

Mastering Mathematical Word Problems with Max the Monkey

Learning objective: To solve multi-step problems involving all four operations, money, and measurement, using logical reasoning to identify the correct calculation steps.

Read each challenge carefully. Use the RUCSAC method (Read, Understand, Choose, Solve, Answer, Check) to help Max calculate the solutions. Show your working out clearly.

Max has £25.00. He buys 4 notebooks for £3.50 each and a pack of pens for £4.25. How much change does he receive?

£6.75

A school hall has 12 rows of seats with 15 chairs in each row. If 138 people are seated, how many empty chairs remain?

42

Zara is painting a mural. She uses 1.5 litres of blue paint and 2.25 litres of yellow paint. If she mixes them to make green and then pours the total into 5 equal jars, how much paint is in each jar?

0.75 litres

A farmer has 480 apples. He packs them into crates of 24. He sells each crate for £12.50. What is the total value of all the crates?

£250.00

Kit needs to download a file that is 1,200 megabytes. His internet speed allows him to download 80 megabytes per minute. How many minutes will the full download take?

15 minutes

Compare and contrast: Why is it important to identify the operation needed before calculating? Explain how 'sum' and 'product' change the strategy you use.

The sum requires addition, whereas the product requires multiplication. Choosing the wrong operation leads to incorrect results.

Justify your answer: Max says that $150 \div 5$ is the same as $300 \div 10$. Is he correct? Explain your mathematical reasoning.

Yes, he is correct because both represent the same ratio; $300 \div 10$ is simply $150 \div 5$ multiplied by two on both sides.

What might happen if you ignore the 'remainder' in a division word problem about people needing to travel in taxis?

You would miss out people who need transport, as you must round up to ensure everyone has a seat.

Pip has a collection of 560 words. She learns 15 new words every day for 3 weeks. How many words will she have in total after 3 weeks?

875 words

If a roll of ribbon is 10 metres long and you cut off 8 pieces that are 75 centimetres each, how much ribbon is left in metres?

4 metres

Explain why you cannot simply add the numbers in a multi-step problem without reading the context first.

Context determines the sequence of operations (BODMAS/BIDMAS) and whether the problem requires subtraction or division.

Create your own multi-step word problem involving a shop purchase of £15.00 and at least two different operations.

Student must create a valid problem with a clear solution.