

Max's Time-Travelling Maths Challenge

Learning objective: To solve problems involving the calculation and conversion of units of time, including 12-hour and 24-hour clock formats.

Read the story below and use your knowledge of time intervals and the 24-hour clock to help Max solve his scheduling puzzles. Show your working out clearly.

Max the monkey is organising a jungle festival. He needs everything to run perfectly. The festival starts at 09:30 and ends at 17:15. Max has scheduled a series of events: a banana-balancing contest starting at 10:45 lasting for 75 minutes, followed by a tree-climbing demonstration at 13:00. He also needs to ensure the catering team arrives exactly 45 minutes before the gates open to the public. Max uses the 24-hour clock to ensure there is no confusion between morning and afternoon events.

Word bank: interval · duration · 24-hour clock · midday · midnight · am · pm

1. At what time does the catering team need to arrive at the festival? (2 marks)

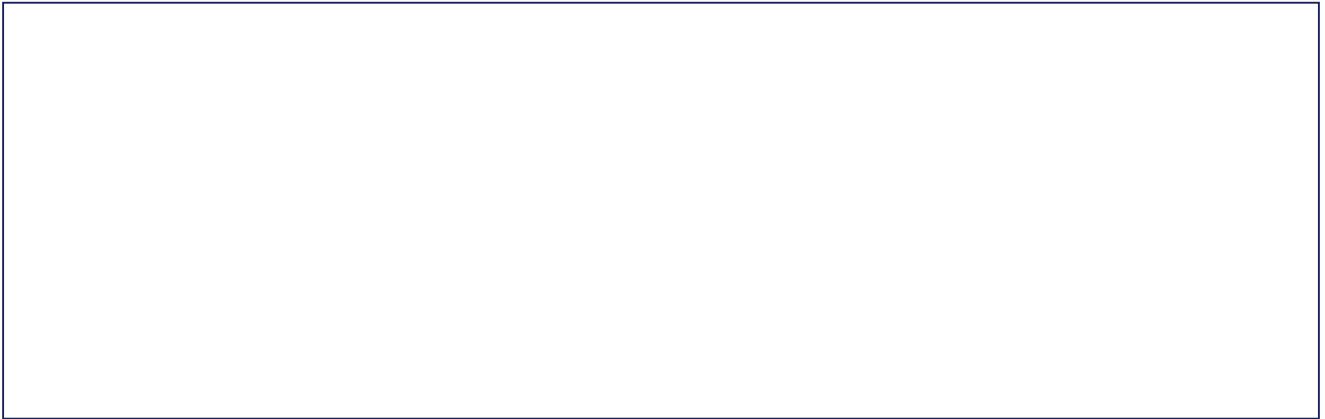
2. The banana-balancing contest starts at 10:45 and lasts for 75 minutes. At what time does this event finish? (2 marks)

3. How long is the total duration of the festival, from the 09:30 start time to the 17:15 end time? (3 marks)

4. If the tree-climbing demonstration starts at 13:00 and finishes at 14:20, how many minutes does it last? (2 marks)

5. Max wants to add a poetry reading that lasts for 50 minutes. If the reading starts at 15:30, will it finish before the festival closes at 17:15? Explain your reasoning. (3 marks)

Draw: Draw a large analogue clock face showing the time the banana-balancing contest finishes, and a digital clock display below it showing the same time in 24-hour format.



Extension challenge: Max decides to offer a 'Festival Pass' for £12.50. If the festival is 7 hours and 45 minutes long, what is the cost per hour, rounded to the nearest penny?