National Curriculum Links

Links to the National Curriculum in England

# Chapter 6: Numbers and place value

Pupils should be taught to:

## Year 1

* count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number
* count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens
* given a number, identify one more and one less
* identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least
* read and write numbers from 1 to 20 in numerals and words
* recognize and know the value of different denominations of coins and notes

## Year 2

* count in steps of 2, 3, and 5 from 0
* count in tens from any number, forward and backward
* recognize the place value of each digit in a two-digit number (tens, ones)
* identify, represent and estimate numbers using different representations, including the number line
* compare and order numbers from 0 up to 100; use <, > and = signs
* read and write numbers to at least 100 in numerals and in words
* recognize and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
* use place value and number facts to solve problems

## Year 3

* count from 0 in multiples of 4, 8, 50 and 100
* find 10 or 100 more or less than a given number
* recognize the place value of each digit in a three-digit number (hundreds, tens, ones)
* compare and order numbers up to 1000
* identify, represent and estimate numbers using different representations
* read and write numbers up to 1000 in numerals and in words
* solve number problems and practical problems involving these ideas

## Year 4

* count in multiples of 6, 7, 9, 25 and 1000
* find 1000 more or less than a given number
* recognize the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)
* order and compare numbers beyond 1000
* identify, represent and estimate numbers using different representations
* round any number to the nearest 10, 100 or 1000
* solve number and practical problems that involve all of the above and with increasingly large positive numbers
* read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value

## Year 5

* read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
* count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
* round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
* solve number problems and practical problems that involve all of the above
* read Roman numerals to 1000 (M) and recognize years written in Roman numerals

## Year 6

* read, write, order and compare numbers up to 10 000 000 and determine the value of each digit
* round any whole number to a required degree of accuracy
* solve number and practical problems that involve all of the above

Links to Curriculum for Excellence in Numeracy and Mathematics in Scotland

# Chapter 6: Numbers and place value

## Early

***Experiences and outcomes:*** *I have explored numbers, understanding that they represent quantities, and I can use them to count, create sequences and describe order.* ***MNU 0-02a***

***Benchmark:***

* explains that zero means there is none of a particular quantity and is represented by the numeral 0
* recalls the number sequence forwards within the range 0–30, from any given number
* recalls the number sequence backwards from 20
* identifies and recognizes numbers from 0 to 20
* orders all numbers forwards and backwards within the range 0–20
* identifies the number before, the number after and missing numbers in a sequence within 20
* uses one-to-one correspondence to count a given number of objects to 20
* identifies ‘how many?’ in regular dot patterns, for example, arrays, five frames, ten frames, dice and irregular dot patterns, without having to count (subitizing)
* groups items recognizing that the appearance of the group has no effect on the overall total (conservation of number)
* uses ordinal numbers in real life contexts, for example, ‘I am third in the line’
* uses the language of before, after and in-between
* when counting objects, understands that the number name of the last object counted is the name given to the total number of objects in the group

## First

### Experiences and outcomes: I have investigated how whole numbers are constructed, can understand the importance of zero within the system and can use my knowledge to explain the link between a digit, its place and its value. MNU 1-02a

***Benchmark:***

* reads, writes, orders and recites whole numbers to 1000, starting from any number in the sequence
* demonstrates understanding of zero as a placeholder in whole numbers to 1000
* identifies the value of each digit in a whole number with three digits, for example, 867 = 800 + 60 + 7
* counts forwards and backwards in … 10s and 100s
* rounds whole numbers to the nearest 10 and 100 and uses this routinely to estimate and check the reasonableness of a solution

## Second

### Experiences and outcomes: I have extended the range of whole numbers I can work with and… can explain the link between a digit, its place and its value. MNU 2-02a

***Benchmark:***

* reads, writes and orders whole numbers to 1,000,000, starting from any number in the sequence
* explains the link between a digit, its place and its value for whole numbers to 1,000,000
* rounds whole numbers to the nearest 1000, 10,000 and 100,000

Links to Curriculum for Wales: Programme of Study for Mathematics, Key Stages 2–4

# Chapter 6: Numbers and place value

Learners should be taught to:

## Year 1

* count reliably up to 20 objects
* recite numbers up to 100, forwards and backwards and from different starting points
* read and write numbers to at least 20 forming and orientating them correctly
* compare and order numbers to at least 20
* demonstrate an understanding of place value, *e.g. one 10 and four units equal 14*, up to at least 20

## Year 2

* count sets of objects by grouping in 2s, 5s or 10s
* recite numbers beyond 100, forwards and backwards and from different starting points
* read and write numbers to at least 100
* partition 2-digit numbers and know the value of each digit
* compare and order 2-digit numbers
* demonstrate an understanding of place value up to at least 100

## Year 3

* read and write numbers to 1000
* compare and estimate with numbers up to 100
* explain the value of a digit in numbers up to 1000
* identify odd and even numbers up to 1000
* list numbers that are ‘greater than’ or ‘less than’ another number
* read statements about numbers expressed using an inequality sign, e.g. 6 > 4

### Year 4

* read and write numbers to 10,000
* compare and estimate with numbers up to 10,000
* use < > to describe whether a number is less than or greater than another

## Year 5

* read and write numbers to 100,000
* use < > to describe whether a number is less than or greater than another, working with different types of numbers

## Year 6

* read and write numbers to 1 million …
* list numbers between two points using the terminology ‘less than or equal to’ and ‘greater than or equal to’

Australian Curriculum for Mathematics

This maps entries in the **Australian Mathematics Curriculum (from Foundation Stage to Year 7)** to the content of chapters of Haylock, *Mathematics Explained for Primary Teachers*, 6th edition.

# Chapter 6: Number and place value

## Foundation Year

* Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point
* Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond
* Subitize small collections of objects
* Compare, order and make correspondences between collections, initially to 20, and explain reasoning

## Year 1

* Develop confidence with number sequences to and from 100 by ones from any starting point. Skip count by twos, fives and tens starting from zero
* Recognize, model, read, write and order numbers to at least 100. Locate these numbers on a number line
* Count collections to 100 by partitioning numbers using place value
* Recognize, describe and order Australian coins according to their value

## Year 2

* Recognize, model, represent and order numbers to at least 1000
* Group, partition and rearrange collections up to 1000 in hundreds, tens and ones to facilitate more efficient counting
* Count and order small collections of Australian coins and notes according to their value

### Year 3

* Recognize, model, represent and order numbers to at least 10 000
* Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems

## Year 4

* Recognize, represent and order numbers to at least tens of thousands
* Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems

## Year 5

* Use estimation and rounding to check the reasonableness of answers to calculations