

Max the Monkey's Mathematical Mountain

Learning objective: To secure understanding of 4-digit place value, including partitioning, ordering, and identifying the value of digits.

Help Max the Monkey climb the Mathematical Mountain by solving these place value challenges. Show your working out clearly to earn your explorer badges!

Max the Monkey is exploring the Great Numbers Forest. He has found a pile of golden acorns labelled with 4-digit numbers. To reach the top of the mountain, Max needs to understand exactly how much each digit is worth. He knows that in the number 4,321, the '4' represents four thousands, not just four ones. Max uses his trusty abacus to partition numbers into their thousands, hundreds, tens, and ones so he can compare them easily. Today, he has a collection of acorns showing the numbers: 2,567; 5,276; 2,576; and 5,627. Help Max sort these and solve the mysteries of the forest.

Word bank: partitioning · place value · thousands · hundreds · tens · ones · digit · ascending · descending · equivalent

1. Max has an acorn labelled 3,842. Partition this number into its thousands, hundreds, tens, and ones. Explain why the value of the '8' is different from the value of the '4'. (3 marks)

2. Max finds two acorns labelled 4,902 and 4,092. Compare these numbers using the correct inequality symbols (< or >) and justify your answer. (2 marks)

3. Arrange the following numbers into ascending order: 7,301; 7,031; 7,130; 7,310. (2 marks)

4. Max finds a mystery acorn. The digit in the thousands place is 6, the hundreds digit is 5, the tens digit is 0, and the ones digit is 9. Write the number in numerals and words. (2 marks)

5. If Max adds 1,000 to the number 2,456, what is the new total? Which digit changes and why? (2 marks)

Draw: Draw a set of four 'Place Value Acorns' hanging from a tree branch. Label each acorn with a different 4-digit number and draw a small abacus next to one of them showing the correct value.



Extension challenge: Max has three digit cards: 4, 0, and 9. If he creates all possible 3-digit numbers using these cards (using each card only once per number), how many can he make? Order them from smallest to largest and explain the strategy you used to ensure you found every possible combination.