

Mental methods children are taught which will enable them to effectively use the grid method of multiplication

Reception	Count in tens. Count in twos.
Year 1	Count on and back in tens from and back to zero. Count on in twos from zero. Count in steps of five from zero. Begin to count in steps of three from zero. Begin to know what each digit in a two-digit number represents. Partition a 'teens' number and begin to partition larger two-digit numbers into a multiple of ten and ones.
Year 2	Count in hundreds from and back to zero. Count on in twos from and back to zero. Count in steps of 3, 4 or 5 to at least 30, from and back to zero. Know what each digit in a two-digit number represents, and partition two-digit numbers into a multiple of ten and ones. Understand the operation of multiplication as repeated addition or as describing an array. Know by heart multiplication facts for the 2 and 10 times-tables. Use known number facts and place value to carry out mentally simple multiplications. Derive quickly doubles of all multiples of numbers to at least 15 and multiples of 5 to 50.
Year 3	Count on in steps of 3, 4 or 5 from any small number to at least 50 and then back again. Know what each digit represents, and partition three-digit numbers into a multiple of 100, a multiple of ten and ones. Know by heart multiplication facts for the 2, 5 and 10 times-tables. Begin to know the 3 and 4 times-tables. To multiply by 10/100, shift the digits one/two places to the left. Use known number facts and place value to carry out mentally simple multiplications.
Year 4	Partition numbers into thousands, hundreds, tens and ones. Multiply and divide any integer up to 1000 by 10 and understand the effect. Begin to multiply by 100. Know by heart multiplication facts for 2, 3, 4, 5 and 10 times-tables. Partition (e.g. $23 \times 4 = (20 \times 4) + (3 \times 4)$ ). Use known facts and place value to multiply integers, including by 10 and then 100.
Year 5	Know what each digit represents in a number with up to two decimal places. Multiply and divide any positive integer up to 10 000 by 10 or 100 and understand the effect. Know by heart all multiplication facts up to $10 \times 10$ . Partition (e.g. $47 \times 6 = (40 \times 6) + (7 \times 6)$ ). Use known facts and place value to multiply mentally.
Year 6	Multiply and divide decimals mentally by 10 or 100, and integers by 1000, and explain the effect. Consolidate knowing by heart multiplication facts up to $10 \times 10$ Partition (e.g. $87 \times 6 = (80 \times 6) + (7 \times 6)$ ). Use known number facts and place value to consolidate mental multiplication.