Arithmetic skills progression

St Thomas Catholic Academy

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| **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| Number of the dayFact families up to 10Partitions numbers up to 100 using a variety of pictorial representations moving into the abstract to secure place value knowledge.   | **Autumn** Representing numbers to 100 Comparing numbersPartitioning 2-digit numbers using part whole model Fact families up to 20Use known facts e.g. 7 + 2 = 9 so 70 + 20 = 90+/- ones from a 2-digit number10 more/10 less from 2-digit numbers +/- multiples of 10 to/from a multiple of 10+/- multiples of 10 to/from a 2-digit number+ 2-digit and 1-digit number crossing 10 - 1-digit from a 2-digit crossing 10 + using column method not crossing 10 + using the column method crossing 10 - using the column method not crossing 10 - using the column method crossing 10 Bonds to 100 e.g. 39 + \_\_\_ = 100 + 3, 1-digit numbers  | **Autumn**1/10/100 more or lessCount in 50s Partition numbers e.g. 789 = 700 + 80 + 9 +/- multiples of 10/100 using known facts 9 – 2 = 7, 90 – 20 = 70, 900 – 200 = 700 x/÷by 2, 5 and 10 +/- a 1-digit number to a 2/3-digit number (crossing tens) +/- multiples of 10 to a 2/3-digit number e.g. 456 + 30 +/- multiple of 100 e.g. 148 + \_\_\_\_ = 648 Column method no exchange Column method exchange  | **Autumn** Round to 10/100/1000 Count in 1000sPartition 4-digit numbers e.g. 8345 = 8000 + 300 + 40 + 5 1/10/100/1000 more or less Roman numerals and calculations with Roman numerals Column method +/- with exchange Subtract by counting on e.g. 804 – 796 x by 10 and 100 ÷ by 10 and 100 x by 1 and 0 e.g. 4 x 3 x 1 or 4 x 0 x 3 ÷ by 1 and itself e.g. 9 ÷ 1 and 9 ÷ 9x/÷ 3, 6, 9 and 7  | **Autumn** Round numbers to the nearest 10/100/1000/10000/100000 Roman numerals and calculations with Roman numerals Compare numbers to 1,000,000+ and – numbers with exchange Multiples/factors Squared and cubed numbersx/÷ by 10, 100 and 1000 | **Autumn** +/- numbers up to 1,000,000Short and long x Short and long ÷ including decimal remainders FactorsMultiplesPrime numbersSquared and cubed numbersOrder of operations Improper fractions to mixed numbers and vice versax/÷ by 10, 100 and 100010% and 1% of an amount +/- fractions +/- mixed numbersx fractions by whole numbersx fractions by fractions divide fractions by whole numbersFind fractions of an amount  |
| **Spring** Autumn term objectives andDouble numbers up to double 15x number sentences e.g. 5 x 2 = 10 (for 2x,5x and 10x tables)÷ by 2, 5 and 10 number sentences Find ½, 1/3 and ¼ of a number  | **Spring** Autumn term objectives andx/÷by 3, 4 and 8 Short multiplication no exchange e.g. 24 x 2 Short multiplication exchange e.g. 36 x 3 Find 1/2, 1/3 and ¼ of a number +/- fractions with same denominatorsDouble and halve numbers up to 100  | **Spring**Autumn objectives and x 3 numbers e.g. 5 x 2 x 6 3-digit x 1-digit with exchange x and ÷ by 11/12 +/- fractions with same denominator + more than 2 fractions (same denominator) Whole number subtract a fraction Fractions of amount Short divisionDouble and halve numbers up to 1,000 | **Spring** Autumn objectives and Short and long multiplication up to 4-digit by 2-digit Short division up to 4-digitsShort division with remainders Converting improper fractions to mixed numbers and vice versa +/- fractions + more than 2 fractions +/- mixed numbersx fractions by whole numbersFind a fraction of an amount  | **Spring** Autumn objectives and Equivalent fractionsSimplifying fractions% of amounts – all percentages Algebra and ratio problems  |
| **Summer** All Autumn and Spring objectives | **Summer** All Autumn and Spring objectives | **Summer** All Autumn and Spring objectives  | **Summer** Autumn and Spring objectives andFind 10% of a number by dividing by 10Double and halve numbers up to 10,000 | **Summer** All Autumn and Spring objectives  |