**SANDBROOK SMATHS LONG TERM ASSESSMENT PLAN YEAR 5/6**

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| **LEARNING CYCLE** | **BOOK 5 CHAPTER** | **RELATED AM BULLET POINT** | **INTERIM TEACHER FRAMEWORK**  **(AT ARE)** | **MODERATION PAGE NOs.** | **EXPECTED BULLET POINT COMPLETION** | **AM ASSESSMENT MILESTONE** |
| **1** | **Numbers to 1 000 000** | 5.1. Read, write, order & compare numbers to at least 1 000 000 and determine the value of each digit. | **1.** The pupil can demonstrate an understanding of place value, including large numbers and decimals (e.g. what is the value of the ‘7’ in 276,541?; find the difference between the largest and smallest whole numbers that can be made from using three digits; 8.09 = 8 + 9/?; 28.13 = 28 + + 0.03). |  | **5.1** |  |
| 5.2. 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 |  |  |  |
| 5.6. Use rounding to check answers to calculations and levels of accuracy. |  |  |  |
| **Whole Numbers: Addition and Subtraction** | 5.2. 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 |  |  | **5.2** |
| 5.5. Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). |  |  | **5.5** |
| 5.6. Add and subtract numbers mentally with increasingly large numbers. Use rounding to check answers to calculations and levels of accuracy. | **2.** The pupil can calculate mentally, using efficient strategies such as manipulating expressions using commutative and distributive properties to simplify the calculation (e.g. 53 – 82 + 47 = 53 + 47 – 82 = 100 – 82 = 18; 20 × 7 × 5 = 20 × 5 × 7 = 100 × 7 = 700; 53 ÷ 7 + 3 ÷ 7 = (53 +3) ÷ 7 = 56 ÷ 7 = 8). |  | **5.6** | 5B  A cumulative total of at least 4 bullet points |
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| **2** | **Whole Numbers: Multiplication and Division** | 5.8. Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. | **2.** The pupil can calculate mentally, using efficient strategies such as manipulating expressions using commutative and distributive properties to simplify the calculation (e.g. 53 – 82 + 47 = 53 + 47 – 82 = 100 – 82 = 18; 20 × 7 × 5 = 20 × 5 × 7 = 100 × 7 = 700; 53 ÷ 7 + 3 ÷ 7 = (53 +3) ÷ 7 = 56 ÷ 7 = 8). |  | **5.8** |  |
| 5.9. Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. Establish whether a number up to 100 is prime and recall prime numbers up to 19. |  |  | **5.9** |
| 5.10. Multiply numbers up to 4 digits by a 1- or 2-digit number using a formal written method. Divide numbers up to 4 digits by a 1-digit number using the formal written method of short division. |  |  | **5.10** |
| 5.11. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. |  |  | **5.11** |
| 5.12. Recognise and use square numbers and cube numbers, and the notation for squared and cubed. |  |  | **5.12** |
| **2** | **Whole Numbers: Word Problems** | 5.7. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. | **3.** The pupil can use formal methods to solve multi-step problems (e.g. find the change from £20 for three items that cost £1.24, £7.92 and £2.55; a roll of material is 6m long: how much is left when 5 pieces of 1.15m are cut from the roll?; a bottle of drink is 1.5 litres, how many cups of 175ml can be filled from the bottle, and how much drink is left?). |  | **5.7** |  |
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| **2** | **Graphs** | 5.29. Solve comparison, sum and difference problems using information presented in a line graph. |  |  | **5.29** |  |
| 5.30. Complete, read and interpret information in tables, including timetables. |  |  | **5.30** | 5D  A cumulative total of at least 12 bullet points |
| **3** | **Fractions** | 5.13. Compare and order fractions whose denominators are all multiples of the same number. Add and subtract fractions with the same denominator and multiples of the same number. |  |  | **5.13** |  |
| 5.14. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. |  |  | **5.14** |
| 5.15. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number. |  |  | **5.15** |
| 5.16. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. |  |  | **5.16** |
| 5.17. Read and write decimal numbers as fractions (e.g. 0.72 = ⁷²∕₁₀₀). | **5.** The pupil can calculate using fractions, decimals or percentages (e.g. knowing that 7 divided by 21 is the same as 7/21 and that this is equal to 1/3; 15% of 60; 11/2 + 3/4; 7/9 of 108; 0.8 x 70). |  |  |
| **Decimals** | 5.17. Round decimals with two decimal places to the nearest whole number and to one decimal place. Read and write decimal numbers as fractions (e.g. 0.72 = ⁷²∕₁₀₀). |  |  | **5.17** |
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| **3** | **Decimals** | 5.18. Read, write, order and compare numbers with up to three decimal places. Solve problems involving number up to three decimal places. | **1.** The pupil can demonstrate an understanding of place value, including large numbers and decimals (e.g. what is the value of the ‘7’ in 276,541?; find the difference between the largest and smallest whole numbers that can be made from using three digits; 8.09 = 8 + 9/?; 28.13 = 28 + + 0.03).  **4**. The pupil can recognise the relationship between fractions, decimals and percentages and can express them as equivalent quantities (e.g. one piece of cake that has been cut into 5 equal slices can be expressed as 1/5 or 0.2 or 20% of the whole cake). |  | **5.18** | 5S  A cumulative total of at least 18 bullet points |
| **4** | **Percentages** | 5.19. Write percentages as a fraction. Solve problems which require knowing percentage and decimal equivalents of ⅟₂, ⅟₄, ⅟₅, ⅖, ⅘ and those with a denominator of a multiple of 10 or 25. | **4.** The pupil can recognise the relationship between fractions, decimals and percentages and can express them as equivalent quantities (e.g. one piece of cake that has been cut into 5 equal slices can be expressed as 1/5 or 0.2 or 20% of the whole cake).  **5.** The pupil can calculate using fractions, decimals or percentages (e.g. knowing that 7 divided by 21 is the same as 7/21 and that this is equal to 1/3; 15% of 60; 11/2 + 3/4; 7/9 of 108; 0.8 x 70). |  | **5.19** |  |
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| **4** | **Geometry** | 5.24. Identify 3D shapes, including cubes and other cuboids, from 2D representations. |  |  | **5.24** |  |
| **4** | **Geometry** | 5.25. Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Draw given angles, and measure them in degrees. | **8.** The pupil can use mathematical reasoning to find missing angles (e.g. the missing angle in an isosceles triangle when one of the angles is given; the missing angle in a more complex diagram using knowledge about angles at a point and vertically opposite angles). |  | **5.25** |  |
| 5.26. Identify: angles at a point and one whole turn (total 360⁰); angles at a point on a straight line and ½ a turn (total 180⁰); other multiples of 90⁰. |  |  | **5.26** |  |
| 5.27. Use the properties of rectangles to deduce related facts and find missing lengths and angles. | **8.** The pupil can use mathematical reasoning to find missing angles (e.g. the missing angle in an isosceles triangle when one of the angles is given; the missing angle in a more complex diagram using knowledge about angles at a point and vertically opposite angles). |  | **5.27** | 5S  A cumulative total of at least 23 bullet points |
| **5** | **Position and Movement** | 5.28. Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed. |  |  | **5.28** |  |
| **Measurements** | 5.20. Convert between different units of metric measure (e.g. km & m; cm & m; cm & mm; g & kg; l & ml). Use approx. equivalences between metric and imperial units (e.g. inches, pounds & pints). | **7.** The pupil can calculate with measures (e.g. calculate length of a bus journey given start and end times; convert 0.05km into m and then into cm). |  |  |  |
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| **5** | **Measurements** | 5.23. Solve probs involving converting between units of time. Use all four operations to solve probs involving measure (e.g. length, mass, volume, money) using decimal notation including scaling. | **6.** The pupil can substitute values into a simple formula to solve problems (e.g. perimeter of a rectangle or area of a triangle).  **7.** The pupil can calculate with measures (e.g. calculate length of a bus journey given start and end times; convert 0.05km into m and then into cm). |  | **5.23** | 5A  A cumulative total of at least 25 bullet points |
| **6** | **Area and Perimeter** | 5.21. Measure & calculate the perimeter of composite rectilinear shapes in cm/m. Calculate the area of squares/rectangles using standard units, square cm/m and estimate the area of irregular shapes. | **6.** The pupil can substitute values into a simple formula to solve problems (e.g. perimeter of a rectangle or area of a triangle). |  | **5.21** |  |
| **Volume** | 5.20. Convert between different units of metric measure (e.g. l & ml). Use approx. equivalences between metric and imperial units (e.g. inches, pounds & pints). | **7.** The pupil can calculate with measures (e.g. calculate length of a bus journey given start and end times; convert 0.05km into m and then into cm). |  | **5.20** |
| 5.22. Estimate volume (e.g. using 1 cm blocks to build cubes/cuboids) and capacity (e.g. using water). |  |  | **5.22** |
| **Roman Numerals** | 5.4. Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. |  |  | **5.4** | 5A  A cumulative total of at least 29 bullet points |
| **N/A** | | 5.3. Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero. |  |  |  | |