Hampshire County Council
Improvement and Advisory Service

HIAS MOODLE+ RESOURCE

Year 3 Unit Plan 3.5

Number and Place Value

Measurement

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.

Measurement

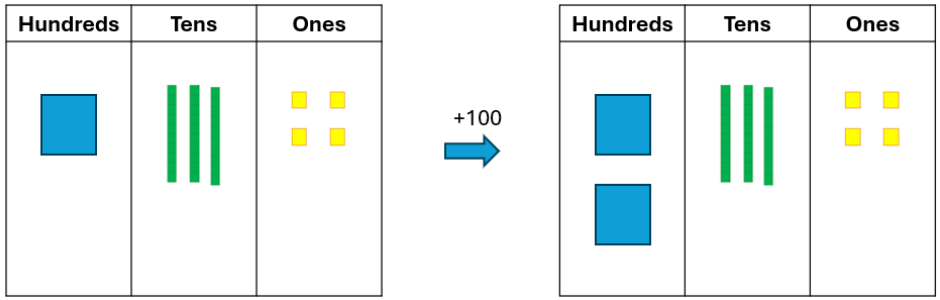
- measure the perimeter of simple 2-D shapes
- tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
- estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and 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 [for example to calculate the time taken by particular events or tasks].

This unit plan develops pupils' understanding of number and place value alongside key measurement concepts, with a strong focus on time. Pupils deepen their knowledge of three-digit numbers, including recognising, representing and partitioning them, reasoning about their position on number lines, and finding 10 or 100 more or less. Alongside this, pupils build fluency in telling the time, progressing from five-minute intervals to the nearest minute, using both analogue and digital clocks, and applying vocabulary such as am and pm. The unit also supports pupils in solving time-based problems, including finding start times, end times and durations, using visual models such as number lines to develop conceptual understanding and reasoning.	**Notional Time:** **15 sessions**

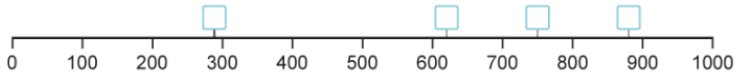
Check and Refresh - s*kills and knowledge that pupils need to know*	**Verbal coding-** *precise mathematical language to model during worked examples*	**Mastering Key Facts in Key Stage 2 –** developing fluency and automaticity
Partition numbers up to 100 using both standard and flexible methods. Identify 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**.** Tell the time to o'clock, half past, quarter past/to Count in multiples of 5.	___ is___ hundreds, ___ tens and ___ ones ___ is the whole; __ is a part, ___ is a part The midpoint between ___ and ___ is ____ *The midpoint between 500 and 600 is 550* 60 minutes = 1 hour	Number bonds and deriving number bond up to 1000 Recall multiples of 3 up to 12 x 3 in any order, including missing numbers.
Mathematical Concepts- *important pieces of information learners should take away from the unit*	**Watch out for**	**DfE Ready -to- progress criteria**
Recognise the value of each digit in a three-digit number and partition numbers in standard and non-standard ways. Use concrete and pictorial representations to identify and represent three-digit numbers. Estimate the position of three-digit numbers on marked and unmarked number lines using proportional reasoning. Pupils can read and represent time on both analogue and digital clocks.	Pupils who confuse the value of digits (e.g. the '3' in 342 represent 3 rather than 300). Pupils who struggle with estimating or identifying positions on number lines, particularly when scales are unmarked. Pupils who can not partition numbers in non-standard ways (e.g. 200 + 140 + 2). Pupils who struggle to bridge through 60 minutes, not recognising that 60 minutes complete and hour.	**3NPV- 1** **3NPV – 2** **3NPV-3** **3NPV-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 65: two representations of the place-value composition of 342

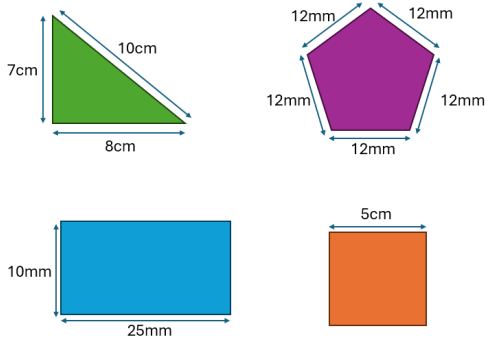


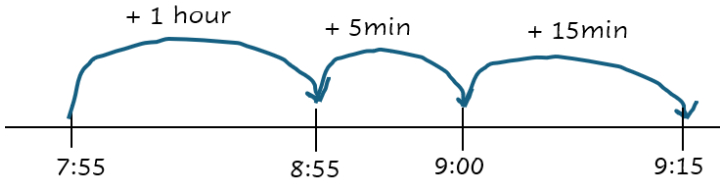
2. Estimate to fill in the missing numbers.



3. Estimate and mark the position of these numbers on the number line.

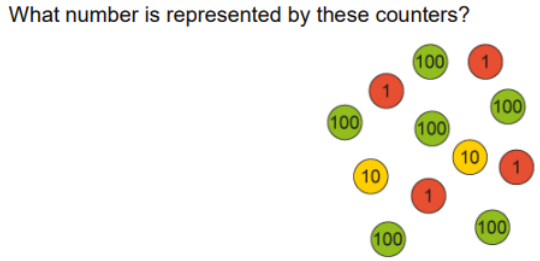
600 200 480 840 762 195

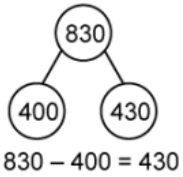
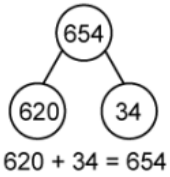
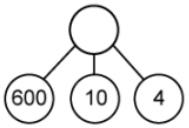
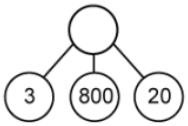
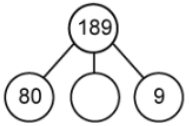
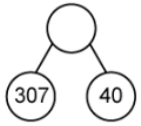
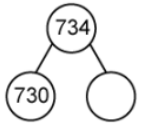


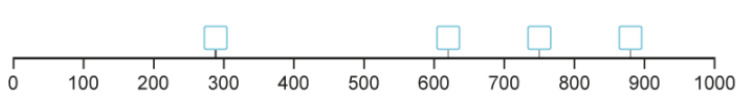
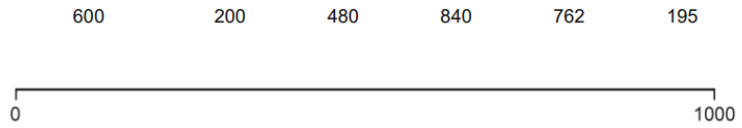
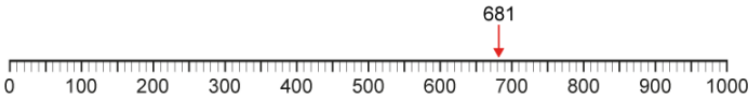
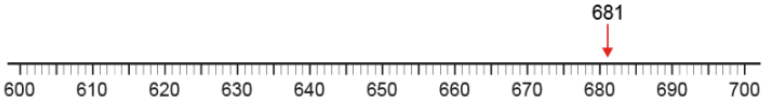


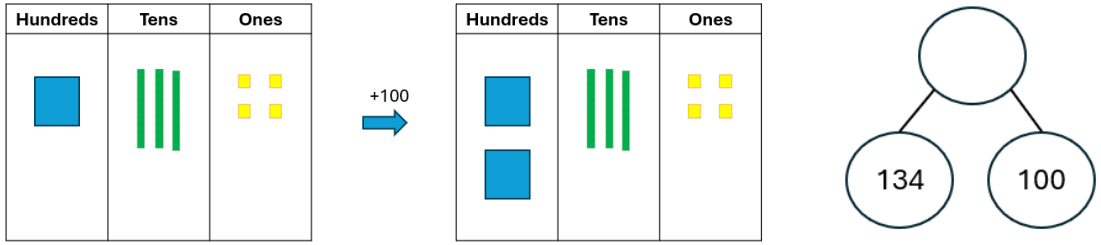
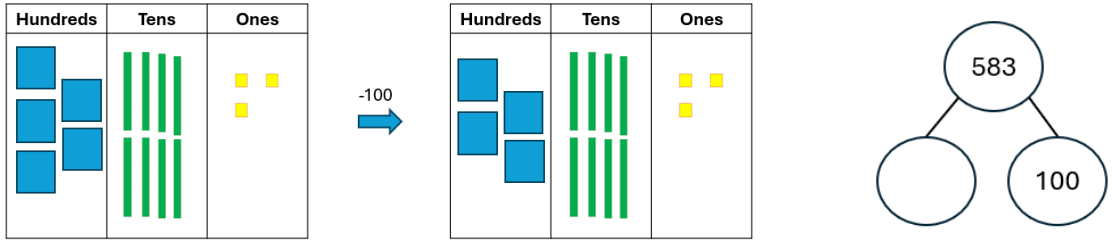
Learning Journey – Number and Place Value			
Autumn unit 3.1 (1 week)	**Autumn unit 3.5 (1 week)**	**Spring 3.10 (1 week)**	**Summer 3.16 (1 week)**
I can count from 0 in multiples of 10. I can count from 0 in multiples of 3. I can recognise the place value of each digit in a two-digit number. I can 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 than a given number. I can compare and order numbers up to 1000. I can solve number problems and practical problems involving these ideas.

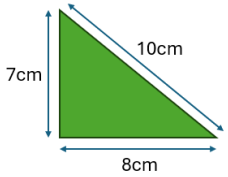
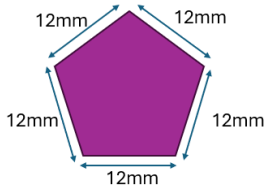
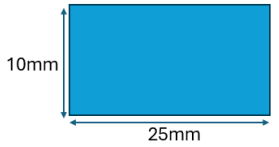
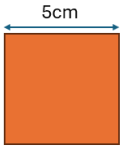
Learning Journey – Measurement			
Autumn unit 3.2 (1 week)	**Spring unit 3.5 (2 weeks)**	**Spring unit 3.8 (1 week)**	**Summer unit 3.15 (2 weeks)**
I can recall the number of minutes in an hour and the number of hours in a day. I can recall the number of seconds in a minute and the numbers of days in each month, year and leap year. I can use Roman numerals from I to XII to tell and write the time.			
I can measure and compare lengths. I can add and subtract lengths. I can measure and compare mass. I can add and subtract mass. I can measure and compare volume and capacity. I can add and subtract volume and capacity.	I can measure the perimeter of simple 2-D shapes. I can tell and write the time to five minutes and draw the hands on a clock face to show these times. I can tell and write the time to the nearest minute. I can draw the hands on a clock face to show time to the nearest minute. I can read the time on a digital clock. I can use vocabulary a.m and p.m. I can find end times of events. I can find start times of events. I can find durations of time.	I can solve simple problems in a practical context involving addition, using both pounds and pence. I can solve simple problems in a practical context involving subtraction, using both pounds and pence. I can add and subtract amounts of money to give change, using both pounds and pence in practical contexts.	I can measure, compare, add and subtract: lengths (m, cm, mm); mass (kg and g); volume and capacity (l and ml). I can measure the perimeter of simple 2-D shapes. I can estimate and read time with increasing accuracy to the nearest minutes. I can tell and write the time from an analogue clock, including 12-hour and 24-hour clocks. I can compare durations of events. I can add and subtract amounts of money to give change, using both pounds and pence in practical contexts.

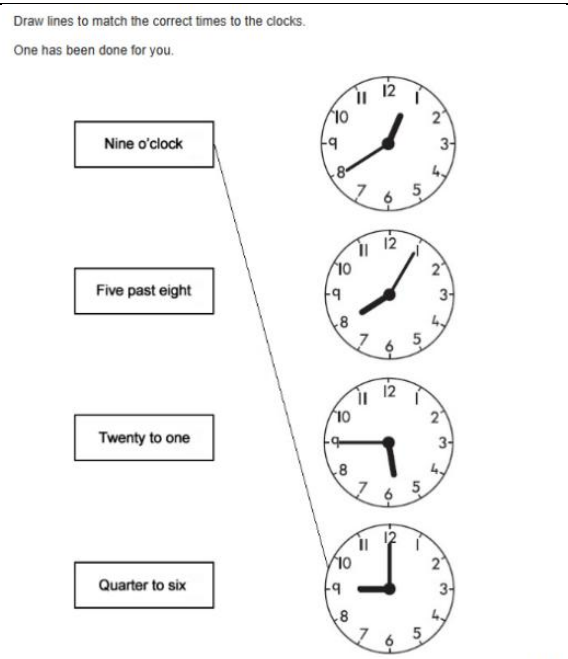
Proposed lesson sequence to support development of mathematical concepts	
Developing fluency and automaticity – ongoing daily practice	
Mastering Key Facts in Key Stage 2	**Autumn 2 Ongoing Mental Fluency Practice** • I can read and write numbers up to 1000 in numerals and in words. • Number bonds and deriving number bond up to 1000 • Recall multiples of 3 up to 12 x 3 in any order, including missing numbers. • I can recall the number of minutes in an hour and the number of hours in a day. • I can recall the number of seconds in a minute and the numbers of days in each month, year and leap year. • I can use Roman numerals from I to XII to tell and write the time.
Counting Fluency	• I can count from 0 in multiples of 100. • 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 three-digit number.	Pupils should be able to identify the place value of each digit in a three-digit number. They must be able to combine units of ones, tens and hundreds to compose three-digit numbers, and partition three-digit numbers into these units. Pupils need to experience variation in the order of presentation of the units, so that they understand that 40 + 300 + 2 is equal to 342, not 432.  **Figure 65: two representations of the place-value composition of 342** **Suggested Tasks:**  **Watch out for:** Some pupils may find dienes more effective than place value counters when developing a secure understanding of place value. Unlike dienes, counters do not convey quantity through physical size, which can make them less accessible for pupils who benefit from more concrete representations. Pupils who can confidently partition numbers and understand the value of each digit may be ready to engage with the more abstract nature of place value counters. Mathematics guidance: key stages 1 and 2 (covers years 1 to 6) – **3NPV-2** Contains material developed by NCETM and licensed under Open Government Licence v3.0' http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/

I can identify and represent three-digit numbers.	As well as being able to partition numbers in the 'standard' way, pupils must also be able to partition numbers in 'non-standard' ways and carry out related addition and subtraction calculations.  830 – 400 = 430 **Figure 66: partitioning 830 into 430 and 400**  620 + 34 = 654 **Figure 67: partitioning 654 into 620 and 34** **3NPV-2 Example assessment questions:** 3. Fill in the missing numbers to complete these partitioning diagrams.       4. Fill in the missing numbers. $600+70+1=\square$ $\quad$ $3+500+40=\square$ $461=\square+60+1$ $\quad$ $20+\square+3=823$ $953-50-3=\square$ $\quad$ $846-\square-40=800$ $\square=203+90$ $\quad$ $\square=290+3$ $628=20+\square$ $\quad$ $628=8+\square$ Mathematics guidance: key stages 1 and 2 (covers years 1 to 6) – **3NPV-2**

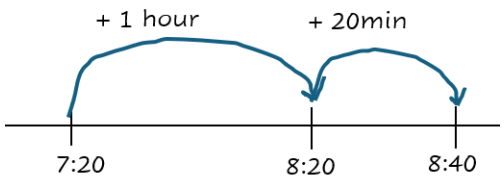
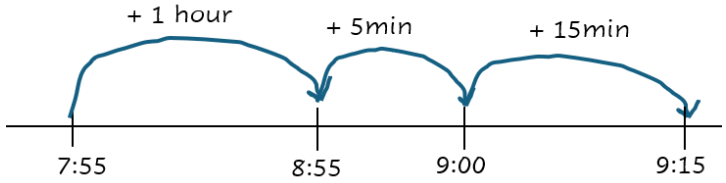
I can reason about the location of a three-digit number on a number line.	This step is building on from Year2, where pupils were expected to reason about the location of a two-digit number on a number line. In this step, pupils are learning how to place and identify three-digit numbers on number lines with different scales. This includes both marked number lines (where numbers are already shown) and unmarked number lines, where pupils need to estimate positions using proportional reasoning. For example, judging where 350 would go between 300 and 400. This skill is important because it helps pupils take approximate readings from scales in real-life contexts, such as measuring length or interpreting graphs in statistics. 2. Estimate to fill in the missing numbers.  3. Estimate and mark the position of these numbers on the number line.  Encourage pupils to explain their thinking using precise mathematical language, for example: *"I know 500 is halfway between 0 and 1000, so 480 will be just before the midpoint."* Pupils also need to know which two multiples of 100 or 10 a three-digit number falls between. For example, with the number 681, pupils should identify: • The previous and next multiple of 100: 600 and 700 • The previous and next multiple of 10: 680 and 690  **Figure 68: using a number line to identify the next and previous multiple of 100**  **Figure 69: using a number line to identify the next and previous multiple of 10** Mathematics guidance: key stages 1 and 2 (covers years 1 to 6) – **3NPV- 3**

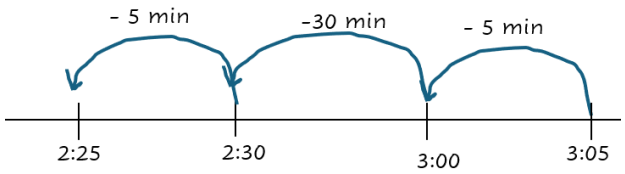
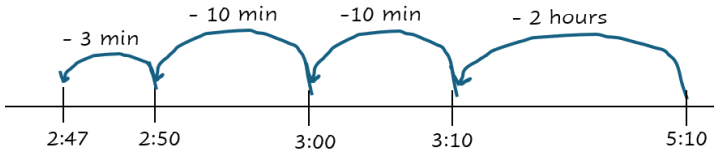
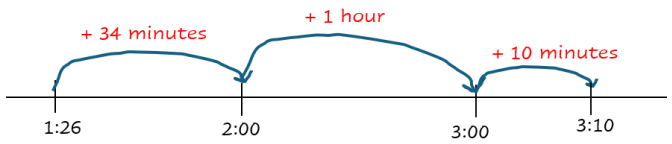
I can find 10 more or 10 less than a given number (up to 1000).	In Year 2, pupils began finding ten more and ten less within 100 using concrete resources such as dienes and a hundred square to recognise patterns. In unit 2.8, pupils were encouraged to transition onto a number line, using their knowledge that adding or subtracting 10 affects only the tens digit, while the ones digit remains unchanged. Using a resource appropriate to support conceptual understanding, pupils should be able to explain their reasoning, for example: *"245 is 2 hundreds, 4 tens and 5 ones. Adding 10 more gives me 2 hundreds, 5 tens and 5 ones. So 245 + 10 = 255"* *"583 is 5 hundred, 8 tens and 3 ones. Subtracting 10 gives me 5 hundreds, 7 tens and 3 ones. So 583 – 10 = 573".* **This step does not require any crossing of the next of previous hundred. This will be introduced in unit 3.7.**
I can find 100 more or 100 less than a given number (up to 1000).	Once pupils are secure with finding 10 more and 10 less than a given number, progress on to finding 100 more or 100 less than a given number up to 1000. In this step, pupils are learning that adding or subtracting 100 affects only the hundreds digit, while the tens and ones digits remain unchanged. Use dienes or place value counters to support conceptual understanding. *"134 is 1 hundred, 3 tens and 4 ones. Adding 100 more gives me 2 hundreds, 3 tens and 4 ones. So 134 + 100 = 234"*  *"583 is 5 hundred, 8 tens and 3 ones. Subtracting 100 gives me 4 hundreds, 8 tens and 3 ones. So 583 – 100 = 483".* 

10 sessions - Measurement	
I can measure the perimeter of simple 2-D shapes.	This step may need to be broken down into several lessons to allow sufficient time for practice and consolidation of new learning. In Unit 3.2, pupils measured, compared, and added and subtracted length using centimetres and metres; this step extends that understanding by introducing millimetres as a smaller unit for greater precision. Pupils need to recognise that 10mm is equal to 1cm and that millimetres allow for more accurate measurement. Provide opportunities for pupils to explore rulers with millimetre markings, focusing on correct scale reading and efficient counting strategies. For example, when measuring a length that is 5cm and 4mm, pupils can count in tens to 50mm and then add the additional 4mm to find a total of 54mm. In Unit 3.4, pupils identified properties of 2D shapes. Building on this, pupils apply their measuring skills to the concept of perimeter, which is new learning in Year 3. They should understand that perimeter is the total distance around a closed 2D shape and practise finding it by measuring and combining the lengths of each side. Pupils should understand that regular shapes have all sides equal in length, while rectangles have two pairs of equal-length sides.     Ensure pupils measure using a single unit at a time - either centimetres or millimetres - to avoid confusion; there is no expectation for pupils to mix units at this stage.
I can tell and write the time to five minutes and draw the hands on a clock face to show these times.	Use assessment against the following statements to identify how many lessons this step is likely to require. This should also determine whether additional practice is needed. • Tell and write the time to the hour and draw the hands on a clock face to show these times. • Tell and write the time to half past and draw the hands on a clock face to show these times. • Tell and write the time to quarter past/to the hour and draw the hands on a clock face to show these times. • Tell and write the time to five minutes and draw the hands on a clock face to show these times. Pupils who are not yet secure with telling the time to o'clock, half past, and quarter past/to should continue to revisit and embed this prior learning alongside this step. In Unit 2.13, pupils were introduced to telling the time to the nearest five minutes using a horizontal number line, counting in fives from 0 to 60, before mapping this understanding onto a circular clock face to make explicit the connection between the two representations. Emphasise that each interval on the clock represents five minutes and link this to the structure of the number line.

	Provide regular opportunities for pupils to practise reading times to the nearest five minutes (e.g. 3:55), ensuring they are confident in both representations. Once secure, pupils can progress to using “past” and “to” language, reinforcing that the right-hand side of the clock shows minutes past the hour, while the left-hand side shows minutes to the next hour. This should be explicitly linked to prior understanding of quarter past and quarter to, enabling pupils to confidently read and represent times in five-minute intervals. Attention should then focus on the hour hand. Pupils should be supported to place it accurately. It is important to reinforce that the hour hand does not point directly at a number but moves gradually as time passes. Contains material developed by the Standards and Testing Agency for KS2 national curriculum assessments and licensed under Open Government Licence v3.0’ http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/ 
I can tell and write the time to the nearest minute.	In this step, pupils build on prior learning to tell the time accurately to the nearest minute. To determine the exact number of minutes past or to the hour, children should first identify the nearest 5-minute interval and then count on (or back) in single minutes. For example, if a clock shows 23 minutes past 4, children should recognise this as 20 minutes past, and then add 3 more minutes. For pupils who are secure in telling the time to the nearest minute past the hour (e.g., 4:47, 11:58, 2:34), they can progress to telling the time using “to the hour.” Representing this using a bar model, where the whole is 60 minutes, can support their understanding. This helps children visualise how many minutes have passed and how many remain, enabling them to more easily calculate the number of minutes to the next hour.  **7:53** 53 minutes past 7 7 minutes to 8 60 minutes 53 minutes | 7 minutes Contains material developed by the Standards and Testing Agency for KS2 national curriculum assessments and licensed under Open Government Licence v3.0’ http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/

I can draw the hands on a clock face to show time to the nearest minute.	Continue building on the previous step by supporting pupils to identify the nearest multiple of 5 and then add the remaining minutes. Model your thinking clearly so children can follow each step. For example: • "I need to draw the hands on a clock to show 4:23. The hour hand will be just past the 4 because it's 4 o'clock and a bit more. Now I need to place the minute hand on 23. I'll count in 5s: 5, 10, 15, 20… and then add 3 more minutes. So, the minute hand goes just past the 20 mark." This approach helps pupils connect counting in 5s with precise minute reading and develops their confidence in constructing and interpreting times accurately. Some pupils may be confident in drawing the hands on a clock when given prompts such as "19 minutes past 2" or "23 minutes to 10." These pupils can be encouraged to explain their reasoning in more detail, describing how they position both the minute and hour hands accurately, to deepen their understanding.
I can read the time on a digital clock.	This step marks pupils' first formal introduction to the 12-hour digital clock, although many may already have encountered it in everyday contexts outside school. It is important to emphasise that time is written using a colon (:) rather than a decimal point, as incorrect notation may lead to confusion in later work with decimals. Begin by using digital times that pupils are already confident with, such as o'clock and half past, so they can clearly see how the hour and minute digits are displayed. Once pupils are secure, gradually introduce more complex times, including quarter past/to, 5-minute intervals, and then times to the nearest minute, ensuring they understand how digital time is recorded. **Suggested activities** • Match analogue clocks to corresponding digital times • Read a digital time and draw the hands on an analogue clock • Read an analogue clock and write the matching digital time **Watch out for** • Pupils omitting the zero placeholder, e.g. recording *11:09* as *11:9* • Confusion between the hour and minute digits when reading or writing times Providing regular opportunities to move between analogue and digital representations will help strengthen pupils' understanding and accuracy.

I can use vocabulary a.m and p.m	In this step, pupils develop their understanding of time further by being introduced to the terms “am” and “pm,” which are used to describe times before and after 12 noon. It is important to highlight that “am” and “pm” are not used at exactly 12 noon or 12 midnight. Linking learning to familiar daily routines, such as waking up, going to school, and going to bed, can help pupils grasp these ideas more securely. Support pupils in recognising that a full day consists of 24 hours, split into 12 hours before noon (am) and 12 hours after noon (pm). Emphasise that times before and after noon appear the same but are distinguished by the use of am and pm. The use of the 24-hour clock is not introduced until Year 4. **Suggested activities:** • Sort pictures of daily routines into am or pm groups. • True or False: “I go to bed at 8:00am”, “School starts at 8:50am”, “I eat dinner at 5:30am” •
I can find end times of events.	In this step, pupils learn to calculate end times from a given start time. Provide opportunities for pupils to use practical resources, such as clocks with moveable hands, to physically model the passage of time. Once they are confident, transition to using a number line, drawing on their understanding that there are 60 minutes in an hour and their knowledge of number bonds (e.g. complements to 10 and 60). Begin with examples that stay within the same hour, so pupils can focus on the method without added complexity. As their confidence develops, progress to problems that cross into the next hour, ensuring pupils understand how to bridge through 60 minutes accurately. A film runs for 1 hour and 20 minutes. I start the film at 7:20. What time will it finish?  A film runs for 1 hour and 20 minutes. I start the film at 7:55. What time will it finish? 

I can find start times of events.	In this step, pupils learn to calculate start times from a given end time. Provide opportunities for pupils to use practical resources, such as clocks with moveable hands, to physically model time moving backwards. Once they are confident, move onto the use of a number line. Begin with examples that stay within the same hour, so pupils can focus on subtracting minutes without added complexity. As their confidence grows, progress to problems that cross back into the previous hour, helping pupils to understand how to bridge back through 60 minutes accurately. My train to London takes 40 minutes. I arrive at 3:05pm What time did I leave?  My train to London takes 2 hours and 23 minutes. I arrive at 5:10pm What time did I leave? 
I can find durations of time.	In this step, pupils learn to find the duration of time between given start and end times. It is important that a number line is explicitly modelled and used to support their understanding, as this helps pupils visualise the passage of time and break it into manageable steps. While some pupils may become confident enough to calculate durations mentally, they should still be encouraged to use a number line to explain, justify, and check their reasoning, particularly in problem-solving contexts. **Watch out for** • Pupils attempting to use a formal column subtraction method, which is not appropriate for time calculations and can lead to errors. Instead, continue to emphasise counting on in steps using a number line. Erika gets on the bus at 1:26pm. She gets off the bus at 3:10pm. How long was her bus journey?  Erika's bus journey was 1 hour and 44 minutes

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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