

Telling time to the minute; analog ↔ digital

CURRICULUM ALIGNMENT

MEA.TIM.3b

identify the relationship between different units and representations of time.

MEA.TIM.3a

compare, approximate and measure time using appropriate units of measurement.

INTERACTIVES (Analog Clock Builder · challenge, display, explore)

WHAT THIS LESSON TEACHES

Between each five-minute mark on a clock there are four single minutes. Count on to the nearest five, then count one minute at a time to the exact minute. If the minute hand is after the 12 it is a 'past' time; before the 12 it is a 'to' time.

→ Minute hand just past the 3: say fifteen, then sixteen, seventeen, eighteen for eighteen minutes past.

→ Nine minutes past two is written 2:09, never 2:9.

MODEL THIS ON THE BOARD

READING 7:43 TWO WAYS

- 1 The minute hand sits just before the 9 (45 minutes), so count back two marks: **43** minutes past.
- 2 The hour hand is past 7, so the digital time is **7:43**.
- 3 From 43 up to 60 is **17** minutes, so 7:43 is the same as **17** minutes to 8.



DISCUSSION STARTER

REFLECT

Which do you find quicker to read — an analog face or a digital display — and why?

LESSON ARC

Open on the real classroom clock with the minute hand stuck between the 8 and 9 — what exact minute? The interactive clock then drives two worked ideas: counting single minutes on from the nearest five (eighteen past three), and switching a digital readout between 'past' and 'to' (7:43). Pupils set 3:12, 6:47, 8:09 at the board with the digital twin showing. A copybook round labels four times past/to; the Class Challenge consolidates with trickier minutes.

TEACHING MOVES

1. **Getting Started.** Point at the actual classroom clock, hand between the 8 and 9. Give five seconds of silent think-time, then take exactly three hands-up answers. Listen for whether pupils start from 40 (the 8) and count on — if nobody does, that gap is the lesson.
2. **Watch and Notice.** Name each idea before you run it. For eighteen-past, count on aloud pointing at the hand: 'fifteen, sixteen, seventeen, eighteen.' For 7:43, say it both ways back to back so pupils hear the link. Pause hard on 2:09 — ask 'why not 2:9?' and re-voice the answer about two digits after the colon.

3. **Try It Together.** One pupil sets the hands on the interactive clock; the watching class counts the single minutes aloud and confirms the digital twin matches before moving on. Watch the 8:09 — pupils nudge the minute hand too far. Re-voice: 'nine minutes, just past the start, and we write the zero in front.'
4. **Write Past or To in Your Copy.** Pupils copy the four digital times down their copy and label each past or to, with the minute count. Walk the room glancing — don't mark. The one to catch is 1:06 written as 'six to' instead of 'six past'; the minute hand is just after the 12, so it's past.
5. **Class Challenge.** Brisk turns at the board through 5:23, 9:41, 4:07, 11:59 — class counts each aloud and checks before moving on. Don't re-explain each one; this is practice. For 11:59, say 'one minute to twelve' so nobody reads the near-12 hour hand as twelve o'clock.
6. **What Did We Notice?.** Ask why 7:43 equals 'seventeen minutes to eight'. Listen for the $43 + 17 = 60$ insight and re-voice it: 'once you pass the half-hour it's often quicker to count back to the next hour.' Head off the idea that 'to' times use a different clock — same hand, named from the hour ahead.

COMMON MISCONCEPTIONS

⚠ Pupils read 2:09 aloud as 'two minutes past nine' or write it as 2:9 — they don't see the leading zero as holding the minutes place.

On the interactive clock, set the hands for 2:09 with the digital twin showing. Point: hour before the colon, minutes after. Ask 'how many digits after the colon?' and re-voice: nine is a single-digit minute, so the zero keeps it in its place — 2:09, never 2:9.

⚠ Pupils misread 11:59 as twelve o'clock because the hour hand sits almost on the 12.

Slow the interactive clock right down to 11:59 and trace the hour hand — it hasn't reached the 12 yet. Say 'one minute to twelve' together. The hand only counts the hour once it's fully on the number.

⚠ Pupils jump straight to the next five-minute mark instead of counting the single minutes — calling eighteen-past 'twenty past'.

Stop and count the single minutes aloud on the interactive clock, tapping each tick: fifteen, sixteen, seventeen, eighteen. Make them land on the exact tick the hand is on, not the next labelled number.

DIFFERENTIATION

EMERGING

- Keep these pupils on 'past' times only at the board while the class works 'to' times — counting on from the nearest five is the one skill to secure first.
- Let them count the single minutes by tapping each tick on the interactive clock aloud before reading the digital twin, rather than estimating the minute.

DEVELOPING

- After the copybook round, give a 'to' time like 9:41 and ask them to also write it as minutes-to-ten, so they hold both readings of the same hand.
- Pose a missing-minute: 'the minute hand is three ticks past the 8 — what's the exact minute?' before they reach the Class Challenge.

PROFICIENT

- Ask: 'name a time that sounds nearly the same said as past and as to — and explain why' (e.g. 6:30). Pair with a copybook moment to write the reasoning.
- Stretch them into the next idea: if a 24-hour clock reads 19:43, how would you say it as 'to'? Let them reason it without being told the conversion.

✂ **Cross-curricular:** Tie to the school day — pupils read the digital times of real timetable slots (lunch at 12:55, home time at 14:20) and say each as 'past' or 'to'.

ANSWER KEY

a) half past 3: 3:30

b) quarter past 7: 7:15

c) quarter to 5: 4:45

d) 20 minutes past 9: 9:20

e) 10 minutes to 12: 11:50

f) 5 minutes past 2: 2:05

Q1: nine minutes past two

Q2: 16

Q3: 7:45

Spot: Each number the minute hand points to stands for 5 minutes, not 1. The 4 means $4 \times 5 = 20$ minutes, so the time is **3:20**, not 3:04.

EXTENSION SHEET · STRETCH ANSWERS

S1: 11:15 pm ↔ 23:15

S4: 11:25 am ↔ 11:25

S2: 12:35 pm ↔ 12:35

S5: 11:15 am ↔ 11:15

S3: 12:15 am ↔ 00:15