Max’s Magnificent Maths Challenge: Place Value Mastery

Learning objective: To read, write, order, and compare numbers up to 1,000,000 and determine the value of each digit.

Max the monkey has been busy sorting his collection of shiny jungle pebbles! Help him solve these place value puzzles by reading the questions carefully. Use your knowledge of place value columns to succeed.

Answer Key: 1.C, 2.True, 3.100,000, 4.A, 5.False, 6.70,000, 7.B, 8.True, 9.400,000, 10.B.

Word bank: ten-thousand · hundred-thousand · digit · partitioning · place value · compare · ascending · descending

1. Max has 456,890 pebbles. What is the value of the digit 4 in this number? A) 4,000 B) 40,000 C) 400,000* D) 400 (1 mark)

2. True or False: The number 702,150 is greater than 701,999. (1 mark)

3. What is the value of the 'hundred-thousand' column in the number 843,210? (1 mark)

4. Which of these numbers is written as 'five hundred and two thousand, six hundred and eleven'? A) 502,611* B) 520,611 C) 502,601 D) 52,611 (1 mark)

5. True or False: When ordering numbers in descending order, you start with the smallest number. (1 mark)

6. In the number 375,402, what is the value of the digit 7? (1 mark)

7. Max finds a bag with £125,450. Another bag has £125,540. Which symbol completes the comparison? 125,450 _ 125,540. A) > B) <* C) = D) ~ (1 mark)

8. True or False: 900,000 + 50,000 + 400 + 3 is the same as 950,403. (1 mark)

9. Max adds 10,000 to the number 390,000. What is the new total? (1 mark)

10. Which number has a 9 in the ten-thousands place? A) 19,002 B) 394,210* C) 9,876 D) 409,000 (1 mark)

Draw: Draw a set of four large treasure chests. Label them with the numbers: 245,600; 254,600; 245,060; and 254,060. Show Max the monkey putting them in order from smallest to largest.

Extension challenge: 1. Explain why moving a digit one place to the left increases its value by ten times. 2. Compare and contrast the number 600,000 and 600. How does the position of the zeros change the value? 3. Justify your answer: If you have the digits 1, 0, 5, 8, 2, and 9, what is the largest six-digit number you can create? 4. What might happen to the value of a number if you swap the digits in the hundreds and thousands columns? 5. Create a word problem involving £10,000 that requires someone to subtract a 5-digit number. 6. If Max has a number with a 5 in the hundred-thousands place, a 2 in the tens place, and all other digits are zero, what is his number? Write it in words.