Max’s Mathematical Multiplication Challenge

Learning objective: To multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.

Help Max the monkey solve these multiplication puzzles! Use your knowledge of long multiplication to calculate the answers. Show your working out clearly in the space provided.

Answer Key: 1. B (14,400); 2. True; 3. 2,160; 4. B (2,808); 5. False; 6. 7,084; 7. C (12,852); 8. True; 9. 18,900; 10. B (4,592).

Word bank: product · multiplier · multiplicand · place value · column · calculation · regrouping · estimate

1. Max is calculating 320 × 45. Which is the correct product? A) 13,400 B) 14,400* C) 15,400 D) 12,400 (1 mark)

2. True or False: When multiplying by the tens digit in long multiplication, you must place a zero in the ones column first. (1 mark)

3. Calculate 144 × 15. What is the final answer? (1 mark)

4. Which calculation results in 2,808? A) 104 × 26 B) 108 × 26* C) 108 × 24 D) 112 × 25 (1 mark)

5. True or False: The product of 200 × 50 is 1,000. (1 mark)

6. Max buys 23 packs of stickers. Each pack costs £308. What is the total cost in pounds (£)? (1 mark)

7. Find the product of 476 × 27: A) 12,652 B) 12,752 C) 12,852* D) 12,952 (1 mark)

8. True or False: Estimating 49 × 21 by calculating 50 × 20 gives you 1,000, which is a sensible estimate. (1 mark)

9. Calculate the value of 420 × 45. (1 mark)

10. Max has 164 boxes with 28 marbles in each. How many marbles does he have in total? A) 4,492 B) 4,592* C) 4,692 D) 4,392 (1 mark)

Draw: Draw Max the monkey sitting on a tree branch, happily holding a banana and a notepad with a complex long multiplication sum written on it.

Extension challenge: Max wants to buy 15 new books for his library. Each book costs £12. If he also buys 12 packs of pens costing £8 each, what is the total cost of his shopping trip? Show your multi-step calculation.