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| Unit | **Place Value** | | | | **Four operations** | | | | | | **Fractions** | | | | | **Consolidation year 5**  **Converting units year 6** | |
| weeks | **1** | **2** | | **3** | **4** | **5** | **6** | | **7** | **8** | **9** | **10** | **11** | | **12** | **13** | **14** |
| Fluency focus | **Place value** | **Place value** | | **Place value** | **Addition** | **subtraction** | **Multiplication** | | **division** | **Place value** | **Fractions** | **multiplication** | **division** | | **addition** | **Converting units y6**  **Fractions y5** |  |
| **Prior Knowledge** |  | | | |  | | | | | |  | | | | |  | |
| **Learning Objectives**  Children should be taught to . . .  In the correct sequence | Year 5  Understand roman numerals to 1000  Numbers to 10,000  Numbers to 100,000  Numbers to 1,000,000  Read and write numbers to 1,000,000  Powers of 10 10,100,1000,10,000,100,000 more or less  Partition numbers to 1,000,000  Compare and order numbers to 100,000  Round to the nearest 10,100 or 1000  Round within 100,000  Round within 1,000,000 | | Year 6  Understand numbers to 1,000,000  Understand numbers to 10,000,000  Read and write numbers to 10,000,000  Powers of 10  Represent numbers to 10,000,000 on a number line  Compare and order any integers  Round any integers  Understand negative numbers | | Year 5  Understand mental strategies  Add whole numbers with more than four digits  Subtract whole numbers with more than four digits  Round to check answers  Inverse operations (addition and subtractions)  Understand multistep addition and subtraction problems  Compare calculations  Find missing numbers  Multiples  Common multiples  Factors  Common factors  Prime numbers  Square numbers  Cubed numbers  Multiply by 10,100 and 1000  Divide by 10,100 and 1000  Multiples of 10,100 and 1000 | | | Year 6  Add and subtract integers  Common factors  Common multiples  Understand rules of divisibility  Primes to 100  Square and cube numbers  Multiply up to a four-digit number by a two-digit number  Solve problems with multiplication  Understand short division  Understand division using factors  Introduction to long division  Long division with remainders  Solve problems with division  Solve multi-step problems  Understand the order of operations  Mental calculations and estimation  Reasoning from known facts | | | **Year 5**  Find fractions equivalent to a unit fraction  Find fractions equivalent to a non-unit fraction  Recognise equivalent fractions  Convert improper fractions to mixed numbers  Convert mixed numbers to improper fractions  Compare fractions less than 1  Order fractions less than 1  Compare and order fractions greater than 1  Add and subtract fractions with the same denominator  Add fractions within 1  Add fractions with total greater than 1  Add 2 mixed numbers  Subtract fractions  Subtract fractions from a mixed number  Subtract 2 mixed numbers | | | Year 6  Equivalent fractions and simplifying  Equivalent fractions on a number line  Compare and order denominators  Compare and order numerators  Add and subtract simple fractions  Add and subtract any two fractions  Add mixed numbers  Subtract mixed numbers  Multiply fractions by integers  Multiply fractions by fractions  Divide a fraction by an integer  Mixed questions with fractions  Find a fraction of an amount  Fractions of an amount – finding the whole | | Year 6  Understand metric measures  Convert metric measures  Calculate with metric measures  Understand miles and kilometres  Imperial measures | |
| **End Point**  Children will be able to . . .  NC Objectives | ♣ 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  ♣ interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero  ♣ 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 recognise years written in Roman numerals | | ♣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 ♣ use negative numbers in context, and calculate intervals across zero  ♣ solve number and practical problems that involve all of the above | | ♣add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)  ♣ add and subtract numbers mentally with increasingly large numbers  ♣ use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy ♣ solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.  ♣identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers  ♣ know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers  ♣ establish whether a number up to 100 is prime and recall prime numbers up to 19  ♣ multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers  ♣ multiply and divide numbers mentally drawing upon known facts  ♣ divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context ♣ multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 | | | ♣multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication  ♣ divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context  ♣ divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context  ♣ perform mental calculations, including with mixed operations and large numbers  ♣ identify common factors, common multiples and prime numbers  ♣ use their knowledge of the order of operations to carry out calculations involving the four operations  ♣ solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why | | | compare and order fractions whose denominators are all multiples of the same number ♣ identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths ♣ recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number.  ♣ add and subtract fractions with the same denominator and denominators that are multiples of the same number  ♣ multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams | | | ♣ use common factors to simplify fractions; use common multiples to express fractions in the same denomination  ♣ compare and order fractions, including fractions > 1  ♣ add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions  ♣ multiply simple pairs of proper fractions, writing the answer in its simplest form.  ♣ divide proper fractions by whole numbers.  ♣ associate a fraction with division and calculate decimal fraction equivalents. | | convert between miles and kilometres  use, read, write and convert between standard units | |
| **Key Vocabulary** | units, ones tens, hundreds, thousands ten thousand, hundred thousand, million digit, one-, two-, three- or four digit number numeral ‘teens’ number place, place value stands for, represents exchange the same number as ,as many as equal to Of two objects/amounts: >,greater than, more than, larger than, | | | | add, addition, more, plus, increase sum, total, altogether score double, near double how many more to make…? subtract, subtraction, take (away), minus, decrease, how many are left/leftover? Difference between half, halve how many more/fewer is…than…? How much more/less is…? equals, sign, is the same as tens boundary, hundreds boundary units boundary, tenths boundary inverse  lots of, groups of times, multiply, multiplication, multiplied by multiple of, product once, twice, three times…ten times… repeated addition array, row, column | | | | | | part, equal parts fraction, proper/improper fraction mixed number numerator, denominator equivalent, reduced to, cancel one whole half, quarter, eighth third, sixth, ninth, twelfth fifth, tenth, twentieth hundredth, thousandth | | | | | measure, measurement size compare unit ,standard unit metric unit, imperial unit measuring scale, division guess, estimate, miles, kilometres | |