

Max's Magnificent Clockwork Adventure

Learning objective: To read, write, and convert between analogue and digital 12-hour and 24-hour clocks, and calculate intervals of time.

Follow the drawing prompts to create your own time-tracking scene. Once your diagram is complete, use your clock to solve the mathematical challenges below.

Draw: Draw a large, detailed clock face in the centre of your page. The clock should show the time 14:45. Outside the clock face, draw a scene featuring Max the monkey holding a stopwatch. Include labels pointing to the hour hand, the minute hand, and the digital equivalent of the time displayed on the analogue face. Use a clean, technical drawing style with clear lines for measurements.



Label words: Analogue · Digital · 24-hour clock · Interval · Duration · Minute hand · Hour hand · Midday

Steps:

1. Max starts his maths puzzle at 09:15. If he finishes at 10:40, calculate the total duration of his work in minutes. Show your working out.
2. If Max's clock is an analogue face showing 04:20 PM, write this time in 24-hour format.
3. Explain why the 24-hour clock system is useful for international travel and scientific research compared to the 12-hour system.

4. Compare and contrast the movement of the hour hand and the minute hand. How many degrees does the minute hand move in 15 minutes?
5. If an event starts at 22:50 and lasts for 150 minutes, what time will it finish? Justify your answer.
6. What might happen if all clocks in the world were suddenly set to only show 12-hour time without 'AM' or 'PM' labels? Discuss the potential confusion.