Max’s Prime Number Investigator File

Learning objective: To identify, explain, and apply knowledge of prime numbers up to 100.

Help Max the monkey solve the 'Prime Number Puzzle'. Use your knowledge of factors and multiples to complete each section of this investigator file. Remember: a prime number is a number greater than 1 that has exactly two factors: 1 and itself.

Word bank: Factor · Multiple · Prime · Composite · Divisible · Product · Sequence

1. The Prime Definition: In your own words, explain what makes a number 'prime' and why the number 1 is not considered a prime number. (2 marks)

2. Prime Hunting: List all the prime numbers between 1 and 20. How did you check your work? (3 marks)

3. The Composite Challenge: Choose a composite number (e.g., 12 or 15). Write down all of its factors and explain why it is not a prime number. (2 marks)

4. Applying Logic: Max has £17 to spend on stickers. Is 17 a prime number? If he tries to share the stickers equally between 2, 3, or 5 friends, will he have any left over? Explain your reasoning. (3 marks)

5. True or False Investigation: 'All odd numbers are prime numbers.' Prove whether this statement is true or false by providing an example. (2 marks)

Extension challenge: Challenge: Can you find the 'prime pairs' (twin primes) between 1 and 50? These are pairs of prime numbers that have a difference of only 2 (e.g., 3 and 5).