Max’s Prime Number Puzzle Trail

Learning objective: To identify, describe and represent prime numbers up to 100.

Help Max the monkey solve the prime number maze by using what you know about factors. Remember: a prime number has exactly two factors—itself and one.

Max is organising his collection of jungle snacks. He has a bag of 20 nuts, but he wants to arrange them in equal rows. He discovers that he can make rows of 2, 4, 5, or 10. Because 20 has many factors, it is a 'composite' number. Max then picks up 7 berries. He tries to arrange them in rows, but he can only make a single row of 7 or 7 rows of 1. Because 7 can only be divided by 1 and itself, it is a 'prime' number. Max loves prime numbers because they are the building blocks of all other numbers!

Word bank: Prime number · Composite number · Factor · Multiple · Divisible · Remainder

1. Max says that 2 is the only even prime number. Is he correct? Explain your reasoning. (2 marks)

2. List all the prime numbers between 10 and 20. (2 marks)

3. Is 21 a prime number? Show your working out by listing the factors of 21. (2 marks)

4. Max finds a mystery number card that is a prime number between 30 and 40. What could the number be? (1 mark)

5. Explain why the number 1 is not considered a prime number. (2 marks)

Draw: Draw a jungle path for Max. On the path, draw stones labelled with different numbers. Colour the stones that are prime numbers green, and the composite numbers brown.

Extension challenge: Max has £15 to spend on new number puzzles. If each puzzle costs a prime number amount in pounds (e.g., £2, £3, £5, £7, £11, £13), what different combinations of puzzles could he buy to spend exactly £15? List two different combinations.