

# Addition Objectives

## Reception

Find one more than a number from 1 to 10.

Select two groups of objects to make a given total of objects.

Begin to relate addition to combining two groups of objects.

In practical activities and discussion begin to use the vocabulary involved in adding.

## Year 1

Say the number that is 1 more or less than any given number and 10 more for multiples of 10.

Derive and recall all pairs of numbers with a total of 10 and addition facts for totals to at least 5.

Relate addition to counting on.

Recognise that addition can be done in any order.

Use practical and informal written methods to support the addition of a one-digit number or a multiple of 10 to a one-digit or two-digit number.

Use the vocabulary related to addition and symbols to describe and record addition number sentences.

## Year 2

Partition two-digit numbers in different ways, including into multiples of 10 and 1.

Derive and recall all addition facts for each number to at least 10, all pairs with totals to 20 and all pairs of multiples of 10 with totals up to 100.

Add mentally a one-digit number or a multiple of 10 to any two-digit number.

Use practical and informal written methods to add two-digit numbers.

Use the symbols + and = to record and interpret number sentences.

Calculate the value of an unknown in a number sentence (e.g.  $\square + 2 = 6$ ).

## Year 3

Derive and recall all addition facts for each number to 20, sums of multiples of 10, and number pairs that total 100.

Add mentally combinations of one-digit and two-digit numbers.

Round two-digit or three-digit numbers to the nearest 10 or 100 and give estimates for their sums.

Develop and use written methods to record, support or explain addition of two-digit and three-digit numbers.

Use knowledge of number operations and corresponding inverses, including doubling and halving, to estimate and check calculations.

# Subtraction Objectives

## Reception

Find one less than a number from 1 to 10.

Begin to relate subtraction to 'taking away'.

In practical activities and discussion begin to use the vocabulary involved in subtracting.

## Year 1

Say the number that is 1 less than any given number and 10 less for multiples of 10.

Work out the corresponding subtraction facts for pairs of numbers that total 10 and for totals to at least 5.

Understand subtraction as 'take away' and find a 'difference' by counting up.

Use practical and informal written methods to support the subtraction of a one-digit number from a one digit or two-digit number, and a multiple of 10 from a two-digit number.

Use the vocabulary related to subtraction and symbols to describe and record subtraction number sentences.

## Year 2

Partition two-digit numbers in different ways, including into multiples of 10 and 1.

Derive and recall all subtraction facts for each number to at least 10, all pairs with totals to 20 and all pairs of multiples of 10 with totals up to 100.

Subtract mentally a one-digit number or a multiple of 10 from any two-digit number.

Use practical and informal written methods to subtract two-digit numbers.

Use the symbols - and = to record and interpret number sentences.

Calculate the value of an unknown in a number sentence (e.g.  $\square - 2 = 8$ ).

## Year 3

Derive and recall all subtraction facts for each number to 20, differences of multiples of 10, and number pairs that total 100.

Subtract mentally combinations of one-digit and two-digit numbers.

Round two-digit or three-digit numbers to the nearest 10 or 100 and give estimates for their differences.

Develop and use written methods to record, support or explain subtraction of two-digit and three-digit numbers.

Use knowledge of number operations and corresponding inverses, including doubling and halving, to estimate and check calculations.

# Multiplication Objectives

## Reception

Count aloud in ones, twos, fives or tens.

Count repeated groups of the same size.

## Year 1

Count on or back in ones, twos, fives and tens and use this knowledge to derive the multiples of 2, 5 and 10 to the tenth multiple.

Recall the doubles of all numbers to at least 10.

Solve practical problems that involve combining groups of 2, 5 or 10.

## Year 2

Count up to 100 objects by grouping them and counting in tens, fives or twos.

Derive and recall multiplication facts for the 2, 5 and 10 times-tables.

Recognise multiples of 2, 5 and 10.

Represent repeated addition and arrays as multiplication.

Use practical and informal written methods and related vocabulary to support multiplication.

Use the symbols  $\times$  and  $=$  to record and interpret number sentences.

Calculate the value of an unknown in a number sentence (e.g.  $\square \times 2 = 6$ ).

## Year 3

Derive and recall multiplication facts for the 2, 3, 4, 5, 6 and 10 times-tables.

Recognise multiples of 2, 5 or 10 up to 1000.

Use knowledge of number operations and corresponding inverses, including doubling and halving, to estimate and check calculations.

Multiply one-digit and two-digit numbers by 10 or 100, and describe the effect.

Use practical and informal written methods to multiply two-digit numbers (e.g.  $13 \times 3$ ).

Understand that division is the inverse of multiplication and vice versa; use this to derive and record related multiplication and division sentences.

# Division Objectives

## Reception

Share objects into equal groups and count how many in each group.

## Year 1

Use the vocabulary of halves and quarters in context.

Count on or back in ones, twos, fives and tens and use this knowledge to derive the multiples of 2, 5 and 10 to the tenth multiple.

Solve practical problems that involve sharing numbers into equal groups.

## Year 2

Find one half, one quarter and three quarters of shapes and sets of objects.

Understand that halving is the inverse of doubling and derive and recall doubles of all numbers to 20, and the corresponding halves

Derive the related division facts for the 2, 5 and 10 times-tables.

Represent repeated subtraction (grouping) as division.

Use practical and informal written methods and related vocabulary to support division, including calculations with remainders.

Use the symbols  $\div$  and  $=$  to record and interpret number sentences.

Calculate the value of an unknown in a number sentence (e.g.  $\square \div 2 = 6$ ).

## Year 3

Read and write proper fractions (e.g.  $\frac{3}{7}$ ,  $\frac{9}{10}$ ), interpreting the denominator as the parts of a whole and the numerator as the number of parts.

Derive and recall division facts for the 2, 3, 4, 5, 6 and 10 times-tables.

Use practical and informal written methods to divide two-digit numbers (e.g.  $50 \div 4$ ); round remainders up or down, depending on the context.

Understand that division is the inverse of multiplication and vice versa; use this to derive and record related multiplication and division sentences.

Find unit fractions of numbers and quantities (e.g.  $\frac{1}{2}$ ,  $\frac{1}{3}$ ,  $\frac{1}{4}$  and  $\frac{1}{5}$  of 12 litres).