Lesson 61 MEASURES

Elapsed time across hours and days

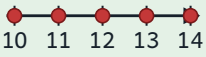
CURRICULUM ALIGNMENT

MEA.TIM.4 solve and pose practical tasks and problems involving the interpretation and calculation of time.

INTERACTIVES Number Line Jumps · challenge, display, explore

WHAT THIS LESSON TEACHES

Elapsed time is how long something lasts. Count on in whole hours, then the extra minutes — a number line helps.



→ 10:40 to 13:15 → 2 h to 12:40, then 35 min → **2 h 35 min**.

MODEL THIS ON THE BOARD

HOW LONG FROM 10:40 TO 13:15?

1. 10:40 → 12:40 is **2 hours**.
2. 12:40 → 13:15 is **35 minutes**.
3. Total: **2 hours 35 minutes**.

LESSON ARC

Open with the 19:40–22:15 film puzzle so pupils hit the wall of borrowing minutes, then move to the number-line interactive and model counting up in three hops — to the next whole hour, on in hours, then the last minutes. Pupils talk through a same-day and an overnight one at the board, then sketch the hops in their copy. Class Challenge works three on-line and a multi-day one built on the board. Student Activity Book follows for solo practice.

TEACHING MOVES

1. **Getting Started.** Give five seconds of quiet think-time, then take three hands-up answers only. Listen for the pupil who tries 22−19 and 15−40 and stalls on the minutes — name that stuck feeling as the reason we need a new method, but don't resolve it yet.
2. **Watch and Notice.** Walk each example aloud on the number-line interactive, pointing at each arc as it lands. On 22:30 to 06:15, stop everything and stress the jump to midnight first — never count straight through. For the Monday-to-Wednesday one there's no interactive snapshot: write 24+24=48 on the board so pupils see why two days is 48 hours, then add the extra 5.
3. **Try It Together.** Rotate three or four pupils to the board so different hands set different hops. On the overnight 21:45 to 04:30, if a pupil counts straight through midnight, pause and ask 'what time comes after 23:59?' before letting the class correct it.
4. **Sketch the Hops in Your Copy.** Walk the room glancing at two things only: does the first hop land on a whole hour, and do overnight ones jump to midnight first? This is practice, not marking — a quiet redirect at the desk is enough.

5. **Class Challenge.** Keep the board work brisk — pupils say each hop aloud, the class confirms, move on. Give the midnight crossing (23:10 to 07:05) the most talk-and-check time. Build the two-day board problem the same way as earlier: 24+24=48, then add the extra 8 to reach 56.
6. **What Did We Notice?.** Listen for pupils naming the jump to the next whole hour as the move that dodges borrowing, and the jump to midnight as the overnight rule. Revoice a strong answer: 'so we never count straight through midnight — we stop there and start the new day.'

COMMON MISCONCEPTIONS

⚠ A pupil sets out 22:15 − 19:40 in columns and writes '15 minus 40' then either flips it to 25 or gets stuck, treating clock minutes like ordinary column subtraction.

Don't fix the column sum — replace the strategy. Show on the number-line interactive that the first hop of 20 minutes reaches 20:00, a whole hour, so there's no borrowing to do. Counting up sidesteps the problem entirely.

⚠ For 22:30 to 06:15 a pupil counts straight through and says '8 hours and 45 minutes', ignoring that the clock resets at midnight.

Ask 'what time comes after 23:59?' to surface the reset. Then split the hop on the number line: 1 h 30 min to midnight, then 6 h 15 min into the new morning, and add the two parts.

⚠ On the multi-day problem a pupil counts the days on their fingers as 'Mon, Tue, Wed = 3 days' rather than counting the 48 hours between the two clock times.

Build it on the board as hours, not day-names: 09:00 Mon to 09:00 Wed is 24+24=48 hours, then add the 5 hours on to 14:00. Show that the day-name count over-shoots.

DIFFERENTIATION

EMERGING

- Keep these pupils on same-day sums where the first hop reaches the hour cleanly (e.g. 10:15 to 12:00) while the class tackles overnight cases. They mirror the hops on the interactive in their copy.
- Pre-draw the bridging number line in the copy with the next-whole-hour mark already labelled, so pupils only place the hops, not invent the structure.

DEVELOPING

- After a Class Challenge answer, ask the reverse: 'a film is 2 h 35 min and ends at 22:15 — what time did it start?' Same hops, run backwards.
- Give an overnight sum where both ends have awkward minutes (e.g. 23:40 to 05:25) and ask them to predict the total before counting.

PROFICIENT

- Pose a three-day problem with a midnight-and-day twist — 21:30 Friday to 07:00 Monday — and ask them to explain in writing-free maths-talk how they kept the days and the minutes separate.
- Pull fast finishers ahead into the Student Activity Book page and have them check whether counting up or counting back is quicker for an overnight sum, justifying their choice aloud.

Cross-curricular: Tie to Geography — pupils work out the elapsed flight time Dublin to a city in another time zone, then meet the zone shift in the next lesson.

ANSWER KEY

W1: 23:26

W2: 39 min

Q1: 08:27

Q2: 3 h 22 min

Q3: 23:51

Q4: 5 h 3 min

EXTENSION SHEET · STRETCH ANSWERS

S1: 7 h 15 min

S2: 23:43

S3: 00:47

S4: 5 h 52 min

S5: 3 h 3 min