

Max's Magnificent Maths Challenge: Place Value Mastery

Learning objective: To demonstrate secure understanding of place value in 4-digit numbers, including partitioning, ordering, rounding, and Roman numerals.

Read each question carefully. Max the monkey has provided a space to show your working out. Ensure your answers are clear and units like £ are included where necessary.

Max the monkey is organising his jungle pantry. He has been counting his collection of tropical fruit and supplies. He needs your help to record these numbers accurately so he can plan his next adventure.

Word bank: partition · thousands · hundreds · tens · ones · round · ascending · descending · estimate · value

1. Max has 4,528 dried mango slices. Partition this number into thousands, hundreds, tens, and ones. (2 marks)

2. Max finds a bag of shiny pebbles worth £3,000 + £400 + £50 + £9. Write this as a single digit number. (1 mark)

3. Compare these two numbers using the symbols <, > or =: 5,672 ____ 5,762. Explain how you know which is larger by looking at the place value columns. (3 marks)

4. Max counts 7,492 coconuts. Round this number to the nearest 10, the nearest 100, and the nearest 1,000. (3 marks)

5. Order these amounts of pocket money in ascending order: £3,450, £3,045, £3,540, £3,405. (2 marks)

6. Max labels a box with the Roman numeral 'MCD'. Convert this into our standard Arabic numeral system. Show how you calculated your answer. (3 marks)

7. Max says: 'If I add 1,000 to 8,999, the answer is 9,000.' Is Max correct? Justify your answer using your knowledge of place value and regrouping. (4 marks)

8. Extended Response: Max wants to buy a new climbing rope that costs £2,500. He has saved £1,800. He says, 'I have nearly enough, I only need about 500 more.' Critically evaluate Max's estimation. How much does he actually need? If he saves £100 every week, how many weeks will it take him to reach his goal? Explain your reasoning in detail. (7 marks)

Draw: Draw a place value grid showing the number 2,314 using counters (dots) in the thousands, hundreds, tens, and ones columns.

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Extension challenge: Total: /25. Challenge: What might happen to the value of a 4-digit number if you swap the thousands digit with the tens digit? Provide an example and justify the change in value.