MATHEMATICS
Programme of Study

Year 3 Number and Place Value

Here are the statutory requirements:

Number and place value

Pupils should be taught to:

- count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number

- recognise the place value of each digit in a three-digit number (hundreds, tens, ones)

- compare and order numbers up to 1000

- identify, represent and estimate numbers using different representations

- read and write numbers up to 1000 in numerals and in words

- solve number problems and practical problems involving these ideas.

Below is a list of MathSphere modules covering the above requirements.

Number and place value
(156 pages including titles, concepts and answers)

1. Revise counting on and back.   (18 pages)

2. Read and write 3-digit numbers. Partition into HTU.   (15 pages)

3. Counting in tens and hundreds. Odd and even numbers.   (19 pages)

4. Counting in fours and eights.   (7 pages)

5. Counting in fifties.   (6 pages)

6. Describe and extend number sequences.   (14 pages)

7. Comparing and ordering numbers.   (16 pages)

Number and place value (continued)

8. One, ten or one hundred more than or less than.   (18 pages)

9. Order a set of familiar numbers.   (9 pages)

10. Estimation and approximation.   (11 pages)

11. Rounding a number to the nearest 10 and 100.   (13 pages)

12. Further rounding.   (10 pages)

Programme of Study

Year 3 Addition and Subtraction

Here are the statutory requirements:

Addition and Subtraction

Pupils should be taught to:

- add and subtract numbers mentally, including:

    - a three-digit number and ones

    - a three-digit number and tens

    - a three-digit number and hundreds

- add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction

- estimate the answer to a calculation and use inverse operations to check answers

- solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction

Below is a list of MathSphere modules covering the above requirements.

Addition and Subtraction
(269 pages including titles, concepts and answers)

 1. Revise understanding addition.   (13 pages)

 2. Revise addition skills.   (12 pages)

 3. Revise adding more than two numbers.   (14 pages)

 4. Know addition and subtraction facts.   (15 pages)

 5. Develop written methods of addition.   (14 pages)

 6. Formal written addition.   (10 pages)

Addition and Subtraction (continued)

7. More formal written addition.   (8 pages)

8. Revise understanding subtraction.   (14 pages)

9. Further addition and subtraction.   (24 pages)

10. Addition and subtraction continued.   (21 pages)

11. Add or subtract by adjusting.   (29 pages)

12. Add and subtract mentally.   (16 pages)

13. Add and subtract multiples of 10 and 100.   (30 pages)

14. Develop written methods of subtraction.   (18 pages)

15. Formal written subtraction.   (9 pages)

16. More formal written subtraction.   (8 pages)

17. Checking answers.   (9 pages)

18. Make number stories.   (5 pages)

Programme of Study

Year 3 Multiplication and Division

Here are the statutory requirements:

Multiplication and division

Pupils should be taught to:

- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables

- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods

- solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which n objects are connected to m objects.

Below is a list of MathSphere modules covering the above requirements.

Multiplication and Division
(173 pages including titles, concepts and answers)

1. Revise understanding of multiplication.   (16 pages)

2. Know multiplication facts by heart. Relate to division.   (8 pages)

3. 3x and 4x tables up to 12. (13 pages)

4. 8x table up to 12.   (6 sheets)

5. Tables: speed sheets.   (21 pages)

6. Revise division.   (15 pages)

7. Strategies for multiplication and division.   (16 pages)

8. Multiply and divide by 10 and 100. Doubling and halving.   (21 pages)

Multiplication and Division (continued)

  9. Understand remainders. Rounding after division.   (15 pages)

10. Develop written methods for multiplication.   (6 pages)

11. Written methods for multiplication.   (9 pages)

12. Written division using repeated subtraction.   (6 pages)

13. Simple written division.   (5 pages)

14. Formal method of short division.   (6 pages)

15. Choose appropriate number operations.   (10 pages)

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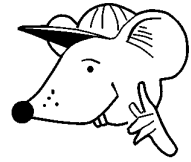
Year 3 Fractions

Here are the statutory requirements:

Fractions

Pupils should be taught to:

- count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10

- recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators

- recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators

- recognise and show, using diagrams, equivalent fractions with small denominators

- add and subtract fractions with the same denominator within one whole (e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$)

- compare and order unit fractions, and fractions with the same denominators

- solve problems that involve all of the above.

Below is a list of MathSphere modules covering the above requirements.

Fractions
(47 pages including titles, concepts and answers)

1. Recognise simple fractions and equivalence   (13 pages)

2. Recognise and find simple fractions.   (12 pages)

3. Find unit fractions of numbers or quantities.   (10 pages)

4. Adding fractions.   (4 pages)

5. Subtracting fractions.   (4 pages)

6. Ordering fractions.   (4 pages)

Programme of Study

Year 3 Measurement

Here are the statutory requirements:

Measurement

Pupils should be taught to:

- measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)

- measure the perimeter of simple 2-D shapes

- add and subtract amounts of money to give change, using both £ and p in practical contexts

- tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks

- estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight

- know the number of seconds in a minute and the number of days in each month, year and leap year

- compare durations of events, for example to calculate the time taken by particular events or tasks.

Below is a list of MathSphere modules covering the above requirements.

Measurement
(133 pages including titles, concepts and answers)

1. Measure and compare. Know relationships between units.   (17 pages)

2. Choose and use suitable units to estimate and measure.   (7 pages)

3. Use measuring equipment . Interpret scales.   (10 pages)

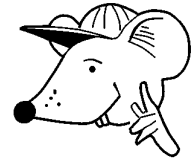4. Solve problems involving money.   (20 pages)

Measurement continued

5. Measuring perimeter.   (8 pages)

6. Solve problems involving measurement.   (13 pages)

7. Understand and read the time.   (16 pages)

8. Read the time from clocks, calendars and timetables.   (26 pages)

9. Time: a.m. and p.m. and 24 hour clock.   (9 pages)

10. Roman numerals and time.   (7 pages)

Programme of Study

Year 3 Geometry

Here are the statutory requirements:

Geometry

Properties of shapes

Pupils should be taught to:

- draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them

- recognise that angles are a property of shape or a description of a turn

- identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle

- identify horizontal and vertical lines and pairs of perpendicular and parallel lines.

Below is a list of MathSphere modules covering the above requirements.

Geometry
(67pages including titles, concepts and answers)

1. Describe and classify 3-D and 2-D shapes.   (12 pages)

2. Make shapes and describe their features.   (12 pages)

3. Describe movement and understand angle as a measure of turn.   (9 pages)

4. Describe position and direction.   (9 pages)

5. Perpendicular and parallel lines.   (7 pages)

6. Symmetry.   (11 pages)

7. Pentominoes.   (7 pages)

Programme of Study

Year 3 Statistics

Here are the statutory requirements:

Statistics

Pupils should be taught to:

- interpret and present data using bar charts, pictograms and tables

- solve one-step and two-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables.

Below is a list of MathSphere modules covering the above requirements.

Statistics
(33 pages including titles, concepts and answers)

1. Collect, sort and organise data.   (10 pages)

2. Use bar charts, tally charts, bar graphs and pictograms.   (15 pages)

3. Use Venn and Carroll diagrams.   (8 pages)

Non statutory mathematics

Year 3 Using and Applying Mathematics

Below is a list of MathSphere modules covering Using and Applying Mathematics:
(104 pages including titles, concepts and answers where appropriate)

1. Solve mathematical puzzles and investigate.   (23 pages)

2. Investigate general statements.   (10 pages)

3. Investigate addition.   (11 pages)

4. Investigate subtraction.   (10 pages)

5. Investigate multiplication.   (4 pages)

5. Solve word problems.   (16 pages)

6. Maths vocabulary word searches.   (8 pages)

7. Investigate column addition.   (4 pages)

8. Routes investigation.   (5 pages)

9. Investigate coins.   (4 pages)

10. More coins.   (5 pages)

11. Add one to four (4 pages)