MATH · Y3–Y6

Multiplication & Division

Knowledge Organiser — Y3–Y6

Key vocabulary

1 Factor

A whole number that divides exactly into another number.

Example: Factors of 12: 1, 2, 3, 4, 6, 12

2 Multiple

The result of multiplying a number by a whole number.

Example: Multiples of 4: 4, 8, 12, 16, 20...

3 Prime number

A number with exactly TWO factors: 1 and itself.

Example: 2, 3, 5, 7, 11, 13, 17, 19, 23...

4 Square number

The result of multiplying a number by itself.

Example: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100

5 Cube number

The result of multiplying a number by itself twice.

Example: 1, 8, 27, 64, 125

6 Product

The result of multiplying two or more numbers.

Example: Product of 6 and 7 = 42

7 **Quotient**

The result of dividing one number by another.

Example: 63 ÷ 9 = 7 (7 is the quotient)

8 **Remainder**

The amount left over when a number doesn't divide exactly.

Example: 27 ÷ 4 = 6 remainder 3

methods reminder

KS2 standard algorithms

- SHORT MULTIPLICATION (e.g. 234 × 6): multiply each digit right to left, carry when needed
- LONG MULTIPLICATION (e.g. 234 × 46): split into 234×40 + 234×6, then add
- SHORT DIVISION (e.g. 576 ÷ 8): divide into each digit left to right; write remainders above
- LONG DIVISION (e.g. 648 ÷ 24): estimate, multiply, subtract, bring down — repeat
- INVERSE CHECK: multiplication and division are inverse operations. 6 × 7 = 42 → 42 ÷ 7 = 6 ✓