Lesson 63 NUMBER

Elapsed time within an hour

CURRICULUM ALIGNMENT

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

INTERACTIVES Analog Clock Builder · challenge, display, explore

LESSON ARC

Put two Dublin Bus times on the board — 8:47 and 9:25 — and take 'more or less than half an hour' guesses before any maths. Model the count-on with a sketched two-hop number line beside the clock: a short 13-min jump to 9:00, then a 25-min jump to arrival. Pupils sketch three journeys in their copy, splitting each count at the o'clock. The Class Challenge bank then has pupils predict before the elapsed readout confirms.

TEACHING MOVES

1. **Getting Started.** Put 8:47 and 9:25 side by side and give five seconds of silent think-time before any hands. Take exactly three 'more or less than half an hour' guesses — don't let anyone calculate it out yet; the guess is the hook.
2. **Watch and Notice.** Sketch the two-hop number line right beside the clock as you count the first hop aloud: '47, 50, 55, 60 — that's 13 minutes to nine o'clock.' Draw the short 13-min jump and the longer 25-min jump so pupils see the split visually. For the 6:30-to-7:00 example, ask the class before you reveal it.
3. **Try It Together.** Set each start, call the arrival, and have one pupil drag the hands while the class counts the two hops aloud. Re-voice a strong answer: 'so 10 minutes got us to the hour, then 10 more — that's 20.' Watch for pupils counting the o'clock minute twice — the hop to the hour and the hop from it share the o'clock once.
4. **Work It on a Number Line in Your Copy.** While pupils sketch the three journeys, walk the room checking they split each count at the o'clock rather than drawing one long jump. The trickiest is 11:55 to 12:30 — watch whether pupils bridge cleanly through 12:00.
5. **Class Challenge.** Keep it brisk: class predicts the total out loud, then a pupil drags the hands and the readout confirms or corrects. Don't re-explain each one — let the readout do the correcting. Slow down only on the two that cross the o'clock (8:50 and 11:48).
6. **What Did We Notice?.** Steer pupils to name the o'clock as the friendly stop that splits a tricky count in two. Re-voice: 'so the hour is the place we always count up to first, then carry on.' Surface the double-counted-o'clock slip one last time.

COMMON MISCONCEPTIONS

⚠ Pupils do 9:25 minus 8:47 column-style and 'borrow' as if minutes were base-10 — getting answers like 78 or treating 8:47 to 9:25 as a straight subtraction.

Drop the column method and go back to the sketched number line. Mark 8:47, jump to 9:00 (13), jump to 9:25 (25). Sixty minutes in an hour, not a hundred — the o'clock split sidesteps the borrowing trap entirely.

⚠ Pupils count the o'clock minute twice — e.g. for 8:50 to 9:10 they get 21 minutes because they include 9:00 in both hops.

On the sketched number line, point to 9:00 sitting once where the two jumps meet. The hop up to the hour and the hop on from it share that single point — '10 to get there, 10 to leave it, the o'clock is the join, not a step on its own.'

DIFFERENTIATION

EMERGING

- Keep emerging pupils on within-the-hour journeys (9:20 to 9:50, 7:15 to 7:55) so there's no bridge yet — one clean jump only.
- Pre-draw the number line with the o'clock already marked in the copy, so pupils place only the start and end and count the two jumps.

DEVELOPING

- After the copy work, give a journey that crosses two o'clocks (10:50 to 12:10) and ask how many hops it needs now.
- Hand them a start time and a total — 'leaves 8:40, the journey is 35 minutes, what time does it arrive?' — to run the count-on the other way.

PROFICIENT

- Pose: 'a bus leaves 8:47 and the journey is exactly the same length as one that ran 6:35 to 7:20 — what time does it arrive?' They must find one elapsed total, then apply it forward.
- When fast finishers are done, send them ahead into the Student Activity Book page rather than waiting at the board.

↗ **Cross-curricular:** Tie to Geography — pull a real Dublin Bus or Irish Rail timetable and have pupils work out how long their own route to a named town takes.

ANSWER KEY

a) 2:10 → 2:35 = **25 minutes**.

b) 9:05 → 9:50 = **45 minutes**.

c) 11:25 → 11:55 = **30 minutes**.

d) 3:48 → 4:00 = **12 minutes**.

Q1: 2 h 41 min

Q2: 3 h 22 min

Spot: Cian ignored the hour boundary. From 11:48 → 12:00 is 12 minutes, then 12:00 → 12:30 is another 30 minutes. Total: 12 + 30 = 42 minutes.

EXTENSION SHEET · STRETCH ANSWERS

S1: 5 h 3 min

S2: 3 h 49 min

S3: 3 h 3 min