

## Maths: Multiplication

### Mental

- How to use related facts to multiply
- How to use factor pairs to multiply
- What a composite number is
- How to identify prime factors
- How to identify common multiples

### Written

- 1. How to multiply 2 numbers that are multiples of 10, 100 or 1,000:**
  - draw on prior knowledge of place value
  - remove the zeros, find the product of the single digit numbers and then replace the zeros
- 2. How to multiply by a multiple of 10/100/1000:**
  - if one factor is made 10 times the size, the product will be 10 times the size
  - use short multiplication by a single-digit number and then multiply by 10/100/1000
- 3. How to multiply a 2-digit number by a 2-digit number:**
  - partition one of the factors
  - calculate partial products and add these together
  - apply to 3-digit by 2-digit numbers
- 4. How to multiply a 4-digit number by a 2-digit number using the formal written method of long multiplication:**
  - draw on prior knowledge of calculating partial products
  - multiply 2-digit by 2-digit regrouping the tens into hundreds
  - multiply 2-digit by 2-digit regrouping the ones into tens
  - multiply 2-digit by 2-digit regrouping the ones into tens and the tens into hundreds
  - multiply any 3-digit by 2-digit numbers
  - multiply any 4-digit by 2-digit numbers
- 5. How to solve long multiplication problems more efficiently:**
  - identify a composite number and write it as a factor x a factor
  - use short multiplication