Max’s Magnificent Measurement Challenge

Learning objective: To convert between different units of measure (e.g., kilometres to metres, kilograms to grams) and solve multi-step problems involving money and length.

Max the monkey is preparing for a jungle expedition. Use your knowledge of measurement to help him pack his supplies and calculate his travel distances. Show all your working out.

Max is gathering supplies for his journey. A bag of climbing rope costs £12.50. He needs 3 bags of rope, plus a climbing harness that costs £18.75. He also needs to travel 4 kilometres to reach the Big Baobab Tree. He has already travelled 1,200 metres.

Word bank: kilometre · meter · centimetre · millimetre · kilogram · gram · conversion · total · expedition

1. Max needs to buy 3 bags of rope at £12.50 each and one harness at £18.75. Calculate the total cost of his equipment. Show your working. (2 marks)

2. The distance to the Big Baobab Tree is 4 kilometres. Max has already travelled 1,200 metres. How many metres does he have left to travel? (2 marks)

3. Max packs a bag of dried fruit weighing 1.5 kilograms. He eats 450 grams of it during his walk. How many grams of fruit does he have left? (2 marks)

4. Max finds a vine that is 250 centimetres long. He cuts off 750 millimetres to make a swing. Explain why it is helpful to convert both measurements into the same unit before subtracting. (3 marks)

5. Max wants to buy a map that costs £5.99. If he pays with a £10 note, calculate the change he should receive. (1 mark)

Draw: Draw a map of Max’s route to the Big Baobab Tree, labelling the total distance in kilometres and the distance remaining in metres.

Extension challenge: Justify your answer: If Max decided to travel 6 kilometres instead of 4, would the cost of his trip increase? Explain why or why not, considering if the cost of travel depends on the distance measured.