

Max's Magnificent Four-Digit Challenges

Learning objective: To recognise the place value of each digit in a four-digit number and partition numbers in different ways.

Help Max the monkey solve these place value puzzles. Remember to look closely at the thousands, hundreds, tens, and ones columns to ensure your answers are precise.

Max the monkey has been collecting shiny pebbles to build a counting tower. He needs your mathematical expertise to sort his collection and understand the value of every digit in his pile.

Word bank: thousands · hundreds · tens · ones · partition · place value · digit · equivalent · column

1. Max has 4,328 pebbles. Partition this number into thousands, hundreds, tens, and ones. Then, write the number in words. (2 marks)

2. Max finds a mystery bag containing $5,000 + 600 + 40 + 9$ pebbles. What is the total number of pebbles? Explain how you calculated the value of the digit '6' in this number. (3 marks)

3. Compare the numbers 7,402 and 7,420. Use the symbols $<$, $>$ or $=$ to compare them and justify why the tens digit changes the total value significantly. (2 marks)

4. Max says: 'If I have 3,000 pebbles and I add 10 tens, I have 3,010.' Is Max correct? Justify your answer using your knowledge of place value columns. (2 marks)

5. Create a four-digit number using the digits 2, 8, 0, and 5. What is the largest possible number you can make, and what is the smallest? Explain your strategy for placing the digits. (3 marks)

Draw: Draw a set of base-ten blocks (thousands cubes, hundreds flats, tens rods, and ones units) to represent the number 2,145 for Max the monkey.



Extension challenge: Max wants to trade his pebbles for shiny acorns at the forest market. One acorn costs £1.25. If Max has £5.00, how many acorns can he buy, and how much change will he receive? If the price increased to £1.50 per acorn, what might happen to the amount of change he receives? Justify your prediction.