

## Max's Market Challenge: Measuring Up

*Learning objective: To convert between different units of metric measurement (km, m, cm, mm) and calculate the cost of items based on mass and capacity in a real-world context.*

Max the Monkey is helping set up a community market stall! He has gathered various goods, but his measurements are in different units. Use your knowledge of metric conversions and decimal arithmetic to solve these challenges. For each item, convert the measurement into the unit requested, calculate the total cost, and justify your mathematical reasoning.

*Word bank: millimetres · centimetres · metres · kilometres · grams · kilograms · millilitres · litres · conversion · decimal*

**1. Max has a roll of ribbon measuring 4.5 metres. He needs to cut it into 15cm strips for gift wrapping. How many full strips can he make, and what is the length of the remaining ribbon in millimetres? Show your working out. (3 marks)**

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**2. A jar of local honey contains 750ml. If Max sells 5 jars for £22.50, what is the cost per litre? Explain the steps you took to calculate this unit price. (3 marks)**

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**3. A bag of organic flour weighs 1.25kg. If a recipe requires 350g of flour, how many full recipes can Max bake using two bags of flour? Justify your answer. (3 marks)**

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**4. Compare and contrast: Why is it more efficient to measure the length of a football pitch in metres rather than millimetres? Explain your reasoning using mathematical terminology. (2 marks)**

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**5. Max buys a 2km length of decorative bunting. If he hangs it across a street that is 450 metres wide, how many times can he span the street? How much bunting would be left over in kilometres? (3 marks)**

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**6. What might happen if a baker confused grams and kilograms when measuring ingredients for a large wedding cake? Discuss the impact on the recipe's success. (2 marks)**

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**Draw: Draw a diagram of the market stall showing Max measuring a piece of rope that is 2.5 metres long. Label the rope with its length in both metres and centimetres.**



*Extension challenge: Design your own 'Market Pricing Table' for five imaginary items. You must include the mass or capacity of each item in two different units (e.g., kg and g) and set a price in £. Create one 'Greater Depth' word problem based on your table for a partner to solve.*