Max’s Roman Numeral Challenge

Learning objective: To read, write, and convert Roman numerals up to 1000 (M) and understand their place-value system.

Max the monkey has found a collection of ancient stone tablets. Help him decipher the codes by applying your knowledge of Roman numerals. Show your working out clearly.

Word bank: I = 1 · V = 5 · X = 10 · L = 50 · C = 100 · D = 500 · M = 1000 · subtractive principle

1. Max finds a tablet marked 'CLXXIV'. Convert this Roman numeral into our standard Hindu-Arabic number system. (2 marks)

2. Write the year 2024 using Roman numerals. Explain the logic you used to construct your answer. (3 marks)

3. Compare the numbers XC and CX. Explain why the position of the 'X' changes the value of the numeral significantly. (3 marks)

4. Max has £495 to spend on supplies. Write this amount using Roman numerals. If he spends £150 (CL), how much does he have left in Roman numerals? (4 marks)

5. Justify why the Roman system does not use a placeholder for zero. How does this make certain calculations more challenging compared to our base-10 system? (4 marks)

6. What might happen if we tried to perform long multiplication using only Roman numerals? Provide an example of the complexity involved. (3 marks)

Draw: Draw a stone wall featuring three different Roman numeral codes carved into the rock. Include Max the monkey peering at them with a magnifying glass.

Extension challenge: Design your own 'Roman Numeral Clock' face. Instead of the standard 1-12, create a clock that displays the numbers 100 to 1200 in increments of 100 using Roman numerals. Write a short paragraph justifying why the Romans chose their specific letter symbols for these values.