MATHEMATICS - SCHEMES OF WORK

For Children Aged 7 to 12

Mathematics Lessons Structure

Time – Approx. 90 minutes
1. Remind class of last topic area explored and relate to current topic.
2. Discuss and explore with concrete and abstract examples.
3. Experiments – where appropriate, possible and necessary.
4. Drama – Pupils enact areas of topic where appropriate.
5. Group Work – Set small groups an area to explore.
6. Practical Application – Discuss how topic area is applied in every life.
7. Making Connections – Discuss and explore connections between topic and other topic areas and subjects.
8. Media – Using video clips and programmes and/or computer programmes and websites where appropriate.
11. Quiz.

Resources

1. Maths Books
2. BBC Primary Learning
3. DK Maths
4. National Numeracy Strategy
5. CGP Workbooks
6. Past SATS Tests
7. Number Beads 1 – 10, 1 – 1000
8. Number Cards – Small & Large
9. Number Rods – Small
10. Montessori Fractions Set
11. Montessori Geometry Shapes – 2D & 3D
12. Calculators
13. Measuring Equipment
14. Number Games
15. Internet
16. Apple Mac & PC Windows Computer & Programmes

Mathematics Subject Areas

1. Numbers & Number Systems
2. Calculations
3. Mathematical Problems & Puzzles
4. Measurements
5. Geometry
6. Data / Statistics
YEAR 3
Autumn Term

1. NUMBERS & NUMBER SYSTEMS

1. Numbers & Mathematics
   a. Origins of Numbers
   b. Nature & Function of Numbers

2. Counting & Number Sequences
   a. Counting in 2’s, 3’s, 4’s & 5’s
   b. Counting in Tens
   c. Counting in Hundreds
   d. Counting in Thousands

3. Place Value
   a. Units
   b. Tens
   c. Hundreds
   d. Thousands
   e. Number Lines

4. Even / Odd Numbers
   a. Even Numbers
   b. Odd Numbers

5. Written Numbers
   a. Words to Numbers
   b. Numbers to Words

6. Estimating & Rounding
   a. Quantities
   b. Addition
   c. Subtraction

7. Mathematical Symbols
   a. +, -
   b. >, < and =
2. CALCULATIONS

8. Addition
   a. Single Digit Addition
   b. Mental Addition Strategies
   c. Number Bonds to 10

9. Subtraction
   a. Single Digit Subtraction
   b. Subtraction – The Inverse of Addition
   c. Mental Subtraction Strategies
   d. Inverse Number Bonds to 10

10. Multiplication
    a. Doubling Numbers

11. Division
    a. Sharing Quantities
    b. Halving Numbers

12. Checking Results
    a. Repeating Addition in Different Order
    b. Check with Inverse Sum
    c. Checking Through Approximating

3. MATHEMATICAL PROBLEMS & PUZZLES

13. Making Decisions
    a. Choosing Appropriate Number Operations for Addition & Subtraction Problems

14. Reasoning About Numbers & Shapes
    a. Solving Simple Mathematics Problems & Puzzles
    b. Experimenting with Mathematical Statements
    c. Explaining Methods and Reasoning Orally

15. Solving Real Life Mathematical Problems
4. MEASUREMENTS

16. Understanding the Vocabulary of Measurements
   a. Length
   b. Width

17. Understanding the Vocabulary of Time
   a. Seconds, Minutes & Hours
   b. AM & PM
   c. Days & Weeks
   d. Months & Years

18. Using Measurement Equipment
   a. Using Rulers

19. Using Standard Unit Measurement Formulas & Symbols
   a. Centimetres – cm

Spring Term

1. NUMBERS & NUMBER SYSTEMS

20. Numbers & Mathematics
   a. Origins of Numbers
   b. Nature & Function of Numbers

21. Counting & Number Sequences
   a. Counting in 2’s, 3’s, 4’s & 5’s
   b. Counting in Tens
   c. Counting in Hundreds
   d. Counting in Thousands
22. **Place Value**
   a. Units
   b. Tens
   c. Hundreds
   d. Thousands
   e. Number Lines
   f. Positive & Negative Whole Numbers

23. **Even / Odd Numbers**
   a. Even Numbers
   b. Odd Numbers

24. **Written Numbers**
   a. Words to Numbers
   b. Numbers to Words

25. **Estimating & Rounding**
   a. Quantities
   b. Addition
   c. Subtraction

26. **Mathematical Symbols**
   a. +, -, x and division symbol
   b. >, < and =

2. **CALCULATIONS**

27. **Addition**
   a. Single Digit Addition
   b. Mental Addition Strategies
   c. Number Bonds to 10
   d. Two & More Digit Addition
   e. Using Columns for Addition

28. **Subtraction**
   a. Single Digit Subtraction
   b. Subtraction – The Inverse of Addition
   c. Mental Subtraction Strategies
   d. Inverse Number Bonds to 10
e. Two or More Digit Subtraction  
f. Using Columns for Subtraction

29. **Multiplication**

a. Doubling Numbers  
b. 2, 3, 4 & 5 Times Tables  
c. Times Tables Patterns & Strategies

30. **Division**

a. Sharing Quantities  
b. Halving Numbers  
c. Division – The Inverse of Multiplication

31. **Checking Results**

a. Repeating Addition in Different Order  
b. Check with Inverse Sum  
c. Repeating Multiplication in Different Order  
d. Checking Through Approximating

3. **MATHEMATICAL PROBLEMS & PUZZLES**

32. **Making Decisions**

a. Choosing Appropriate Number Operations for Addition & Subtraction Problems

33. **Reasoning About Numbers & Shapes**

a. Solving Simple Mathematics Problems & Puzzles  
b. Experimenting with Mathematical Statements  
c. Explaining Methods and Reasoning Orally

34. **Solving Real Life Mathematical Problems**

a. Mathematical Problems Involving Additions  
b. Mathematical Problems Involving Subtractions  
c. Mathematical Problems Involving Time
4. MEASUREMENTS

35. Understanding the Vocabulary of Measurements
   a. Length
   b. Width

36. Understanding the Vocabulary of Time
   a. Seconds, Minutes & Hours
   b. AM & PM
   c. Days & Weeks
   d. Months & Years
   e. Timetables
   f. Calendars
   g. Analogue Clocks
   h. Digital Clocks

37. Using Measurement Equipment
   a. Using Rulers

38. Using Standard Unit Measurement Formulas & Symbols
   a. Centimetres – cm
   b. Metres – m
   c. Millimetres – mm

5. GEOMETRY

39. 2-D Shapes
   a. Circles
      i. Properties & Features
      ii. Real Life Examples
      iii. Degrees – 360 degrees
      iv. Semi-circles
   b. Squares
      i. Properties & Features
      ii. Real Life Examples
      iii. Right Angles – 90 degrees
   c. Rectangles
      i. Properties & Features
      ii. Real Life Examples
      iii. Right Angles – 90 degrees
   d. Triangles
i. Properties & Features
ii. Real Life Examples

Summer Term

1. NUMBERS & NUMBER SYSTEMS

40. Numbers & Mathematics
   a. Origins of Numbers
   b. Nature & Function of Numbers

41. Counting & Number Sequences
   a. Counting in 2’s, 3’s, 4’s & 5’s
   b. Counting in Tens
   c. Counting in Hundreds
   d. Counting in Thousands

42. Place Value
   a. Units
   b. Tens
   c. Hundreds
   d. Thousands
   e. Number Lines
   f. Positive & Negative Whole Numbers
   g. Ratio & Proportion

43. Even / Odd Numbers
   a. Even Numbers
   b. Odd Numbers

44. Written Numbers
   a. Words to Numbers
   b. Numbers to Words

45. Estimating & Rounding
   a. Quantities
   b. Addition
   c. Subtraction
46. **Mathematical Symbols**

   a. +, -, x and division symbol
   b. >, < and =

2. **CALCULATIONS**

47. **Addition**

   a. Single Digit Addition
   b. Mental Addition Strategies
   c. Number Bonds to 10
   d. Two & More Digit Addition
   e. Using Columns for Addition

48. **Subtraction**

   a. Single Digit Subtraction
   b. Subtraction – The Inverse of Addition
   c. Mental Subtraction Strategies
   d. Inverse Number Bonds to 10
   e. Two or More Digit Subtraction
   f. Using Columns for Subtraction

49. **Multiplication**

   a. Doubling Numbers
   b. The Times Tables to 12 x
   c. Times Tables Patterns & Strategies

50. **Division**

   a. Sharing Quantities
   b. Halving Numbers
   c. Division – The Inverse of Multiplication

51. **Checking Results**

   a. Repeating Addition in Different Order
   b. Check with Inverse Sum
   c. Repeating Multiplication in Different Order
   d. Checking Through Approximating
3. MATHEMATICAL PROBLEMS & PUZZLES

52. Making Decisions
   a. Choosing Appropriate Number Operations for Addition & Subtraction Problems

53. Reasoning About Numbers & Shapes
   a. Solving Simple Mathematics Problems & Puzzles
   b. Experimenting with Mathematical Statements
   c. Explaining Methods and Reasoning Orally

54. Solving Real Life Mathematical Problems
   a. Mathematical Problems Involving Additions
   b. Mathematical Problems Involving Subtractions
   c. Mathematical Problems Involving Shapes
   d. Mathematical Problems Involving Time
   e. Stories with Mathematical Problems

4. MEASUREMENTS

55. Understanding the Vocabulary of Measurements
   a. Length
   b. Width

56. Understanding the Vocabulary of Time
   a. Seconds, Minutes & Hours
   b. AM & PM
   c. Days & Weeks
   d. Months & Years
   e. Timetables
   f. Calendars
   g. Analogue Clocks
   h. Digital Clocks

57. Using Measurement Equipment
   a. Using Rulers
58. Using Standard Unit Measurement Formulas & Symbols
   a. Centimetres – cm
   b. Metres – m
   c. Millimetres – mm

5. GEOMETRY

59. Space
   a. Position
   b. Horizontal
      i. Vertical
      ii. Parallel
      iii. Perpendicular
   c. Compass Position
      i. N, E, S & W
      ii. NE, NW, SE & SW
   d. Direction
   e. Movement

60. Symmetry
   a. Reflection
   b. Symmetrical Patterns
   c. Repeating Patterns

YEAR 4

Autumn Term

1. NUMBERS & NUMBER SYSTEMS

1. Counting & Number Sequences
   a. Counting in 10’s, 20’s – 90’s
   b. Counting in Hundreds
   c. Counting in Thousands

2. Place Value
   a. Millions
   b. Number Lines
c. Positive & Negative Whole Numbers
d. Ratio & Proportion

3. Estimating & Rounding
   a. Quantities
   b. Addition
   c. Subtraction
   d. Multiplication

2. CALCULATIONS

4. Addition
   a. Mental Addition Strategies
   b. Two & More Digit Addition
   c. Number Bonds to 100
   d. Addition with Carrying

5. Subtraction
   a. Mental Subtraction Strategies
   b. Two or More Digit Subtraction
   c. Inverse Number Bonds to 100
   d. Subtraction with Borrowing

6. Multiplication
   a. The 2, 3, 4 & 5 Times Tables
   b. Times Tables Patterns & Strategies

7. Division
   a. Division & The Times Table

8. Checking Results
   a. Repeating Addition in Different Order
   b. Check with Inverse Sum
   c. Repeating Multiplication in Different Order
   d. Checking Through Approximating
3. MATHEMATICAL PROBLEMS & PUZZLES

9. Making Decisions
   a. Choosing Appropriate Number Operations for Addition & Subtraction Problems

10. Reasoning About Numbers & Shapes
   a. Solving Simple Mathematics Problems & Puzzles
   b. Experimenting with Mathematical Statements
   c. Explaining Methods and Reasoning Orally

11. Solving Real Life Mathematical Problems
   a. Mathematical Problems Involving Additions
   b. Mathematical Problems Involving Subtractions
   c. Mathematical Problems Involving Multiplying
   d. Mathematical Problems Involving Sharing
   e. Mathematical Problems Involving Shapes
   f. Mathematical Problems Involving Time
   g. Stories with Mathematical Problems

4. MEASUREMENTS

12. Understanding the Vocabulary of Measurements
   a. Length
   b. Width
   c. Depth
   d. Angles

13. Understanding the Vocabulary of Time
   a. 24 Hour Clocks

14. Using Measurement Equipment
   a. Using Rulers
   b. Using Protractors

15. Using Standard Unit Measurement Formulas & Symbols
   a. Kilometres – km
5. GEOMETRY

16. **2-D Shapes**

   a. Triangles
      i. Properties & Features
      ii. Real Life Examples
      iii. Equilateral Triangles
      iv. Isosceles Triangles
      v. Scalene Triangles
      vi. Acute & Obtuse Angles

17. **Space**

   a. Position
      i. Horizontal
      ii. Vertical
      iii. Parallel
      iv. Perpendicular
   b. Compass Position
      i. N, E, S & W
      ii. NE, NW, SE & SW
   c. Direction
   d. Movement

18. **Symmetry**

   a. Reflection
   b. Symmetrical Patterns
   c. Repeating Patterns
   d. Rotating Patterns
      i. Turns – Whole, Half, Quarter etc…
      ii. Clockwise
      iii. Anti-clockwise
      iv. Rotating at Different Degrees
   e. Line Symmetry
   f. Axes of Symmetry

Spring Term

1. NUMBERS & NUMBER SYSTEMS

19. **Counting & Number Sequences**

   a. Counting in 6’s, 7’s, 8’s & 9’s
   b. Counting in 10’s, 20’s – 90’s
c. Counting in Hundreds
d. Counting in Thousands

20. **Place Value**
   a. Millions
   b. Number Lines
   c. Positive & Negative Whole Numbers
   d. Ratio & Proportion

21. **Estimating & Rounding**
   a. Quantities
   b. Addition
   c. Subtraction
   d. Multiplication
   e. Division

2. **CALCULATIONS**

22. **Addition**
   a. Mental Addition Strategies
   b. Two & More Digit Addition
   c. Number Bonds to 100
   d. Addition with Carrying
   e. Combined Addition & Subtraction
   f. Adding Cash Amounts

23. **Subtraction**
   a. Mental Subtraction Strategies
   b. Two or More Digit Subtraction
   c. Inverse Number Bonds to 100
   d. Subtraction with Borrowing
   e. Combined Subtraction & Addition
   f. Subtracting Cash Amounts

24. **Multiplication**
   a. The 6, 7, 8 & 9 Times Tables
   b. Times Tables Patterns & Strategies

25. **Division**
   a. Division & The Times Table
26. Checking Results
   a. Repeating Addition in Different Order
   b. Check with Inverse Sum
   c. Repeating Multiplication in Different Order
   d. Checking Through Approximating

3. MATHEMATICAL PROBLEMS & PUZZLES

27. Making Decisions
   a. Choosing Appropriate Number Operations for Addition & Subtraction Problems
   b. Choosing Appropriate Number Operations for Single Digit Multiplication & Division Problems

28. Reasoning About Numbers & Shapes
   a. Solving Simple Mathematics Problems & Puzzles
   b. Experimenting with Mathematical Statements
   c. Explaining Methods and Reasoning Orally

29. Solving Real Life Mathematical Problems
   a. Mathematical Problems Involving Additions
   b. Mathematical Problems Involving Subtractions
   c. Mathematical Problems Involving Multiplying
   d. Mathematical Problems Involving Sharing
   e. Mathematical Problems Involving Shapes
   f. Mathematical Problems Involving Money
      i. Transactions
      ii. Accounts
   g. Mathematical Problems Involving Time
   h. Stories with Mathematical Problems

4. MEASUREMENTS

30. Understanding the Vocabulary of Measurements
   a. Depth
   b. Angles
31. **Understanding the Vocabulary of Time**
   a. 24 Hour Clocks

32. **Using Measurement Equipment**
   a. Using Rulers
   b. Using Protractors

33. **Using Standard Unit Measurement Formulas & Symbols**
   a. Inches
   b. Feet
   c. Yards
   d. Miles

5. **GEOMETRY**

34. **2-D Shapes**
   a. Triangles
      i. Properties & Features
      ii. Real Life Examples
      iii. Equilateral Triangles
      iv. Isosceles Triangles
      v. Scalene Triangles
      vi. Acute & Obtuse Angles

35. **Space**
   a. Position
      i. Horizontal
      ii. Vertical
      iii. Parallel
      iv. Perpendicular
   b. Compass Position
      i. N, E, S & W
      ii. NE, NW, SE & SW
   c. Direction
   d. Movement

36. **Symmetry**
   a. Reflection
   b. Symmetrical Patterns
c. Repeating Patterns
d. Rotating Patterns
   i. Turns – Whole, Half, Quarter etc…
   ii. Clockwise
   iii. Anti-clockwise
   iv. Rotating at Different Degrees
e. Line Symmetry
f. Axes of Symmetry

6. DATA / STATISTICS

37. Understanding Data
   a. Understanding Data & Statistics
   b. Use & Misuse of Data
   c. Classification
   d. Organisation
   e. Interpretation

38. Organising Data
   a. Lists
   b. Tables

Summer Term

1. NUMBERS & NUMBER SYSTEMS

39. Counting & Number Sequences
   a. Counting in 6’s, 7’s, 8’s & 9’s
   b. Counting Backwards

40. Place Value
   a. Millions
   b. Basic Fractions
   c. Number Lines
   d. Positive & Negative Whole Numbers
   e. Ratio & Proportion

41. Estimating & Rounding
   a. Quantities
b. Addition
  c. Subtraction
  d. Multiplication
  e. Division

42. **Mathematical Symbols**

a. Fraction symbols

2. **CALCULATIONS**

43. **Addition**

a. Mental Addition Strategies
b. Two & More Digit Addition
c. Number Bonds to 100
d. Addition with Carrying
e. Combined Addition & Subtraction
f. Adding Cash Amounts
g. Adding Fractions
h. Adding Whole Numbers with Fractions

44. **Subtraction**

a. Mental Subtraction Strategies
b. Two or More Digit Subtraction
c. Inverse Number Bonds to 100
d. Subtraction with Borrowing
e. Combined Subtraction & Addition
f. Subtracting Cash Amounts
g. Subtracting Fractions
h. Subtracting Whole Numbers with Fractions

45. **Multiplication**

a. The Times Tables to 9 x
b. Times Tables Patterns & Strategies

46. **Division**

a. Division & The Times Table
b. Division with Remainders

47. **Checking Results**

a. Repeating Addition in Different Order
b. Check with Inverse Sum
c. Repeating Multiplication in Different Order
d. Checking Through Approximating

3. MATHEMATICAL PROBLEMS & PUZZLES

48. Making Decisions

a. Choosing Appropriate Number Operations for Addition & Subtraction Problems
b. Choosing Appropriate Number Operations for Single Digit Multiplication & Division Problems

49. Reasoning About Numbers & Shapes

a. Solving Simple Mathematics Problems & Puzzles
b. Experimenting with Mathematical Statements
c. Explaining Methods and Reasoning Orally

50. Solving Real Life Mathematical Problems

a. Mathematical Problems Involving Additions
b. Mathematical Problems Involving Subtractions
c. Mathematical Problems Involving Multiplying
d. Mathematical Problems Involving Sharing
e. Mathematical Problems Involving Shapes
f. Mathematical Problems Involving Money
   i. Transactions
   ii. Accounts
g. Mathematical Problems Involving Time
h. Stories with Mathematical Problems

4. MEASUREMENTS

51. Understanding the Vocabulary of Measurements

a. Length
b. Width
c. Depth
d. Angles

52. Understanding the Vocabulary of Time

a. 24 Hour Clocks
53. **Using Measurement Equipment**

   a. Using Rulers
   b. Using Protractors

54. **Using Standard Unit Measurement Formulas & Symbols**

   a. Kilometres – km
   b. Inches
   c. Feet
   d. Yards
   e. Miles

6. **DATA / STATISTICS**

55. **Understanding Data**

   a. Understanding Data & Statistics
   b. Use & Misuse of Data
   c. Classification
   d. Organisation
   e. Interpretation

56. **Organising Data**

   a. Lists
   b. Tables
   c. Diagrams
      i. Pictograms
   d. Graphs
      i. Block Graphs
      ii. Line Graphs
   e. Charts
      i. Bar Charts
      ii. Bar Line Charts
YEAR 5

Autumn Term

1. NUMBERS & NUMBER SYSTEMS

1. Place Value
   a. Decimals
   b. Converting Basic Fractions into Decimals & Vice Versa
   c. Number Lines
   d. Positive & Negative Whole Numbers
   e. Ratio & Proportion

2. Estimating & Rounding
   a. Quantities
   b. Addition
   c. Subtraction
   d. Multiplication
   e. Division

3. Mathematical Symbols
   a. Advanced Mathematical Symbols

2. CALCULATIONS

4. Addition
   a. Mental Addition Strategies
   b. Two & More Digit Addition
   c. Number Bonds to 100
   d. Addition with Carrying
   e. Combined Addition & Subtraction
   f. Other Partition Sums
   g. Decimal Bonds to 1.0
   h. Addition with Whole Numbers plus Decimals
   i. Adding Cash Amounts
   j. Adding Fractions
   k. Adding Whole Numbers with Fractions

5. Subtraction
   a. Mental Subtraction Strategies
b. Two or More Digit Subtraction
c. Inverse Number Bonds to 100
d. Subtraction with Borrowing
e. Combined Subtraction & Addition
f. Other Partition Sums
g. Inverse Decimal Bonds to 1.0
h. Subtraction with Whole Numbers plus Decimals
i. Subtracting Cash Amounts
j. Subtracting Fractions
k. Subtracting Whole Numbers with Fractions

6. Multiplication

   a. The 10, 11 & 12 Times Tables
   b. Times Tables Patterns & Strategies

7. Checking Results

   a. Repeating Addition in Different Order
   b. Check with Inverse Sum
   c. Repeating Multiplication in Different Order
   d. Checking Through Approximating
   e. Checking Answers Using a Calculator

3. MATHEMATICAL PROBLEMS & PUZZLES

8. Making Decisions

   a. Choosing Appropriate Number Operations for Addition & Subtraction Problems
   b. Choosing Appropriate Number Operations for Multiplication & Division Problems
   c. Choosing Appropriate Number Operations Using a Calculator

9. Reasoning About Numbers & Shapes

   a. Experimenting with Mathematical Statements
   b. Solving Mathematics Problems & Puzzles
   c. Explaining Methods and Reasoning Orally
   d. Expressing Numbers in a Formula

10. Solving Real Life Mathematical Problems

   a. Mathematical Problems Involving Additions
   b. Mathematical Problems Involving Subtractions
   c. Mathematical Problems Involving Multiplying
d. Mathematical Problems Involving Sharing
e. Mathematical Problems Involving Shapes
f. Mathematical Problems Involving Distance
g. Mathematical Problems Involving Money
i. Transactions
ii. Accounts
h. Mathematical Problems Involving Time
i. Mathematical Problems Involving Conversions
j. Stories with Mathematical Problems

4. MEASUREMENTS

11. **Understanding the Vocabulary of Measurements**
   a. Depth
   b. Angles
   c. Perimeter

12. **Understanding the Vocabulary of Time**
   a. World Time Zones

13. **Using Measurement Equipment**
   a. Using Rulers
   b. Using Protractors

14. **Using Standard Unit Measurement Formulas & Symbols**
   a. Centimetres – cm
   b. Metres – m
   c. Millimetres – mm
   d. Kilometres – km
   e. Square Centimetres – cm\(^2\)
   f. Square Metres – m\(^2\)
   g. Inches
   h. Feet
   i. Yards
   j. Miles
5. GEOMETRY

15. **2-D Shapes**
   a. Pentagons
      i. Properties & Features
      ii. Real Life Examples
      iii. Angles – 72 degrees
   b. Hexagons
      i. Properties & Features
      ii. Real Life Examples
      iii. Angles – 60 degrees
   c. Octagons
      i. Properties & Features
      ii. Real Life Examples
      iii. Angles – 45 degrees

16. **Space**
   a. Position
      i. Horizontal
      ii. Vertical
      iii. Parallel
      iv. Perpendicular
   b. Direction
   c. Movement
   d. Grids
      i. Rows & Columns
      ii. Co-ordinates

17. **Symmetry**
   a. Reflection
   b. Symmetrical Patterns
   c. Repeating Patterns
   d. Rotating Patterns
      i. Turns – Whole, Half, Quarter etc…
      ii. Clockwise
      iii. Anti-clockwise
      iv. Rotating at Different Degrees
   e. Line Symmetry
   f. Axes of Symmetry
6. DATA / STATISTICS

18. Understanding Data
   a. Understanding Data & Statistics
   b. Use & Misuse of Data
   c. Classification
   d. Organisation
   e. Interpretation
   f. Accuracy
   g. Probability
   h. Uncertainty

19. Organising Data
   a. Lists
   b. Tables
   c. Diagrams
      i. Pictograms
      ii. Venn Diagrams
      iii. Carroll Diagrams
   d. Graphs
      i. Block Graphs
      ii. Line Graphs
   e. Charts
      i. Bar Charts
      ii. Bar Line Charts
      iii. Pie Charts

Spring Term

1. NUMBERS & NUMBER SYSTEMS

20. Counting & Number Sequences
   a. Prime Numbers

21. Place Value
   a. Decimals
   b. Converting Fractions into Decimals & Vice Versa
   c. Number Lines
   d. Positive & Negative Whole Numbers
   e. Ratio & Proportion
22. **Estimating & Rounding**
   
a. Quantities  
b. Addition  
c. Subtraction  
d. Multiplication  
e. Division  

23. **Mathematical Symbols**
   
a. Advanced Mathematical Symbols  

2. **CALCULATIONS**

24. **Addition**
   
a. Mental Addition Strategies  
b. Two & More Digit Addition  
c. Number Bonds to 100  
d. Addition with Carrying  
e. Combined Addition & Subtraction  
f. Other Partition Sums  
g. Decimal Bonds to 1.0  
h. Addition with Whole Numbers plus Decimals  
i. Adding Cash Amounts  
j. Adding Decimal Numbers  
k. Adding Fractions  
l. Adding Whole Numbers with Fractions  

25. **Subtraction**
   
a. Mental Subtraction Strategies  
b. Two or More Digit Subtraction  
c. Inverse Number Bonds to 100  
d. Subtraction with Borrowing  
e. Combined Subtraction & Addition  
f. Other Partition Sums  
g. Inverse Decimal Bonds to 1.0  
h. Subtraction with Whole Numbers plus Decimals  
i. Subtracting Cash Amounts  
j. Subtracting Decimal Numbers  
k. Subtracting Fractions  
l. Subtracting Whole Numbers with Fractions
26. **Multiplication**
   a. The Times Tables to 12 x
   b. Times Tables Patterns & Strategies
   c. Multiplication Using a Calculator

27. **Division**
   a. Division Using a Calculator

28. **Combined Calculations**
   a. Averages
      i. Median
      ii. Mean

29. **Checking Results**
   a. Repeating Addition in Different Order
   b. Check with Inverse Sum
   c. Repeating Multiplication in Different Order
   d. Checking Through Approximating
   e. Checking Answers Using a Calculator

3. **MATHEMATICAL PROBLEMS & PUZZLES**

30. **Making Decisions**
   a. Choosing Appropriate Number Operations for Addition & Subtraction Problems
   b. Choosing Appropriate Number Operations for Multiplication & Division Problems
   c. Choosing Appropriate Number Operations Using a Calculator

31. **Reasoning About Numbers & Shapes**
   a. Experimenting with Mathematical Statements
   b. Solving Mathematics Problems & Puzzles
   c. Explaining Methods and Reasoning Orally
   d. Expressing Numbers in a Formula

32. **Solving Real Life Mathematical Problems**
   a. Mathematical Problems Involving Additions
   b. Mathematical Problems Involving Subtractions
c. Mathematical Problems Involving Multiplying

d. Mathematical Problems Involving Sharing

e. Mathematical Problems Involving Shapes

f. Mathematical Problems Involving Distance

g. Mathematical Problems Involving Money
   i. Transactions
   ii. Accounts

h. Mathematical Problems Involving Time
   i. Mathematical Problems Involving Conversions

j. Mathematical Problems Involving Averages

k. Stories with Mathematical Problems

4. MEASUREMENTS

33. **Understanding the Vocabulary of Measurements**

   a. Depth
   b. Angles
   c. Perimeter
   d. Mass
   e. Capacity

34. **Using Measurement Equipment**

   a. Using Rulers
   b. Using Protractors
   c. Using Scales

35. **Using Standard Unit Measurement Formulas & Symbols**

   a. Grams – g
   b. Kilograms – kg
   c. Millilitres – ml
   d. Litres – l
   e. Pints
   f. Gallons

5. GEOMETRY

36. **3-D Shapes**

   a. Cubes
      i. Properties & Features
      ii. Real Life Examples
iii. Making Shape
iv. Drawing Shape

b. Cuboids
   i. Properties & Features
   ii. Real Life Examples
   iii. Making Shape
   iv. Drawing Shape

c. Spheres & Hemi-spheres
   i. Properties & Features
   ii. Real Life Examples
   iii. Making Shape
   iv. Drawing Shape

37. **Space**

a. Position
   i. Horizontal
   ii. Vertical
   iii. Parallel
   iv. Perpendicular
b. Direction
c. Movement
d. Grids
   i. Rows & Columns
   ii. Co-ordinates

38. **Symmetry**

a. Reflection
b. Symmetrical Patterns
c. Repeating Patterns
d. Rotating Patterns
   i. Turns – Whole, Half, Quarter etc…
   ii. Clockwise
   iii. Anti-clockwise
   iv. Rotating at Different Degrees
e. Line Symmetry
f. Axes of Symmetry

6. DATA / STATISTICS

39. **Understanding Data**

a. Understanding Data & Statistics
b. Use & Misuse of Data
c. Classification
d. Organisation
e. Interpretation
f. Accuracy
g. Probability
h. Uncertainty
i. Mode
j. Range
k. Median
l. Mean

40. **Organising Data**

a. Lists
b. Tables
c. Diagrams
   i. Pictograms
   ii. Venn Diagrams
   iii. Carroll Diagrams
d. Graphs
   i. Block Graphs
   ii. Line Graphs
e. Charts
   i. Bar Charts
   ii. Bar Line Charts
   iii. Pie Charts
f. Databases
g. Organising Data on a Computer

**Summer Term**

1. **NUMBERS & NUMBER SYSTEMS**

41. **Counting & Number Sequences**

a. Prime Numbers

42. **Place Value**

a. Decimals
b. Converting Fractions into Decimals & Vice Versa
c. Number Lines
d. Positive & Negative Whole Numbers
e. Ratio & Proportion

43. **Estimating & Rounding**

a. Quantities
b. Addition  
c. Subtraction  
d. Multiplication  
e. Division  

44. Mathematical Symbols  
a. Advanced Mathematical Symbols  

2. CALCULATIONS  

45. Addition  

a. Mental Addition Strategies  
b. Two & More Digit Addition  
c. Number Bonds to 100  
d. Addition with Carrying  
e. Combined Addition & Subtraction  
f. Other Partition Sums  
g. Decimal Bonds to 1.0  
h. Addition with Whole Numbers plus Decimals  
i. Adding Cash Amounts  
j. Adding Decimal Numbers  
k. Adding Fractions  
l. Adding Whole Numbers with Fractions  

46. Subtraction  

a. Mental Subtraction Strategies  
b. Two or More Digit Subtraction  
c. Inverse Number Bonds to 100  
d. Subtraction with Borrowing  
e. Combined Subtraction & Addition  
f. Other Partition Sums  
g. Inverse Decimal Bonds to 1.0  
h. Subtraction with Whole Numbers plus Decimals  
i. Subtracting Cash Amounts  
j. Subtracting Decimal Numbers  
k. Subtracting Fractions  
l. Subtracting Whole Numbers with Fractions  

47. Multiplication  

a. The Times Tables to 12 x  
b. Times Tables Patterns & Strategies  
c. Long Multiplication  
d. Using Columns for Multiplication
e. Partition Sums
f. Multiplying Cash Amount
g. Multiplication Using a Calculator

48. **Division**
   a. Division Using a Calculator

49. **Combined Calculations**
   a. Averages
      i. Median
      ii. Mean
   b. Converting Numbers

50. **Checking Results**
   a. Repeating Addition in Different Order
   b. Check with Inverse Sum
   c. Repeating Multiplication in Different Order
   d. Checking Through Approximating
   e. Checking Answers Using a Calculator

### 3. MATHEMATICAL PROBLEMS & PUZZLES

51. **Making Decisions**
   a. Choosing Appropriate Number Operations for Addition & Subtraction Problems
   b. Choosing Appropriate Number Operations for Multiplication & Division Problems
   c. Choosing Appropriate Number Operations Using a Calculator

52. **Reasoning About Numbers & Shapes**
   a. Experimenting with Mathematical Statements
   b. Solving Mathematics Problems & Puzzles
   c. Explaining Methods and Reasoning Orally
   d. Expressing Numbers in a Formula

53. **Solving Real Life Mathematical Problems**
   a. Mathematical Problems Involving Additions
   b. Mathematical Problems Involving Subtractions
   c. Mathematical Problems Involving Multiplying
   d. Mathematical Problems Involving Sharing
e. Mathematical Problems Involving Shapes  
f. Mathematical Problems Involving Distance  
g. Mathematical Problems Involving Money  
i. Transactions  
ii. Accounts  
h. Mathematical Problems Involving Time  
i. Mathematical Problems Involving Conversions  
j. Mathematical Problems Involving Averages  
k. Stories with Mathematical Problems  

4. MEASUREMENTS  

54. Understanding the Vocabulary of Measurements  

a. Depth  
b. Angles  
c. Perimeter  
d. Mass  
e. Capacity  

55. Using Measurement Equipment  

a. Using Rulers  
b. Using Protractors  
c. Using Scales  

56. Using Standard Unit Measurement Formulas & Symbols  

a. Centimetres – cm  
b. Metres – m  
c. Millimetres – mm  
d. Kilometres – km  
e. Square Centimetres – cm²  
f. Square Metres – m²  
g. Inches  
h. Feet  
i. Yards  
j. Miles  
k. Grams – g  
l. Kilograms – kg  
m. Millilitres – ml  
n. Litres – l  
o. Pints  
p. Gallons  
q. Conversions  
i. Converting Larger to Smaller Units
ii. Converting Smaller to Larger Units

5. GEOMETRY

57. Space

a. Position
   i. Horizontal
   ii. Vertical
   iii. Parallel
   iv. Perpendicular
b. Direction
c. Movement
d. Grids
   i. Rows & Columns
   ii. Co-ordinates

58. Symmetry

a. Reflection
b. Symmetrical Patterns
c. Repeating Patterns
d. Rotating Patterns
   i. Turns – Whole, Half, Quarter etc…
   ii. Clockwise
   iii. Anti-clockwise
   iv. Rotating at Different Degrees
e. Line Symmetry
f. Axes of Symmetry

6. DATA / STATISTICS

59. Understanding Data

a. Understanding Data & Statistics
b. Use & Misuse of Data
c. Classification
d. Organisation
e. Interpretation
f. Accuracy
g. Probability
h. Uncertainty
i. Mode
j. Range
k. Median
l. Mean
Organising Data

a. Lists
b. Tables
c. Diagrams
   i. Pictograms
   ii. Venn Diagrams
   iii. Carroll Diagrams
d. Graphs
   i. Block Graphs
   ii. Line Graphs
e. Charts
   i. Bar Charts
   ii. Bar Line Charts
   iii. Pie Charts
f. Databases
g. Organising Data on a Computer

YEAR 6

Autumn Term

1. NUMBERS & NUMBER SYSTEMS

61. Numbers & Mathematics

a. History of Mathematics
   i. Ancient Mathematics
   ii. Medieval Mathematics
   iii. Modern Mathematics

62. Counting & Number Sequences

a. Square Numbers

63. Place Value

a. Number Lines
b. Positive & Negative Whole Numbers
c. Ratio & Proportion

64. Estimating & Rounding

a. Multiplication
b. Division
65. Mathematical Symbols
   
a. Advanced Mathematical Symbols

2. CALCULATIONS

66. Addition
   
a. Mental Addition Strategies
b. Two & More Digit Addition
c. Addition with Carrying
d. Combined Addition & Subtraction
e. Other Partition Sums
f. Decimal Bonds to 1.0
g. Addition with Whole Numbers plus Decimals
h. Adding Cash Amounts
i. Adding Decimal Numbers
j. Adding Fractions
k. Adding Whole Numbers with Fractions

67. Subtraction
   
a. Mental Subtraction Strategies
b. Two or More Digit Subtraction
c. Subtraction with Borrowing
d. Combined Subtraction & Addition
e. Other Partition Sums
f. Inverse Decimal Bonds to 1.0
g. Subtraction with Whole Numbers plus Decimals
h. Subtracting Cash Amounts
i. Subtracting Decimal Numbers
j. Subtracting Fractions
k. Subtracting Whole Numbers with Fractions

68. Multiplication
   
a. Doubling Numbers
b. The Times Tables to 12 x
c. Times Tables Patterns & Strategies
d. Square Numbers
e. Long Multiplication
f. Using Columns for Multiplication
g. Partition Sums
h. Multiplying Cash Amount
i. Multiplication Using a Calculator
69. Division
   a. Long Division
   b. Partition Sums
   c. Converting Division Remainders into Decimals
   d. Long Division with Decimals Answers
   e. Dividing Cash Amount
   f. Division Using a Calculator

70. Combined Calculations
   a. Averages
      i. Median
      ii. Mean
   b. Percentages
   c. Converting Numbers

71. Checking Results
   a. Repeating Addition in Different Order
   b. Check with Inverse Sum
   c. Repeating Multiplication in Different Order
   d. Checking Through Approximating
   e. Checking Answers Using a Calculator

3. MATHEMATICAL PROBLEMS & PUZZLES

72. Making Decisions
   a. Choosing Appropriate Number Operations for Addition & Subtraction Problems
   b. Choosing Appropriate Number Operations for Multiplication & Division Problems
   c. Choosing Appropriate Number Operations Using a Calculator

73. Reasoning About Numbers & Shapes
   a. Experimenting with Mathematical Statements
   b. Solving Mathematics Problems & Puzzles
   c. Explaining Methods and Reasoning Orally
   d. Expressing Numbers in a Formula

74. Solving Real Life Mathematical Problems
   a. Mathematical Problems Involving Additions
   b. Mathematical Problems Involving Subtractions
c. Mathematical Problems Involving Multiplying
d. Mathematical Problems Involving Sharing
e. Mathematical Problems Involving Shapes
f. Mathematical Problems Involving Distance
g. Mathematical Problems Involving Money
i. Transactions
ii. Accounts
h. Mathematical Problems Involving Time
i. Mathematical Problems Involving Conversions
j. Mathematical Problems Involving Percentage
k. Mathematical Problems Involving Averages
l. Stories with Mathematical Problems

4. MEASUREMENTS

75. Understanding the Vocabulary of Measurements

a. Angles
b. Perimeter
c. Mass
d. Capacity

76. Using Measurement Equipment

a. Using Rulers
b. Using Protractors
c. Using Scales

77. Using Standard Unit Measurement Formulas & Symbols

a. Centimetres – cm
b. Metres – m
c. Millimetres – mm
d. Kilometres – km
e. Square Centimetres – cm²
f. Square Metres – m²
g. Inches
h. Feet
i. Yards
j. Miles
k. Grams – g
l. Kilograms – kg
m. Millilitres – ml
n. Litres – l
o. Pints
p. Gallons
q. Conversions
   i. Converting Larger to Smaller Units
   ii. Converting Smaller to Larger Units

5. GEOMETRY

78. 2-D Shapes
   a. Irregular Shapes
      i. Properties & Features
      ii. Real Life Examples
      iii. Angles

79. 3-D Shapes
   a. Cylinders
      i. Properties & Features
      ii. Real Life Examples
      iii. Making Shape
      iv. Drawing Shape
   b. Cones
      i. Properties & Features
      ii. Real Life Examples
      iii. Making Shape
      iv. Drawing Shape

80. Space
   a. Grids
      i. Rows & Columns
      ii. Co-ordinates

81. Symmetry
   a. Reflection
   b. Symmetrical Patterns
   c. Repeating Patterns
   d. Rotating Patterns
      i. Turns – Whole, Half, Quarter etc…
      ii. Clockwise
      iii. Anti-clockwise
      iv. Rotating at Different Degrees
   e. Line Symmetry
   f. Axes of Symmetry
6. DATA / STATISTICS

82. **Understanding Data**

   a. Use & Misuse of Data
   b. Classification
   c. Organisation
   d. Interpretation
   e. Accuracy
   f. Probability
   g. Uncertainty
   h. Mode
   i. Range
   j. Median
   k. Mean

83. **Organising Data**

   a. Lists
   b. Tables
   c. Diagrams
      i. Pictograms
      ii. Venn Diagrams
      iii. Carroll Diagrams
   d. Graphs
      i. Block Graphs
      ii. Line Graphs
   e. Charts
   f. Bar Charts
      i. Bar Line Charts
      ii. Pie Charts
   g. Databases
   h. Organising Data on a Computer

**Spring Term**

1. NUMBERS & NUMBER SYSTEMS

84. **Counting & Number Sequences**

   a. Square Numbers

85. **Place Value**

   a. Number Lines
   b. Positive & Negative Whole Numbers
   c. Ratio & Proportion
86. **Estimating & Rounding**

   a. Multiplication  
   b. Division

87. **Mathematical Symbols**

   a. Advanced Mathematical Symbols

2. **CALCULATIONS**

88. **Addition**

   a. Mental Addition Strategies  
   b. Two & More Digit Addition  
   c. Addition with Carrying  
   d. Combined Addition & Subtraction  
   e. Other Partition Sums  
   f. Decimal Bonds to 1.0  
   g. Addition with Whole Numbers plus Decimals  
   h. Adding Cash Amounts  
   i. Adding Decimal Numbers  
   j. Adding Fractions  
   k. Adding Whole Numbers with Fractions

89. **Subtraction**

   a. Mental Subtraction Strategies  
   b. Two or More Digit Subtraction  
   c. Subtraction with Borrowing  
   d. Combined Subtraction & Addition  
   e. Other Partition Sums  
   f. Inverse Decimal Bonds to 1.0  
   g. Subtraction with Whole Numbers plus Decimals  
   h. Subtracting Cash Amounts  
   i. Subtracting Decimal Numbers  
   j. Subtracting Fractions  
   k. Subtracting Whole Numbers with Fractions

90. **Multiplication**

   a. Doubling Numbers  
   b. The Times Tables to 12 x  
   c. Times Tables Patterns & Strategies  
   d. Square Numbers  
   e. Long Multiplication
3. MATHEMATICAL PROBLEMS & PUZZLES

94. Making Decisions

a. Choosing Appropriate Number Operations for Addition & Subtraction Problems
b. Choosing Appropriate Number Operations for Multiplication & Division Problems
c. Choosing Appropriate Number Operations Using a Calculator
95. **Reasoning About Numbers & Shapes**
   
a. Experimenting with Mathematical Statements
b. Solving Mathematics Problems & Puzzles
c. Explaining Methods and Reasoning Orally
d. Expressing Numbers in a Formula

96. **Solving Real Life Mathematical Problems**
   
a. Mathematical Problems Involving Additions
b. Mathematical Problems Involving Subtractions
c. Mathematical Problems Involving Multiplying
d. Mathematical Problems Involving Sharing
e. Mathematical Problems Involving Shapes
f. Mathematical Problems Involving Distance
g. Mathematical Problems Involving Money
   i. Transactions
   ii. Accounts
h. Mathematical Problems Involving Time
i. Mathematical Problems Involving Conversions
j. Mathematical Problems Involving Percentage
k. Mathematical Problems Involving Averages
l. Mathematical Problems Involving Speed, Distance & Time
m. Stories with Mathematical Problems

4. MEASUREMENTS

97. **Understanding the Vocabulary of Measurements**
   
a. Angles
b. Perimeter
c. Mass
d. Capacity

98. **Using Measurement Equipment**
   
a. Using Rulers
b. Using Protractors
c. Using Scales

99. **Using Standard Unit Measurement Formulas & Symbols**
   
a. Centimetres – cm
b. Metres – m
c. Millimetres – mm
d. Kilometres – km
e. Square Centimetres – cm²
f. Square Metres – m²
g. Inches
h. Feet
i. Yards
j. Miles
k. Grams – g
l. Kilograms – kg
m. Millilitres – ml
n. Litres – l
o. Pints
p. Gallons
q. Conversions
  i. Converting Larger to Smaller Units
  ii. Converting Smaller to Larger Units
  iii. Converting Metric into Imperial
  iv. Converting Imperial into Metric

5. GEOMETRY

100. **2-D Shapes**

a. Irregular Shapes
   i. Properties & Features
   ii. Real Life Examples
   iii. Angles

101. **3-D Shapes**

a. Pyramids
   i. Properties & Features
   ii. Real Life Examples
   iii. Making Shape
   iv. Drawing Shape

b. Prisms
   i. Properties & Features
   ii. Real Life Examples
   iii. Making Shape
   iv. Drawing Shape

102. **Space**

a. Grids
   i. Rows & Columns
   ii. Co-ordinates
103. **Symmetry**

a. Reflection  
b. Symmetrical Patterns  
c. Repeating Patterns  
d. Rotating Patterns  
   i. Turns – Whole, Half, Quarter etc…  
   ii. Clockwise  
   iii. Anti-clockwise  
   iv. Rotating at Different Degrees  
e. Line Symmetry  
f. Axes of Symmetry  

6. DATA / STATISTICS

104. **Understanding Data**

a. Use & Misuse of Data  
b. Classification  
c. Organisation  
d. Interpretation  
e. Accuracy  
f. Probability  
g. Uncertainty  
h. Mode  
i. Range  
j. Median  
k. Mean  

105. **Organising Data**

a. Lists  
b. Tables  
c. Diagrams  
   i. Pictograms  
   ii. Venn Diagrams  
   iii. Carroll Diagrams  
d. Graphs  
   i. Block Graphs  
   ii. Line Graphs  
e. Charts  
f. Bar Charts  
   i. Bar Line Charts  
   ii. Pie Charts  
g. Databases  
h. Organising Data on a Computer
Summer Term

1. NUMBERS & NUMBER SYSTEMS

106. Counting & Number Sequences
   a. Square Numbers

107. Place Value
   a. Number Lines
   b. Positive & Negative Whole Numbers
   c. Ratio & Proportion

108. Estimating & Rounding
   a. Multiplication
   b. Division

109. Mathematical Symbols
   a. Advanced Mathematical Symbols

2. CALCULATIONS

110. Addition
   a. Mental Addition Strategies
   b. Two & More Digit Addition
   c. Addition with Carrying
   d. Combined Addition & Subtraction
   e. Other Partition Sums
   f. Decimal Bonds to 1.0
   g. Addition with Whole Numbers plus Decimals
   h. Adding Cash Amounts
   i. Adding Decimal Numbers
   j. Adding Fractions
   k. Adding Whole Numbers with Fractions

111. Subtraction
   a. Mental Subtraction Strategies
   b. Two or More Digit Subtraction
   c. Subtraction with Borrowing
   d. Combined Subtraction & Addition
e. Other Partition Sums
f. Inverse Decimal Bonds to 1.0
g. Subtraction with Whole Numbers plus Decimals
h. Subtracting Cash Amounts
i. Subtracting Decimal Numbers
j. Subtracting Fractions
k. Subtracting Whole Numbers with Fractions

112. **Multiplication**

a. Doubling Numbers
b. The Times Tables to 12 x
c. Times Tables Patterns & Strategies
d. Square Numbers
e. Long Multiplication
f. Using Columns for Multiplication
g. Partition Sums
h. Multiplication with Factors
i. Multiplication with Whole Numbers Plus Decimals
j. Multiplying Cash Amount
k. Multiplying Decimals
l. Multiplying Whole Numbers Plus Fractions
m. Multiplying Fractions
n. Multiplication Using a Calculator

113. **Division**

a. Long Division
b. Partition Sums
c. Division with Factors
d. Converting Division Remainders into Decimals
e. Long Division with Decimals Answers
f. Division with Whole Numbers plus Decimals
g. Dividing Cash Amount
h. Dividing Decimals
i. Dividing Whole Numbers plus Fractions
j. Dividing Fractions
k. Division Using a Calculator

114. **Combined Calculations**

a. Averages
   i. Median
   ii. Mean
b. Percentages
c. Speed, Distance & Time
d. Converting Numbers
115. **Checking Results**
   a. Repeating Addition in Different Order
   b. Check with Inverse Sum
   c. Repeating Multiplication in Different Order
   d. Checking Through Approximating
   e. Checking Answers Using a Calculator

3. **MATHEMATICAL PROBLEMS & PUZZLES**

116. **Making Decisions**
   a. Choosing Appropriate Number Operations for Addition & Subtraction Problems
   b. Choosing Appropriate Number Operations for Multiplication & Division Problems
   c. Choosing Appropriate Number Operations Using a Calculator

117. **Reasoning About Numbers & Shapes**
   a. Experimenting with Mathematical Statements
   b. Solving Mathematics Problems & Puzzles
   c. Explaining Methods and Reasoning Orally
   d. Expressing Numbers in a Formula

118. **Solving Real Life Mathematical Problems**
   a. Mathematical Problems Involving Additions
   b. Mathematical Problems Involving Subtractions
   c. Mathematical Problems Involving Multiplying
   d. Mathematical Problems Involving Sharing
   e. Mathematical Problems Involving Shapes
   f. Mathematical Problems Involving Distance
   g. Mathematical Problems Involving Money
      i. Transactions
      ii. Accounts
   h. Mathematical Problems Involving Time
   i. Mathematical Problems Involving Conversions
   j. Mathematical Problems Involving Percentage
   k. Mathematical Problems Involving Averages
   l. Mathematical Problems Involving Speed, Distance & Time
   m. Stories with Mathematical Problems
4. MEASUREMENTS

119. **Understanding the Vocabulary of Measurements**
   
   a. Angles
   b. Perimeter
   c. Mass
   d. Capacity

120. **Using Measurement Equipment**
   
   a. Using Rulers
   b. Using Protractors
   c. Using Scales

121. **Using Standard Unit Measurement Formulas & Symbols**
   
   a. Centimetres – cm
   b. Metres – m
   c. Millimetres – mm
   d. Kilometres – km
   e. Square Centimetres – cm²
   f. Square Metres – m²
   g. Inches
   h. Feet
   i. Yards
   j. Miles
   k. Grams – g
   l. Kilograms – kg
   m. Millilitres – ml
   n. Litres – l
   o. Pints
   p. Gallons
   q. Conversions
      i. Converting Larger to Smaller Units
      ii. Converting Smaller to Larger Units
      iii. Converting Metric into Imperial
      iv. Converting Imperial into Metric

5. GEOMETRY

122. **Space**
   
   a. Grids
      i. Rows & Columns
ii. Co-ordinates

123. **Symmetry**

a. Reflection  
b. Symmetrical Patterns  
c. Repeating Patterns  
d. Rotating Patterns  
   i. Turns – Whole, Half, Quarter etc…  
   ii. Clockwise  
   iii. Anti-clockwise  
   iv. Rotating at Different Degrees  
e. Line Symmetry  
f. Axes of Symmetry

6. DATA / STATISTICS

124. **Understanding Data**

a. Classification  
b. Organisation  
c. Interpretation  
d. Accuracy  
e. Probability  
f. Uncertainty  
g. Mode  
h. Range  
i. Median  
j. Mean

125. **Organising Data**

a. Lists  
b. Tables  
c. Diagrams  
   i. Pictograms  
   ii. Venn Diagrams  
   iii. Carroll Diagrams  
d. Graphs  
   i. Block Graphs  
   ii. Line Graphs  
e. Charts  
f. Bar Charts  
   i. Bar Line Charts  
   ii. Pie Charts  
g. Databases  
h. Organising Data on a Computer
YEAR 7
All Year

1. NUMBERS & NUMBER SYSTEMS

126. Place Value
   a. Number Lines
   b. Positive & Negative Whole Numbers
   c. Ratio & Proportion

127. Estimating & Rounding
   a. Advanced Mathematical Symbols

2. CALCULATIONS

128. Addition
   a. Addition with Whole Numbers plus Decimals
   b. Adding Cash Amounts
   c. Adding Decimal Numbers
   d. Adding Fractions
   e. Adding Whole Numbers with Fractions

129. Subtraction
   a. Subtraction with Whole Numbers plus Decimals
   b. Subtracting Cash Amounts
   c. Subtracting Decimal Numbers
   d. Subtracting Fractions
   e. Subtracting Whole Numbers with Fractions

130. Multiplication
   a. Long Multiplication
   b. Partition Sums
   c. Multiplication with Factors
   d. Multiplication with Whole Numbers Plus Decimals
   e. Multiplying Cash Amount
   f. Multiplying Decimals
   g. Multiplying Whole Numbers Plus Fractions
   h. Multiplying Fractions
   i. Multiplication Using a Calculator
131. Division
   a. Long Division
   b. Partition Sums
   c. Division with Factors
   d. Converting Division Remainders into Decimals
   e. Long Division with Decimals Answers
   f. Division with Whole Numbers plus Decimals
   g. Dividing Cash Amount
   h. Dividing Decimals
   i. Dividing Whole Numbers plus Fractions
   j. Dividing Fractions
   k. Division Using a Calculator

132. Combined Calculations
   a. Averages
      i. Mean
   b. Percentages
   c. Speed, Distance & Time
   d. Converting Numbers
   e. 

133. Checking Results
   a. Repeating Addition in Different Order
   b. Check with Inverse Sum
   c. Repeating Multiplication in Different Order
   d. Checking Through Approximating
   e. Checking Answers Using a Calculator

3. MATHEMATICAL PROBLEMS & PUZZLES

134. Making Decisions
   a. Choosing Appropriate Number Operations for Addition & Subtraction Problems
   b. Choosing Appropriate Number Operations for Multiplication & Division Problems
   c. Choosing Appropriate Number Operations Using a Calculator

135. Reasoning About Numbers & Shapes
   a. Experimenting with Mathematical Statements
   b. Solving Mathematics Problems & Puzzles
   c. Explaining Methods and Reasoning Orally
   d. Expressing Numbers in a Formula
136. **Solving Real Life Mathematical Problems**

a. Mathematical Problems Involving Additions  
b. Mathematical Problems Involving Subtractions  
c. Mathematical Problems Involving Multiplying  
d. Mathematical Problems Involving Sharing  
e. Mathematical Problems Involving Shapes  
f. Mathematical Problems Involving Distance  
g. Mathematical Problems Involving Money  
   i. Transactions  
   ii. Accounts  
h. Mathematical Problems Involving Time  
i. Mathematical Problems Involving Conversions  
j. Mathematical Problems Involving Percentage  
k. Mathematical Problems Involving Averages  
l. Mathematical Problems Involving Speed, Distance & Time  
m. Stories with Mathematical Problems  

4. **MEASUREMENTS**

137. **Using Measurement Equipment**

a. Using Rulers  
b. Using Protractors  
c. Using Scales  

138. **Using Standard Unit Measurement Formulas & Symbols**

a. Centimetres – cm  
b. Metres – m  
c. Millimetres – mm  
d. Kilometres – km  
e. Square Centimetres – cm²  
f. Square Metres – m²  
g. Inches  
h. Feet  
i. Yards  
j. Miles  
k. Grams – g  
l. Kilograms – kg  
m. Millilitres – ml  
n. Litres – l  
o. Pints  
p. Gallons  
q. Conversions  
   i. Converting Larger to Smaller Units
5. GEOMETRY

139. Space

a. Grids
   i. Rows & Columns
   ii. Co-ordinates

140. Symmetry

a. Symmetrical Patterns
b. Repeating Patterns
c. Rotating Patterns
   i. Turns – Whole, Half, Quarter etc…
   ii. Clockwise
   iii. Anti-clockwise
   iv. Rotating at Different Degrees
d. Line Symmetry
e. Axes of Symmetry

6. DATA / STATISTICS

141. Understanding Data

a. Understanding Data & Statistics
b. Use & Misuse of Data
c. Classification
d. Organisation
e. Interpretation
f. Accuracy
g. Probability
h. Uncertainty
   i. Mode
   j. Range
   k. Median
   l. Mean

142. Organising Data

a. Tables
b. Diagrams
   i. Venn Diagrams
ii. Carroll Diagrams

c. Graphs
   i. Block Graphs
   ii. Line Graphs

d. Charts
   i. Bar Charts
   ii. Bar Line Charts
   iii. Pie Charts

e. Databases
f. Organising Data on a Computer

143. Algebra

a. Introduction & Overview
b. Elementary Algebra
   i. Number / Symbol System
   ii. Constants
   iii. Variables
   iv. Polynomials
   v. Mathematical Expressions
   vi. Equations
c. Using Algebra
   i. Mathematical Operations
   ii. Geometry
   iii. Data
   iv. Charts & Graphs