Max’s Maths Challenge: Factors and Multiples

Learning objective: To identify, list and explain the relationship between factors and multiples of whole numbers.

Help Max the monkey solve these number puzzles! Read each section carefully and use your knowledge of times tables and division to complete the activities. Remember, factors are the numbers that divide exactly into another number, and multiples are the numbers you get when you multiply a number by an integer.

Word bank: factor · multiple · product · prime number · divisible · integer · common factor · lowest common multiple

1. Max has 24 bananas to share. List all the factor pairs of 24. How can you prove these are all the factors? (3 marks)

2. Write down the first five multiples of 7. Explain the rule you used to find them. (2 marks)

3. Find the common factors of 12 and 18. Which is the highest common factor (HCF)? (3 marks)

4. If a number is a multiple of 10, is it also a multiple of 5? Explain your reasoning using an example. (3 marks)

5. Max is counting in 4s and 6s. What is the lowest common multiple (LCM) of 4 and 6? Show your working out. (2 marks)

Extension challenge: Challenge: Choose a two-digit number between 20 and 50. Write a 'fact profile' for it, including all its factors, the next three multiples, and whether it is a prime or composite number.