Max’s Time-Travelling Maths Challenge

Learning objective: To solve problems involving converting between units of time, calculating durations, and reading timetables using the 24-hour clock.

Help Max the monkey calculate the duration of his jungle adventures! Read each question carefully, choose the correct answer or provide the requested value. Remember to pay close attention to 12-hour and 24-hour formats.

Answer Key: 1. C; 2. True; 3. 2 hours 15 minutes; 4. B; 5. False; 6. 14:45; 7. 00:30; 8. C; 9. 120 minutes; 10. 15:15.

Word bank: duration · analogue · digital · interval · midnight · midday · timetable · centuries

1. Max starts his maths puzzle at 09:15 and finishes at 10:30. How long did it take? A) 1 hour 5 minutes B) 1 hour 10 minutes C) 1 hour 15 minutes* D) 1 hour 20 minutes (1 mark)

2. True or False: 02:00 in the 24-hour clock is the same as 2:00 pm. (1 mark)

3. If a documentary about rainforests lasts for 135 minutes, how many hours and minutes is this? (1 mark)

4. Which of these is the correct way to write half past four in the afternoon using the 24-hour clock? A) 04:30 B) 16:30* C) 14:30 D) 04:15 (1 mark)

5. True or False: There are 86,400 seconds in a full day. (1 mark)

6. Max catches a train at 14:45. Write this time in the 12-hour format including am or pm. (1 mark)

7. If it is 23:30, how many minutes are left until the start of a new day? (1 mark)

8. Zara is painting a mural. She starts at 10:50 and paints for 85 minutes. What time does she finish? A) 11:35 B) 12:00 C) 12:15* D) 12:35 (1 mark)

9. How many minutes are in exactly 2 hours? (1 mark)

10. Max's favourite show starts at 3:15 pm. Write this in the 24-hour clock format. (1 mark)

Draw: Draw a creative clock face that Max might use in his treehouse. Instead of numbers, include symbols that represent different times of the day (e.g., a sun for midday, a star for midnight).

Extension challenge: Greater Depth Challenge: 1) Explain why we use the 24-hour clock for international travel. 2) Compare and contrast the benefits of analogue and digital clocks. 3) Justify why it is more efficient to convert minutes into hours when calculating the duration of a long journey. 4) What might happen if a train timetable used 12-hour format without stating am or pm? 5) If a leap year has 366 days, calculate how many total hours are in a leap year. 6) Create a daily schedule for Max that includes at least four activities, ensuring no activity overlaps, and calculate the total 'active' time in hours and minutes.