text{ ones} = 53$</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <table border="1" style="border-collapse: collapse;"> <thead> <tr> <th style="padding: 5px;">Tens</th> <th style="padding: 5px;">Ones</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; padding: 5px;">  </td> <td style="text-align: center; padding: 5px;">  </td> </tr> </tbody> </table> <div style="text-align: center;">  </div> <table border="1" style="border-collapse: collapse; margin-left: auto;"> <tr> <td colspan="2" style="text-align: center; padding: 5px;">68</td> </tr> <tr> <td style="width: 70%;"></td> <td style="text-align: center; padding: 5px;">15</td> </tr> </table> </div>	Tens	Ones			68			15
Tens	Ones								
									
68									
	15								

5 sessions – Statistics

<p>I can compare groups of objects to answer simple questions.</p>	<p>This step focuses on helping pupils make sense of groups and talk about what they notice.</p> <p>Using real objects, such as fruit from the snack box, encourage pupils to answer questions such as:</p> <ul style="list-style-type: none"> • “Which has the most?” • “Which has the least?” • “How many are in each group?” • “How many more or fewer?” <p>Provide opportunities to work with different objects and sort items into categories (for example colour, type or favourite). Ensure pupils understand that they are grouping objects based on a category (for example, favourite pets, dinner choices, colours of beanbags) and that comparing involves considering the quantities within each group.</p> <ul style="list-style-type: none"> • “There are more red beanbags because there are 6 red and 4 blue.” <p>Begin to introduce simple ways of representing data by encouraging pupils to line up objects, enabling them to compare groups visually.</p>
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<p>I can interpret simple pictograms.</p>	<p>This step gives pupils the opportunity to begin comparing groups of objects in more structured ways. Their prior experience of physically lining up objects to compare groups now supports them in interpreting pictograms accurately. Teaching should focus on making clear links between these representations, moving from practical, hands-on grouping to simple pictograms that represent the same data, where each symbol stands for one item.</p>
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Once pupils have identified totals in different categories, they can apply the same language and reasoning developed in the previous step to make comparisons, for example:

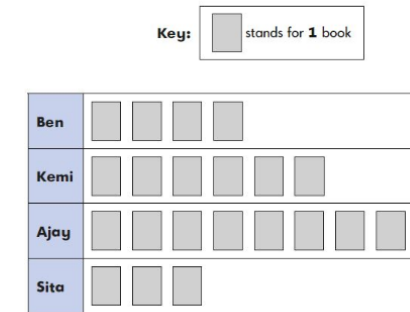
- “Which has the most?”
- “Which has the least?”
- “How many are in each group?”
- “How many more or fewer?”

Numbers should remain small so that pupils can confidently use number bonds and mental strategies when determining differences. They should be encouraged to compare in a range of ways, including visual comparison, counting on or back to find the difference, and simple subtraction.

Pupils who are secure in interpreting pictograms where each symbol represents one item can then progress to more complex keys. This provides an opportunity to draw on their knowledge of counting in 2s, 5s and 10s, supporting a deeper understanding of scale and representation.

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Some children make a chart of how many books they read in a week.



Which children read fewer than 5 books?

Circle them.

Ben Kemi

Ajay Sita

I can interpret block diagrams.

In this step, pupils are introduced to block diagrams as a new way of representing data and focus on interpreting them. It is helpful to draw attention to similarities and differences between block diagrams and pictograms to support understanding.

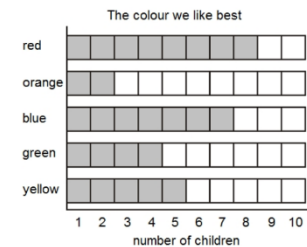
Explore block diagrams where each block represents a single item. Encourage pupils to read and interpret information, for example by looking at the height or length of each bar:

- “Which has the most?”
- “Which has the least?”
- “How many are in each group?”
- “How many more or fewer?”

At this stage, the focus is on interpreting block diagrams only. Pupils should also recognise that block diagrams can be presented in either vertical or horizontal formats, helping them to read a variety of representations with confidence.

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Some children made this graph.



Look at the graph.

How many children like red best?

children





I can interpret tally charts.

In this step, pupils are introduced to tally charts for the first time and begin interpreting quantities using tally marks. They develop an understanding of how numbers are represented, recognising that 1, 2, 3 and 4 are shown with individual marks, and that 5 is represented by a “gate” to group these marks efficiently.

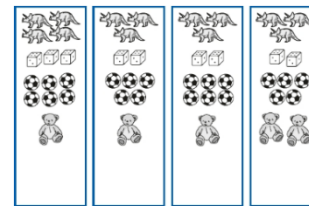
Pupils should already be confident in counting in 5s and draw on this knowledge when interpreting tally charts. This helps them to read larger quantities by recognising groups of five alongside additional marks, for example when identifying values such as 10 or 11.

Once pupils are secure in reading numbers on a tally chart, including understanding how zero is represented, they can begin to compare quantities. They should use familiar language and reasoning from previous steps to discuss what they notice and explain their thinking.

Ben makes a tally chart of his toys.

Toys in my box	Tally
	
	
	
	






Tick one box below that shows all of Ben's toys.



Jane made a tally chart.

Birds I saw

|||| stands for 5 birds

thrush 	
sparrow 	
blackbird 	
gull 	
magpie 	

How many more gulls than blackbirds did she see?

 gulls

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I can interpret simple tables.




In this step, pupils build on their understanding of tally charts by exploring the use of simple tables to represent data. Having already learned how to interpret tally marks and recognise how numbers are grouped in fives, pupils can now compare tally charts with tables that show totals more directly.

Through this comparison, pupils begin to recognise the purpose of each representation. They may notice that tables are often easier to read when looking at totals, whereas tally charts are more efficient for collecting and recording data. This helps them to understand that different representations can be useful at different stages.

Pupils continue to interpret data by thinking about what the information represents. They might match pictures to the data in a table or use a given image to identify what the table would show. They should also apply their existing skills to compare quantities and answer questions, using familiar language such as identifying which category has the most or least, or how many more or fewer there are.

Ben draws a tally chart of the birds he sees in his garden.

Complete Ben's tally chart.

Bird	Tally of birds	Number of birds
robin 		3
blue tit 		
sparrow 		10

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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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