Max the Monkey’s Cube Number Challenge

Learning objective: To identify, calculate, and apply knowledge of cube numbers up to 10 cubed (10^3).

Help Max the Monkey solve his jungle maths puzzles! Remember, a cube number is a number multiplied by itself and then by itself again (e.g., $2^3 = 2 \times 2 \times 2$). Read each question carefully.

Answer Key: 1) A (1), 2) B (27), 3) False (2^3=8, not 6), 4) 64, 5) C (125), 6) True, 7) 216, 8) D (1000), 9) False (3^3=27), 10) 343. Total marks: 10.

Word bank: cube · multiply · product · integer · base · exponent

1. 1. What is the value of 1^3? A) 1* B) 3 C) 0 D) 11 (1 mark)

2. 2. Max found 3^3 bananas. How many bananas does he have? A) 9 B) 27* C) 6 D) 33 (1 mark)

3. 3. True or False: 2^3 is equal to 6. (1 mark)

4. 4. What is the cube of 4? (1 mark)

5. 5. Which of these is a cube number? A) 20 B) 50 C) 125* D) 200 (1 mark)

6. 6. True or False: 0^3 is equal to 0. (1 mark)

7. 7. Calculate 6^3. (1 mark)

8. 8. Which calculation equals 1000? A) 10^2 B) 5^3 C) 20^2 D) 10^3* (1 mark)

9. 9. True or False: 3^3 is 9. (1 mark)

10. 10. What is 7^3? (1 mark)

Draw: Draw a large cube made up of smaller unit cubes to show why $3^3 = 27$.

Extension challenge: Max has £50. He wants to buy a box that is shaped like a perfect cube. If each side of the box is 4cm long, does the volume of the box (in cm^3) represent a cube number? Explain your reasoning.