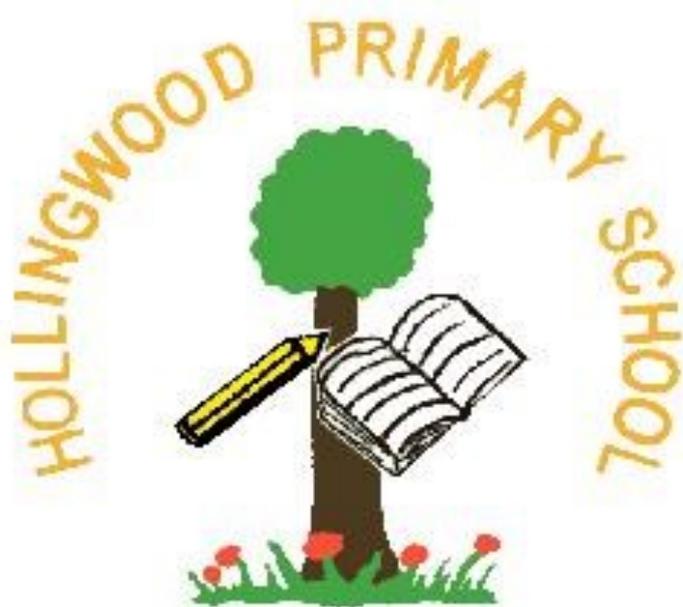


Numeracy

Learn by Heart

Targets

Parents guide



The Maths National Curriculum sets out clear end of year expectations for each child.

This pamphlet outlines learn by heart targets that children are expected to have learnt by the end of each year.

Rapid recall of number facts is an important aspect of mental calculation. It involves presenting children with calculations in which they have to work out the answer using known facts and not just recall it from a bank of number facts that are committed to memory.

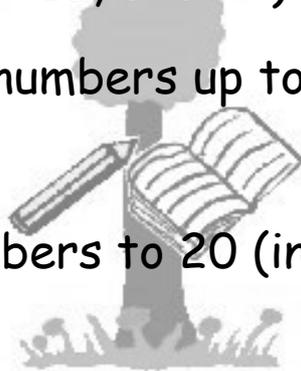
Research shows that learning key facts 'by heart' enables children to concentrate on the calculation strategies.

Many children who are not able to recall key facts often treat each calculation as a new one and this slows them down when it comes to tackling more difficult problems.

Year 1

By the end of year 1 children are expected to:

- ♦ count to 100 starting at 0
- ♦ count back from 100
- ♦ count in multiples of 2's (e.g. 2,4,6,8...)
- ♦ count in 5's (e.g. 5,10,15,20 ...)
- ♦ can count in 10's (e.g. 10,20,30,40 ...)
- ♦ add pairs of numbers to 10 (includes all the bonds within 10 e.g. $7+3=10$, $5+3=8$)
- ♦ take away from numbers up to 10 ($10 - 4 = 6$, $8 - 5 = 3$, $7 - 2 = 5$)
- ♦ add pairs of numbers to 20 (includes all the bonds up to 20)
- ♦ find related subtraction facts within 20 (e.g. $20 - 16 = 4$, $19 - 7 = 12$, $15 - 4 = 11$)
- ♦ find one more than any number up to 100
- ♦ find one less than any number from 100
- ♦ double numbers to 10
- ♦ halve numbers from 10



Year 2

By the end of year 2 children are expected to:

- ♦ count on and back in 2's
- ♦ count on and back in 5's
- ♦ count on and back in 10's
- ♦ count in steps of 3 starting at 0
- ♦ count in steps of 10 from any number (e.g. 23, 33, 43, 53 ...)
- ♦ count back steps of 10 from any number (e.g. 94, 84, 74, 64 ...)
- ♦ recall and use addition and subtraction facts to 20 (includes all the numbers up to and including 20, e.g. $15 + 4 = 19$, $19 - 4 = 15$, $19 - 5 = 14$)
- ♦ know all pairs of multiples of 10 with a total of 100 (e.g. $80 + 20 = 100$, $70 + 30 = 100$)
- ♦ know the multiplication and division facts for the 2 times table (e.g. $2 \times 3 = 6$, $6 \div 3 = 2$, $6 \div 2 = 3$)
- ♦ know the multiplication and division facts for the 5 times table
- ♦ know the multiplication and division facts for the 10 times table

Year 3

By the end of year 3 children are expected to:

- ♦ count in multiples of 4 (e.g. 4, 8 ,12...)
- ♦ count in multiples of 8
- ♦ count on in multiples of 50
- ♦ count on or back in 100's from any number
- ♦ count up and down in tenths
- ♦ know all pairs of multiples of 100 with a total of 1000
- ♦ find 10 more and 10 less than a given number
- ♦ find 100 more or less than a given number
- ♦ know the multiplication and division facts for the 3 times table
- ♦ know the multiplication and division facts for the 4 times table
- ♦ know the multiplication and division facts for the 8 times table

Year 4

By the end of year 4 children are expected to:

- ♦ count on and back to 1000
- ♦ count backwards through zero to include negative numbers
- ♦ count on in multiples of 6
- ♦ count on in multiples of 7
- ♦ count on in multiples of 9
- ♦ count on in multiples of 25
- ♦ count on in multiples of 1000 (e.g. 2100, 3100, 4100)
- ♦ count up in hundredths
- ♦ find 1000 more or less than a given number
- ♦ know all my multiplication tables up to 12x12
- ♦ know all division facts for multiplication tables up to 12x12
- ♦ know the effect of dividing a one and two digit number by 10 and 100
- ♦ recognise and use factor pairs in mental calculations
- ♦ round any number to the nearest 10
- ♦ round any number to the nearest 100
- ♦ round any number to the nearest 1000
- ♦ round decimals with one decimal place to the nearest whole number

Year 5

By the end of year 5 children are expected to:

- ♦ count forwards and backwards in steps of powers of 10
- ♦ count forwards and backwards with positive and negative whole numbers through zero (e.g. 4,3,2,1,0,-1,-2,-3,-4)
- ♦ identify multiples and factors of a number
- ♦ find factor pairs of a number
- ♦ Find common numbers to 100
- ♦ recognise and use square numbers
- ♦ recognise and use and cube numbers
- ♦ multiply and divide numbers mentally using times tables facts
- ♦ multiply and divide whole numbers by 10,100 and 1000
- ♦ multiply and divide decimal numbers mentally by using known facts
- ♦ round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
- ♦ round decimals with 2 decimal places to the nearest whole number

Year 6

By the end of year 6 children are expected to:

- ♦ identify common factors
- ♦ find and use common multiples
- ♦ identify prime numbers
- ♦ use negative numbers in context and calculate intervals across zero
- ♦ use the multiplication tables to help perform mental calculations with larger numbers
- ♦ identify value of each digit to 3 decimal places
- ♦ multiply and divide numbers by 10,100 and 1000 where the answers are up to 3 decimal places
- ♦ round any whole number (up to 10 000 000) to a required degree of accuracy