

Max's Mathematical Marvellous Multiples and Factors

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

Help Max the monkey solve these number puzzles! Remember, a factor is a number that divides into another exactly, and a multiple is the result of multiplying a number by an integer.

Word bank: Factor · Multiple · Product · Divisor · Integer · Calculation

1. Max has 24 bananas to share. List all the factor pairs of 24. How do you know you have found them all? (3 marks)

2. Find the first five multiples of 7. If you add 7 to the fifth multiple, which number do you get, and is this number also a multiple of 7? Explain your reasoning. (3 marks)

3. Max says: 'If a number is a multiple of 10, it must also be a multiple of 5.' Justify whether Max is correct using an example. (2 marks)

4. Identify all the common factors of 12 and 18. Which is the greatest common factor? (2 marks)

5. If you have a mystery number that is a multiple of 4 and a multiple of 6, and it is less than 30, what could the number be? List all possibilities. (2 marks)

Draw: Draw a 'Factor Tree' for the number 36, showing how different numbers multiply together to reach the product at the top.



Extension challenge: Challenge: Investigate prime numbers. Why do prime numbers only have two factors? Compare and contrast a prime number with a composite number and justify why 1 is not considered a prime number. What might happen if we tried to find the factors of a very large number, such as 1000? Describe your strategy.