A Parent's Guide to Maths for Year 6

Key mental maths skills

Addition strategies

- Know by heart number bonds to 100 and use these to derive related facts (e.g. 3.46 + 0.54 = 4)
- Derive quickly and without difficulty, number bonds to 1000
- Add small and large whole numbers where the use of place value or number facts means the calculation can be done 'in our heads' (e.g. 34,000 + 8000 =34 thousand + 8 thousand)
- Add negative numbers in a context such as temperature
- Add two 1-place decimal numbers or two 2-place decimal numbers less than 1 (e.g. 4.5 + 6.3 or 0.74 + 0.33)
- Add positive numbers to negative numbers, e.g. calculate a rise in temperature, or continue a sequence beginning with a negative number

Subtraction strategies

- Use number bonds to 100 to perform mental subtraction of any pair of integers by complementary addition (e.g. 1000 – 654 as 46 + 300)
- Use number bonds to 1 and 10 to perform mental subtraction of any pair of one-place or two-place decimal numbers using complementary addition and including money (e.g. 10 – 3.65 as 0.35 + 6, £50 – £34.29 as 71p + £15)
- Use number facts and place value to perform mental subtraction of large numbers or decimal numbers with up to two places (e.g. 467,900 – 3,005 or 4.63 – 1.02)
- Subtract negative numbers in a context such as temperature where the numbers make sense.

Multiplication strategies

- Know by heart all the multiplication facts up to 12 x 12
- Multiply whole numbers and decimals with up to three places by 10, 100 or 1000 (e.g. 234 x 1000 = 234,000 and 0.23 x 1000 = 230)
- Identify common factors, common multiples and prime numbers and use factors in mental multiplication (e.g. 326 x 6 is 326 x2 x 3 which is 1956)
- Use place value and number facts in mental multiplication (e.g. 40,000 x 6 = 240,000 and 0.03 x 6 = 0.18)
- Use doubling and halving as mental multiplication strategies, including to multiply by 2, 4, 8, 5, 20, 50 and 25 (e.g. 28 x 25 is ¼ of 28 x 100 = 700)
- Use rounding in mental multiplication (e.g. 34 x 19 as ((20 x 34) – 34)
- Multiply one and two-place decimals by numbers up to and including 10 using place value and partitioning (e.g. 3.6 x 4 is 12 + 2.4 or 2.53 x 3 is 6 + 1.5 + 0.09)
- Double decimal numbers with up to 2 places using partitioning (e.g. 36.73 doubled is double 36 (72) plus double 0.73 (1.46))

Division strategies

- Know by heart all the division facts up to 144 ÷ 12
- Divide whole numbers by powers of 10 to give whole number answers or answers with up to three decimal places
- Identify common factors, common multiples and prime numbers and use factors in mental division (e.g. 438 ÷ 6 is 219 ÷ 3 which is 73)
- Use doubling and halving as mental division strategies, e.g. to divide by 2, 4, 8, 5, 20 and 25 (e.g. 628 ÷ 8 is halved three times: 314, 157, 78.5)
- Divide one and two place decimals by numbers up to and including 10 using place value (e.g. 2.4 ÷ 6 = 0.4 or 0.65 ÷ 5 = 0.13, £6.33 ÷ 3 = £2.11)
- Halve decimal numbers with up to 2 places using partitioning (e.g. half of 36.86 is half of 36 (18) plus half of 0.86 (0.43))
- Know and use equivalence between simple fractions, decimals and percentages (e.g. 1/5 = 0.2 = 20%)
- Recognise a given ratio and reduce a given ratio to its lowest terms (e.g. 24:36 can be simplified to 2:3)