## YEAR 5/6 AUTUMN TERM

| BLOCK | UNIT TITLE | Y5 |  |  | Y6 |  |  | ASSESSMENT/ NOTES |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | OUTCOMES <br> (see below) | NAT. CURR OUTCOME(S) | READY-TOPROGRESS CRITERIA | OUTCOMES <br> (see below) | NAT. CURR OUTCOME(S) | READY-TOPROGRESS CRITERIA |  |
| Place Value (5 days) | PV and +/- in 5-digit and 6-digit numbers | 1,3,7 | $\begin{aligned} & \text { Num/PV (i) (ii) } \\ & \text { Add/Sub (ii) } \end{aligned}$ | 5NPV-2 | 1,5 | Num/PV (i) | 6NPV-2 |  |
|  | Numbers on a line; round to powers of 10 | 1, 2 | Num/PV (i) (iv) | 5NPV-3 | 1,2 | Num/PV (i) (ii) | 6NPV-3, 6NPV-4 |  |
|  <br> Subtraction (A) <br> (7 days) | Column addition with whole numbers | 5, 8, 10 | Add/Sub (i) (iii) | $\mathrm{n} / \mathrm{a}$ | 6 | Num/4 ops (vii) (viii) (ix) | $\mathrm{n} / \mathrm{a}$ |  |
|  | Column addition: decimals and money | 10,31 | Add/Sub (i) (iii) <br> Frac/Dec (viii) | $\mathrm{n} / \mathrm{a}$ | 30 | Num/4 ops (ix) <br> Frac/Dec (x) | $\mathrm{n} / \mathrm{a}$ |  |
|  | Money: counting up, change, differences | 7,32 | Add/sub (ii) (iv) | $\mathrm{n} / \mathrm{a}$ | 5,8 | Num/4 ops (iv) <br> (vii) | $\mathrm{n} / \mathrm{a}$ |  |
| Decimals <br> (10 days) | PV in 2- and 3-place decimal numbers | 19, 29, 30 | Frac/Dec (ix), MultDiv (vii) | $\begin{aligned} & \text { 5NPV-1 to -4, } \\ & 5 \mathrm{MD}-1 \end{aligned}$ | 28 | Dec/Fr (vii) | 6NPV-1 to -4 |  |
|  | $\begin{aligned} & \text { Count/add/subtract } \\ & 0.1,0.01,0.001 \\ & \hline \end{aligned}$ | 29,31 | $\begin{aligned} & \text { Frac/Dec (vii) (ix) } \\ & \text { (x) } \end{aligned}$ | 5NPV-2 | 28 | Frac/Dec (vii) | 6NPV-2 |  |
|  | Place value in decimals | 19, 29 | Frac/Dec (vii) (ix) | $\begin{aligned} & \text { 5NPV-1, 5NPV-2, } \\ & \text { 5MD-1 } \end{aligned}$ | 28 | Frac/Dec (vii) | $\begin{aligned} & \text { 6NPV-1, 6NPV-2, } \\ & \text { 5MD-1 } \end{aligned}$ |  |
|  | Rounding and adding decimals | 29, 30, 31 | Frac/Dec (viii) (x) | 5NPV-3 | 30 | Frac/Dec (x) <br> Meas (i) | 6NPV-3 |  |
| Multiplication \& Division (A) (10 days) | Properties of numbers, including primes | 12, 13 | Multi/Div (i) (ii) (iii) | 5MD-2 | 9 | Multi/Div (v) | 5MD-2 |  |
|  | Written multiplication strategies | 16, 21 | Mult/Div (iv) (vii) | 5MD-3 | 11 | Num/4 ops (i) (iv) | 5MD-3 |  |
|  | Mental Division strategies | 15 | Mult/Div (vi) (vii) | 5NF-2 | 10 | Num/4 ops (iii) | 6AS/MD-2 |  |


|  <br> Subtraction (B) <br> (8 days) | Whole number column subtraction \& frog | 9 | Add/Sub (i) (iii) | $\mathrm{n} / \mathrm{a}$ | 7 | Num/4 ops (iv) (vii) | $\mathrm{n} / \mathrm{a}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Subtract nums with 1 or 2 decimal places | 32 | Frac/Dec (ix) (x) | $\mathrm{n} / \mathrm{a}$ | 29,31 | Num/4 ops (viii) Frac/Dec (vii) | $\mathrm{n} / \mathrm{a}$ |  |
|  | Strategies for +/-; word problems | 7, 9, 11, 22 | Add/Sub (i) to (iv) Mult/Div (x) | $\mathrm{n} / \mathrm{a}$ | $\begin{aligned} & 5,8,18, \\ & 20 \end{aligned}$ | Num/4 ops (iv) (vii) (viii) | $\mathrm{n} / \mathrm{a}$ |  |
| Multiplication \& Division (B) (8 days) | Mental mult/Div; problem solving | $\begin{aligned} & 14,15,17, \\ & 21 \end{aligned}$ | Mult/Div (v) (ix) (xi) | 5NF-2 | 10, 13, 14 | Num/4 ops (iv) | 6AS/MD-2 |  |
|  | Written Division strategies | 18 | Mult/Div (vi) (vii) | 4NF-2 | 15, 16 | Num/4 ops (iii) | 5MD-4 |  |
| Fractions (8 days) | Order fractions; fractions of amounts | 23, 24, 33 | $\begin{aligned} & \text { Frac/Dec (i) } \\ & \text { Mult/Div (v) } \end{aligned}$ | 5F-1, 5F-2 | 21, 22, 24 | Frac/Dec (i) (ii) (vi) | 6F-1, 6F-2 |  |
|  | Decimal/fraction equivalents | 25,33 | Frac/Dec (iii) | 4F-2, 5F-3 | 23, 24 | Frac/Dec (vi) | 5F-3 |  |
|  | Add/subtract fractions, using equivalence | 24, 26 | Frac/Dec (i) (iv) | 4F-3, 5F-2 | 21, 22 | Frac/Dec (i) (ii) (iii) | 6F-2, 6F-3 |  |
| Shape <br> (11 days) | Quadrilaterals, other polygons and circles | 39,48 | Geom/PofS (v) (vi) | 6G-1 | 51, 53 | Geom/PofS (iii) (iv) | $\mathrm{n} / \mathrm{a}$ |  |
|  | Find missing angles and draw 2-D shapes | 46,47 | Geom/PofS (ii), (iii) (iv) | 5G-1 | 49, 52 | Geom/PofS (vii) (x) | 5G-1, 6G-1 |  |
|  | Sort 3-D shapes; nets and 3-D shapes | 45 | Geom/PofS (i) | $\mathrm{n} / \mathrm{a}$ | 50 | Geom/PofS (ii) | $\mathrm{n} / \mathrm{a}$ |  |
|  | Coordinates: polygons \& transformations | 49 | Geom/P\&D (i) | 4G-1 | 54, 55 | Geom/P\&D (i) (ii) | $\mathrm{n} / \mathrm{a}$ |  |

## YEAR 5/6 SPRING TERM

| BLOCK | UNIT TITLE | Y5 |  |  | Y6 |  |  | ASSESSMENT/ NOTES |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | OUTCOMES <br> (see below) | NAT. CURR OUTCOME(S) | READY-TOPROGRESS CRITERIA | OUTCOMES (see below) | NAT. CURR OUTCOME(S) | READY-TOPROGRESS CRITERIA |  |
| Place Value (6 days) | Place value | 1, 2, 3, 5 | Num/PV (i) (ii) (iv) (v); Add/Sub (ii) | 5NPV-2, 5NPV-3 | 1, 2, 4 | Num/PV (i) (ii) (iv) Num/4 ops (iv) | 6NPV-2, 6NPV-3 |  |
|  | Negative numbers | 4, 41 | Num/PV (iii) | $\mathrm{n} / \mathrm{a}$ | 3,4 | Num/PV (iii) | 6NPV-4 |  |
| Calculation (7 days) | Use of brackets in calculation | 22 | Add/Sub (iv) <br> Mult/Div (x) | 4MD-2 | 18 | Num/4 ops (iv) (vi) | $\mathrm{n} / \mathrm{a}$ |  |
|  | Addition and subtraction | 8, 9, 10 | Add/Sub (i) (ii) (iii) (iv) | $\mathrm{n} / \mathrm{a}$ | 6, 7 | $\begin{aligned} & \text { Num/4 ops (vii) } \\ & \text { (ix) } \end{aligned}$ | n/a |  |
| Decimals and Fractions (9 days) | Frog for decimals | 32 | Frac/Dec (x) | $\mathrm{n} / \mathrm{a}$ | 29,31 | Frac/Dec (vii) | $\mathrm{n} / \mathrm{a}$ |  |
|  | Explore fractions, decimals \& percentages | 23, 24, 33 | Frac/Dec (i) (ii) (vi) | 5F-1 | 21-24, 33 | Frac/Dec (i) (ii) (vi) (xi) | 5F-1 |  |
|  | Multiply and Divide fractions | 27 | Frac/Dec (v) | $\mathrm{n} / \mathrm{a}$ | 25, 26, 27 | Frac/Dec (iv) (v) | n/a |  |
| Time and Data (6 days) | Time and timetables | 40,43 | Meas (vi) | $\mathrm{n} / \mathrm{a}$ | 45 | Meas (ii) | n/a |  |
|  | Line graphs and pie charts | 44 | Stats (i) (ii) | $\mathrm{n} / \mathrm{a}$ | 47, 48 | Stats (i) (ii) | $\mathrm{n} / \mathrm{a}$ |  |
| Multiplication (5 days) | Multiples, factors and mental strategies | 12, 14 | Mult/Div (i) (v) | 5MD-2 | 9, 10 | Num/4 ops (iv) (v) | 6AS/MD-2 |  |
|  | Multiplication | 16 | Mult/Div (iv) | 5MD-3 | 12 | Num/4 ops (i) | $\mathrm{n} / \mathrm{a}$ |  |

Continued...

| Measures (10 days) | Units of measurement | 35, 36, 44 | $\begin{aligned} & \hline \text { Meas (i) (ii) } \\ & \text { Stats (i) } \end{aligned}$ | 5NPV-5 | 40, 41, 47 | $\begin{aligned} & \hline \text { Meas (i) (ii) (iii) } \\ & \text { Stats (i) } \end{aligned}$ | 5NPV-5 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Area, perimeter, scaled shapes | 37,38 | Meas (iii) (iv) <br> Geom/PoS (v) (vi) | 5G-2 | 42,43 | Meas (iv) (v) (vi) | 6G-1 |  |
|  | Finding volumes | 39 | Meas (v) | n/a | 44 | Meas (vii) | $\mathrm{n} / \mathrm{a}$ |  |
| Multiplication and Division (7 days) | Division | 18 | Mult/Div (vi) | 5MD-4 | 16, 17, 19 | Num/4 ops (ii) | 5MD-4 |  |
|  | 4-digit multiplication and Division | 16, 18 | Mult/Div (iv) (vi) | 5MD-3, 5MD-4 | 12, 16, 17 | Num/4 ops (i) (ii) <br> (iii) (ix) | 5MD-3, 5MD-4 |  |
| Algebra (7 days) | Algebra | 22 | Mult/Div (x) (xi) | 6AS/MD-1 | 36,37, 38 | Alg (i) to (v) | $\begin{aligned} & \text { 6AS/MD-1, } \\ & \text { 6AS/MD-4 } \end{aligned}$ |  |
|  | Ratio | 24 | Frac/Dec (i) | 6AS/MD-4 | 23, 33, 35 | Ratio/Prop (i) (ii) | 6AS/MD-4 |  |

## YEAR 5/6 SUMMER TERM

| BLOCK | UNIT TITLE | Y5 |  |  | Y6 |  |  | ASSESSMENT/ NOTES |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | OUTCOMES (see below) | NAT. CURR OUTCOME(S) | READY-TOPROGRESS CRITERIA | OUTCOMES (see below) | NAT. CURR OUTCOME(S) | READY-TOPROGRESS CRITERIA |  |
| Revision Menu A (8 days) | Numbers and place value | 1, 2, 4 | Num/PV (i) (iii) (iv) | 5NPV-3 | 1, 2, 3, 4 | Num/PV (i) (ii) (iii) | 6NPV-3, 6NPV-4 |  |
|  | Addition and subtraction | $\begin{aligned} & 8,9,10,11, \\ & 22 \end{aligned}$ | Add/Sub (i) (iii) (iv) Mult/Div (x) | n/a | $\begin{aligned} & 6,7,8,19, \\ & 20 \end{aligned}$ | Num/4 ops (vii) <br> (viii) (ix) | $\mathrm{n} / \mathrm{a}$ |  |
|  | Decimals, multiplication and Division | 6, 10, 16, 18 | Num/PV (vi); <br> Mult/Div (iv) (v) (vi) | 5MD-3, 5MD-4 | $\begin{aligned} & 11,12,14, \\ & 15,16,17, \\ & 28,32 \end{aligned}$ | Num/4 ops (i) (ii) (iii) (ix) Frac/Dec (vii) (viii) (ix) (x) | $\begin{aligned} & \text { 6NPV-1, } \\ & \text { 6AS/MD-2, } \\ & \text { 5MD-3 } \end{aligned}$ |  |
| Revision Menu B (9 days) | Fractions, ratio and percentages | 23, 25 | Frac/Dec (ii) (iii) | $\begin{aligned} & 5 F-1,5 F-2, \\ & 6 A S / M D-3 \end{aligned}$ | $\begin{aligned} & 13,22,25, \\ & 26,27,33, \\ & 34,35 \\ & \hline \end{aligned}$ | Frac (i) (iii) (iv) (v) (xi) <br> Ratio (i) (ii) (iii) (iv) | $\begin{aligned} & \text { 6AS/MD-3, } \\ & 5 \mathrm{~F}-1,6 \mathrm{~F}-2 \end{aligned}$ |  |
|  | Charts, graphs and algebra | 22, 43, 44 | Mult/Div (x); <br> Stats (i) (ii) | 6AS/MD-1 | $\begin{aligned} & 37,38,39 \\ & 47 \end{aligned}$ | Algebra (ii) to (v); <br> Stats (i) | 6AS/MD-1, <br> 6AS/MD-4 |  |
|  | Area, perimeter and angles | $\begin{aligned} & 37,38,46, \\ & 47 \end{aligned}$ | Meas (iii) (iv) Geom/PoS (ii) (iii) (iv) (v) | 5G-1, 5G-2 | 36, 42, 52 | Algebra (i) Meas (iv) (v) (vi) Geom/PoS (v) | 5G-1, 5G-2, 6G-1 |  |
| Top-up Revision Menu (10 days) | Factors, multiples, primes and squares | 12, 13 | $\begin{aligned} & \begin{array}{l} \text { Mult/Div (i) (ii) (iii) } \\ \text { (viii) (ix) } \end{array} \\ & \hline \end{aligned}$ | 5MD-2 | 9 | Num/4 ops (ix) | 5MD-2 |  |
|  | Multiplication and Division | 16,18 | Mult/Div (iv) (v) (vi) | 5MD-3, 5MD-4 | $\begin{aligned} & 11,12,15, \\ & 16,17 \end{aligned}$ | Num/4 ops (i) (ii) | 6AS/MD-1 |  |
|  | Fraction - decimal - \% equivalence | 23, 24 | Frac/Dec (i) (ii) | 5F-2 | 22, 23 | Frac/Dec (i) (ii) (xi) | 6F-2, 6F-3, 5F-3 |  |
|  | Data: Pi charts and mean | 43 | Stats (ii) | $\mathrm{n} / \mathrm{a}$ | 47,48 | Stats (i) (ii) | $\mathrm{n} / \mathrm{a}$ |  |
|  | Transformations and co-ordinates | 49 | Geom/P\&D (i) | 4G-1 | 54 | Geom/P\&D (i) (ii) | 4G-1 |  |
|  | Volume | 39 | Meas (v) | $\mathrm{n} / \mathrm{a}$ | 36,44 | Algebra (i) <br> Meas (vii) | $\mathrm{n} / \mathrm{a}$ |  |


| Decimals, Addition \& Subtraction (8 days) | Exploring decimals | 29,35 | Frac/Dec (vii) (ix) <br> (x); Meas (i) | 5NPV-5, 5NPV-3 | 28, 55 | Frac/Dec (vi) (vii) Meas (i) (ii) | 5NPV-5, 6NPV-3 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Smashing subtraction | 29,32 | Frac/Dec (x) | $\mathrm{n} / \mathrm{a}$ | 31 | Frac/Dec (vii) (x) | $\mathrm{n} / \mathrm{a}$ |  |
|  | Accomplished addition | 8, 9, 11, 22 | Add/Sub (i) (ii) (iii) (iv) | $\mathrm{n} / \mathrm{a}$ | $\begin{aligned} & \hline 6,7,18, \\ & 55 \end{aligned}$ | Num/4 ops (vi) <br> (vii) (viii) | n/a |  |
| Number properties and Multiplication (9 days) | Number properties | $\begin{aligned} & 14,17,20, \\ & 21 \end{aligned}$ | $\begin{aligned} & \text { Mult/Div (i) (ii) } \\ & \text { (viii) (ix) (xi) } \end{aligned}$ | 5MD-2 | $\begin{aligned} & 9,13,47, \\ & 53,55 \end{aligned}$ | Num/4 ops (v) <br> Stats (i) | n/a |  |
|  | Exploring multiplication | 16, 21 | Mult/Div (iv) | 5MD-3 | 11, 12, 55 | Num/4 ops (i) (iv) | 5MD-3 |  |
| Division, Fractions and Percentages 11 days) | Division done | 18 | Mult/Div (vi) | 5MD-4 | 16, 17 | Num/4 ops (ii) (iii) | 5MD-4 |  |
|  | Calculating with fractions | $\begin{aligned} & 24,25,26, \\ & 27 \end{aligned}$ | $\begin{aligned} & \text { Frac/Dec (i) (iii) } \\ & \text { (iv) (v) } \end{aligned}$ | 5F-2 | 22, 25, 26 | Frac (i) (ii) (iii) (iv) | 6F-2, 6F-3 |  |
|  | Mastering percentages | 28,33 | Frac/Dec (xi) (xii) | 5F-3 | 23, 24, 33 | Frac (vi) (xi) | 5F-3 |  |
| Measures, Shape, Data (6 days) | It's time! | 40,43 | Meas (vi) <br> Stats (ii) | $\mathrm{n} / \mathrm{a}$ | 45 | Stats (i) | $\mathrm{n} / \mathrm{a}$ |  |
|  | Line graphs | 44 | Stats (i) | $\mathrm{n} / \mathrm{a}$ | 47 | Stats (i) | n/a |  |
|  | Understanding angles | 46, 47 | Geom/PoS (ii) (iii) (iv) | 5G-1 | 52 | Geom/PoS (v) | 5G-1 |  |

## Year 5 Outcomes (skills in bold are linked to National Curriculum Statutory requirements)

1. Read, write and locate 5 - and 6-digit numbers on a landmarked line; use this to compare/order numbers; recognise the value of each digit.
2. Round any number up to $1,000,000$ to the nearest $10,100,1000,10,000$ and 100,000 .
3. Count forwards or backwards in steps of powers of 10 for any given number $<1,000,000$.
4. Interpret negative numbers in context, counting backwards and forwards through zero.
5. Solve number problems and practical problems involving place value.
6. Read Roman numerals and recognise years written in Roman numerals.
7. Add/subtract mentally with confidence, where numbers are less than 100 or the calculation relies upon simple addition/subtraction and place value.
8. Confidently add numbers with up to 4 or 5 digits using column addition, including adding 'piles' of numbers.
9. Subtract larger numbers using expanded or compact column subtraction, or by counting up.
10. Use rounding to check answers and determine levels of accuracy.
11. Solve addition and subtraction multi-step problems, deciding which operations and methods to use and why.
12. Know and recite all times tables including Division facts; identify multiples and factors, including common factors of two numbers.
13. Identify prime numbers up to 100 and know primes up to 19 ; understand the vocabulary of prime and composite numbers; identify prime factors.
14. Use efficient mental methods to multiply two or three numbers.
15. Perform Divisions mentally within the range of tables using remainders, fractions and decimal equivalences, e.g. $68 \div 8=8$ r4 or $8^{1 / 2}$ or 8.5 .
16. Multiply 2, 3, 4-digit numbers by numbers $\leq 26$ using long or short multiplication or grid method; multiply 2-digit by 2-digit numbers using grid method.
17. Scale up or down by a factor of 2,5 or 10 ; solve problems involving scaling up/down by simple fractions and problems involving simple rates.
18. Divide 2, 3, 4-digit numbers by 1-digit numbers above tables range; choose/use efficient methods; interpret remainders appropriately acc. to context.
19. Understand the effect of multiplying/Dividing by 10, 100, 1000, including 1- and 2-place decimal answers.
20. Recognise and use square and cube numbers and the matching notation.
21. Solve problems involving multiplication and Division, using knowledge of factors, multiples, squares and cubes.
22. Solve problems involving addition, subtraction, multiplication, Division and a combination, including understanding the meaning of the equals sign.
23. Identify, name, write equivalent fractions; express fractions in their simplest form, including tenths to fifths and hundredths to tenths, e.g. ${ }^{40} / 100 \equiv 4 / 10 \equiv 2 / 5$.
24. Compare and order fractions where the denominators are multiples of the same number.
25. Recognise mixed numbers and improper fractions and convert from one to the other, writing mathematical statements.
26. Add and subtract fractions where the denominators are multiples of the same number.
27. Multiply proper fractions and mixed numbers by whole numbers supported by materials and diagrams.
28. Identify simple fraction and decimal equivalents: $1 / 2 \equiv 0.5,0.25 \equiv 1 / 4$ and $0.75 \equiv 3 / 4,1 / 5=0.2,2 / 5=4 / 10=0.4,4 / 5=8 / 10=0.8$ etc.
29. Write decimal numbers as tenths, hundredths, thousandths, e.g. 0.71 as ${ }^{71} / 100,0.327 \mathrm{as}^{327} / 1000$; relate thousandths to tenths and hundredths.
30. Locate 2-place decimal numbers on a line and round them to the nearest tenth or whole number.
31. Add 2-place decimal numbers mentally or using column addition.
32. Subtract 1- and 2-place decimal numbers by counting up, e.g. 6.2-3.5, 13.1-9.45.
33. Solve problems involving fractions, decimals and percentages using known equivalences to help.
34. Recognise the \% symbol, understand that percentages are the number of parts out of 100; write percentages as hundredths in decimal and fractional form.
35. Measure and compare capacities, weights and lengths; convert between different SI units.
36. Understand and use approximate equivalences between common imperial and SI units.
37. Measure and calculate perimeters of composite rectilinear shapes using SI units.
38. Understand the concept of area, estimate areas of irregular shapes and count squares to find these; calculate areas of rectangles using standard units.
39. Estimate volumes of cubes and cuboids.
40. Solve problems involving converting between units of time; use $\mathbf{1 2}$ - and $\mathbf{2 4}$-hour times, find time intervals and tell the time with confidence.
41. Begin to read scales of different types; solve scaling problems involving measures
42. Use all four operations to solve problems involving measures using decimal notations, including scaling.
43. Complete, read and interpret information in tables, including timetables.
44. Create and interpret line graphs, solving comparison, sum and difference problems.
45. Identify 3-D shapes from 2-D representations.
46. Find unknown angles in triangles and rectangles; identify angles round a point and on a straight line, finding missing angles.
47. Know angles are measured in degrees, estimate and compare acute, obtuse and reflex angles, draw and measure given angles.
48. Understand properties of rectangles and triangles; distinguish regular and irregular polygons, based on reasoning about equal sides/angles.
49. Identify, describe and represent position of a shape following a reflection or translation, using appropriate language; know that shape is unchanged.

## Year 6 Outcomes (skills in bold are linked to National Curriculum Statutory requirements)

1. Locate numbers up to 10 million on a landmarked line; use this to compare/order number.
2. Round to ten, a hundred and a thousand, ten thousand, one hundred thousand or a million, as appropriate.
3. Use negative numbers in context, calculate intervals across zero.
4. Solve number and practical problems involving place value, rounding and negative numbers.
5. Consolidate: Add and subtract mentally with confidence, where numbers are $<100$ or it relies upon simple addition/ subtraction and place value.
6. Consolidate: Add several large numbers using written addition, including 'piles of numbers' with different numbers of digits.
7. Consolidate: Subtract large numbers using decomposition or counting up if appropriate (e.g. 200,000-196,875).
8. Solve addition and subtraction multi-step problems in context, deciding which operations to use and why.
9. Know all multiplication and Division facts up to $12 \times 12$; identify common factors, common multiples, square numbers to 144 and prime numbers up to 20.
10. Multiply/Divide whole numbers mentally, using facts to $12 \times 12$ and place value (e.g. $60 \times 70$ ); use facts to work with larger numbers.
11. Multiply 2-, 3- and 4-digit numbers by numbers up to 12 using short multiplication or another appropriate written method.
12. Multiply numbers with up to 4 digits by 2-digit numbers using formal long multiplication.
13. Scale up or down by a factor of $2,4,5$ or 10 ; solve scaling problems and those involving rates.
14. Perform Divisions mentally within the range of tables facts; Divide multiples of 10 and $100(4500 \div 9)$ and use mental strategies such as halving ( $450 \div 20$ ).
15. Interpret remainders as whole number remainders, fractions, including decimal fractions where equivalents are known or by rounding up or down.
16. Divide numbers with up to 4 -digits by a number up to 12 using short Division and giving an appropriate answer.
17. Divide numbers with up to 4 digits by $\mathbf{2}$-digit numbers using a formal written method of long Division and giving an appropriate answer.
18. Perform mental calculations, including with mixed operations and large numbers; carry out calculations using knowledge of the order of operations and brackets.
19. Use estimation to check answers and determine an appropriate degree of accuracy; round answers to multiplications and Divisions to a specified degree of accuracy.
20. Solve problems involving all four operations.
21. Use common multiples to generate equivalent fractions, e.g. ${ }^{4} / 8 \equiv 1 / 2$. Express fractions in their simplest form using common factors.
22. Use knowledge of equivalence to compare and order fractions and to add and subtract fractions and mixed numbers.
23. Identify and apply simple fraction/decimal/percentage equivalents: $1 / 2 \equiv 0.5 \equiv 50 \%, 1 / 4 \equiv 0.25 \equiv 25 \%, 3 / 4 \equiv 0.75 \equiv 75 \%, 1 / 3 \equiv$ $0.33 \equiv 33 \%$.
24. Associate a fraction with Division; calculate decimal fraction equivalents, e.g. $4 / 5$ is 0.8 and $1 / 8$ is 0.125 .
25. Understand that if two numbers less than 1 are multiplied, the answer is smaller than either of them.
26. Multiply simple pairs of proper fractions, writing the answer in its simplest form.
27. Divide proper fractions by whole numbers, recognising that $3 / 4 \div$ by 2 is equivalent to $3 / 4 \times 1 / 2$.
28. Identify the place value of each digit in a number with up to $\mathbf{3}$ decimal places; multiply/Divide nos by 10, 100, 1000 giving answers with up to 3-decimal places.
29. Find the complement to 1 , or to the next whole number, for a number $<10$ with up to 3 decimal places $(0.007+$ ? $=1$ ).
30. Add several decimal numbers using mental or written addition.
31. Subtract decimal numbers using mental strategies or written counting up.
32. Multiply numbers such as 4.7 and 0.06 by whole numbers.
33. Calculate simple percentages of whole numbers and solve problems involving use of percentages for comparisons.
34. Solve problems involving similar shapes where the scale factor is known or can be found.
35. Solve problems involving simple ratios, using tables facts and knowledge of fractions and multiples, e.g. 2 eggs for every 250 g of flour.
36. Use simple formulae, including formulae expressed in words.
37. Solve missing number problems, including where letters are used to replace constants.
38. Find pairs of numbers that satisfy an equation with two unknowns and list, in order, the possibilities of combinations of two variables.
39. Generate, describe and continue linear sequences.
40. Use, read and write, and convert between, standard units including miles and kilometres, using decimal numbers with up to three places as appropriate.
41. Solve problems using standard units and converting between them.
42. Measure areas and perimeters; understand that area is a measurement of covering and is measured in square units, and perimeter is a length, measured in $\mathrm{mm}, \mathrm{cm}, \mathrm{m}$ or km ; recognise that shapes with the same area can have different perimeters and vice versa.
43. Calculate the area of parallelograms and triangles.
44. Calculate, estimate and compare volume of cubes and cuboids using standard units, incl. cubic centimetres and cubic metres; extend to other units [e.g. $\mathrm{mm}^{3}$ and $\mathrm{km}^{3}$ ].
45. Use 12 and 24-hour clocks including analogue with Roman numerals; calculate time intervals; use timetables
46. Read scales with accuracy and confidence.
47. Interpret and construct pie charts and line graphs and use these to solve problems.
48. Find and interpret the mean (average) of several quantities.
49. Draw 2-D shapes, using given dimensions and angles; understand terms parallel and perpendicular.
50. Recognise, describe and build 3-D simple shapes, including making nets.
51. Compare and classify geometric shapes based on their properties; classify and name types of triangle and angle (acute, obtuse, reflex).
52. Find unknown angles in triangles quadrilaterals and regular polygons; also find missing angles at a point, vertically opposite or on a straight line.
53. Identify, illustrate and name parts of circles, including diameter, circumference and radius, understanding that the radius is half the diameter.
54. Identify positions on the full co-ordinate grid; draw and translate simple shapes and reflect them in the $x$-axis or $y$-axis.
55. Begin to reason mathematically making simple generalisations, using mathematical language and making connections between mathematical ideas.
