

Year 4 Mathematics: Factors and Multiples Assessment

Learning objective: To identify, describe and represent factors and multiples, including finding all factor pairs of a number, and common factors of two numbers.

Read each question carefully. Show your working out clearly, as you may be awarded marks for your method even if your final answer is slightly incorrect. Use a pencil and ruler for all diagrams.

Max the monkey is organising his collection of tropical fruit for the forest feast. He needs to arrange his snacks into equal groups to share them fairly with his friends. Help Max solve his mathematical puzzles.

Word bank: Factor · Multiple · Product · Common Factor · Divisor · Prime · Array · Calculation

1. Max has 12 bananas. List all the factor pairs of 12. (2 marks)

2. Identify the first five multiples of 8. (2 marks)

3. Is 7 a factor of 49? Justify your answer using your knowledge of multiplication tables. (2 marks)

4. Max has 18 mangoes and 24 papayas. Find the common factors of 18 and 24. (3 marks)

5. True or False: Every number is a multiple of 1. Explain your reasoning. (3 marks)

6. Max wants to arrange 20 coconuts into an array. Draw two different rectangular arrays that represent two different factor pairs of 20. (4 marks)

7. If a pack of berries costs £3, how many packs could you buy with £24? Explain how the relationship between factors and multiples helped you find the answer. (4 marks)

8. Max is thinking of a number. He says: 'My number is a multiple of 5 and 10. It is a factor of 100. It is less than 50 but greater than 20.' What could Max's number be? Are there multiple possibilities? Justify your answer. (5 marks)

Draw: Draw two different rectangular arrays using dots to represent the factors of 20 (e.g., a 4x5 grid).

Extension challenge: Total: /25. Consider this: If a number has only two factors (1 and itself), it is called a prime number. If a number has more than two factors, it is a composite number. Create a list of all numbers between 1 and 20 and categorise them into 'Prime' or 'Composite'. What do you notice about the number 1?