Number: Number and Place Value
National Centre
for Excellence in the
Teaching of Mathematics

| SUBITISING |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pre FS1 | FS1 | FS2 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|  | develop fast recognition of up to 3 objects, without having to count them individually ('subitising') | subitise up to 5 |  |  |  |  |  |  |
| COUNTING |  |  |  |  |  |  |  |  |
| Pre FS1 | FS1 | FS2 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| develop countinglike behaviour, such as making sounds, pointing or saying some numbers in sequence <br> count in everyday contexts, sometimes skipping numbers -'1-2-3-5' <br> take part in finger rhymes with numbers | recite numbers past 5 <br> say one number for each item in order: 1,2,3,4,5. <br> know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle') | count objects, actions and sounds <br> link the number symbol (numeral) with its cardinal number value <br> count beyond 10 <br> verbally count beyond 20, recognising the pattern of the counting system | count within and across 100, forwards and backwards, beginning with 0 or 1, or from any given number |  |  | count <br> backwards through zero to include negative numbers | interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero | use negative numbers in context, and calculate intervals across zero |
|  |  |  | count, read and write numbers to 100 in | count in steps of 2,3 , and 5 from 0 , and in tens | count from 0 in multiples of 4, 8,50 and 100 ; | count in multiples of 6,7 , 9,25 and 1000 | count forwards or backwards in steps of powers |  |

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|  |  |  | numerals <br> count forwards and backwards in multiples of 2,5 and 10 , up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers | from any number, forward or backward |  |  | of 10 for any given number up to 1000000 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | divide 100 into <br> $2,4,5$ and 10 <br> equal parts, and read scales/number lines marked in multiples of 100 with $2,4,5$ and 10 equal parts. | divide 1,000 into $2,4,5$ and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2,4 , 5 and 10 equal parts | divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2 , 4,5 and 10 equal parts | divide powers of 10, from 1 <br> hundredth to 10 million, into 2,4 , 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2,4 , 5 and 10 equal parts. |
|  |  | understand the 'one more than/one less | given a number, identify one more and one |  | find 10 or 100 more or less than a given | find 1000 more or less than a given number |  |  |

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|  |  | than' relationship between consecutive numbers | less |  | number |  |  |  |
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|  | COMPARING NUMBERS |  |  |  |  |  |  |  |
| compare amounts, saying 'lots', 'more’ or 'same' | compare quantities using language: 'more than', 'fewer than' | compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity | use the language of: equal to, more than, less than (fewer), most, least <br> reason about the location of numbers to 20 within the linear number system, including comparing using < > and = | compare and order numbers from 0 up to 100; use <, > and = signs | compare and order numbers up to 1000 | order and compare numbers beyond 1000 | read, write, order and compare numbers to at least 1000000 and determine the value of each digit <br> (appears also in Reading and Writing Numbers) | read, write, order and compare numbers up to 10000000 and determine the value of each digit (appears also in Reading and Writing Numbers) |
|  |  |  |  |  |  | compare numbers with the same number of decimal places up to two decimal places (copied from Fractions) |  |  |
| IDENTIFYING, REPRESENTING AND ESTIMATING NUMBERS |  |  |  |  |  |  |  |  |
|  | show 'finger | explore and | identify and | identify, | identify, | identify, |  |  |

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|  | numbers' up to | represent <br> patterns within <br> numbers up to <br> 10 | represent <br> numbers using <br> objects and <br> pictorial <br> representations <br> including the <br> number line | represent and <br> estimate <br> numbers using <br> different <br> representations, <br> including the <br> number line | represent and <br> estimate <br> numbers using <br> different <br> representations | represent and <br> estimate <br> numbers using <br> different <br> representations |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Number: Number and Place Value

| READING AND WRITING NUMBERS (including Roman Numerals) |  |  |  |  |  |  |  |  |
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| Pre FS1 | FS1 | FS2 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|  | link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5 <br> experiment with their own symbols and marks as well as numerals |  | read and write numbers from 1 to 20 in numerals and words. | read and write numbers to at least 100 in numerals and in words | read and write numbers up to 1 000 in numerals and in words |  | read, write, order and compare numbers to at least 1000000 and determine the value of each digit (appears also in Comparing Numbers) | read, write, order and compare numbers up to 10000000 and determine the value of each digit (appears also in Understanding Place Value) |
|  |  |  |  |  | tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12hour and 24-hour clocks (copied from Measurement) | 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. | read Roman numerals to 1 000 (M) and recognise years written in Roman numerals. |  |
| UNDERSTANDING PLACE VALUE |  |  |  |  |  |  |  |  |

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|  |  |  |  |  | Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10). | find the effect of dividing a one- or two-digit number by 10 and 100 , identifying the value of the digits in the answer as ones, tenths and hundredths (copied from Fractions) <br> Apply placevalue knowledge to known additive and multiplicative number facts (scaling facts by 100) | recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (copied from Fractions) <br> Apply placevalue knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth) | identify the value of each digit to three decimal places and multiply and divide numbers by 10,100 and 1000 where the answers are up to three decimal places (copied from Fractions) |
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| ROUNDING |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|  |  |  | round any number to the nearest 10, 100 or 1000 | round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000 | round any whole number to a required degree of accuracy |
|  | reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10 | reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10 | reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100 , and rounding to the nearest of each | reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each | reason about the location of any number up to 10 million, including decimal fractions, in the linear number system and round numbers, as appropriate, including in contexts |
|  |  |  | round decimals with one decimal place to the nearest whole number (copied from Fractions) | round decimals with two decimal places to the nearest whole number and to one decimal place (copied from Fractions) | solve problems which require answers to be rounded to specified degrees of accuracy (copied from Fractions) |
| PROBLEM SOLVING |  |  |  |  |  |
|  | use place value and number facts to solve problems | solve number problems and practical problems involving these ideas. | solve number and practical problems that involve all of the above and with increasingly large positive numbers | solve number problems and practical problems that involve all of the above | solve number and practical problems that involve all of the above |

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