## Scope \& Sequence NSW Stage 3 (A) Yearly overview

Learning
Term one
Term two
Term three
Term four

## Number and Algebra

Big idea: The number system extends infinitely to very large and very small numbers

## Numbers to 1 billion

- Apply place value to hundred million
- Read, represent and order numbers

Partition numbers to 1 billion

## Number and Algebra

Big idea: Addition and subtraction problems can be solved by using a variety of strategies
Addition and subtraction

- Apply efficient mental and written strategies
- Solve multistep problems
- Use a calculator
- Round and estimate to check for reasonableness


## Measurement and Space

Big idea: What needs to be measured determines the unit of measurement

12- and 24-hour time

- Read time using 24 -hour time notation
- Convert between 24-and 12 -hour time
- Use am and pm notation
- Read, interpret and use timetables


## Number and Algebra

Big idea: Fractions represent multiple ideas and can be represented in different ways

## Fractions

Compare halves and quarters of different sized wholes Compare and order unit fractions

## Number and Algebra

## Statistics and probability

Big idea: Questions can be asked and answered by collecting and interpreting data

## Data

- Collect categorical and discrete numerical data
- Construct graphs using many-to-one scale
- Create timeline
- Interpret data displays: tables, column graphs and line graphs


## Number and Algebra

Big idea: The number system extends infinitely to very large and very small numbers

## Decimals

- Express decimals as thousandths
- Use place value to partition decimal
- Compare and order decimals to 3 place
- Place decimals on a number line


## Number and Algebra

Big idea: Multiplicative thinking involves flexible use of multiplication and division concepts, strategies and representations

## Mental multiplication and division

- Multiply by $10,100,1000$
- Use mental strategies to multiply and divide: area model, partitioning and factorisation
- Use the distributive property
- Model division involving remainders
- Round and estimate to check for reasonableness


## Measurement and Space

## Statistics and Probability

sig idea: Visual representations help to understand aspects of the world (chance and position)

## Position

- Identify point of intersection on cartesian plane
- Plot and label points in the first quadrant
- Identify and record coordinates
- Link cartesian plane to line graphs


## Measurement and Space

Big idea: What needs to be measured determines the unit of measurement

## 3D Objects and capacity

- Identify properties of prisms and pyramids
- Visualise and sketch 3D objects
- Visualise and sketch nets for 3D objects

Use appropriate units to measure capacity

- nterpre decimal notation for casie


## Measurement and Space

Big idea: Angles are the primary structural component of many shapes

## Angles

- Estimate and describe the size of angle
- Measure and record angles using degrees

Create angles using a protractor

- Classify angles: right, straight, acute, obtuse, reflex and revolution


## Number and Algebro

Big idea: The number system extends infinitely to very large and very small numbers

## Patterns

- Determine products and factors for given whole numbers
- Determine prime and composite numbers
- Patterns
- Algebra


## Measurement and Space

Big idea: Understanding relationships between the properties of 2D shapes helps visualise and organise spaces in the world Classifying 2D shapes

- Identify and classify triangles: equilateral, isosceles \& scalene - Classify triangles and quadrilaterals
- Identify regular and irregular polygons


## Number and Algebra

Big idea: Multiplicative thinking involves flexible use o multiplication and division concepts, strategies, and representations
Linking multiplication with area

- Record area in square kilometres and hectares
- Find area of triangles
- Investigate and compare relationships between area and perimeter of rectangles with different dimensions


## Number and Algebra

Measurement and Space
Big idea: What needs to be measured determines the unit of measurement

## Length and mass

- Measure lengths using km
- Estimate and measure length
- Calculate perimeters
- Use appropriate units to measure mas
- Interpret decimal notation for mass


## Number and Algebra

Big idea: Addition and subtraction problems can be solved by using a variety of strategies

## Addition and subtraction problems

- Use flexible strategies to solve word problems involving addition and subtraction
- Use addition and subtraction to solve problems involving money and budgeting


## Number and Algebra

Big idea: The number system extends infinitely to very large and very small numbers

## Number review

Review:

- Term 1, Learning Sequence 1
- Term 2, Learning Sequence
- Term 3, Learning Sequence 1


## Number and Algebra

## Measurement and Space

Big idea: Fractions represent multiple ideas and can be epresented in different ways

## ractions applications

- Add and subtract fractions with the same denominato - Solve word problems that involve fractions with the same denominator


## Statistics and Probability

Big idea: Questions can be asked and answered by collecting and interpreting data

## Chance

- Use the term probability
- Recognise outcomes that are equally likely
- Record outcomes in chance experiments
- Represent probabilities using fractions


## Number and Algebra

Measurement and Space
Big idea: Multiplicative thinking involves flexible use of multiplication and division concepts, strategies and representations
Written multiplication and division
Revise mental strategies for multiplication and division - Use algorithms to multiply by a one-digit number

Solve word problems involving multiplication and division

## Measurement and Space

Big idea: Shapes encountered in daily life can be classified by their attributes

## 2D shape angle properties

- Review 2 D shape properties
- Compare side and angle properties of triangles and
quadrilaterals
Investigate symmetry properties of quadrilaterals


## Scope \& Sequence NSW Stage 3 (A) Outcome map

| Outcomes | Focus | Content | Located |
| :---: | :---: | :---: | :---: |
| MA3-RN-01 <br> applies an understanding of place <br> value and the role of zero to represent the properties of numbers | Represent numbers $A$ | Whole numbers: Recognise, represent and order numbers in the millions | ```Term 1 LS 1, 2, 5 Term 2 LS 1 Term 3 LS 1,5 Term 4 LS 1``` |
|  |  | Whole numbers: Apply place value to partition, regroup and rename numbers to 1 billion | Term 1 LS 1, 2 <br> Term 2 LS 1, 2 <br> Term 3 LS 1, 5 <br> Term 4 LS 1, 4 |
| MA3-RN-02 <br> compares and orders decimals up to 3 decimal places | Represent numbers A | Decimals and percentages: Recognise that the place value system can be extended beyond hundredths | ```Term 1 LS 1,5 Term 2 LS 1,4 Term 3 LS 1, 4,5 Term4 LS 1``` |
|  |  | Decimals and percentages: Compare, order and represent decimals | ```Term 1 LS 1,5 Term 2 LS 1,4 Term 3 LS 1, 4,5 Term4 LS 1``` |
| MA3-AR-01 <br> selects and applies appropriate strategies to solve addition and subtraction problems | Additive relations A | Apply efficient mental and written strategies to solve addition and subtraction problems | Term 1 LS 2, 4 <br> Term 3 LS 5 <br> Term 4 LS 1, 2 |
|  |  | Use estimation and place value understanding to determine the reasonableness of solutions | Term 1 LS 2 <br> Term 3 LS 5 <br> Term 4 LS 1 |
| MA3-MR-01 <br> selects and applies appropriate strategies to solve multiplication and division problems | Multiplicative relations A | Determine products and factors | Term 1 LS 1 <br> Term 2 LS 2 <br> Term 3 LS 1, 3 <br> Term 4 LS 4, 5 |
|  |  | Use partitioning and place value to multiply 2 -, 3 - and 4 -digit numbers by one-digit numbers | Term 1 LS 1 <br> Term 2 LS 2 <br> Term 3 LS 3 <br> Term 4 LS 4, 5 |
|  |  | Select and apply mental and written strategies to multiply 2 - and 3 -digit numbers by 2 -digit numbers | Term 2 LS 2 <br> Term 4 LS 4 DEL |
|  |  | Represent and solve division problems with whole number remainders | Term 2 LS 2 <br> Term 4 LS 4 |
|  |  | Select and apply strategies to divide a number with 3 or more digits by a one-digit divisor | Term 2 LS 2 <br> Term 4 LS 4 DEL |
|  |  | Use estimation and rounding to check the reasonableness of answers to calculations | Term 2 LS 2 Term 3 LS 3 Term 4 LS 4, 5 |
| MA3-RQF-01 <br> compares and orders fractions with denominators of $2,3,4,5,6,8$ and 10 | Representing quantity fractions A | Recognise the role of the number 1 as representing the whole | Term 1 LS 4 Term 4 LS 2 |
|  |  | Compare and order common unit fractions | Term 1 LS 4 Term 4 LS 2 |
|  |  | Solve problems involving addition and subtraction of fractions with the same denominator | $\begin{aligned} & \text { Term } 1 \text { LS } 4 \\ & \text { Term } 2 \text { LS } 5 \\ & \text { Term } 4 \text { LS } 2 \end{aligned}$ |
| MA3-GM-01 <br> locates and describes points on a coordinate plane | Geometric measure A | Position: Explore the Cartesian coordinate system | Term 2 LS 3 |


| Outcomes | Focus | Content | Located |
| :---: | :---: | :---: | :---: |
| MA3-GM-02 <br> selects and uses the appropriate unit and device to measure lengths and distances including perimeters | Geometric measure <br> A | Length: Use metres and kilometres for length and distances | Term 3 LS 4 |
|  |  | Length: Measure lengths to find perimeters | Term 3 LS 3, 4 |
| MA3-GM-03 <br> measures and constructs angles, and identifies the relationships between angles on a straight line and angles at a point | Geometric measure A | Angles: Estimate, measure and compare angles using degrees | $\begin{aligned} & \text { Term } 2 \text { LS } 5 \\ & \text { Term } 4 \text { LS } 5 \end{aligned}$ |
|  |  | Angles: Use a protractor to measure and identify types of angles | Term 2 LS 5 Term 4 LS 5 |
| MA3-2DS-01 <br> investigates and classifies two-dimensional shapes, including triangles and quadrilaterals based on their properties | Two-dimensional spatial structure $A$ | 2D shapes: Classify two-dimensional shapes and describe their properties | $\begin{aligned} & \text { Term } 3 \text { LS } 2 \\ & \text { Term } 4 \text { LS } 5 \end{aligned}$ |
| MA3-2DS-02 <br> selects and uses the appropriate unit to calculate areas, including areas of rectangles | Two-dimensional spatial structure A | Area: Use hectares and square kilometres as units of measurement for area | Term 4 LS 5 |
|  |  | Area: Calculate the areas of rectangles using familiar metric units | Term 4 LS 5 |
| MA3-3DS-01 <br> visualises, sketches and constructs three-dimensional objects, including prisms and pyramids, making connections to two-dimensional representations | Three-dimensional spatial structure $\mathbf{A}$ | 3D objects: Compare, describe and name prisms and pyramids | Term 2 LS 4 |
|  |  | 3D objects: Connect three-dimensional objects with two-dimensional representations | Term 2 LS 4 |
| MA3-3DS-02 <br> selects and uses the appropriate unit to estimate, measure and calculate volumes and capacities | Three-dimensional spatial structure A | Volume: Choose appropriate units of measurement for capacity | Term 2 LS 4 |
|  |  | Volume: Use displacement to investigate volumes of irregular solids | Term 2 LS 4 |
|  |  | Volume: Connect decimal representations to the metric system | Term 2 LS 4 |
| MA3-NSM-01 <br> selects and uses the appropriate unit and device to measure the masses of objects | Non-spatial measure A | Mass: Choose appropriate units of measurement for mass | Term 3 LS 4 |
|  |  | Mass: Connect decimal representations to the metric system | Term 3 LS 4 |
| MA3-NSM-02 <br> measures and compares duration, using 12 - and 24 -hour time and am and pm notation | Non-spatial measure A | Time: Compare 12- and 24-hour time systems and convert between them | Term 1 LS 3 |
| MA3-DATA-01 <br> constructs graphs using many-to-one scales | Data A | Collect categorical and discrete numerical data by observation or survey | Term 1 LS 5 <br> Term 2 LS 3 <br> Term 4 LS 3 |
|  |  | Choose and use appropriate tables and graphs | Term 1 LS 5 <br> Term 2 LS 3 <br> Term 4 LS 3 |
| MA3-DATA-02 <br> interprets data displays, including timelines and line graphs | Data A | Describe and interpret different datasets in context | Term 1 LS 5 <br> Term 2 LS 3 <br> Term 4 LS 3 |
| MA3-CHAN-01 <br> conducts chance experiments and quantifies the probability | Chance A | List outcomes of chance experiments involving equally likely outcomes and represent probabilities | $\begin{aligned} & \text { Term } 2 \text { LS } 3 \\ & \text { Term } 4 \text { LS } 3 \end{aligned}$ |

## Scope \& Sequence NSW Stage 3 (A) Term 1

| LS \& Topic | Outcomes | Focus | Content | Course Topic \& Activities | Skill Quests | Challenges | Ebooks |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LS 1 <br> Big idea The number system extends infinitely to very large and very small numbers <br> Topic <br> Numbers to 1 billion | MA3-RN-01 <br> applies an understanding of place value and the role of zero to ... <br> MA3-RN-02 <br> compares and orders decimals up to 3 decimal places <br> MA3-MR-01 <br> selects and applies appropriate strategies to solve multiplication ... | Represent numbers $\mathbf{A}$ <br> Multiplicative relations A | - Whole numbers: Recognise, represent and order numbers in the millions <br> - Whole numbers: Apply place value to partition, regroup and rename numbers to 1 billion <br> - Decimals and percentages: Recognise that the place value system can be extended beyond hundredths <br> - Decimals and percentages: Compare, order and represent decimals <br> - Determine products and factors <br> - Use partitioning and place value to multiply $2-3$ - and 4 -digit numbers by one-digit numbers | A. Whole Numbers <br> - Numbers from Words to Digits 2 <br> - Numbers from Words to Digits 3 <br> - Place Value - Millions <br> - Place Value to Millions <br> - Place Value to Billions <br> - Equal, Less or Greater than? <br> - Comparing Numbers | Represent numbers of any size <br> - Representing \& ordering numbers of any size <br> - Rounding numbers to a specified place <br> - Partitioning numbers of any size | Number \& Algebra, Whole Number 4-6 <br> - Unknown values in uneven partitioned shapes, DOK 2 | Year 6 Series F Reading and Understanding Whole Numbers <br> - Read and understand numbers pp 2-5 <br> - Round and estimate pp 19-24 |
| LS 2 <br> Big idea <br> Addition and <br> subtraction <br> problems can be <br> solved by using a <br> variety of <br> strategies <br> Topic <br> Addition and <br> subtraction | MA3-RN-01 <br> applies an understanding of place value and the role of zero to ... <br> MA3-AR-01 <br> selects and applies appropriate strategies to solve addition ... | Represent numbers A <br> Additive relations A | - Whole numbers: Recognise, represent and order numbers in the millions <br> - Whole numbers: Apply place value to partition, regroup and rename numbers to 1 billion <br> - Apply efficient mental and written strategies to solve addition and subtraction problems <br> - Use estimation and place value understanding to determine the reasonableness of solutions | A. Addition \& subtraction mentally \& estimation <br> - Magic Mental <br> Addition/Mental Addition (US) <br> - Magic Mental Subtraction/Mental Subtraction (US) <br> - Split Add and Subtract <br> - Pyramid Puzzles 1 <br> - Pyramid Puzzles 2 <br> - Partition Puzzles 1 <br> - Partition Puzzles 1 <br> - Addition Properties <br> - Estimation: Add and Subtract <br> - Estimate Sums <br> - Estimate Differences | Add $\mathcal{G}$ subbract numbers of any size <br> - Adding strategies with numbers of any size <br> - Subtracting strategies with numbers of any size <br> - Selecting efficient strategies to add \& subtract <br> - Using rounding to estimate <br> - Checking the accuracy of answers |  | Year 5 Series E Addition and Subtraction <br> - Addition mental strategies pp 1-8 <br> - Subtraction mental strategies pp 9-16 <br> - Written methods pp 17-22 |

## Scope \& Sequence NSW Stage 3 (A) Term 1

| LS \& Topic | Outcomes | Focus | Content | Course Topic \& Activities | Skill Quests | Challenges | Ebooks |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LS 3 <br> Big idea <br> What needs to be measured <br> determines the <br> unit of <br> measurement <br> Topic <br> 12- and 24-hour <br> time | MA3-NSM-02 <br> measures and compares <br> duration, using 12 - and $24-\mathrm{hr}$... | Non-spatial measure A | - Time: Compare 12 - and 24-hour time systems and convert between them | A. Time <br> - 24 Hour Time <br> - Using Timetables <br> - Time Conversions: Whole Numbers 1 <br> - Time Conversions: Whole Numbers 2 <br> - Time Conversions: Simple Fractions | Use $12 \& 24$ hour time <br> - Converting between $12 \& 24$ hour time <br> - Using timetables | Measurement, Time 3-5 <br> - A lesson in time, DOK 2 <br> - Puppy-sitting, DOK 3 <br> Measurement, Time 4-6 <br> - 24-hour train time, DOK 2 <br> - Ordering times, DOK 2 <br> - Time to explore 4, DOK 3 | Year 5 Series E Time <br> - Measuring time pp 1-8 <br> - Calculating time pp 9-14 <br> - Timetables pp 15-20 |
| LS 1 <br> Big idea <br> Fractions <br> represent <br> multiple ideas and <br> can be <br> represented in <br> different ways <br> Topic <br> Fractions | MA3-AR-01 <br> selects and applies appropriate strategies to solve addition ... <br> MA3-RQF-01 <br> compares and orders fractions with denominators of $2,3,4,5$. | Additive relations A <br> Representing quantity fractions $A$ | - Apply efficient mental and written strategies to solve addition and subtraction problems <br> - Recognise the role of the number 1 as representing the whole <br> - Compare and order common unit fractions <br> - Solve problems involving addition and subtraction of fractions with the same denominator | A. Fractions <br> - Compare Fractions 1a <br> B.More fractions <br> - Compare Fractions 2 <br> Fractions <br> - Common Denominator <br> - Unit Fractions <br> - One Take Fraction | Compare fractions with same denominator <br> - Identifying fractions equivalent to 1 whole <br> - Comparing \& ordering common unit fractions | Number \& Algebra, <br> Fractions 3-5 <br> - Which is closer to 1 ? DOK 2 <br> - What fraction is that? DOK 2 <br> - Drinking equivalent fractions, DOK 3 | Year 5 Series E Fractions, Decimals and Percentages <br> - Fractions pp 1-8 <br> - Types of fractions pp 9-16 |
| LS 3 <br> Big idea <br> What needs to be measured <br> determines the unit of <br> measurement <br> Topic <br> Data | MA3-RN-01 <br> applies an understanding of place value and the role of ... <br> MA3-RN-02 <br> compares and orders decimals up to 3 decimal places <br> MA3-DATA-01 constructs graphs using many-to-one scales <br> MA3-DATA-02 <br> interprets data displays, including timelines and line ... | Represent numbers A <br> Data A | - Whole numbers: Recognise, represent and order numbers in the millions <br> - Decimals and percentages: Recognise that the place value system can be extended beyond hundredths <br> - Decimals and percentages: Compare, order and represent decimals <br> - Collect categorical and discrete numerical data by observation or survey <br> - Choose and use appropriate tables and graphs <br> - Describe and interpret | A. Displaying numerical data <br> - Tallies <br> - Sorting Data <br> - Column Graphs <br> A. Interpret data <br> - Interpreting Tables <br> - Reading from a Column Graph <br> - Line Graphs: Interpretation | Collect \& display discrete data <br> - Collecting discrete data <br> - Choosing \& using appropriate tables/graphs <br> Interpret discrete data <br> - Interpreting discrete data using various displays <br> - Interpreting line graphs | Statistics \& datad 3-5 <br> - Create a line graph, DOK 3 | Year 5 Series E Data Representation <br> - Types of graphs 1 pp 1-6 <br> - Types of graphs 2 pp 7-11 <br> - Types of graphs $3 \mathrm{pp} \mathrm{12-17}$ <br> - Collecting and analysing data pp 18-23 <br> - Data investigations pp 24-28 |

## Scope \& Sequence NSW Stage 3 (A) Term 2

| LS \& Topic | Outcomes | Focus | Content | Course Topic \& Activities | Skill Quests | Challenges | Ebooks |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LS 1 <br> Big idea The number system extends infinitely to very large and very small numbers <br> Topic Decimals | MA3-RN-01 <br> applies an understanding of place value and the role of zero to ... <br> MA3-RN-02 <br> compares and orders decimals up to 3 decimal places | Represent numbers A | - Whole numbers: Recognise, represent and order numbers in the millions <br> - Whole numbers: Apply place value to partition, regroup and rename numbers to 1 billion <br> - Decimals and percentages: Recognise that the place value system can be extended beyond hundredths <br> - Decimals and percentages: Compare, order and represent decimals | A. Decimals <br> - Decimals from Words to Digits 1 <br> - Decimals from Words to Digits 2 <br> - Decimal Place Value <br> - Comparing Decimals 1 <br> - Comparing Decimals <br> - Comparing Decimals 2 <br> - Decimal Order <br> - Decimal Order 2 <br> - Decimals on the Number Line <br> - Rounding Decimals 1 | Compare \& order decimals <br> - Recognising decimals up to thousandths <br> - Partitioning decimals up to thousandths <br> - Comparing \& ordering decimals up to thousandths | Number \& Algebra, <br> Patterns 4-6 <br> - Egyptian patterns, DOK 3 | Year 5 Series E Fractions, decimals and percentages <br> - Fractions, decimals and percentages pp 20-21 <br> Year 6 Series F Fractions, decimals and percentages <br> - Decimal fractions pp 12-16 |
| LS 2 <br> Big idea Multiplicative thinking involves flexible use of multiplication and division concepts, strategies and representations <br> Topic Mental multiplication and division | MA3-RN-01 <br> applies an understanding of place value and the role of zero to ... <br> MA3-MR-01 <br> selects and applies appropriate strategies to solve multiplication ... | Represent numbers A <br> Multiplicative relations A | - Whole numbers: Apply place value to partition, regroup and rename numbers to 1 billion <br> - Determine products and factors <br> - Use partitioning and place value to multiply $2-3$ - and 4-digit numbers by one-digit numbers <br> - Select and apply mental and written strategies to multiply 2 - and 3 -digit numbers by 2 -digit numbers <br> - Represent and solve division problems with whole number remainders <br> - Select and apply strategies to divide a number with 3 or more digits by a one-digit divisor <br> - Use estimation and rounding to check the reasonableness of answers to calculations | A. Multiplication \& division <br> - Fact Families: Multiply and Divide <br> - Multiplication Turnarounds <br> - Missing Numbers: $\times$ and $\div$ facts <br> - Times Tables <br> - Solve Equations: Multiply, Divide 1 <br> - Bar model $x \div$ <br> - Multiply 3 single-digit numbers <br> - Multiply Multiples of 10 <br> - Multiply More Multiples of 10 <br> - Multiplying Whole Numbers by 10,100 , and 1000 <br> - Double and Halve to Multiply <br> - Mental Methods Multiplication 1 | Multiply by multiples of 10 <br> - Multiplying up to 4 digits by $100 \& 1000$ <br> Multiply using double \& halve strategy <br> - Using doubling \& related facts to multiply by 2 <br> - Using doubling \& related facts to multiply by 4 <br> - Using doubling \& related facts to multiply by 8 <br> - Partitioning \& compensating to double \& halve <br> - Using double \& halve to multiply <br> - Using double/halve or triple/third <br> Multiply up to 4 digits by 1 digit <br> - Multiplying using place value <br> - Multiplying using factorising <br> - Multiplying using the round \& compensate strategy <br> Multiply up to 4 digits by 2 digits <br> - Strategies to multiply by a 2 -digit number <br> Division with remainders <br> - Introducing division with remainders <br> Divide up to 4 digits by 1 -digit numbers <br> - Using known facts to divide by a 1 -digit divisor <br> - Partitioning to divide by a 1 -digit divisor <br> - Solving division problems with 1-digit divisors <br> - Using estimation/rounding to check answers | Number \& Algebra, Multiplication \& Division 4-6 <br> - Number shuffle, DOK 2 <br> - The two sides of the pyramid, DOK 2 | Year 5 Series E Multiplication and Division <br> - Mental multiplication <br> strategies pp 1-10 <br> - Mental division strategies pp 11-19 |

## Scope \& Sequence NSW Stage 3 (A) Term 2

| LS \& Topic | Outcomes | Focus | Content | Course Topic \& Activities | Skill Quests | Challenges | Ebooks |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LS 3 <br> Big idea Visual representations help to understand aspects of the world (chance and position) <br> Topic Position | MA3-GM-01 <br> locates and describes points on a coordinate plane <br> MA3-DATA-01 <br> constructs graphs using <br> many-to-one scales <br> MA3-DATA-02 <br> interprets data displays, including timelines and line graphs <br> MA3-CHAN-01 conducts chance experiments and quantifies the probability | Geometric measure A <br> Data A <br> Chance A | - Position: Explore the Cartesian coordinate system <br> - Collect categorical and discrete numerical data by observation or survey <br> - Choose and use appropriate tables and graphs <br> - Describe and interpret different datasets in context <br> - List outcomes of chance experiments involving equally likely outcomes and represent probabilities | A/B. Coordinate plane position <br> - Coordinate Graphs: 1st Quadrant <br> - Ordered Pairs <br> - Horizontal and Vertical Change <br> - Transformations: Coordinate Plane <br> A. Interpret data <br> - Line Graphs: Interpretation | Locate position in the first quadrant <br> - Using the first quadrant to locate position <br> - Plotting coordinates in the first quadrant |  | Year 5 Series E Position <br> - Spatial orientation pp 1-6 <br> - Coordinates pp 7-12 <br> - Directions pp 13-16 |
| LS 1 <br> Big idea What needs to be measured determines the unit of measurement <br> Topic <br> 3D objects and capacity | MA3-RN-02 <br> compares and orders decimals up to 3 decimal places <br> MA3-3DS-01 <br> visualises, sketches and constructs three-dimensional ... <br> MA3-3DS-02 <br> selects and uses the appropriate unit to estimate, measure and ... | Represent numbers A <br> Three-dimensional spatial structure A | - Decimals and percentages: Recognise that the place value system can be extended beyond hundredths <br> - Decimals and percentages: Compare, order and represent decimals <br> - 3D objects: Compare, describe and name prisms and pyramids <br> - 3D objects: Connect three-dimensional objects with two-dimensional representations <br> - Volume: Choose appropriate units of measurement for capacity <br> - Volume: Use displacement to investigate volumes of irregular solids <br> - Volume: Connect decimal representations to the metric system | A. Prisms \& pyramids <br> - What Prism Am I? <br> - What Pyramid Am I? <br> - Prisms and Pyramids <br> $A / B$. Volume <br> - Millilitres and Litres | Connect 3D with 2D <br> representations <br> - Naming prisms \& pyramids <br> - Connecting prisms with their nets <br> - Connecting 3D objects with their nets <br> Use appropriate units for capacity <br> - Using appropriate units for capacity (L \& mL) | Geometry, 3D Shape 3-5 <br> - Nets and prisms, DOK 3 <br> Geometry, 3D Shape 4-6 <br> - Creating cubes, DOK 2 <br> - Notty nets, DOK 2 <br> - Looking at faces, edges and vertices, DOK 3 <br> - Pyramids and prisms, DOK 3 | Year 5 Series E Volume, Capacity and Mass <br> - Volume and capacity pp 1-8 <br> Year 6 Series F Volume, Capacity and Mass <br> - Volume and capacity pp 1-2, 5-8 <br> Year 5 Series E Geometry <br> - 3D shapes pp 25-34 |
| LS 3 <br> Big idea Angles are the primary structura component of many shapes <br> Topic <br> Angles | MA3-RQF-01 <br> compares and orders fractions with denominators of $2,3,4,5 \ldots$ <br> MA3-GM-03 <br> measures and constructs angles, and identifies the relationships .. | Representing quantity fractions $A$ <br> Geometric measure A | - Solve problems involving addition and subtraction of fractions with the same denominator <br> - Angles: Estimate, measure and compare angles using degrees <br> - Angles: Use a protractor to measure and identify types of angles | $A / B$ Identifying angles <br> - Estimating Angles <br> - Measuring Angles <br> - What Type of Angle? <br> - Classifying Angles | Measure \& identify angles <br> - Estimating, measuring \& comparing angles <br> - Constructing angles \& identifying different types | Measurement, Angles 4-6 <br> - Angle estimation, DOK 3 | Year 5 Series E Geometry <br> - Lines and angles pp 2-6 |

## Scope \& Sequence NSW Stage 3 (A) Term 3

| LS \& Topic | Outcomes | Focus | Content | Course Topic \& Activities | Skill Quests | Challenges | Ebooks |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LS 1 <br> Big idea The number system extends infinitely to very large and very small numbers <br> Topic <br> Patterns | MA3-RN-01 <br> applies an understanding of place value and the role of zero to ... <br> MA3-RN-02 <br> compares and orders decimals up to 3 decimal places <br> MA3-MR-01 <br> selects and applies appropriate strategies to solve multiplication ... | Represent numbers $\mathbf{A}$ <br> Multiplicative relations A | - Whole numbers: Recognise, represent and order numbers in the millions <br> - Whole numbers: Apply place value to partition, regroup and rename numbers to 1 billion <br> - Decimals and percentages: Recognise that the place value system can be extended beyond hundredths <br> - Decimals and percentages: Compare, order and represent decimals <br> - Determine products and factors | A. Multiplication \& division <br> - Lowest Common Multiple <br> - Find the Factor <br> - Factors <br> - Highest Common Factor <br> - Prime or Composite? | Use products, factors \& primes <br> - Determining products \& factors <br> - Primes \& composite numbers | Number \& Algebra, <br> Multiplication \& Division <br> 4-6 <br> - Who let the critters out? DOK2 <br> - Always reasoning about numbers, DOK 3 <br> - Peculiar patterns with multiples, DOK 3 <br> - Multiple muffins, DOK 3 <br> - Supermarket stock dilemma, Dок 3 <br> - Factor in our clues, Dок 3 <br> - Fear fact-ors, DOK 3 <br> - Factor finding, DOK 3 <br> - Tricky factors, DOK 3 <br> - Clue me in, Dok 3 <br> - Peculiar patterns with multiples, DOK 3 | Year 5 Series E Multiplication and Division <br> - Mental multiplication strategies pp 9-10 <br> Year 6 Series $F$ Reading and Understanding Whole Numbers <br> - Types of numbers pp 11-12 <br> Year 5 Rich Learning Task <br> - Factors and Multiples <br> Year 5 Series E Patterns and Algebra <br> - Patterns and functions pp 1-17 <br> - Algebraic thinking pp 18-25 <br> - Solving equations pp 26-33 |
| LS 2 <br> Big idea <br> Understanding <br> relationships <br> between the <br> properties of 2D <br> shapes helps <br> visualise and <br> organise spaces in <br> the world <br> Topic <br> Classifying 2D <br> shapes | MA3-2DS-01 investigates and classifies two-dimensional shapes. | Two-dimensional spatial structure A | - 2D shapes: Classify two-dimensional shapes and describe their properties | A. Classify two-dimensional shapes <br> - Triangle Tasters <br> - Sides, Angles and Diagonals <br> - Plane Figure Terms <br> - Collect the Polygons | Describe properties of 2D shapes <br> - Classifying 2D shapes \& describe properties | Geometry, 2D Shape 3-5 <br> - Big shapes made smaller, DOK 2 <br> - Shape shifter, DOK 2 <br> - Hidden shapes, DOK 3 <br> - Comparing shapes, DОк 3 <br> Geometry, 2D Shape 4-6 <br> - Trying triangles, DOK 2 <br> - Square split, Dок 3 | Year 5 Series E Geometry <br> - 2D shapes pp 7-15 <br> Year 5 Rich Learning Task <br> - What Triangle? |

## Scope \& Sequence NSW Stage 3 (A) Term 3

| LS \& Topic | Outcomes | Focus | Content | Course Topic \& Activities | Skill Quests | Challenges | Ebooks |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LS 3 <br> Big idea Multiplicative thinking involves flexible use of multiplication and division concepts, strategies and representations <br> Topic <br> 12- and 24-hour time | MA3-NSM-02 <br> measures and compares <br> duration, using 12-and 24-hr ... | Non-spatial measure A | - Time: Compare 12 - and 24 -hour time systems and convert between them | A. Time <br> - 24 Hour Time <br> - Using Timetables <br> - Time Conversions: Whole Numbers 1 <br> - Time Conversions: Whole Numbers 2 <br> - Time Conversions: Simple Fractions | Use 12 \& 24 hour time <br> - Converting between 12 \& 24 hour time <br> - Using timetables | Measurement, Time 3-5 <br> - A lesson in time, DOK 2 <br> - Puppy-sitting, DOK 3 <br> Measurement, Time 4-6 <br> - 24-hour train time, DOK 2 <br> - Ordering times, DOK 2 <br> - Time to explore 4, DOK 3 | Year 5 Series E Time <br> - Measuring time pp 1-8 <br> - Calculating time pp 9-14 <br> - Timetables pp 15-20 |
| LS 1 <br> Big idea <br> Fractions <br> represent <br> multiple ideas and <br> can be <br> represented in <br> different ways <br> Topic <br> Fractions | MA3-AR-01 <br> selects and applies appropriate strategies to solve addition ... <br> MA3-RQF-01 compares and orders fractions with denominators of $2,3,4,5$. | Additive relations A <br> Representing quantity fractions $A$ | - Apply efficient mental and written strategies to solve addition and subtraction problems <br> - Recognise the role of the number 1 as representing the whole <br> - Compare and order common unit fractions <br> - Solve problems involving addition and subtraction of fractions with the same denominator | A. Fractions <br> - Compare Fractions 1a <br> B. More fractions <br> - Compare Fractions 2 <br> Fractions <br> - Common Denominator <br> - Unit Fractions <br> - One Take Fraction | Compare fractions with same denominator <br> - Identifying fractions equivalent to 1 whole <br> - Comparing \& ordering common unit fractions | Number \& Algebra, <br> Fractions 3-5 <br> - Which is closer to 1 ? DOK 2 <br> - What fraction is that? DOK 2 <br> - Drinking equivalent fractions, DOK 3 | Year 5 Series E Fractions, Decimals and Percentages <br> - Fractions pp 1-8 <br> - Types of fractions pp 9-16 |
| LS 3 <br> Big idea <br> What needs to be <br> measured <br> determines the <br> unit of <br> measurement <br> Topic <br> Data | MA3-RN-01 <br> applies an understanding of place value and the role of .. <br> MA3-RN-02 <br> compares and orders decimals up to 3 decimal places <br> MA3-DATA-01 <br> constructs graphs using many-to-one scales <br> MA3-DATA-02 <br> interprets data displays, including timelines and line ... | Represent numbers A Data A | - Whole numbers: Recognise, represent and order numbers in the millions <br> - Decimals and percentages: Recognise that the place value system can be extended beyond hundredths <br> - Decimals and percentages: Compare, order and represent decimals <br> - Collect categorical and discrete numerical data by observation or survey <br> - Choose and use appropriate tables and graphs <br> - Describe and interpret different datasets in context | A. Displaying numerical data <br> - Tallies <br> - Sorting Data <br> - Column Graphs <br> A. Interpret data <br> - Interpreting Tables <br> - Reading from a Column Graph <br> - Line Graphs: Interpretation | Collect \& display discrete data <br> - Collecting discrete data <br> - Choosing \& using appropriate tables/graphs <br> Interpret discrete data <br> - Interpreting discrete data using various displays <br> - Interpreting line graphs | Statistics \& datad 3-5 <br> - Create a line graph, DOK 3 | Year 5 Series E Data Representation <br> - Types of graphs 1 pp 1-6 <br> - Types of graphs 2 pp 7-11 <br> - Types of graphs 3 pp 12-17 <br> - Collecting and analysing data pp 18-23 <br> - Data investigations pp 24-28 |

## Scope \& Sequence NSW Stage 3 (A) Term 4

| LS \& Topic | Outcomes | Focus | Content | Course Topic \& Activities | Skill Quests | Challenges | Ebooks |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LS 1 <br> Big idea The number system extends infinitely to very large and very small numbers <br> Topic <br> Decimals | MA3-RN-01 <br> applies an understanding of place value and the role of zero to ... <br> MA3-RN-02 <br> compares and orders decimals up to 3 decimal places | Represent numbers A | - Whole numbers: Recognise, represent and order numbers in the millions <br> - Whole numbers: Apply place value to partition, regroup and rename numbers to 1 billion <br> - Decimals and percentages: Recognise that the place value system can be extended beyond hundredths <br> - Decimals and percentages: Compare, order and represent decimals | A. Decimals <br> - Decimals from Words to Digits 1 <br> - Decimals from Words to Digits 2 <br> - Decimal Place Value <br> - Comparing Decimals 1 <br> - Comparing Decimals <br> - Comparing Decimals 2 <br> - Decimal Order <br> - Decimal Order 2 <br> - Decimals on the Number Line <br> - Rounding Decimals 1 | Compare \& order decimals <br> - Recognising decimals up to thousandths <br> - Partitioning decimals up to thousandths <br> - Comparing \& ordering decimals up to thousandths | Number \& Algebra, <br> Patterns 4-6 <br> - Egyptian patterns, DOK 3 | Year 5 Series E Fractions, decimals and percentages <br> - Fractions, decimals and percentages pp 20-21 <br> Year 6 Series F Fractions, decimals and percentages <br> - Decimal fractions pp 12-16 |
| LS 2 <br> Big idea Multiplicative thinking involves flexible use of multiplication and division concepts, strategies and representations <br> Topic Mental multiplication and division | MA3-RN-01 <br> applies an understanding of place value and the role of zero to ... <br> MA3-MR-01 <br> selects and applies appropriate strategies to solve multiplication ... | Represent numbers A <br> Multiplicative relations A | - Whole numbers: Apply place value to partition, regroup and rename numbers to 1 billion <br> - Determine products and factors <br> - Use partitioning and place value to multiply $2-3$ - and 4-digit numbers by one-digit numbers <br> - Select and apply mental and written strategies to multiply 2 - and 3 -digit numbers by 2 -digit numbers <br> - Represent and solve division problems with whole number remainders <br> - Select and apply strategies to divide a number with 3 or more digits by a one-digit divisor <br> - Use estimation and rounding to check the reasonableness of answers to calculations | A. Multiplication \& division <br> - Fact Families: Multiply and Divide <br> - Multiplication Turnarounds <br> - Missing Numbers: $\times$ and $\div$ facts <br> - Times Tables <br> - Solve Equations: Multiply, Divide 1 <br> - Bar model $x \div$ <br> - Multiply 3 single-digit numbers <br> - Multiply Multiples of 10 <br> - Multiply More Multiples of 10 <br> - Multiplying Whole Numbers by 10,100 , and 1000 <br> - Double and Halve to Multiply <br> - Mental Methods Multiplication 1 | Multiply by multiples of 10 <br> - Multiplying up to 4 digits by 100 \& 1000 <br> Multiply using double \& halve strategy <br> - Using doubling \& related facts to multiply by 2 <br> - Using doubling \& related facts to multiply by 4 <br> - Using doubling \& related facts to multiply by 8 <br> - Partitioning \& compensating to double \& halve <br> - Using double \& halve to multiply <br> - Using double/halve or triple/third <br> Multiply up to 4 digits by 1 digit <br> - Multiplying using place value <br> - Multiplying using factorising <br> - Multiplying using the round \& compensate strategy <br> Multiply up to $\mathbf{4}$ digits by 2 digits <br> - Strategies to multiply by a 2-digit number <br> Division with remainders <br> - Introducing division with remainders <br> Divide up to 4 digits by 1-digit numbers <br> - Using known facts to divide by a 1-digit divisor <br> - Partitioning to divide by a 1 -digit divisor <br> - Solving division problems with 1-digit divisors <br> - Using estimation/rounding to check answers | Number \& Algebra, Multiplication \& Division 4-6 <br> - Number shuffle, DOK 2 <br> - The two sides of the pyramid, DOK 2 | Year 5 Series E Multiplication and Division <br> - Mental multiplication <br> strategies pp 1-10 <br> - Mental division strategies pp 11-19 |

## Scope \& Sequence NSW Stage 3 (A) Term 4

|  |  | NSW New Syllabus (2022) S1 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LS \& Topic | Outcomes | Focus | Content | Course Topic \& Activities | Skill Quests | Challenges | Ebooks |
| LS 3 <br> Big idea Visual representations help to understand aspects of the world (chance and position) <br> Topic Position | MA3-GM-01 <br> locates and describes points on a coordinate plane <br> MA3-DATA-01 <br> constructs graphs using many-to-one scales <br> MA3-DATA-02 <br> interprets data displays, including timelines and line graphs <br> MA3-CHAN-01 conducts chance experiments and quantifies the probability | Geometric measure A <br> Data A <br> Chance A | - Position: Explore the Cartesian coordinate system <br> - Collect categorical and discrete numerical data by observation or survey <br> - Choose and use appropriate tables and graphs <br> - Describe and interpret different datasets in context <br> - List outcomes of chance experiments involving equally likely outcomes and represent probabilities | A/B. Coordinate plane position <br> - Coordinate Graphs: 1st Quadrant <br> - Ordered Pairs <br> - Horizontal and Vertical Change <br> - Transformations: Coordinate Plane <br> A. Interpret data <br> - Line Graphs: Interpretation | Locate position in the first quadrant <br> - Using the first quadrant to locate position <br> - Plotting coordinates in the first quadrant |  | Year 5 Series E Position <br> - Spatial orientation pp 1-6 <br> - Coordinates pp 7-12 <br> - Directions pp 13-16 |
| LS 1 <br> Big idea <br> What needs to be measured <br> determines the unit of <br> measurement <br> Topic <br> 3D objects and capacity | MA3-RN-02 <br> compares and orders decimals up to 3 decimal places <br> MA3-3DS-01 <br> visualises, sketches and constructs three-dimensional ... <br> MA3-3DS-02 <br> selects and uses the appropriate unit to estimate, measure and ... | Represent numbers A <br> Three-dimensional spatial structure A | - Decimals and percentages: Recognise that the place value system can be extended beyond hundredths <br> - Decimals and percentages: Compare, order and represent decimals <br> - 3D objects: Compare, describe and name prisms and pyramids <br> - 3D objects: Connect three-dimensional objects with two-dimensional representations <br> - Volume: Choose appropriate units of measurement for capacity <br> - Volume: Use displacement to investigate volumes of irregular solids <br> - Volume: Connect decimal representations to the metric system | A. Prisms \& pyramids <br> - What Prism Am I? <br> -What Pyramid Am I? <br> - Prisms and Pyramids <br> A/B. Volume <br> - Millilitres and Litres | Connect 3D with 2D <br> representations <br> - Naming prisms \& pyramids <br> - Connecting prisms with their nets <br> - Connecting 3D objects with their nets <br> Use appropriate units for capacity <br> - Using appropriate units for capacity ( $\mathrm{L} \& \mathrm{~mL}$ ) | Geometry, 3D Shape 3-5 <br> - Nets and prisms, DOK 3 <br> Geometry, 3D Shape 4-6 <br> - Creating cubes, DOK 2 <br> - Notty nets, DOK 2 <br> - Looking at faces, edges and vertices, DOK 3 <br> - Pyramids and prisms, DOK 3 | Year 5 Series E Volume, Capacity and Mass <br> - Volume and capacity pp 1-8 <br> Year 6 Series F Volume, Capacity and Mass <br> - Volume and capacity pp 1-2, 5-8 <br> Year 5 Series E Geometry <br> - 3D shapes pp 25-34 |
| LS 3 <br> Big idea <br> Angles are the primary structural component of many shapes <br> Topic <br> Angles | MA3-RQF-01 <br> compares and orders fractions with denominators of 2, 3, 4, 5 ... <br> MA3-GM-03 <br> measures and constructs angles, and identifies the relationships .. | Representing quantity fractions A <br> Geometric measure $A$ | - Solve problems involving addition and subtraction of fractions with the same denominator <br> - Angles: Estimate, measure and compare angles using degrees <br> - Angles: Use a protractor to measure and identify types of angles | A/B Identifying angles <br> - Estimating Angles <br> - Measuring Angles <br> - What Type of Angle? <br> - Classifying Angles | Measure \& identify angles <br> - Estimating, measuring \& comparing angles <br> - Constructing angles \& identifying different types | Measurement, Angles 4-6 <br> - Angle estimation, DOK 3 | Year 5 Series E Geometry <br> - Lines and angles pp 2-6 |

