

Max's Multiplication Marathon

Learning objective: To demonstrate fluency in multiplication and division facts for the 3, 6, 9, 7, and 11 times tables.

Help Max the monkey organise his fruit shop by solving these multiplication puzzles. Show your working out clearly to demonstrate your mathematical reasoning.

Max the monkey is busy stocking his fruit stall for the forest market. He has crates of bananas, mangoes, and starfruit. Max loves to arrange his stock into perfect arrays to keep his maths tidy. He knows that if he has 7 crates with 6 bananas in each, he can use his 7 times table to find the total. Max is also helping his friend Bea the honeybee calculate how many flowers she needs to visit. By understanding the inverse relationship between multiplication and division, Max can solve any puzzle the forest throws at him!

Word bank: multiplication · product · factor · multiple · array · inverse · commutative

1. Max has 8 crates of mangoes. Each crate contains 7 mangoes. Use your 7 times table to calculate the total number of mangoes. Show your calculation. (2 marks)

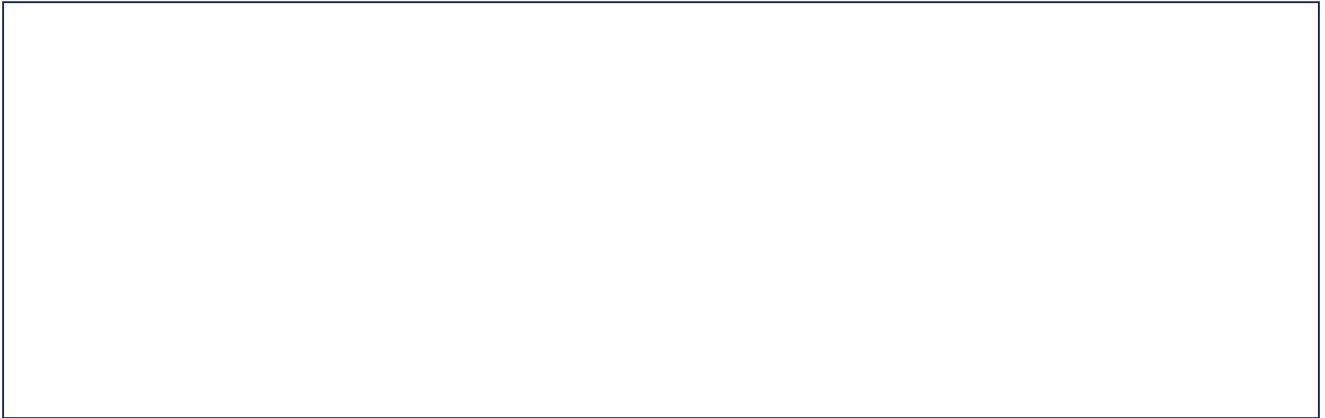
2. If Max has 54 starfruit and wants to put them into 6 equal boxes, how many starfruit will be in each box? Explain the inverse operation you used to solve this. (3 marks)

3. Max says, 'If I know that $9 \times 4 = 36$, then I know $4 \times 9 = 36$.' Justify why Max is correct using the term 'commutative'. (2 marks)

4. Bea the honeybee visits 11 flowers every minute. How many flowers does she visit in 12 minutes? Provide your calculation. (2 marks)

5. Compare and contrast the 3 times table and the 6 times table. What do you notice about the products when you double the multiplier? (3 marks)

Draw: Draw an array of 4 rows and 7 columns of starfruit to represent the calculation 4×7 .
Label the total number of items.



Extension challenge: What might happen to Max's stall if he decided to group his fruit into prime numbers instead of multiples? Write a short paragraph justifying why this would make his stock-taking more difficult.