

Max's Time-Traveling Math Challenge

Learning objective: To read, write and convert time between analogue and digital 12-hour and 24-hour clocks, and solve problems involving duration.

Max the monkey has been busy planning a jungle expedition! Use your knowledge of time to help him solve these puzzles. Show your working out clearly.

Max is planning his day in the jungle. He needs to track his activities accurately using both 12-hour and 24-hour time formats to ensure he doesn't miss any of his fruit-gathering sessions.

Word bank: analogue · digital · duration · interval · midday · midnight · 24-hour clock · a.m. · p.m.

1. Max starts his morning exercise at 08:15. If his workout lasts for 45 minutes, what time does he finish? Write your answer in 24-hour format. (2 marks)

2. Max notices his watch shows 14:30. Convert this into the 12-hour clock format, including whether it is a.m. or p.m. (2 marks)

3. A storm is coming! The clouds gather at 16:45 and clear at 18:20. Calculate the total duration of the storm in hours and minutes. (3 marks)

4. Max wants to visit Pip the caterpillar. Pip is busy reading until 11:15 a.m. If it takes Max 1 hour and 20 minutes to travel there, what is the earliest time Max can arrive to see Pip? (3 marks)

5. Compare and contrast: Explain why we use the 24-hour clock for travel timetables instead of the 12-hour clock. What might happen if we didn't use 'a.m.' or 'p.m.' labels in a 12-hour system? (4 marks)

6. Justify your answer: If a clock shows 00:15, is this considered early in the morning or late at night? Explain your reasoning using the terms 'midnight' and 'new day'. (4 marks)

Draw: Draw a large analogue clock face showing the time 20:45. Use a different color for the hour hand and the minute hand, and label the positions of the numbers if you were converting this to a 24-hour clock.



Extension challenge: Design a 'Jungle Schedule' for a full day. Include at least five activities with varying start and end times. You must include at least two activities that cross over the midday mark. Use both 12-hour and 24-hour notation for each activity.