

Max's Magnificent Math Challenge: Exploring Place Value

Learning objective: To partition, compare, and order four-digit numbers using knowledge of thousands, hundreds, tens, and ones.

Help Max the monkey solve his place value puzzles! Use your knowledge of place value to complete each section. Remember to use the correct terminology when explaining your reasoning. For questions requiring greater depth, justify your mathematical thinking using clear, logical steps.

Word bank: thousands · hundreds · tens · ones · partition · digit · value · greater than · less than · equivalent

1. The Four-Digit Breakdown: Choose a four-digit number. Write it in words and partition it into its thousands, hundreds, tens, and ones. (2 marks)

2. Digit Detective: If you have the number 4,729, explain why the digit '7' is worth 700 and not 7. What would happen to the value of the number if you swapped the 4 and the 2? (3 marks)

3. Compare and Contrast: Write two different four-digit numbers. Use the symbols $<$ or $>$ to compare them and justify which number has a greater value in the thousands column. (2 marks)

4. The Mystery Number: I am a four-digit number. My thousands digit is 5, my tens digit is double my thousands digit minus 8, and my hundreds and ones digits are equal. What number am I? (3 marks)

5. Logical Reasoning: Max says, 'If I add 10 to 4,995, the value of the hundreds column stays the same.' Is Max correct? Explain your answer using your knowledge of place value columns. (4 marks)

6. Creative Extension: Design your own 'Number Challenge' for a partner. Create a sequence of three four-digit numbers that follow a specific pattern (e.g., increasing by 100 each time). Can your partner identify the rule you used? (4 marks)
