

Content Clusters - Stage 3

Scope and sequencing by conceptual understanding

This is the scope... you create the sequence.

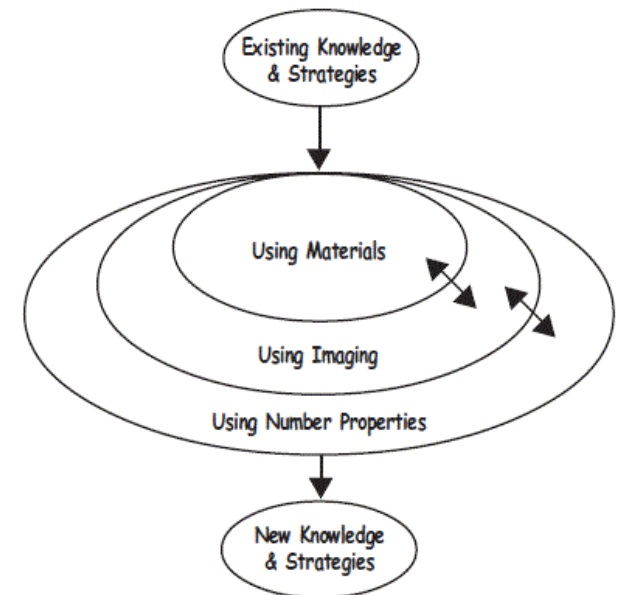
In this resource I provide possible ways of how groups of outcomes and their key ideas can be sequenced together based on the concepts they address. These are just examples and is not an exhaustive list of the clusters you can use to make connections across mathematics. I have used the [syllabus outcomes](#), sub strands and the mathematics [key ideas](#) document. When teaching for conceptual understanding (not just the knowledge of each sub strand) we need to make clear how the pieces of the mathematical puzzle fit together. To do this, our planning needs to reflect this belief- that mathematics is a complex web of interrelated ideas. For ideas on what these links are, see my [Linkages across the syllabus](#) document on the [resources](#) section of our website.

The scope of what we teach is described in the syllabus (this is the constant), the sequence of what and how we teach mathematics is a decision for individual teachers (this is the variable). These clusters can be used to create meaningful sequences of learning that focus on concepts and programs that still address common sub strands (across grades or classes) but allow for individual teachers to add



additional key ideas or focus on specific aspects of the cluster that students either have misconceptions around or are developing conceptual understanding in. The clusters are numbered but are not written in teaching order. These clusters may be added to or updated in the future and newer versions will be released.

These clusters highlight the concept or main idea that ties each group of outcomes together, assisting teachers in making sense and meaning of the mathematics to students. When we think about the concepts or understandings first, we can think about what misconceptions students may have or what aspects of that concept they need next to connect their prior knowledge (the known) to create new knowledge (the unknown). The image to the right sourced from [NZMaths](#), is based on Pirie and Kieren's growth in understanding model of the 'back and forth' nature of how students develop understanding from the known to the unknown.



A (scope and) sequence should:

- reflect the conceptual needs of your students at this point in time (they need to be evaluated and changed constantly)
- show evidence of connections across sub strands
- address connected content strands that deal with similar concepts within a lesson or within a sequence of lessons (e.g. over a few weeks)

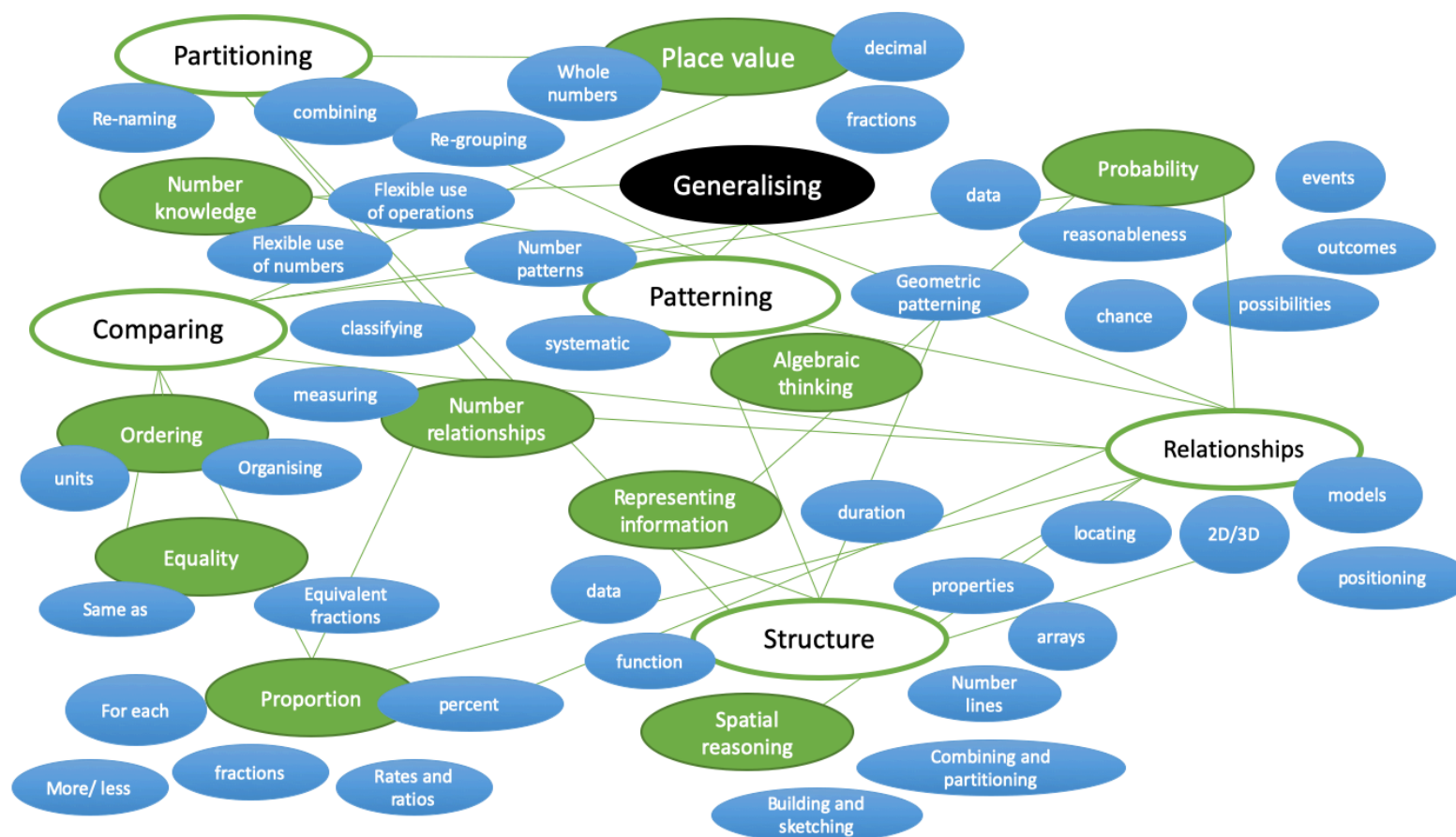
- give teachers an overarching structure to guide immediate planning
- where possible, be written to address the upcoming half- term or term teaching and learning cycle

NESA states that for their [review process](#) as evidence of compliance schools need to provide “scope and sequence of learning/units of work in relation to outcomes of NESA syllabus for each KLA for each Year” (page 10).

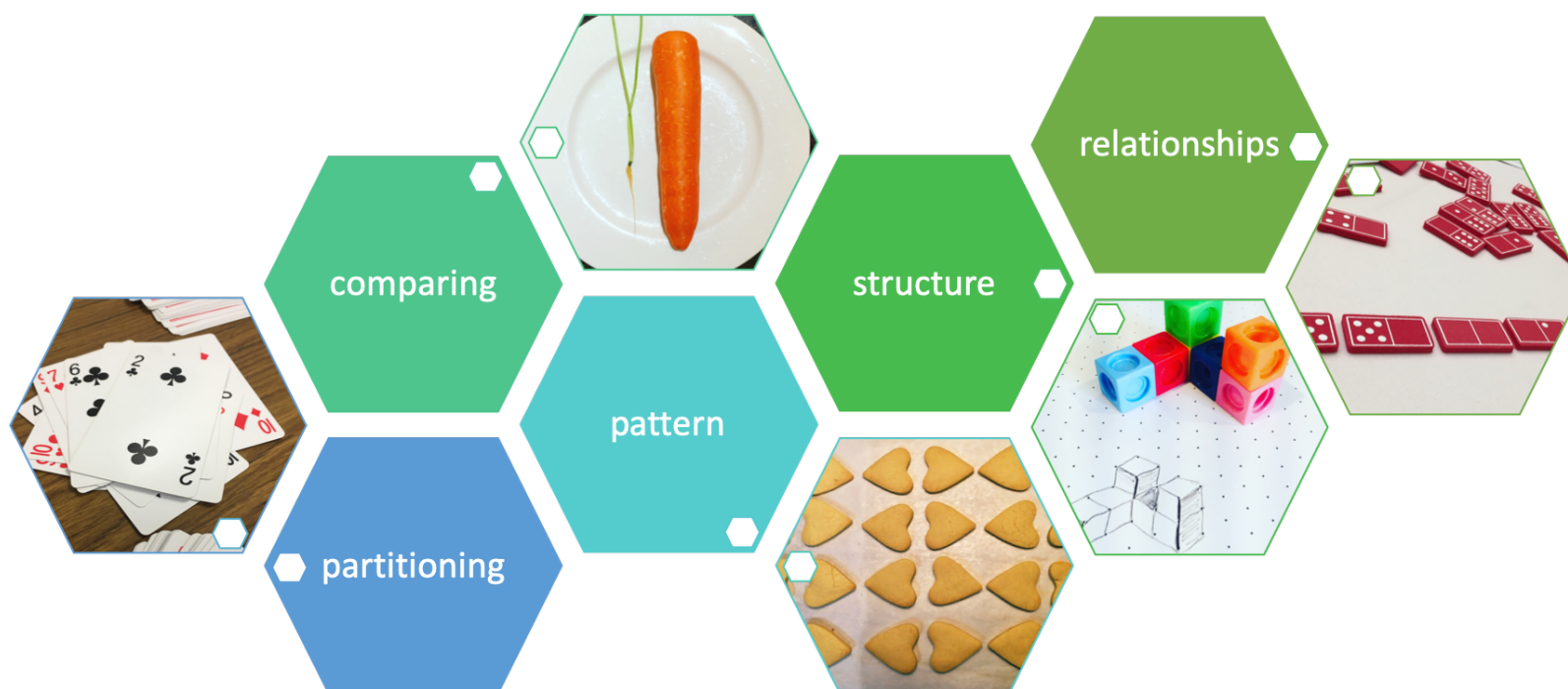
To assist with how these clusters fit into the larger picture of mathematics, what many researchers refer to as ‘Big ideas’ or important concepts (Askew, 2013; Boaler, 2017; Charles, 2005; Clarke, Clarke & Sullivan, 2012; Hurst & Hurrell, 2014; Siemon, Bleckly & Neal, 2012; Tout & Spithill, 2015), I had a go at thinking holistically about “*What are the main concepts or ‘knowledge actions’ students need?*” Here is my ‘messy’ thinking, then a more organised way of linking these ideas together are illustrated on the following pages.



Mind map of big ideas and smaller concept connections



Big ideas simplified



I then thought about these important concepts 'big ideas', the smaller 'knowledge actions' within them, and how the Content Clusters fit under each of these concepts, noting that some clusters align with more than one big idea.

Big ideas and smaller ‘knowledge actions’

Partitioning	Pattern	Comparing	Structure	Relationships
<ul style="list-style-type: none"> • Combining • Part-whole • Place value • Modelling • Whole numbers • Decimals • Fractions 	<ul style="list-style-type: none"> • Geometric • Number • Algebraic • Generalising • Predicting 	<ul style="list-style-type: none"> • Equality (with numbers and measurement) • Ordering • Proportion (fractions, percent, rates, ratios) • Magnitude • Estimating 	<ul style="list-style-type: none"> • Number • Arrays • Shape • Measuring • Spatial • Building and sketching • Representing features (shape, data) 	<ul style="list-style-type: none"> • Number • Additive and multiplicative • 2D and 3D • Probability • Possibilities (chance) • Data • Locating, positioning • Part-whole

These are just my ideas, Charles (2005) in his paper recognises that in developing deeper understanding of big ideas it might be helpful for teachers to “decide to modify or build your own” (p. 11). He also stated that:

“In working with colleagues on the development of this paper I am rather certain that it is not possible to get one set of Big Ideas and Understandings that all mathematicians and mathematics educators can agree on. Fortunately, I do not think it’s necessary to reach a consensus in this regard. Use the Big Mathematical Ideas and Understandings presented here as a starting point for the conversations they are intended to initiate” (p. 9)

Stage 3 Clusters mapped to big ideas

Partitioning	Pattern	Comparing	Structure	Relationships
<ul style="list-style-type: none"> •Cluster 1: Place value (numbers can be regrouped and renamed – partitioning) •Cluster 5: Partitioning: Part-whole number knowledge •Cluster 6: Flexible strategies for operating with numbers •Cluster 7: A variety of strategies can be applied to solve word problems •Cluster 8: Multiples can be visually represented as an array •Cluster 11: Number relationships – converting •Cluster 12: Money uses a many-to-one scale •Cluster 17: A fraction is a number 	<ul style="list-style-type: none"> •Cluster 2: Representing numbers (numbers can be represented...) •Cluster 8: Multiples can be visually represented as an array •Cluster 13: The 'equals sign' means "the same as" (equality and inequality) •Cluster 14: Numbers can be represented using pairs to explore odd and even properties •Cluster 15: Patterns repeat or grow and future terms can be predicted •Cluster 16: Patterns can be represented geometrically 	<ul style="list-style-type: none"> •Cluster 3: Comparing quantities – linear focus •Cluster 4: Comparing quantities – area/volume focus •Cluster 9: Reasonableness of solutions can be checked using estimation •Cluster 10: Benchmark numbers can be used to estimate •Cluster 11: Number relationships – converting •Cluster 13: The 'equals sign' means "the same as" (equality and inequality) •Cluster 19: Fractions as a measure •Cluster 21: Time can be measured ... •Cluster 22: Numbers and quantities can be compared using scale •Cluster 25: Objects can be measured and compared •Cluster 26: Shapes can be measured and compared •Cluster 27: Shapes and objects are classified based on properties •Cluster 29: Information can be collected, represented... •Cluster 31: Events can be predicted, compared... 	<ul style="list-style-type: none"> •Cluster 1: Place value (numbers can be regrouped and renamed – partitioning) •Cluster 2: Representing numbers (numbers can be represented...) •Cluster 4: Comparing quantities – area/volume focus •Cluster 5: Partitioning: Part-whole number knowledge •Cluster 8: Multiples can be visually represented as an array •Cluster 15: Patterns repeat or grow and future terms can be predicted •Cluster 16: Patterns can be represented geometrically •Cluster 23: Measurements are approximations •Cluster 24: The multiplicative structure (row and column) can be applied to measure area and volume •Cluster 28: Grid references and coordinates can be used for locating and positioning •Cluster 30: Information can be presented visually •Cluster 32: Probabilities of events can be described in a range of 0 – 1 	<ul style="list-style-type: none"> •Cluster 1: Place value (numbers can be regrouped and renamed – partitioning) •Cluster 6: Flexible strategies for operating with numbers •Cluster 11: Number relationships – converting •Cluster 12: Money uses a many-to-one scale •Cluster 13: The 'equals sign' means "the same as" (equality and inequality) •Cluster 14: Numbers can be represented using pairs to explore odd and even properties •Cluster 17: A fraction is a number •Cluster 18: Fractions represent division •Cluster 20: Fractions as an operator •Cluster 22: Numbers and quantities can be compared using scale •Cluster 28: Grid references and coordinates can be used for locating and positioning •Cluster 32: Probabilities of events can be described in a range of 0 – 1

Note: Most schools have a set, wider grade or school-based scope and sequence, you can use the content clusters within those parameters to guide what conceptual understandings you focus on for your students. They show where you can make connections between the sub strands that are listed in the school's scope and sequence.

References

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- Tout, D. & Spithill, J. (2015). Big Ideas in Mathematics Teaching. *The Research Digest, QCT, 2015 (11)*
- [What is mathematical beauty](#) Jo Boaler (Youcubed)

Organisation of clusters

I have organised the clusters under the NSW mathematics syllabus sub strand or strand titles. This is to assist teachers with planning when thinking about *“what should I be teaching with this?”* For example, if you are looking for concepts related to Whole Numbers, you can see all the clusters that align to that area. Clusters will appear in multiple locations as they link across areas of mathematics.

Teachers can then ensure that those sub strands are organised together within the scope and sequence, so connections are clear.

Where appropriate, clusters have been given the same or similar names as concepts from other Stages to help make connections, show concepts that develop, and to assist with multi-stage planning. There is no set time for how long each cluster may take to explore with students, it may be a sequence of 3 – 4 lessons, or a few weeks, these decisions should be made by teachers at a classroom level based on students’ needs, abilities, and interests.

Whole Numbers connections

Content Cluster 1: Counting (developing principles of number sense)	
Whole Numbers MAe-4NA Count forwards to 30 from a given number Count backwards from a given number in the range 0 to 20	Addition and Subtraction MAe-5NA Combine two or more groups of objects to model addition
Content Cluster 5: Counting to sequence events	
Whole Numbers MAe-4NA Compare, order, read and represent numbers to at least 20 Read and use the ordinal names to at least 'tenth'	Time MAe-13MG Compare and order the duration of events using everyday language Sequence events in time
Content Cluster 6: Counting to sequence units	
Whole Numbers MAe-4NA Compare, order, read and represent numbers to at least 20	Length MAe-9MG Identify the attribute of 'length' as a measure of an object from end to end Describe length and distance using everyday language, including comparatives Compare lengths using direct comparison

Mathematics K-10 Syllabus outcomes © NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales, 2012.

Whole Numbers connections

Content Cluster 1: Place value (numbers can be regrouped and renamed – partitioning)		
Whole Numbers 1 MA3-4NA State the place value of digits in numbers of any size Record numbers of any size using expanded notation Whole Numbers 2 MA3-4NA Identify and describe prime and composite numbers	Fractions and Decimals 1 MA3-7NA Apply the place value system to represent thousandths as decimals Express mixed numerals as improper fractions and vice versa	Fractions and Decimals 2 MA3-7NA Multiply and divide decimals by 10, 100 and 1000 Write fractions in their 'simplest form'

Content Cluster 2: Representing numbers (numbers can be represented, ordered and compared based on their place value)					
Whole Numbers 1 MA3-4NA Read, write and order numbers of any size Whole Numbers 2 MA3-4NA Recognise the location of negative numbers in relation to zero on a number line	Fractions and Decimals 1 MA3-7NA Compare and order unit fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Compare, order and represent decimals with up to three decimal places	Fractions and Decimals 2 MA3-7NA Represent, compare and order fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100	Length 2 MA3-9MG Record lengths and distances using decimal notation to three decimal places	Volume and Capacity 2 MA3-11MG Record volumes and capacities using decimal notation to three decimal places	Mass 2 MA3-12MG Record mass using decimal notation to three decimal places

Whole Numbers connections

Content Cluster 5: Partitioning: Part-whole number knowledge (numbers can be partitioned in multiple ways)			
Whole Numbers 1 MA3-4NA Record numbers of any size using expanded notation Whole Numbers 2 MA3-4NA Identify and describe prime and composite numbers	Fractions and Decimals 1 MA3-7NA Compare and order unit fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Express mixed numerals as improper fractions and vice versa	Fractions and Decimals 2 MA3-7NA Represent, compare and order fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Write fractions in their 'simplest form'	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to divide numbers with three or more digits by a one-digit operator, including problems that result in a remainder

Content Cluster 11: Number relationships – converting (e.g. one thousand can be regrouped as 10 hundreds, 100 tens, or 1000 ones)					
Whole Numbers 1 MA3-4NA Read, write and order numbers of any size State the place value of digits in numbers of any size Record numbers of any size using expanded notation	Multiplication and Division 1 MA3-6NA Use the formal algorithm for multiplication by one- and two-digit operators	Fractions and Decimals 1 MA3-7NA Apply the place value system to represent thousandths as decimals Fractions and Decimals 2 MA3-7NA Multiply and divide decimals by 10, 100 and 1000	Length 2 MA3-9MG Convert between kilometres, metres, centimetres and millimetres	Volume and Capacity 2 MA3-11MG Convert between millilitres and litres	Mass 2 MA3-12MG Convert between tonnes, kilograms and grams

Whole Numbers connections

Content Cluster 14: Numbers can be represented using pairs to explore odd and even properties				
Patterns and Algebra 1 MA3-8NA Identify, continue create and describe increasing and decreasing number patterns with fractions, decimals and whole numbers		Whole Numbers 1 MA3-4NA Determine factors and multiples of whole numbers Whole Numbers 2 MA3-4NA Identify and describe prime and composite numbers Model and describe square and triangular numbers		

Content Cluster 15: Patterns repeat or grow and future terms can be predicted (number structure)				
Patterns and Algebra 1 MA3-8NA Identify, continue create and describe increasing and decreasing number patterns with fractions, decimals and whole numbers	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Fractions and Decimals 1 MA3-7NA Model and represent strategies to add and subtract fractions with the same denominator Fractions and Decimals 2 MA3-7NA Use mental, written and calculator strategies to add and subtract decimals with up to three decimal places Use mental, written and calculator strategies to multiply decimals by one- and two-digit whole numbers Use mental, written and calculator strategies to divide decimals by one-digit whole numbers	Whole Numbers 1 MA3-4NA Read, write and order numbers of any size Whole Numbers 2 MA3-4NA Model and describe square and triangular numbers	Addition and Subtraction 1 MA3-5NA Select and apply efficient mental, written and calculator strategies for addition and subtraction of numbers of any size

Whole Numbers connections

Content Cluster 16: Patterns can be represented geometrically				
Patterns and Algebra 2 MA3-8NA Continue, create, record and describe geometric and number patterns in words Determine the rule for geometric and number patterns in words and use the rule to calculate values	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Two-Dimensional Space 1 MA3-15MG Classify and draw regular and irregular two-dimensional shapes from descriptions of their features Use the terms 'translate', 'reflect' and 'rotate' to describe transformations of shapes Two-Dimensional Space 2 MA3-15MG Identify, use and describe combinations of translations, reflections and rotations	Whole Numbers 1 MA3-4NA Read, write and order numbers of any size Whole Numbers 2 MA3-4NA Model and describe square and triangular numbers	Addition and Subtraction 1 MA3-5NA Select and apply efficient mental, written and calculator strategies for addition and subtraction of numbers of any size
Content Cluster 17: A fraction is a number (that represents a relationship between parts and the whole)				
Fractions and Decimals 1 MA3-7NA Compare and order unit fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Express mixed numerals as improper fractions and vice versa	Fractions and Decimals 2 MA3-7NA Represent, compare and order fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Determine, generate and record equivalent fractions Write fractions in their 'simplest form' Make connections between equivalent percentages, fractions and decimals		Whole Numbers 2 MA3-4NA Read, write and order numbers of any size State the place value of digits in numbers of any size Record numbers of any size using expanded notation	

Addition and Subtraction connections

Content Cluster 6: Flexible strategies for operating with numbers (numbers can be partitioned to assist with computation)			
Addition and Subtraction 1 MA3-5NA Select and apply efficient mental, written and calculator strategies for addition and subtraction of numbers of any size	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators Use and record a range of mental and written strategies to divide numbers with three or more digits by a one-digit operator, including problems that result in a remainder	Fractions and Decimals 1 MA3-7NA Model and represent strategies to add and subtract fractions with the same denominator Fractions and Decimals 2 MA3-7NA Add and subtract fractions, included mixed numerals, with the same or related denominators Use mental, written and calculator strategies to add and subtract decimals with up to three decimal places Use mental, written and calculator strategies to multiply decimals by one- and two-digit whole numbers Use mental, written and calculator strategies to divide decimals by one-digit whole numbers	

Content Cluster 7: A variety of strategies can be applied to solve word problems			
Addition and Subtraction 1 MA3-5NA Solve word problems and record the strategy used, including problems involving money	Addition and Subtraction 2 MA3-5NA Select and apply efficient mental, written and calculator strategies to solve word problems and record the strategy used	Multiplication and Division 1 MA3-6NA Solve word problems and record the strategy used Multiplication and Division 2 MA3-6NA Select and apply efficient mental, written and calculator strategies to solve word problems and record the strategy used	Fractions and Decimals 2 MA3-7NA Solve word problems involving fractions and decimals, including money problems

Addition and Subtraction connections

Content Cluster 9: Reasonableness of solutions can be checked using estimation				
Addition and Subtraction 1 MA3-5NA Use estimation to check answers to calculations Solve word problems and record the strategy used, including problems involving money		Multiplication and Division 1 MA3-6NA Solve word problems and record the strategy used Use estimation to check answers to calculations	Multiplication and Division 2 MA3-6NA Select and apply efficient mental, written and calculator strategies to solve word problems and record the strategy used	Fractions and Decimals 2 MA3-7NA Solve word problems involving fractions and decimals, including money problems
Content Cluster 10: Benchmark numbers can be used to estimate quantities (how much/how many)				
Addition and Subtraction 1 MA3-5NA Use estimation to check answers to calculations	Multiplication and Division 1 MA3-6NA Solve word problems and record the strategy used Use estimation to check answers to calculations	Fractions and Decimals 2 MA3-7NA Make connections between equivalent percentages, fractions and decimals	Volume and Capacity 1 MA3-11MG Use cubic centimetres and cubic metres to measure and estimate volumes Select and use appropriate units to measure volume	Angles 1 MA3-16MG Measure, compare and estimate angles in degrees (up to 360°) Record angle measurements using the symbol for degrees (°)
Content Cluster 12: Money uses a many-to-one scale (link to place value e.g. 100 cents is equal to \$1)				
Addition and Subtraction 1 MA3-5NA Solve word problems and record the strategy used, including problems involving money Create a simple budget		Multiplication and Division 1 MA3-6NA Solve word problems and record the strategy used Interpret remainders in division problems	Fractions and Decimals 2 MA3-7NA Solve word problems involving fractions and decimals, including money problems Use mental, written and calculator strategies to calculate 10%, 25% and 50% of quantities, including as discounts	

Addition and Subtraction connections

Content Cluster 15: Patterns repeat or grow and future terms can be predicted (number structure)				
Patterns and Algebra 1 MA3-8NA Identify, continue create and describe increasing and decreasing number patterns with fractions, decimals and whole numbers	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Fractions and Decimals 1 MA3-7NA Model and represent strategies to add and subtract fractions with the same denominator Fractions and Decimals 2 MA3-7NA Use mental, written and calculator strategies to add and subtract decimals with up to three decimal places Use mental, written and calculator strategies to multiply decimals by one- and two-digit whole numbers Use mental, written and calculator strategies to divide decimals by one-digit whole numbers	Whole Numbers 1 MA3-4NA Read, write and order numbers of any size Whole Numbers 2 MA3-4NA Model and describe square and triangular numbers	Addition and Subtraction 1 MA3-5NA Select and apply efficient mental, written and calculator strategies for addition and subtraction of numbers of any size

Addition and Subtraction connections

Content Cluster 16: Patterns can be represented geometrically				
Patterns and Algebra 2 MA3-8NA Continue, create, record and describe geometric and number patterns in words Determine the rule for geometric and number patterns in words and use the rule to calculate values	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Two-Dimensional Space 1 MA3-15MG Classify and draw regular and irregular two-dimensional shapes from descriptions of their features Use the terms 'translate', 'reflect' and 'rotate' to describe transformations of shapes Two-Dimensional Space 2 MA3-15MG Identify, use and describe combinations of translations, reflections and rotations	Whole Numbers 1 MA3-4NA Read, write and order numbers of any size Whole Numbers 2 MA3-4NA Model and describe square and triangular numbers	Addition and Subtraction 1 MA3-5NA Select and apply efficient mental, written and calculator strategies for addition and subtraction of numbers of any size

Content Cluster 20: Fractions as an operator			
Fractions and Decimals 2 MA3-7NA Multiply fractions by whole numbers Find a simple fraction of a quantity Solve word problems involving fractions and decimals, including money problems Make connections between equivalent percentages, fractions and decimals Use mental, written and calculator strategies to calculate 10%, 25% and 50% of quantities, including as discounts	Addition and Subtraction 1 MA3-5NA Solve word problems and record the strategy used, including problems involving money Create a simple budget	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Area 2 MA3-10MG Solve problems involving areas of rectangles (including squares) and triangles

Addition and Subtraction connections

Content Cluster 21: Time can be measured and compared in hours, minutes and seconds (relating 12 to 24 hour time)			
Time 1MA3-13MG Convert between 12- and 24-hour time Determine and compare the duration of events	Time 2 MA3-13MG Interpret and use timetables	Fractions and Decimals 1 MA3-7NA Model and represent strategies to add and subtract fractions with the same denominator	Addition and Subtraction 2 MA3-5NA Select and apply efficient mental, written and calculator strategies to solve word problems and record the strategy used

Content Cluster 29: Information can be collected, analysed and interpreted using numbers (collecting data)				
Data 1 MA3-18SP Collect categorical and numerical data by observation and by survey Describe and interpret data presented in tables, column graphs, dot plots and line graphs	Data 2 MA3-18SP Interpret and create two-way tables Interpret side-by-side column graphs Compare a range of data displays to determine the most appropriate display for particular sets of data Interpret and critically evaluate data presented in digital media and elsewhere	Chance 1 MA3-19SP List outcomes of chance experiments involving equally likely outcomes Chance 2 MA3-19SP Conduct chance experiments with both small and large numbers of trials	Addition and Subtraction 1 MA3-5NA Select and apply efficient mental, written and calculator strategies for addition and subtraction of numbers of any size	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to divide numbers with three or more digits by a one-digit operator

Multiplication and Division connections

Content Cluster 5: Partitioning: Part-whole number knowledge (numbers can be partitioned in multiple ways)			
Whole Numbers 1 MA3-4NA Record numbers of any size using expanded notation Whole Numbers 2 MA3-4NA Identify and describe prime and composite numbers	Fractions and Decimals 1 MA3-7NA Compare and order unit fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Express mixed numerals as improper fractions and vice versa	Fractions and Decimals 2 MA3-7NA Represent, compare and order fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Write fractions in their 'simplest form'	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to divide numbers with three or more digits by a one-digit operator, including problems that result in a remainder
Content Cluster 6: Flexible strategies for operating with numbers (numbers can be partitioned to assist with computation)			
Addition and Subtraction 1 MA3-5NA Select and apply efficient mental, written and calculator strategies for addition and subtraction of numbers of any size	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators Use and record a range of mental and written strategies to divide numbers with three or more digits by a one-digit operator, including problems that result in a remainder	Fractions and Decimals 1 MA3-7NA Model and represent strategies to add and subtract fractions with the same denominator Fractions and Decimals 2 MA3-7NA Add and subtract fractions, included mixed numerals, with the same or related denominators Use mental, written and calculator strategies to add and subtract decimals with up to three decimal places Use mental, written and calculator strategies to multiply decimals by one- and two-digit whole numbers Use mental, written and calculator strategies to divide decimals by one-digit whole numbers	

Multiplication and Division connections

Content Cluster 7: A variety of strategies can be applied to solve word problems			
Addition and Subtraction 1 MA3-5NA Solve word problems and record the strategy used, including problems involving money	Addition and Subtraction 2 MA3-5NA Select and apply efficient mental, written and calculator strategies to solve word problems and record the strategy used	Multiplication and Division 1 MA3-6NA Solve word problems and record the strategy used Multiplication and Division 2 MA3-6NA Select and apply efficient mental, written and calculator strategies to solve word problems and record the strategy used	Fractions and Decimals 2 MA3-7NA Solve word problems involving fractions and decimals, including money problems

Content Cluster 8: Multiples can be visually represented as an array ('for each' number structure)				
Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators Use and record a range of mental and written strategies to divide numbers with three or more digits by a one-digit operator, including problems that result in a remainder	Multiplication and Division 2 MA3-6NA Select and apply efficient mental, written and calculator strategies to solve word problems and record the strategy used	Area 1 MA3-10MG Develop a strategy to find areas of rectangles (including squares) and record the strategy in words Area 2 MA3-10MG Develop a strategy to find areas of triangles and record the strategy in words	Volume and Capacity 2 MA3-11MG Develop a strategy to find volumes of rectangular prisms and record the strategy in words	Patterns and Algebra 2 MA3-8NA Continue, create, record and describe geometric and number patterns in words

Multiplication and Division connections

Content Cluster 9: Reasonableness of solutions can be checked using estimation				
Addition and Subtraction 1 MA3-5NA Use estimation to check answers to calculations Solve word problems and record the strategy used, including problems involving money	Multiplication and Division 1 MA3-6NA Solve word problems and record the strategy used Use estimation to check answers to calculations	Multiplication and Division 2 MA3-6NA Select and apply efficient mental, written and calculator strategies to solve word problems and record the strategy used	Fractions and Decimals 2 MA3-7NA Solve word problems involving fractions and decimals, including money problems	

Content Cluster 10: Benchmark numbers can be used to estimate quantities (how much/how many)				
Addition and Subtraction 1 MA3-5NA Use estimation to check answers to calculations	Multiplication and Division 1 MA3-6NA Solve word problems and record the strategy used Use estimation to check answers to calculations	Fractions and Decimals 2 MA3-7NA Make connections between equivalent percentages, fractions and decimals	Volume and Capacity 1 MA3-11MG Use cubic centimetres and cubic metres to measure and estimate volumes Select and use appropriate units to measure volume	Angles 1 MA3-16MG Measure, compare and estimate angles in degrees (up to 360°) Record angle measurements using the symbol for degrees (°)

Multiplication and Division connections

Content Cluster 11: Number relationships – converting (e.g. one thousand can be regrouped as 10 hundreds, 100 tens, or 1000 ones)					
Whole Numbers 1 MA3-4NA Read, write and order numbers of any size State the place value of digits in numbers of any size Record numbers of any size using expanded notation	Multiplication and Division 1 MA3-6NA Use the formal algorithm for multiplication by one- and two-digit operators	Fractions and Decimals 1 MA3-7NA Apply the place value system to represent thousandths as decimals Fractions and Decimals 2 MA3-7NA Multiply and divide decimals by 10, 100 and 1000	Length 2 MA3-9MG Convert between kilometres, metres, centimetres and millimetres	Volume and Capacity 2 MA3-11MG Convert between millilitres and litres	Mass 2 MA3-12MG Convert between tonnes, kilograms and grams
Content Cluster 12: Money uses a many-to-one scale (link to place value e.g. 100 cents is equal to \$1)					
Addition and Subtraction 1 MA3-5NA Solve word problems and record the strategy used, including problems involving money Create a simple budget		Multiplication and Division 1 MA3-6NA Solve word problems and record the strategy used Interpret remainders in division problems	Fractions and Decimals 2 MA3-7NA Solve word problems involving fractions and decimals, including money problems Use mental, written and calculator strategies to calculate 10%, 25% and 50% of quantities, including as discounts		
Content Cluster 13: The ‘equals sign’ means “the same as” (equality and inequality)					
Multiplication and Division 2 MA3-6NA Recognise and use grouping symbols Apply the order of operations in calculations		Patterns and Algebra 1 MA3-8NA Find missing numbers in number sentences involving multiplication or division on one or both sides of the equals sign		Fractions and Decimals 2 MA3-7NA Determine, generate and record equivalent fractions Make connections between equivalent percentages, fractions and decimals	

Multiplication and Division connections

Content Cluster 15: Patterns repeat or grow and future terms can be predicted (number structure)				
Patterns and Algebra 1 MA3-8NA Identify, continue create and describe increasing and decreasing number patterns with fractions, decimals and whole numbers	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Fractions and Decimals 1 MA3-7NA Model and represent strategies to add and subtract fractions with the same denominator Fractions and Decimals 2 MA3-7NA Use mental, written and calculator strategies to add and subtract decimals with up to three decimal places Use mental, written and calculator strategies to multiply decimals by one- and two-digit whole numbers Use mental, written and calculator strategies to divide decimals by one-digit whole numbers	Whole Numbers 1 MA3-4NA Read, write and order numbers of any size Whole Numbers 2 MA3-4NA Model and describe square and triangular numbers	Addition and Subtraction 1 MA3-5NA Select and apply efficient mental, written and calculator strategies for addition and subtraction of numbers of any size

Multiplication and Division connections

Content Cluster 16: Patterns can be represented geometrically				
Patterns and Algebra 2 MA3-8NA Continue, create, record and describe geometric and number patterns in words Determine the rule for geometric and number patterns in words and use the rule to calculate values	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Two-Dimensional Space 1 MA3-15MG Classify and draw regular and irregular two-dimensional shapes from descriptions of their features Use the terms 'translate', 'reflect' and 'rotate' to describe transformations of shapes Two-Dimensional Space 2 MA3-15MG Identify, use and describe combinations of translations, reflections and rotations	Whole Numbers 1 MA3-4NA Read, write and order numbers of any size Whole Numbers 2 MA3-4NA Model and describe square and triangular numbers	Addition and Subtraction 1 MA3-5NA Select and apply efficient mental, written and calculator strategies for addition and subtraction of numbers of any size

Content Cluster 18: Fractions represent division (number relationships)			
Fractions and Decimals 1 MA3-7NA Compare and order unit fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Express mixed numerals as improper fractions and vice versa	Fractions and Decimals 2 MA3-7NA Represent, compare and order fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Determine, generate and record equivalent fractions Write fractions in their 'simplest form'	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to divide numbers with three or more digits by a one-digit operator, including problems that result in a remainder Interpret remainders in division problems	Patterns and Algebra 1 MA3-8NA Identify, continue create and describe increasing and decreasing number patterns with fractions, decimals and whole numbers

Multiplication and Division connections

Content Cluster 20: Fractions as an operator			
Fractions and Decimals 2 MA3-7NA Multiply fractions by whole numbers Find a simple fraction of a quantity Solve word problems involving fractions and decimals, including money problems Make connections between equivalent percentages, fractions and decimals Use mental, written and calculator strategies to calculate 10%, 25% and 50% of quantities, including as discounts	Addition and Subtraction 1 MA3-5NA Solve word problems and record the strategy used, including problems involving money Create a simple budget	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Area 2 MA3-10MG Solve problems involving areas of rectangles (including squares) and triangles

Content Cluster 22: Numbers and quantities can be compared using scale (links to proportionality)					
Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Length 1 MA3-9MG Select and use appropriate instruments and units to measure lengths Record lengths and distances using the abbreviations km, m, cm and mm Length 2 MA3-9MG Convert between kilometres, metres, centimetres and millimetres	Position MA3-17MG Use grid-referenced maps to locate and describe positions Follow a sequence of directions, including compass directions, to find a particular location on a map Describe routes using landmarks and directional language	Data 1 MA3-18SP Construct data displays, including tables, column graphs, dot plots and line graphs, appropriate for the data type Describe and interpret data presented in tables, column graphs, dot plots and line graphs	Time 2 MA3-13MG Draw and interpret timelines using a given scale	Two-Dimensional Space 1 MA3-15MG Make and compare enlargements of shapes/pictures

Multiplication and Division connections

Content Cluster 24: The multiplicative structure (row and column) can be applied to measure area and volume				
Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Fraction and Decimals 2 MA3-7NA Use mental, written and calculator strategies to multiply decimals by one- and two-digit whole numbers	Area 1 MA3-10MG Develop a strategy to find areas of rectangles (including squares) and record the strategy in words Area 2 MA3-10MG Develop a strategy to find areas of triangles and record the strategy in words	Volume and Capacity 2 MA3-11MG Develop a strategy to find volumes of rectangular prisms and record the strategy in words	Three-Dimensional Space 2 MA3-14MG Construct prisms and pyramids using a variety of materials, and given drawings from different views

Content Cluster 25: Objects can be measured and compared through different representations		
Three-dimensional Space 1 MA3-14MG Describe and compare properties of prisms and pyramids in terms of their faces, edges and vertices Connect three-dimensional objects with their nets Three-Dimensional Space 2 MA3-14MG Construct prisms and pyramids using a variety of materials, and given drawings from different views	Volume and Capacity 1 MA3-11MG Use cubic centimetres and cubic metres to measure and estimate volumes Select and use appropriate units to measure volume Volume and Capacity 2 MA3-11MG Connect volume and capacity and their units of measurement Develop a strategy to find volumes of rectangular prisms and record the strategy in words	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators

Multiplication and Division connections

Content Cluster 29: Information can be collected, analysed and interpreted using numbers (collecting data)				
Data 1 MA3-18SP Collect categorical and numerical data by observation and by survey Describe and interpret data presented in tables, column graphs, dot plots and line graphs	Data 2 MA3-18SP Interpret and create two-way tables Interpret side-by-side column graphs Compare a range of data displays to determine the most appropriate display for particular sets of data Interpret and critically evaluate data presented in digital media and elsewhere	Chance 1 MA3-19SP List outcomes of chance experiments involving equally likely outcomes Chance 2 MA3-19SP Conduct chance experiments with both small and large numbers of trials	Addition and Subtraction 1 MA3-5NA Select and apply efficient mental, written and calculator strategies for addition and subtraction of numbers of any size	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to divide numbers with three or more digits by a one-digit operator

Fractions and Decimals connections

Content Cluster 1: Place value (numbers can be regrouped and renamed – partitioning)		
Whole Numbers 1 MA3-4NA State the place value of digits in numbers of any size Record numbers of any size using expanded notation Whole Numbers 2 MA3-4NA Identify and describe prime and composite numbers	Fractions and Decimals 1 MA3-7NA Apply the place value system to represent thousandths as decimals Express mixed numerals as improper fractions and vice versa	Fractions and Decimals 2 MA3-7NA Multiply and divide decimals by 10, 100 and 1000 Write fractions in their 'simplest form'

Fractions and Decimals connections

Content Cluster 2: Representing numbers (numbers can be represented, ordered and compared based on their place value)					
Whole Numbers 1 MA3-4NA Read, write and order numbers of any size Whole Numbers 2 MA3-4NA Recognise the location of negative numbers in relation to zero on a number line	Fractions and Decimals 1 MA3-7NA Compare and order unit fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Compare, order and represent decimals with up to three decimal places	Fractions and Decimals 2 MA3-7NA Represent, compare and order fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100	Length 2 MA3-9MG Record lengths and distances using decimal notation to three decimal places	Volume and Capacity 2 MA3-11MG Record volumes and capacities using decimal notation to three decimal places	Mass 2 MA3-12MG Record mass using decimal notation to three decimal places

Content Cluster 3: Comparing quantities – linear focus (numbers can be compared based on size and place value)			
Fractions and Decimals 1 MA3-7NA Compare and order unit fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Compare, order and represent decimals with up to three decimal places	Length 1 MA3-9MG Use the kilometre to measure lengths and distances Select and use appropriate instruments and units to measure lengths Record lengths and distances using the abbreviations km, m, cm and mm	Length 2 MA3-9MG Record lengths and distances using decimal notation to three decimal places Convert between kilometres, metres, centimetres and millimetres	Volume and Capacity 2 MA3-11MG Record volumes and capacities using decimal notation to three decimal places Convert between millilitres and litres

Fractions and Decimals connections

Content Cluster 4: Comparing quantities – area/volume/mass focus (numbers can be compared based on size and place value)			
Fractions and Decimals 1 MA3-7NA Compare and order unit fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Compare, order and represent decimals with up to three decimal places	Area 1 MA3-10MG Recognise the need for square kilometres and hectares to measure area Record areas using the abbreviations km ² and ha	Volume and Capacity 1 MA3-11MG Use cubic centimetres and cubic metres to measure and estimate volumes Select and use appropriate units to measure volume Record volumes using the abbreviations cm ³ and m ³	Mass 1 MA3-12MG Recognise the need for tonnes to measure mass Record masses using the abbreviations t, kg and g Select and use appropriate instruments and units to measure mass Solve problems involving mass Mass 2 MA3-12MG Record mass using decimal notation to three decimal places Convert between tonnes, kilograms and grams
Content Cluster 5: Partitioning: Part-whole number knowledge (numbers can be partitioned in multiple ways)			
Whole Numbers 1 MA3-4NA Record numbers of any size using expanded notation Whole Numbers 2 MA3-4NA Identify and describe prime and composite numbers	Fractions and Decimals 1 MA3-7NA Compare and order unit fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Express mixed numerals as improper fractions and vice versa	Fractions and Decimals 2 MA3-7NA Represent, compare and order fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Write fractions in their 'simplest form'	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to divide numbers with three or more digits by a one-digit operator, including problems that result in a remainder

Fractions and Decimals connections

Content Cluster 6: Flexible strategies for operating with numbers (numbers can be partitioned to assist with computation)			
Addition and Subtraction 1 MA3-5NA Select and apply efficient mental, written and calculator strategies for addition and subtraction of numbers of any size	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators Use and record a range of mental and written strategies to divide numbers with three or more digits by a one-digit operator, including problems that result in a remainder	Fractions and Decimals 1 MA3-7NA Model and represent strategies to add and subtract fractions with the same denominator Fractions and Decimals 2 MA3-7NA Add and subtract fractions, included mixed numerals, with the same or related denominators Use mental, written and calculator strategies to add and subtract decimals with up to three decimal places Use mental, written and calculator strategies to multiply decimals by one- and two-digit whole numbers Use mental, written and calculator strategies to divide decimals by one-digit whole numbers	

Content Cluster 7: A variety of strategies can be applied to solve word problems			
Addition and Subtraction 1 MA3-5NA Solve word problems and record the strategy used, including problems involving money	Addition and Subtraction 2 MA3-5NA Select and apply efficient mental, written and calculator strategies to solve word problems and record the strategy used	Multiplication and Division 1 MA3-6NA Solve word problems and record the strategy used Multiplication and Division 2 MA3-6NA Select and apply efficient mental, written and calculator strategies to solve word problems and record the strategy used	Fractions and Decimals 2 MA3-7NA Solve word problems involving fractions and decimals, including money problems

Fractions and Decimals connections

Content Cluster 9: Reasonableness of solutions can be checked using estimation

Addition and Subtraction 1 MA3-5NA

Use estimation to check answers to calculations
Solve word problems and record the strategy used, including problems involving money

Multiplication and Division 1 MA3-6NA

Solve word problems and record the strategy used
Use estimation to check answers to calculations

Multiplication and Division 2 MA3-6NA

Select and apply efficient mental, written and calculator strategies to solve word problems and record the strategy used

Fractions and Decimals 2 MA3-7NA

Solve word problems involving fractions and decimals, including money problems

Content Cluster 10: Benchmark numbers can be used to estimate quantities (how much/how many)

Addition and Subtraction 1 MA3-5NA

Use estimation to check answers to calculations

Multiplication and Division 1 MA3-6NA

Solve word problems and record the strategy used
Use estimation to check answers to calculations

Fractions and Decimals 2 MA3-7NA

Make connections between equivalent percentages, fractions and decimals

Volume and Capacity 1 MA3-11MG

Use cubic centimetres and cubic metres to measure and estimate volumes
Select and use appropriate units to measure volume

Angles 1 MA3-16MG

Measure, compare and estimate angles in degrees (up to 360°)
Record angle measurements using the symbol for degrees (°)

Fractions and Decimals connections

Content Cluster 11: Number relationships – converting (e.g. one thousand can be regrouped as 10 hundreds, 100 tens, or 1000 ones)					
Whole Numbers 1 MA3-4NA Read, write and order numbers of any size State the place value of digits in numbers of any size Record numbers of any size using expanded notation	Multiplication and Division 1 MA3-6NA Use the formal algorithm for multiplication by one- and two-digit operators	Fractions and Decimals 1 MA3-7NA Apply the place value system to represent thousandths as decimals Fractions and Decimals 2 MA3-7NA Multiply and divide decimals by 10, 100 and 1000	Length 2 MA3-9MG Convert between kilometres, metres, centimetres and millimetres	Volume and Capacity 2 MA3-11MG Convert between millilitres and litres	Mass 2 MA3-12MG Convert between tonnes, kilograms and grams
Content Cluster 12: Money uses a many-to-one scale (link to place value e.g. 100 cents is equal to \$1)					
Addition and Subtraction 1 MA3-5NA Solve word problems and record the strategy used, including problems involving money Create a simple budget		Multiplication and Division 1 MA3-6NA Solve word problems and record the strategy used Interpret remainders in division problems	Fractions and Decimals 2 MA3-7NA Solve word problems involving fractions and decimals, including money problems Use mental, written and calculator strategies to calculate 10%, 25% and 50% of quantities, including as discounts		
Content Cluster 13: The ‘equals sign’ means “the same as” (equality and inequality)					
Multiplication and Division 2 MA3-6NA Recognise and use grouping symbols Apply the order of operations in calculations		Patterns and Algebra 1 MA3-8NA Find missing numbers in number sentences involving multiplication or division on one or both sides of the equals sign		Fractions and Decimals 2 MA3-7NA Determine, generate and record equivalent fractions Make connections between equivalent percentages, fractions and decimals	

Fractions and Decimals connections

Content Cluster 15: Patterns repeat or grow and future terms can be predicted (number structure)				
Patterns and Algebra 1 MA3-8NA Identify, continue create and describe increasing and decreasing number patterns with fractions, decimals and whole numbers	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Fractions and Decimals 1 MA3-7NA Model and represent strategies to add and subtract fractions with the same denominator Fractions and Decimals 2 MA3-7NA Use mental, written and calculator strategies to add and subtract decimals with up to three decimal places Use mental, written and calculator strategies to multiply decimals by one- and two-digit whole numbers Use mental, written and calculator strategies to divide decimals by one-digit whole numbers	Whole Numbers 1 MA3-4NA Read, write and order numbers of any size Whole Numbers 2 MA3-4NA Model and describe square and triangular numbers	Addition and Subtraction 1 MA3-5NA Select and apply efficient mental, written and calculator strategies for addition and subtraction of numbers of any size

Content Cluster 17: A fraction is a number (that represents a relationship between parts and the whole)		
Fractions and Decimals 1 MA3-7NA Compare and order unit fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Express mixed numerals as improper fractions and vice versa	Fractions and Decimals 2 MA3-7NA Represent, compare and order fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Determine, generate and record equivalent fractions Write fractions in their 'simplest form' Make connections between equivalent percentages, fractions and decimals	Whole Numbers 2 MA3-4NA Read, write and order numbers of any size State the place value of digits in numbers of any size Record numbers of any size using expanded notation

Fractions and Decimals connections

Content Cluster 18: Fractions represent division (number relationships)			
Fractions and Decimals 1 MA3-7NA Compare and order unit fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Express mixed numerals as improper fractions and vice versa	Fractions and Decimals 2 MA3-7NA Represent, compare and order fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Determine, generate and record equivalent fractions Write fractions in their 'simplest form'	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to divide numbers with three or more digits by a one-digit operator, including problems that result in a remainder Interpret remainders in division problems	Patterns and Algebra 1 MA3-8NA Identify, continue create and describe increasing and decreasing number patterns with fractions, decimals and whole numbers
Content Cluster 19: Fractions as a measure			
Fractions and Decimals 1 MA3-7NA Model and represent strategies to add and subtract fractions with the same denominator	Fractions and Decimals 2 MA3-7NA Add and subtract fractions, included mixed numerals, with the same or related denominators	Length 1 MA3-9MG Record lengths and distances using the abbreviations km, m, cm and mm Find perimeters of common two-dimensional shapes and record the strategy Length 2 MA3-9MG Convert between kilometres, metres, centimetres and millimetres Solve problems involving length and perimeter	Area 1 MA3-10MG Recognise the need for square kilometres and hectares to measure area Record areas using the abbreviations km ² and ha Develop a strategy to find areas of rectangles (including squares) and record the strategy in words Area 2 MA3-10MG Develop a strategy to find areas of triangles and record the strategy in words Solve problems involving areas of rectangles (including squares) and triangles

Fractions and Decimals connections

Content Cluster 20: Fractions as an operator			
Fractions and Decimals 2 MA3-7NA Multiply fractions by whole numbers Find a simple fraction of a quantity Solve word problems involving fractions and decimals, including money problems Make connections between equivalent percentages, fractions and decimals Use mental, written and calculator strategies to calculate 10%, 25% and 50% of quantities, including as discounts	Addition and Subtraction 1 MA3-5NA Solve word problems and record the strategy used, including problems involving money Create a simple budget	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Area 2 MA3-10MG Solve problems involving areas of rectangles (including squares) and triangles
Content Cluster 21: Time can be measured and compared in hours, minutes and seconds (relating 12 to 24 hour time)			
Time 1MA3-13MG Convert between 12- and 24-hour time Determine and compare the duration of events	Time 2 MA3-13MG Interpret and use timetables	Fractions and Decimals 1 MA3-7NA Model and represent strategies to add and subtract fractions with the same denominator	Addition and Subtraction 2 MA3-5NA Select and apply efficient mental, written and calculator strategies to solve word problems and record the strategy used

Fractions and Decimals connections

Content Cluster 24: The multiplicative structure (row and column) can be applied to measure area and volume				
Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Fraction and Decimals 2 MA3-7NA Use mental, written and calculator strategies to multiply decimals by one- and two-digit whole numbers	Area 1 MA3-10MG Develop a strategy to find areas of rectangles (including squares) and record the strategy in words Area 2 MA3-10MG Develop a strategy to find areas of triangles and record the strategy in words	Volume and Capacity 2 MA3-11MG Develop a strategy to find volumes of rectangular prisms and record the strategy in words	Three-Dimensional Space 2 MA3-14MG Construct prisms and pyramids using a variety of materials, and given drawings from different views

Content Cluster 32: Probabilities of events can be described in a range of 0 – 1 (probabilities as fractions of a whole)			
Chance 1 MA3-19SP Represent probabilities using fractions Recognise that probabilities range from 0 to 1	Chance 2 MA3-19SP Compare observed frequencies in chance experiments with expected frequencies Represent probabilities using fractions, decimals and percentages	Data 1 MA3-18SP Collect categorical and numerical data by observation and by survey	Fractions and Decimals 2 MA3-7NA Represent, compare and order fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Solve word problems involving fractions and decimals

Patterns and Algebra connections

Content Cluster 8: Multiples can be visually represented as an array ('for each' number structure)				
Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators Use and record a range of mental and written strategies to divide numbers with three or more digits by a one-digit operator, including problems that result in a remainder	Multiplication and Division 2 MA3-6NA Select and apply efficient mental, written and calculator strategies to solve word problems and record the strategy used	Area 1 MA3-10MG Develop a strategy to find areas of rectangles (including squares) and record the strategy in words Area 2 MA3-10MG Develop a strategy to find areas of triangles and record the strategy in words	Volume and Capacity 2 MA3-11MG Develop a strategy to find volumes of rectangular prisms and record the strategy in words	Patterns and Algebra 2 MA3-8NA Continue, create, record and describe geometric and number patterns in words

Content Cluster 13: The 'equals sign' means "the same as" (equality and inequality)		
Multiplication and Division 2 MA3-6NA Recognise and use grouping symbols Apply the order of operations in calculations	Patterns and Algebra 1 MA3-8NA Find missing numbers in number sentences involving multiplication or division on one or both sides of the equals sign	Fractions and Decimals 2 MA3-7NA Determine, generate and record equivalent fractions Make connections between equivalent percentages, fractions and decimals

Patterns and Algebra connections

Content Cluster 14: Numbers can be represented using pairs to explore odd and even properties				
Patterns and Algebra 1 MA3-8NA Identify, continue create and describe increasing and decreasing number patterns with fractions, decimals and whole numbers		Whole Numbers 1 MA3-4NA Determine factors and multiples of whole numbers Whole Numbers 2 MA3-4NA Identify and describe prime and composite numbers Model and describe square and triangular numbers		
Content Cluster 15: Patterns repeat or grow and future terms can be predicted (number structure)				
Patterns and Algebra 1 MA3-8NA Identify, continue create and describe increasing and decreasing number patterns with fractions, decimals and whole numbers	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Fractions and Decimals 1 MA3-7NA Model and represent strategies to add and subtract fractions with the same denominator Fractions and Decimals 2 MA3-7NA Use mental, written and calculator strategies to add and subtract decimals with up to three decimal places Use mental, written and calculator strategies to multiply decimals by one- and two-digit whole numbers Use mental, written and calculator strategies to divide decimals by one-digit whole numbers	Whole Numbers 1 MA3-4NA Read, write and order numbers of any size Whole Numbers 2 MA3-4NA Model and describe square and triangular numbers	Addition and Subtraction 1 MA3-5NA Select and apply efficient mental, written and calculator strategies for addition and subtraction of numbers of any size

Patterns and Algebra connections

Content Cluster 16: Patterns can be represented geometrically				
Patterns and Algebra 2 MA3-8NA Continue, create, record and describe geometric and number patterns in words Determine the rule for geometric and number patterns in words and use the rule to calculate values	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Two-Dimensional Space 1 MA3-15MG Classify and draw regular and irregular two-dimensional shapes from descriptions of their features Use the terms 'translate', 'reflect' and 'rotate' to describe transformations of shapes Two-Dimensional Space 2 MA3-15MG Identify, use and describe combinations of translations, reflections and rotations	Whole Numbers 1 MA3-4NA Read, write and order numbers of any size Whole Numbers 2 MA3-4NA Model and describe square and triangular numbers	Addition and Subtraction 1 MA3-5NA Select and apply efficient mental, written and calculator strategies for addition and subtraction of numbers of any size
Content Cluster 18: Fractions represent division (number relationships)				
Fractions and Decimals 1 MA3-7NA Compare and order unit fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Express mixed numerals as improper fractions and vice versa	Fractions and Decimals 2 MA3-7NA Represent, compare and order fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Determine, generate and record equivalent fractions Write fractions in their 'simplest form'	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to divide numbers with three or more digits by a one-digit operator, including problems that result in a remainder Interpret remainders in division problems	Patterns and Algebra 1 MA3-8NA Identify, continue create and describe increasing and decreasing number patterns with fractions, decimals and whole numbers	

Patterns and Algebra connections

Content Cluster 28: Grid references and coordinates can be used for locating and positioning			
Position 1 MA3-17MG Use grid-referenced maps to locate and describe positions	Patterns and Algebra 2 MA3-8NA Locate and record the coordinates of points in all four quadrants of the Cartesian plane	Two-Dimensional Space 1 MA3-15MG Use the terms 'translate', 'reflect' and 'rotate' to describe transformations of shapes Make and compare enlargements of shapes/pictures Two-Dimensional Space 2 MA3-15MG Identify, use and describe combinations of translations, reflections and rotations	Three-Dimensional Space 2 MA3-14MG Construct prisms and pyramids using a variety of materials, and given drawings from different views

Measurement connections

Content Cluster 2: Representing numbers (numbers can be represented, ordered and compared based on their place value)					
Whole Numbers 1 MA3-4NA Read, write and order numbers of any size Whole Numbers 2 MA3-4NA Recognise the location of negative numbers in relation to zero on a number line	Fractions and Decimals 1 MA3-7NA Compare and order unit fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Compare, order and represent decimals with up to three decimal places	Fractions and Decimals 2 MA3-7NA Represent, compare and order fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100	Length 2 MA3-9MG Record lengths and distances using decimal notation to three decimal places	Volume and Capacity 2 MA3-11MG Record volumes and capacities using decimal notation to three decimal places	Mass 2 MA3-12MG Record mass using decimal notation to three decimal places

Content Cluster 3: Comparing quantities – linear focus (numbers can be compared based on size and place value)			
Fractions and Decimals 1 MA3-7NA Compare and order unit fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Compare, order and represent decimals with up to three decimal places	Length 1 MA3-9MG Use the kilometre to measure lengths and distances Select and use appropriate instruments and units to measure lengths Record lengths and distances using the abbreviations km, m, cm and mm	Length 2 MA3-9MG Record lengths and distances using decimal notation to three decimal places Convert between kilometres, metres, centimetres and millimetres	Volume and Capacity 2 MA3-11MG Record volumes and capacities using decimal notation to three decimal places Convert between millilitres and litres

Measurement connections

Content Cluster 4: Comparing quantities – area/volume/mass focus (numbers can be compared based on size and place value)			
Fractions and Decimals 1 MA3-7NA Compare and order unit fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Compare, order and represent decimals with up to three decimal places	Area 1 MA3-10MG Recognise the need for square kilometres and hectares to measure area Record areas using the abbreviations km ² and ha	Volume and Capacity 1 MA3-11MG Use cubic centimetres and cubic metres to measure and estimate volumes Select and use appropriate units to measure volume Record volumes using the abbreviations cm ³ and m ³	Mass 1 MA3-12MG Recognise the need for tonnes to measure mass Record masses using the abbreviations t, kg and g Select and use appropriate instruments and units to measure mass Solve problems involving mass Mass 2 MA3-12MG Record mass using decimal notation to three decimal places Convert between tonnes, kilograms and grams

Content Cluster 8: Multiples can be visually represented as an array ('for each' number structure)				
Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators Use and record a range of mental and written strategies to divide numbers with three or more digits by a one-digit operator, including problems that result in a remainder	Multiplication and Division 2 MA3-6NA Select and apply efficient mental, written and calculator strategies to solve word problems and record the strategy used	Area 1 MA3-10MG Develop a strategy to find areas of rectangles (including squares) and record the strategy in words Area 2 MA3-10MG Develop a strategy to find areas of triangles and record the strategy in words	Volume and Capacity 2 MA3-11MG Develop a strategy to find volumes of rectangular prisms and record the strategy in words	Patterns and Algebra 2 MA3-8NA Continue, create, record and describe geometric and number patterns in words

Measurement connections

Content Cluster 10: Benchmark numbers can be used to estimate quantities (how much/how many)				
Addition and Subtraction 1 MA3-5NA Use estimation to check answers to calculations	Multiplication and Division 1 MA3-6NA Solve word problems and record the strategy used Use estimation to check answers to calculations	Fractions and Decimals 2 MA3-7NA Make connections between equivalent percentages, fractions and decimals	Volume and Capacity 1 MA3-11MG Use cubic centimetres and cubic metres to measure and estimate volumes Select and use appropriate units to measure volume	Angles 1 MA3-16MG Measure, compare and estimate angles in degrees (up to 360°) Record angle measurements using the symbol for degrees (°)

Content Cluster 11: Number relationships – converting (e.g. one thousand can be regrouped as 10 hundreds, 100 tens, or 1000 ones)					
Whole Numbers 1 MA3-4NA Read, write and order numbers of any size State the place value of digits in numbers of any size Record numbers of any size using expanded notation	Multiplication and Division 1 MA3-6NA Use the formal algorithm for multiplication by one- and two-digit operators	Fractions and Decimals 1 MA3-7NA Apply the place value system to represent thousandths as decimals Fractions and Decimals 2 MA3-7NA Multiply and divide decimals by 10, 100 and 1000	Length 2 MA3-9MG Convert between kilometres, metres, centimetres and millimetres	Volume and Capacity 2 MA3-11MG Convert between millilitres and litres	Mass 2 MA3-12MG Convert between tonnes, kilograms and grams

Measurement connections

Content Cluster 19: Fractions as a measure			
Fractions and Decimals 1 MA3-7NA Model and represent strategies to add and subtract fractions with the same denominator	Fractions and Decimals 2 MA3-7NA Add and subtract fractions, included mixed numerals, with the same or related denominators	Length 1 MA3-9MG Record lengths and distances using the abbreviations km, m, cm and mm Find perimeters of common two-dimensional shapes and record the strategy Length 2 MA3-9MG Convert between kilometres, metres, centimetres and millimetres Solve problems involving length and perimeter	Area 1 MA3-10MG Recognise the need for square kilometres and hectares to measure area Record areas using the abbreviations km ² and ha Develop a strategy to find areas of rectangles (including squares) and record the strategy in words Area 2 MA3-10MG Develop a strategy to find areas of triangles and record the strategy in words Solve problems involving areas of rectangles (including squares) and triangles
Content Cluster 20: Fractions as an operator			
Fractions and Decimals 2 MA3-7NA Multiply fractions by whole numbers Find a simple fraction of a quantity Solve word problems involving fractions and decimals, including money problems Make connections between equivalent percentages, fractions and decimals Use mental, written and calculator strategies to calculate 10%, 25% and 50% of quantities, including as discounts	Addition and Subtraction 1 MA3-5NA Solve word problems and record the strategy used, including problems involving money Create a simple budget	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Area 2 MA3-10MG Solve problems involving areas of rectangles (including squares) and triangles

Measurement connections

Content Cluster 21: Time can be measured and compared in hours, minutes and seconds (relating 12 to 24 hour time)					
Time 1MA3-13MG Convert between 12- and 24-hour time Determine and compare the duration of events		Time 2 MA3-13MG Interpret and use timetables	Fractions and Decimals 1 MA3-7NA Model and represent strategies to add and subtract fractions with the same denominator	Addition and Subtraction 2 MA3-5NA Select and apply efficient mental, written and calculator strategies to solve word problems and record the strategy used	
Content Cluster 22: Numbers and quantities can be compared using scale (links to proportionality)					
Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Length 1 MA3-9MG Select and use appropriate instruments and units to measure lengths Record lengths and distances using the abbreviations km, m, cm and mm	Position MA3-17MG Use grid-referenced maps to locate and describe positions Follow a sequence of directions, including compass directions, to find a particular location on a map Describe routes using landmarks and directional language	Data 1 MA3-18SP Construct data displays, including tables, column graphs, dot plots and line graphs, appropriate for the data type Describe and interpret data presented in tables, column graphs, dot plots and line graphs	Time 2 MA3-13MG Draw and interpret timelines using a given scale	Two-Dimensional Space 1 MA3-15MG Make and compare enlargements of shapes/pictures
	Length 2 MA3-9MG Convert between kilometres, metres, centimetres and millimetres				

Measurement connections

Content Cluster 23: Measurements are approximations and can be represented using formal units				
Length 1 MA3-9MG Record lengths and distances using the abbreviations km, m, cm and mm Length 2 MA3-9MG Record lengths and distances using decimal notation to three decimal places	Area 1 MA3-10MG Record areas using the abbreviations km^2 and ha	Volume and Capacity 1 MA3-11MG Record volumes using the abbreviations cm^3 and m^3 Volume and Capacity 2 MA2-11MG Record volumes and capacities using decimal notation to three decimal places Convert between millilitres and litres	Mass 1 MA3-12MG Recognise the need for tonnes to measure mass Record masses using the abbreviations t, kg and g Distinguish between 'gross mass' and 'net mass' Mass 2 MA3-12MG Record mass using decimal notation to three decimal places	Angles 1 MA3-16MG Recognise the need for formal units to measure angles Record angle measurements using the symbol for degrees ($^\circ$) Construct angles using a protractor (up to 360°) Describe angle size in degrees for each angle classification
Content Cluster 24: The multiplicative structure (row and column) can be applied to measure area and volume				
Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Fraction and Decimals 2 MA3-7NA Use mental, written and calculator strategies to multiply decimals by one- and two-digit whole numbers	Area 1 MA3-10MG Develop a strategy to find areas of rectangles (including squares) and record the strategy in words Area 2 MA3-10MG Develop a strategy to find areas of triangles and record the strategy in words	Volume and Capacity 2 MA3-11MG Develop a strategy to find volumes of rectangular prisms and record the strategy in words	Three-Dimensional Space 2 MA3-14MG Construct prisms and pyramids using a variety of materials, and given drawings from different views

Measurement connections

Content Cluster 25: Objects can be measured and compared through different representations		
Three-dimensional Space 1 MA3-14MG Describe and compare properties of prisms and pyramids in terms of their faces, edges and vertices Connect three-dimensional objects with their nets Three-Dimensional Space 2 MA3-14MG Construct prisms and pyramids using a variety of materials, and given drawings from different views	Volume and Capacity 1 MA3-11MG Use cubic centimetres and cubic metres to measure and estimate volumes Select and use appropriate units to measure volume Volume and Capacity 2 MA3-11MG Connect volume and capacity and their units of measurement Develop a strategy to find volumes of rectangular prisms and record the strategy in words	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators

Content Cluster 26: Shapes can be measured and compared through different representations			
Two-Dimensional Space 1 MA3-15MG Identify, name and draw right-angled, equilateral, isosceles and scalene triangles Compare and describe side properties of the special quadrilaterals and special triangles Explore angle properties of the special quadrilaterals and special triangles	Area 1 MA3-10MG Develop a strategy to find areas of rectangles (including squares) and record the strategy in words Area 2 MA3-10MG Develop a strategy to find areas of triangles and record the strategy in words	Length 1 MA3-9MG Find perimeters of common two-dimensional shapes and record the strategy	Angles 1 MA3-16MG Measure, compare and estimate angles in degrees (up to 360°) Describe angle size in degrees for each angle classification



Measurement connections

Content Cluster 30: Information can be presented visually to convey meaning (data representations and exploring bias)			
Data 1 MA3-18SP Construct data displays, including tables, column graphs, dot plots and line graphs, appropriate for the data type	Data 2 MA3-18SP Interpret and create two-way tables Compare a range of data displays to determine the most appropriate display for particular sets of data	Angles 1 MA3-16MG Construct angles using a protractor (up to 360°)	Length 1 MA3-9MG Select and use appropriate instruments and units to measure lengths

Geometry connections

Content Cluster 10: Benchmark numbers can be used to estimate quantities (how much/how many)				
Addition and Subtraction 1 MA3-5NA Use estimation to check answers to calculations	Multiplication and Division 1 MA3-6NA Solve word problems and record the strategy used Use estimation to check answers to calculations	Fractions and Decimals 2 MA3-7NA Make connections between equivalent percentages, fractions and decimals	Volume and Capacity 1 MA3-11MG Use cubic centimetres and cubic metres to measure and estimate volumes Select and use appropriate units to measure volume	Angles 1 MA3-16MG Measure, compare and estimate angles in degrees (up to 360°) Record angle measurements using the symbol for degrees (°)
Content Cluster 16: Patterns can be represented geometrically				
Patterns and Algebra 2 MA3-8NA Continue, create, record and describe geometric and number patterns in words Determine the rule for geometric and number patterns in words and use the rule to calculate values	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Two-Dimensional Space 1 MA3-15MG Classify and draw regular and irregular two-dimensional shapes from descriptions of their features Use the terms 'translate', 'reflect' and 'rotate' to describe transformations of shapes Two-Dimensional Space 2 MA3-15MG Identify, use and describe combinations of translations, reflections and rotations	Whole Numbers 1 MA3-4NA Read, write and order numbers of any size Whole Numbers 2 MA3-4NA Model and describe square and triangular numbers	Addition and Subtraction 1 MA3-5NA Select and apply efficient mental, written and calculator strategies for addition and subtraction of numbers of any size

Geometry connections

Content Cluster 22: Numbers and quantities can be compared using scale (links to proportionality)					
Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Length 1 MA3-9MG Select and use appropriate instruments and units to measure lengths Record lengths and distances using the abbreviations km, m, cm and mm Length 2 MA3-9MG Convert between kilometres, metres, centimetres and millimetres	Position MA3-17MG Use grid-referenced maps to locate and describe positions Follow a sequence of directions, including compass directions, to find a particular location on a map Describe routes using landmarks and directional language	Data 1 MA3-18SP Construct data displays, including tables, column graphs, dot plots and line graphs, appropriate for the data type Describe and interpret data presented in tables, column graphs, dot plots and line graphs	Time 2 MA3-13MG Draw and interpret timelines using a given scale	Two-Dimensional Space 1 MA3-15MG Make and compare enlargements of shapes/pictures

Geometry connections

Content Cluster 23: Measurements are approximations and can be represented using formal units				
Length 1 MA3-9MG Record lengths and distances using the abbreviations km, m, cm and mm Length 2 MA3-9MG Record lengths and distances using decimal notation to three decimal places	Area 1 MA3-10MG Record areas using the abbreviations km^2 and ha	Volume and Capacity 1 MA3-11MG Record volumes using the abbreviations cm^3 and m^3 Volume and Capacity 2 MA2-11MG Record volumes and capacities using decimal notation to three decimal places Convert between millilitres and litres	Mass 1 MA3-12MG Recognise the need for tonnes to measure mass Record masses using the abbreviations t, kg and g Distinguish between 'gross mass' and 'net mass' Mass 2 MA3-12MG Record mass using decimal notation to three decimal places	Angles 1 MA3-16MG Recognise the need for formal units to measure angles Record angle measurements using the symbol for degrees ($^\circ$) Construct angles using a protractor (up to 360°) Describe angle size in degrees for each angle classification
Content Cluster 24: The multiplicative structure (row and column) can be applied to measure area and volume				
Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Fraction and Decimals 2 MA3-7NA Use mental, written and calculator strategies to multiply decimals by one- and two-digit whole numbers	Area 1 MA3-10MG Develop a strategy to find areas of rectangles (including squares) and record the strategy in words Area 2 MA3-10MG Develop a strategy to find areas of triangles and record the strategy in words	Volume and Capacity 2 MA3-11MG Develop a strategy to find volumes of rectangular prisms and record the strategy in words	Three-Dimensional Space 2 MA3-14MG Construct prisms and pyramids using a variety of materials, and given drawings from different views

Geometry connections

Content Cluster 25: Objects can be measured and compared through different representations		
Three-dimensional Space 1 MA3-14MG Describe and compare properties of prisms and pyramids in terms of their faces, edges and vertices Connect three-dimensional objects with their nets Three-Dimensional Space 2 MA3-14MG Construct prisms and pyramids using a variety of materials, and given drawings from different views	Volume and Capacity 1 MA3-11MG Use cubic centimetres and cubic metres to measure and estimate volumes Select and use appropriate units to measure volume Volume and Capacity 2 MA3-11MG Connect volume and capacity and their units of measurement Develop a strategy to find volumes of rectangular prisms and record the strategy in words	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators

Content Cluster 26: Shapes can be measured and compared through different representations			
Two-Dimensional Space 1 MA3-15MG Identify, name and draw right-angled, equilateral, isosceles and scalene triangles Compare and describe side properties of the special quadrilaterals and special triangles Explore angle properties of the special quadrilaterals and special triangles	Area 1 MA3-10MG Develop a strategy to find areas of rectangles (including squares) and record the strategy in words Area 2 MA3-10MG Develop a strategy to find areas of triangles and record the strategy in words	Length 1 MA3-9MG Find perimeters of common two-dimensional shapes and record the strategy	Angles 1 MA3-16MG Measure, compare and estimate angles in degrees (up to 360°) Describe angle size in degrees for each angle classification

Geometry connections

Content Cluster 27: Shape and objects are classified based on their properties			
Three-Dimensional Space 1 MA3-14MG Name prisms and pyramids according to the shape of their 'base' Recognise that prisms have a uniform cross-section and pyramids do not Describe and compare properties of prisms and pyramids in terms of their faces, edges and vertices	Two-Dimensional Space 1 MA3-15MG Identify, name and draw right-angled, equilateral, isosceles and scalene triangles Compare and describe side properties of the special quadrilaterals and special triangles Explore angle properties of the special quadrilaterals and special triangles Classify and draw regular and irregular two-dimensional shapes from descriptions of their features Identify line and rotational symmetries	Two-Dimensional Space 2 MA3-15MG Identify, describe, compare and draw diagonals of two-dimensional shapes Identify and name parts of circles	Angles 2 MA3-16MG Identify and name angle types formed by the intersection of straight lines, including 'angles on a straight line', 'angles at a point' and 'vertically opposite angles' Use known angle results to find unknown angles in diagrams
Content Cluster 28: Grid references and coordinates can be used for locating and positioning			
Position 1 MA3-17MG Use grid-referenced maps to locate and describe positions	Patterns and Algebra 2 MA3-8NA Locate and record the coordinates of points in all four quadrants of the Cartesian plane	Two-Dimensional Space 1 MA3-15MG Use the terms 'translate', 'reflect' and 'rotate' to describe transformations of shapes Make and compare enlargements of shapes/pictures Two-Dimensional Space 2 MA3-15MG Identify, use and describe combinations of translations, reflections and rotations	Three-Dimensional Space 2 MA3-14MG Construct prisms and pyramids using a variety of materials, and given drawings from different views



Geometry connections

Content Cluster 30: Information can be presented visually to convey meaning (data representations and exploring bias)			
Data 1 MA3-18SP Construct data displays, including tables, column graphs, dot plots and line graphs, appropriate for the data type	Data 2 MA3-18SP Interpret and create two-way tables Compare a range of data displays to determine the most appropriate display for particular sets of data	Angles 1 MA3-16MG Construct angles using a protractor (up to 360°)	Length 1 MA3-9MG Select and use appropriate instruments and units to measure lengths

Statistics and Probability connections

Content Cluster 22: Numbers and quantities can be compared using scale (links to proportionality)					
Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to multiply by one- and two-digit operators	Length 1 MA3-9MG Select and use appropriate instruments and units to measure lengths Record lengths and distances using the abbreviations km, m, cm and mm Length 2 MA3-9MG Convert between kilometres, metres, centimetres and millimetres	Position MA3-17MG Use grid-referenced maps to locate and describe positions Follow a sequence of directions, including compass directions, to find a particular location on a map Describe routes using landmarks and directional language	Data 1 MA3-18SP Construct data displays, including tables, column graphs, dot plots and line graphs, appropriate for the data type Describe and interpret data presented in tables, column graphs, dot plots and line graphs	Time 2 MA3-13MG Draw and interpret timelines using a given scale	Two-Dimensional Space 1 MA3-15MG Make and compare enlargements of shapes/pictures

Statistics and Probability connections

Content Cluster 29: Information can be collected, analysed and interpreted using numbers (collecting data)				
Data 1 MA3-18SP Collect categorical and numerical data by observation and by survey Describe and interpret data presented in tables, column graphs, dot plots and line graphs	Data 2 MA3-18SP Interpret and create two-way tables Interpret side-by-side column graphs Compare a range of data displays to determine the most appropriate display for particular sets of data Interpret and critically evaluate data presented in digital media and elsewhere	Chance 1 MA3-19SP List outcomes of chance experiments involving equally likely outcomes Chance 2 MA3-19SP Conduct chance experiments with both small and large numbers of trials	Addition and Subtraction 1 MA3-5NA Select and apply efficient mental, written and calculator strategies for addition and subtraction of numbers of any size	Multiplication and Division 1 MA3-6NA Use and record a range of mental and written strategies to divide numbers with three or more digits by a one-digit operator

Content Cluster 30: Information can be presented visually to convey meaning (data representations and exploring bias)			
Data 1 MA3-18SP Construct data displays, including tables, column graphs, dot plots and line graphs, appropriate for the data type	Data 2 MA3-18SP Interpret and create two-way tables Compare a range of data displays to determine the most appropriate display for particular sets of data	Angles 1 MA3-16MG Construct angles using a protractor (up to 360°)	Length 1 MA3-9MG Select and use appropriate instruments and units to measure lengths

Statistics and Probability connections

Content Cluster 31: Events can be predicted, compared, and analysed based on probability			
Chance 1 MA3-19SP List outcomes of chance experiments involving equally likely outcomes	Chance 2 MA3-19SP Compare observed frequencies in chance experiments with expected frequencies Conduct chance experiments with both small and large numbers of trials	Data 1 MA3-18SP Collect categorical and numerical data by observation and by survey Describe and interpret data presented in tables, column graphs, dot plots and line graphs	Data 2 MA3-18SP Interpret and critically evaluate data presented in digital media and elsewhere
Content Cluster 32: Probabilities of events can be described in a range of 0 – 1 (probabilities as fractions of a whole)			
Chance 1 MA3-19SP Represent probabilities using fractions Recognise that probabilities range from 0 to 1	Chance 2 MA3-19SP Compare observed frequencies in chance experiments with expected frequencies Represent probabilities using fractions, decimals and percentages	Data 1 MA3-18SP Collect categorical and numerical data by observation and by survey	Fractions and Decimals 2 MA3-7NA Represent, compare and order fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 Solve word problems involving fractions and decimals