

# 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

Fact Race · explore

## LESSON ARC

Open with the 8:47 Dublin Bus problem on the IWB and collect three or four wrong-answer predictions before any reveal. Walk through Example 1 pivoting on the hour-bridge — 13 minutes to 9:00, then 25 minutes past. Pupils sketch three number lines in their copies, splitting each at the hour-mark. Class Challenge runs five Irish bus journeys with pupils taking turns at the board.

## TEACHING MOVES

- Getting Started.** Write 8:47 and 9:25 on the IWB and collect predictions in silence — write every shout up, including 78 and 1:22. Don't correct any of them yet. Tell the class 'we'll come back and circle the right one once we've learnt the move.'
- Watch and Notice.** Slow right down on Example 1. Point at 8:47 and ask the class 'how many minutes to 9:00?' — wait for 13. Then point at 9:00 and ask 'how many more to 9:25?' — wait for 25. Add aloud, then go back to the Getting Started board and physically circle 38.
- Try It Together.** Pupils take turns at the board; the class talks each card through before the tap. From card 4 onwards pause before tapping and ask 'do we need to bridge here?' If a pupil picks a distractor like 7:75, redirect to the class: 'is 7:75 a real time on a clock?'
- Sketch the Number Line in Your Copy.** Walk the room while pupils sketch. You're looking for who marks the hour-bridge tick on the line — 8:00 between 7:35 and 8:10, and 4:00 between 3:48 and 4:15. Find one neat copy to hold up at the end as the picture of the move.
- Class Challenge.** Read each journey label aloud before the pupil sets the clock. On 11:40 to 12:08, ask the class 'how many minutes from 11:40 to 12:00?' and take a couple of answers before the pupil at the board adds the 8 past noon. Keep the pace brisk — this same bank is tonight's homework, so don't over-explain.
- What Did We Notice?.** Display-only — nobody writes. Listen for a pupil who names the bridge as 'minutes to the hour, then minutes past.' Revoice that version so everyone hears it once cleanly. If anyone says 'I just subtracted', push: 'what happens when 25 is smaller than 47?'

## COMMON MISCONCEPTIONS

⚠ Pupils treat the minutes like decimals and subtract digit-by-digit: 9:25 minus 8:47 gives them 1:22 or 0:22.

Catch this in Getting Started predictions — write 22 or 1:22 on the board with the others. After Example 1's bridge reveals 38, go back and ask 'where did 22 come from?' Let pupils name the trap aloud. The bridge move is the fix.

⚠ Pupils count past the hour without wrapping — they say 7:55 plus 20 minutes is 7:75.

Don't correct directly. Ask the class 'is 7:75 a real time on a clock?' Let them spot it. Then walk the analog clock hand past the 12 once, so they see the wrap visually.

⚠ Pupils freeze when the start is very close to the hour — e.g. 4:55 to 5:25 — and try to count 30 minutes back from 5:25 instead of bridging.

Before the pupil sets the clock, ask the class how many minutes to 5:00. One short word — five. Then point at 5:00 and add the 25 past. The smallness of the first chunk is the bit that throws them; naming it tiny makes it easier.

## DIFFERENTIATION

### EMERGING

- Pre-mark the hour-bridge tick on the copybook number line for these pupils so they only count the two chunks, not invent the split point.
- Stay with same-hour problems (like 11:20 to 11:55) in copybook practice; rejoin the class at the Class Challenge with a partner reading the journey label.

### DEVELOPING

- After the copybook three, give one more: 6:52 to 7:18. Same move, different hour-bridge.
- Ask: which of today's five bus journeys was the trickiest, and why? Write one sentence under your number lines.

### PROFICIENT

- Pose: a bus leaves at 8:47 and the journey takes 38 minutes — what time does it arrive? Same bridge move run forwards instead of as a difference.
- Ask: can you write a bus-journey problem of your own where the bridge is at 12:00? Swap with a neighbour and check.

↗ **Cross-curricular:** Tie to Geography — pupils pick two stops on the Dublin Bus 16 timetable and work out the journey between them.

## 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