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Mathematics Online Interview

Mapping the Mathematics Online Interview to the Victorian Curriculum F-10: Mathematics

The following table links tasks from the Mathematics Online Interview to the Early Numeracy Research Project (ENRP) Growth Points, the achievement standard, content description and levels Foundation to 5 of the *Victorian Curriculum F-10: Mathematics* where applicable.

The table enables mapping of student responses in the Mathematics Online Interview to the *Victorian Curriculum F-10: Mathematics.*

Interpreting the table:

- Blank cells indicate no obvious match from the task to the *Victorian Curriculum F-10: Mathematics*
- Tasks in the First Year Detour are mapped to the *Victorian Curriculum F-10: Mathematics* but do not link to Growth Points

Further details on the Victorian Curriculum F-10: Mathematics can be accessed from the VCAA website at: http://victoriancurriculum.vcaa.vic.edu.au/mathematics/

The Mathematics Developmental Continuum teaching strategies have been linked to the Mathematics Online Interview questions to support teachers in planning for the learning required at the next level of achievement for their students. This resource can be accessed at: Links from the Interview to Mathematics Developmental Continuum

** New tasks will be added to the Mathematics Online Interview from 2017. These tasks have been validated and will enrich the assessment data that the interview provides.

These enhanced tasks are highlighted within the table below.

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
Section A: COUNTING					
1	**Teddy task**	GP 2. Counting collections (Confidently counts a collection of around 20 objects)	F	**Number and Algebra** Students connect number names and numerals with sets of up to 20 elements, estimate the size of these sets, and use counting strategies to solve problems that involve comparing, combining and separating these sets. Students order the first 10 elements of a set. They match individual objects with counting sequences up to and back from 20. Students order the first 10 elements of a set. They represent, continue and create simple patterns.	**Number and Place Value** Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point (VCMNA069)
1	**Teddy task (successfully counts 10 objects but unsuccessful beyond 10)**	GP 0. Not apparent. Not yet able to state the sequence of number names to 20.			
2 a	**Counting forwards, backwards, and breaking the sequence**	GP 1. Rote counting (Rote counts the number sequence to at least 20, but not yet able to reliably count a collection of that size)	F	**Number and Algebra** Students connect number names and numerals with sets of up to 20 elements, estimate the size of these sets, and use counting strategies to solve problems that involve comparing, combining and separating these sets. Students order the first 10 elements of a set. They match individual objects with counting sequences up to and back from 20. Students order the first 10 elements of a set. They represent, continue and create simple patterns.	**Number and Place Value** Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point (VCMNA069)

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
2 b, c, d, e	**Counting forwards, backwards, and breaking the sequence (a, b, c, d, e)**	GP3. Counting by 1s (Counts forwards / backwards from starting points between 1 and 100; knows number one more than/ one less than a given number)	1	**Number and Algebra** Students count to and from 100 and locate these numbers on a number line. They partition numbers using place value and carry out simple additions and subtractions, using counting strategies. Students recognise Australian coins according to their value. They identify representations of one half. Students describe number sequences resulting from skip counting by 2s, 5s and 10s. They continue simple patterns involving numbers and objects with and without the use of digital technology.	**Number and place value** Develop confidence with number sequences to and from 100 by ones from any starting point. Skip count by twos, fives and tens starting from zero (VCMNA086)
3	**More or Less task (a, b)**				
4	**Counting from 0 by 10s, 5s, and 2s**	GP4. Counting from 0 by 10s, 5s, and 2s (Can count from 2s, 5s, and 10s to a given target; knows 2 more/less, 5 more/less, 10 more/less than a given number in this sequence)			
5	**Counting from x by 10s and 5s**	GP 5. Counting from x (x>0) by 2s, 5s, and 10s (Given a non-zero starting point, can count by 2s, 5s, and 10s to a given target)	2	**Number and Algebra** Students count to and from, and order numbers up to 1000. They perform simple addition and subtraction calculations, using a range of strategies. They find the total value of simple collections of Australian notes and coins. Students represent multiplication and division by grouping into sets and divide collections and shapes into halves, quarters and eighths. They recognise increasing and decreasing number sequences involving 2s, 3s, 5s and 10s, identify the missing element in a number sequence, and use digital technology to produce sequences by constant addition.	**Number and place value** Investigate number sequences, initially those increasing and decreasing by twos, threes, fives and ten from any starting point, then moving to other sequences. (VCMNA103)

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
6	**Counting from x by a single digit number**	GP 6. Extending and applying counting skills (Can count from a non-zero starting point by a single digit number, and can apply counting skills in practical tasks)	2	**Number and Algebra** Students count to and from, and order numbers up to 1000. They perform simple addition and subtraction calculations, using a range of strategies. They find the total value of simple collections of Australian notes and coins. Students represent multiplication and division by grouping into sets and divide collections and shapes into halves, quarters and eighths. They recognise increasing and decreasing number sequences involving 2s, 3s, 5s and 10s, identify the missing element in a number sequence, and use digital technology to produce sequences by constant addition.	Investigate number sequences, initially those increasing and decreasing by twos, threes, fives and ten from any starting point, then moving to other sequences (VCMNA103)
7	**Counting money**				**Money and financial mathematics** Count and order small collections of Australian coins and notes according to their value. (VCMNA111)

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FIRST YEAR DETOUR **There are no growth points for the First Year Detour tasks.**					
F 1 a, b, d, e	**Quantity tasks/ Conservation**		F	**Number and Algebra** Students connect number names and numerals with sets of up to 20 elements, estimate the size of these sets, and use counting strategies to solve problems that involve comparing, combining and separating these sets. Students order the first 10 elements of a set. They match individual objects with counting sequences up to and back from 20. Students order the first 10 elements of a set. They represent, continue and create simple patterns.	**Number and place value** Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond. (VCMNA070)
F 1 c	**More or Less**				**Number and place value** Compare, order and make correspondences between collections, initially to 20, and explain reasoning (VCMNA072)
F 1 f	**Basic Addition**				**Number and place value** Represent practical situations to model addition and subtraction (VCMNA073)
F 2 a	**Location**		F	**Measurement and Geometry** Students identify measurement attributes in practical situations and compare lengths, masses and capacities of familiar objects. They order events, explain their	**Location and transformation** Describe position and movement (VCMMG082)

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
				duration, and match days of the week to familiar events. Students identify simple shapes in their environment and sort shapes by their common and distinctive features. They use simple statements and gestures to describe location.	
F2 b, c, d, e	Pattern		F	**Number and Algebra** Students connect number names and numerals with sets of up to 20 elements, estimate the size of these sets, and use counting strategies to solve problems that involve comparing, combining and separating these sets. Students order the first 10 elements of a set. They match individual objects with counting sequences up to and back from 20. Students order the first 10 elements of a set. They represent, continue and create simple patterns.	**Patterns and algebra** Sort and classify familiar objects and explain the basis for these classifications and copy, continue and create patterns with objects and drawings (VCMNA076) Follow a short sequence of instructions (VCMNA077)
F 2 f	Ordinal Number				
F3 a	Subitising				**Number and place value** Subitise small collections of objects (VCMNA071)
F3 b	Matching numerals to quantities				**Number and place value** Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond. (VCMNA070)
F3 c, d, e, f, g, h, i	Ordering One to One Correspondence Part-part-whole One more/One less				**Number and place value** Compare, order and make correspondences between collections, initially to 20, and explain reasoning (VCMNA072)

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
F3 **j, k**	**Ordering heights**		F	**Measurement and Geometry** Students identify measurement attributes in practical situations and compare lengths, masses and capacities of familiar objects. They order events, explain their duration, and match days of the week to familiar events. Students identify simple shapes in their environment and sort shapes by their common and distinctive features. They use simple statements and gestures to describe location.	**Using units of measurement** Use direct and indirect comparisons to decide which is longer, heavier or holds more, and explain reasoning in everyday language (VCMMG078)

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
Section B: PLACE VALUE					
8 **9** **10** **11**	**All 1-digit numbers in:** • **Reading Numerals** • **Calculator task** • **Ordering task**	GP 1. Reading, writing, interpreting, and ordering single digit numbers	F	**Number and Algebra** Students connect number names and numerals with sets of up to 20 elements, estimate the size of these sets, and use counting strategies to solve problems that involve comparing, combining and separating these sets. Students order the first 10 elements of a set. They match individual objects with counting sequences up to and back from 20. Students order the first 10 elements of a set. They represent, continue and create simple patterns.	**Number and place value** Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond. (VCMNA070)
8 **9** **10** **11**	**All 2 digit numbers in:** • **Reading Numerals** • **Writing & Reading Numerals: Calculator** • **Ordering task**	GP 2. Reading, writing, interpreting, and ordering two-digit numbers	1	**Number and Algebra** Students count to and from 100 and locate these numbers on a number line. They partition numbers using place value and carry out simple additions and subtractions, using counting strategies. Students recognise Australian coins according to their value. They identify representations of one half. Students describe number sequences resulting from skip counting by 2s, 5s and 10s. They continue simple patterns involving numbers and objects with and without the use of digital technology.	**Number and place value** Recognise, model, read, write and order numbers to at least 100. Locate these numbers on a number line. (VCMNA087)
12	**Bundling task: Interpreting 2-Digit numbers**				**Number and place value** Count collections to 100 by partitioning numbers using place value (VCMNA088)
13	**2-Digit Number line: Interpreting 2-Digit Numbers**				**Number and place value** Recognise, model, read, write and order numbers to at least 100. Locate these numbers on a number line (VCMNA087)

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
8 9 10 11 14 15 16	**All 3 digit numbers in:** • **Reading Numerals** • **Writing & Reading Numerals: Calculator** • **Ordering task** • **3-Digit Number line: Interpreting 3-Digit Numbers** • **Some more: Interpreting 3-Digit Numbers** • **Some less: Interpreting 3-Digit Numbers**	GP 3. Reading, writing, interpreting, and ordering three-digit numbers	2	**Number and Algebra** Students count to and from, and order numbers up to 1000. They perform simple addition and subtraction calculations, using a range of strategies. They find the total value of simple collections of Australian notes and coins. Students represent multiplication and division by grouping into sets and divide collections and shapes into halves, quarters and eighths. They recognise increasing and decreasing number sequences involving 2s, 3s, 5s and 10s, identify the missing element in a number sequence, and use digital technology to produce sequences by constant addition.	**Number and place value** Recognise, model, represent and order numbers to at least 1000 (VCMNA104)
8 9 10 11 17 18	**All 4 digit numbers in:** • **Reading Numerals** • **Writing & Reading Numerals: Calculator** • **Ordering task** • **Ten more: Interpreting 4-Digit Numbers** • **One hundred less: Interpreting 4-Digit Numbers**	GP 4. Reading, writing, interpreting, and ordering numbers beyond 1000	3	**Number and Algebra** Students count and order numbers to and from 10 000. They recognise the connection between addition and subtraction, and solve problems using efficient strategies for multiplication with and without the use of digital technology. Students recall addition and multiplication facts for single-digit numbers. They represent money values in various ways and correctly count out change from financial transactions. Students model and represent unit fractions for halves, thirds, quarters, fifths and eighths, and multiples of these up to one. They classify numbers as either odd or even, continue number patterns involving addition or subtraction, and explore simple number sequences based on multiples.	**Number and place value** Recognise, model, represent and order numbers to at least 10 000 (VCMNA130) **Number and place value** Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems (VCMNA131)

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19	**Ordering capital city populations**	GP5. Extending and applying place value knowledge	3	**Number and Algebra** Students count and order numbers to and from 10 000. They recognise the connection between addition and subtraction, and solve problems using efficient strategies for multiplication with and without the use of digital technology. Students recall addition and multiplication facts for single-digit numbers. They represent money values in various ways and correctly count out change from financial transactions. Students model and represent unit fractions for halves, thirds, quarters, fifths and eighths, and multiples of these up to one. They classify numbers as either odd or even, continue number patterns involving addition or subtraction, and explore simple number sequences based on multiples.	**Number and place value** Recognise, model, represent and order numbers to at least 10 000 (VCMNA130)
20	**Interpreting the Number line**	GP 5. Extending and applying place value knowledge	4	**Number and Algebra** Students recall multiplication facts to 10 x 10 and related division facts. They choose appropriate strategies for calculations involving multiplication and division, with and without the use of digital technology, and estimate answers accurately enough for the context. Students solve simple purchasing problems with and without the use of digital technology. They locate familiar fractions on a number line, recognise common equivalent fractions in familiar contexts and make connections between fractions and decimal notations up to two decimal places. Students identify unknown quantities in number sentences. They use the properties of odd and even numbers and describe number patterns resulting from multiplication.	**Number and place value** Recognise, represent and order numbers to at least tens of thousands (VCMNA152)

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			Students continue number sequences involving multiples of single-digit numbers and unit fractions, and locate them on a number line.	

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
Section C: STRATEGIES FOR ADDITION AND SUBTRACTION					
21 a or b	**Counting on**	GP 1. Count all (Counts all to find the total of two collections)	F	**Number and Algebra** Students connect number names and numerals with sets of up to 20 elements, estimate the size of these sets, and use counting strategies to solve problems that involve comparing, combining and separating these sets. Students order the first 10 elements of a set. They match individual objects with counting sequences up to and back from 20. Students order the first 10 elements of a set. They represent, continue and create simple patterns.	**Number and place value** Represent practical situations to model addition and subtraction (VCMNA073)
21 a	**Counting on**	GP 2. Count on (Counts on from one number to find the total of two collections)	1	**Number and Algebra** Students count to and from 100 and locate these numbers on a number line. They partition numbers using place value and carry out simple additions and subtractions, using counting strategies. Students recognise Australian coins according to their value. They identify representations of one half. Students describe number sequences resulting from skip counting by 2s, 5s and 10s. They continue simple patterns involving numbers and objects with and without the use of digital technology.	**Number and place value** Represent and solve simple addition *and subtraction* problems using a range of strategies including counting on, partitioning and rearranging parts (VCMNA089)
22	**Counting back**	GP 3. Count back/count down to/count up from (Given a subtraction situation, chooses appropriately from strategies including count back, count down to and count up from)			
23	**Counting down to/ counting up from**				

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
24 a, b, c, d, e	**Basic strategies**	GP4. Basic strategies (Given an addition or subtraction problem, strategies such as doubles, commutativity, adding 10, tens facts, and other known facts are evident)	2	**Number and Algebra** Students count to and from, and order numbers up to 1000. They perform simple addition and subtraction calculations, using a range of strategies. They find the total value of simple collections of Australian notes and coins. Students represent multiplication and division by grouping into sets and divide collections and shapes into halves, quarters and eighths. They recognise increasing and decreasing number sequences involving 2s, 3s, 5s and 10s, identify the missing element in a number sequence, and use digital technology to produce sequences by constant addition.	**Number and place value** Solve simple addition and subtraction problems using a range of efficient mental and written strategies (VCMNA107)
25 a, b, c, d, e	**Derived strategies**	GP5. Derived strategies (Given an addition or subtraction problem, strategies such as near doubles, adding 9, build to next ten, fact families and intuitive strategies are evident)	3	**Number and Algebra** Students count and order numbers to and from 10 000. They recognise the connection between addition and subtraction, and solve problems using efficient strategies for multiplication with and without the use of digital technology. Students recall addition and multiplication facts for single-digit numbers. They represent money values in various ways and correctly count out change from financial transactions. Students model and represent unit fractions for halves, thirds, quarters, fifths and eighths, and multiples of these up to one. They classify numbers as either odd or even, continue number patterns involving addition or subtraction, and explore simple number sequences based on multiples.	**Number and place value** Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation (VCMNA133) **Number and place value** Recognise and explain the connection between addition and subtraction (VCMNA132) **Number and place value** Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems (VCMNA131)
26 a, b, c, d, e	**Multi-digit strategies**	GP 6. Extending and applying addition and subtraction using basic, derived and intuitive strategies Given a range of tasks (including multi-digit numbers), can solve them mentally, using the appropriate strategies and a clear understanding of key concepts)			

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
27 a, b	**How many digits?**	GP 6. Extending and applying addition and subtraction using basic, derived and intuitive strategies Given a range of tasks (including multi-digit numbers), can solve them mentally, using the appropriate strategies and a clear understanding of key concepts)	4	**Number and Algebra** Students recall multiplication facts to 10 x 10 and related division facts. They choose appropriate strategies for calculations involving multiplication and division, with and without the use of digital technology, and estimate answers accurately enough for the context. Students solve simple purchasing problems with and without the use of digital technology. They locate familiar fractions on a number line, recognise common equivalent fractions in familiar contexts and make connections between fractions and decimal notations up to two decimal places. Students identify unknown quantities in number sentences. They use the properties of odd and even numbers and describe number patterns resulting from multiplication. Students continue number sequences involving multiples of single-digit numbers and unit fractions, and locate them on a number line.	**Number and place value** Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems (VCMNA153)
28 a, b, c	**Estimating and calculating addition**				
29 a, b, c	**Estimating and calculating subtraction**				

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Section D: STRATEGIES FOR MULTIPLICATION AND DIVISION					
30 a, b	**Teddy cars**	GP 1. Counting group items as ones (all objects perceived) (Counting one by one to find the solution in situations involving multiple groups when all objects are modelled or perceived)	F	**Number and Algebra** Students connect number names and numerals with sets of up to 20 elements, estimate the size of these sets, and use counting strategies to solve problems that involve comparing, combining and separating these sets. Students order the first 10 elements of a set. They match individual objects with counting sequences up to and back from 20. Students order the first 10 elements of a set. They represent, continue and create simple patterns.	**Number and place value** Represent practical situations to model sharing (VCMNA074)
		GP2. Modelling multiplication and division (all objects perceived) (Uses the multiplicative structure of the situation to find the answer when all objects are modelled or perceived)	1	**Number and Algebra** Students count to and from 100 and locate these numbers on a number line. They partition numbers using place value and carry out simple additions and subtractions, using counting strategies. Students recognise Australian coins according to their value. They identify representations of one half. Students describe number sequences resulting from skip counting by 2s, 5s and 10s. They continue simple patterns involving numbers and objects with and without the use of digital technology.	**Number and place value** Represent practical situations that model sharing (VCMNA090)

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31 a, b	**Teddies on the Mats**	GP 1. Counting group items as ones (all objects perceived) (Counting one by one to find the solution in situations involving multiple groups when all objects are modelled or perceived)	F	**Number and Algebra** Students recognise the connection between addition and subtraction, and solve problems using efficient strategies for multiplication with and without the need for digital technology. Students recall addition and multiplication facts for single digit numbers. They classify numbers as either odd or even, continue number patterns involving addition or subtraction, and explore simple number sequences based on multiples.	**Number and place value** Represent practical situations to model sharing (VCMNA074)
		GP2. Modelling multiplication and division (all objects perceived) (Uses the multiplicative structure of the situation to find the answer when all objects are modelled or perceived)	2	**Number and Algebra** Students count to and from, and order numbers up to 1000. They perform simple addition and subtraction calculations, using a range of strategies. They find the total value of simple collections of Australian notes and coins. Students represent multiplication and division by grouping into sets and divide collections and shapes into halves, quarters and eighths. They recognise increasing and decreasing number sequences involving 2s, 3s, 5s and 10s, identify the missing element in a number sequence, and use digital technology to produce sequences by constant addition.	**Number and place value** Recognise and represent division as grouping into equal sets and solve simple problems using these representations (VCMNA109)
32	**Unifix train**	GP3. Partial modelling multiplication and division (some objects perceived) (Uses the multiplicative structure of the situation to find the answer when all objects are partially modelled or perceived)	3	**Number and Algebra** Students count and order numbers to and from 10 000. They recognise the connection between addition and subtraction, and solve problems using efficient strategies for multiplication with and without the use of digital technology. Students recall addition and multiplication facts for single-digit numbers. They represent money values in various ways and correctly	**Number and place value** Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies (VCMNA135)
33 a, b	**Tennis balls task**				

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
34 a, b	**Dot array task**			count out change from financial transactions. Students model and represent unit fractions for halves, thirds, quarters, fifths and eighths, and multiples of these up to one. They classify numbers as either odd or even, continue number patterns involving addition or subtraction, and explore simple number sequences based on multiples.	
35	**Biscuits on a tray**	GP4. Abstracting multiplication and division (no objects perceived) (Mentally solves multiplication and division problems [no objects perceived] using the multiplicative structure of the situation)	4	**Number and Algebra** Students recall multiplication facts to 10 x 10 and related division facts. They choose appropriate strategies for calculations involving multiplication and division, with and without the use of digital technology, and estimate answers accurately enough for the context. Students solve simple purchasing problems with and without the use of digital technology. They locate familiar fractions on a number line, recognise common equivalent fractions in familiar contexts and make connections between fractions and decimal notations up to two decimal places. Students identify unknown quantities in number sentences. They use the properties of odd and even numbers and describe number patterns resulting from multiplication. Students continue number sequences involving multiples of single-digit numbers and unit fractions, and locate them on a number line.	**Number and place value** Develop efficient mental and written strategies and use appropriate digital technologies for multiplication and for division where there is no remainder (VCMNA156)
36 a, b	**Number of legs**				
37	**At the movies**				
38	**Interpreting Multiplication**	GP5. Basic, derived and intuitive strategies for multiplication (Mentally solves a range of multiplication problems that reflect attention to the	2	**Number and Algebra** Students count to and from, and order numbers up to 1000. They perform simple addition and subtraction calculations, using a range of strategies. They find the total value of simple collections of Australian notes and	**Number and place value** Recognise and represent multiplication as repeated addition, groups and arrays (VCMNA108)

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		multiplicative		coins. Students represent multiplication and division by grouping into sets and divide collections and shapes into halves, quarters and eighths. They recognise increasing and decreasing number sequences involving 2s, 3s, 5s and 10s, identify the missing element in a number sequence, and use digital technology to produce sequences by constant addition.	
39 a, b, c, d, e, f	**Multiplication Problems**		3	**Number and Algebra** Students count and order numbers to and from 10 000. They recognise the connection between addition and subtraction, and solve problems using efficient strategies for multiplication with and without the use of digital technology. Students recall addition and multiplication facts for single-digit numbers. They represent money values in various ways and correctly count out change from financial transactions. Students model and represent unit fractions for halves, thirds, quarters, fifths and eighths, and multiples of these up to one. They classify numbers as either odd or even, continue number patterns involving addition or subtraction, and explore simple number sequences based on multiples.	**Number and place value** Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies (VCMNA135)
40 a, b	**Cost of stickers**				
41	**Interpreting Division**	GP6. Basic, derived and intuitive strategies for division (Mentally solves a range of division problems that reflect attention to the multiplicative structure such as fact families and building up from known facts)	2	**Number and Algebra** Students count to and from, and order numbers up to 1000. They perform simple addition and subtraction calculations, using a range of strategies. They find the total value of simple collections of Australian notes and coins. Students represent multiplication and division by grouping into sets and divide collections and shapes into halves, quarters and eighths. They recognise increasing and decreasing number sequences involving 2s, 3s, 5s	**Number and Place Value** Recognise and represent division as grouping into equal sets and solve simple problems using these representations (VCMNA109)

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				and 10s, identify the missing element in a number sequence, and use digital technology to produce sequences by constant addition.	
42 a, b, c, d, e, f	**Division problems**	GP 6. Basic, derived and intuitive strategies for division (Mentally solves a range of division problems that reflect attention to the multiplicative structure such as fact families and building up from known facts)	3	**Number and Algebra** Students count and order numbers to and from 10 000. They recognise the connection between addition and subtraction, and solve problems using efficient strategies for multiplication with and without the use of digital technology. Students recall addition and multiplication facts for single-digit numbers. They represent money values in various ways and correctly count out change from financial transactions. Students model and represent unit fractions for halves, thirds, quarters, fifths and eighths, and multiples of these up to one. They classify numbers as either odd or even, continue number patterns involving addition or subtraction, and explore simple number sequences based on multiples.	**Number and Place Value** Recall multiplication facts of two, three, five and ten and related division facts (VCMNA134) Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems (VCMNA131)
43 a, b	**Washing windows**	GP 6. Basic, derived and intuitive strategies for division (Mentally solves a range of division problems that reflect attention to the multiplicative structure such as fact families and building up from known facts)	4	**Number and Algebra** Students recall multiplication facts to 10 x 10 and related division facts. They choose appropriate strategies for calculations involving multiplication and division, with and without the use of digital technology, and estimate answers accurately enough for the context. Students solve simple purchasing problems with and without the use of digital technology. They locate familiar fractions on a number line, recognise common equivalent fractions in familiar contexts and make connections between fractions and decimal notations up to two decimal places. Students identify unknown quantities in number sentences. They use the	**Number and Place Value** Develop efficient mental and written strategies and use appropriate digital technologies for multiplication and for division where there is no remainder (VCMNA156)

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				properties of odd and even numbers and describe number patterns resulting from multiplication. Students continue number sequences involving multiples of single-digit numbers and unit fractions, and locate them on a number line.	
44	**Off to the circus**	GP7. Extending and applying multiplication and division (Solves a range multiplication and division problems (including multi-digit) in practical contexts using multiplicative thinking)	5	**Number and Algebra** Students solve simple problems involving the four operations using a range of strategies including digital technology. They estimate to check the reasonableness of answers and approximate answers by rounding. Students identify and describe factors and multiples. They explain plans for simple budgets. Students order decimals and unit fractions and locate them on a number line. Students add and subtract fractions with the same denominator. They find unknown quantities in number sentences and continue patterns by adding or subtracting fractions and decimals.	**Number and place value** Solve problems involving division by a one digit number, including those that result in a remainder (VCMNA184) Identify and describe factors and multiples of whole numbers and use them to solve problems (VCMNA181)
45 a, b	**Stamp collection**	GP 7. Extending and applying multiplication and division (Solves a range multiplication and division problems (including multi-digit) in practical contexts using multiplicative thinking)	4	**Number and Algebra** Students recall multiplication facts to 10 x 10 and related division facts. They choose appropriate strategies for calculations involving multiplication and division, with and without the use of digital technology, and estimate answers accurately enough for the context. Students solve simple purchasing problems with and without the use of digital technology. They locate familiar fractions on a number line, recognise common equivalent fractions in familiar contexts and make connections between fractions and decimal notations up to two decimal places. Students identify unknown quantities in number sentences. They use the properties of odd and even numbers and describe	**Number and Place Value** Develop efficient mental and written strategies and use appropriate digital technologies for multiplication and for division where there is no remainder (VCMNA156) Recall multiplication facts up to 10 × 10 and related division facts (VCMNA155)
46 a, b	**Rows of trees in an orchard**				

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				number patterns resulting from multiplication. Students continue number sequences involving multiples of single-digit numbers and unit fractions, and locate them on a number line.	

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
Section E: TIME					
47	**My clock**	GP 1. Awareness of time, its descriptive language, and some features of clock faces			
48 a, b	**Telling the time**	GP 2. Knowing some clock times, some days of week and months of year, and relating key events (personal, community) to these			
48 b	**Telling the time**	GP3. Knowing clock times to half-hour, all days of week and months of year (including order)	1	**Measurement and Geometry** Students use informal units of measurement to order objects based on length and capacity. They tell time to the half-hour and explain time durations. Students describe two-dimensional shapes and three-dimensional objects. They use the language of distance and direction to move from place to place.	**Using units of measurement** Tell time to the half-hour (VCMMG096)
48 c	**Telling the time**	GP4. Facility with clocks and calendars	2	**Measurement and Geometry** Students order shapes and objects, using informal units for a range of measures. They tell time to the quarter hour and use a calendar to identify the date, days, weeks and months included in seasons and other events. Students draw two-dimensional shapes, specify their features and explain the effects of one-step transformations. They recognise the features of three-dimensional objects. They interpret simple maps of familiar locations.	**Using units of measurement** Tell time to the quarter-hour, using the language of 'past' and 'to' (VCMMG117)

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
49 a , b	**The days and months**	GP 2. Knowing some clock times, some days of week and months of year, and relating key events (personal, community) to these	F	**Measurement and Geometry** Students identify measurement attributes in practical situations and compare lengths, masses and capacities of familiar objects. They order events, explain their duration, and match days of the week to familiar events. Students identify simple shapes in their environment and sort shapes by their common and distinctive features. They use simple statements and gestures to describe location.	**Using units of measurement** Connect days of the week to familiar events and actions (VCMMG080)
49 a, b, c	**The days and months**	GP3. Knowing clock times to half-hour, all days of week and months of year (including order)	2	**Measurement and Geometry** Students use informal units of measurement to order objects based on length, mass and capacity. They tell time to the half-hour and explain time durations. Students describe two-dimensional shapes and three-dimensional objects. They use the language of distance and direction to move from place to place.	**Using units of measurement** Name and order months and seasons (VCMMG118)
50 a, b, c, d, e	**Calendar tasks**	GP4. Facility with clocks and calendars	2	**Measurement and Geometry** Students use informal units of measurement to order objects based on length, mass and capacity. They tell time to the half-hour and explain time durations. Students describe two-dimensional shapes and three-dimensional objects. They use the language of distance and direction to move from place to place.	**Using units of measurement** Use a calendar to identify the date and determine the number of days in each month (VCMMG119)
51 a, b	**Duration Tasks**	GP5. Extending and applying knowledge, skills and concepts with time	4	**Measurement and Geometry** Students compare areas of regular and irregular shapes, using informal units. They solve problems	**Using units of measurement** Use am and pm notation and solve simple time problems (VCMMG168)

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
				involving time duration. Students use scaled instruments to measure length, angle, area, mass, capacity and temperature of shapes and objects. They convert between units of time. Students create symmetrical simple and composite shapes and patterns, with and without the use of digital technology. They classify angles in relation to a right angle. Students interpret information contained in maps.	
52	**TV guide**				**Using units of measurement** Convert between units of time (VCMMG167)
53	**Linking digital and analogue time**		3	**Measurement and Geometry** Students use metric units for length, area, mass and capacity. They tell time to the nearest minute. Students identify symmetry in natural and constructed environments. They use angle size as a measure of turn in real situations and make models of three-dimensional objects. Students match positions on maps with given information and create simple maps.	**Using units of measurement** Tell time to the minute and investigate the relationship between units of time (VCMMG141)

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
Section F: LENGTH MEASUREMENT					
54 a, b	**The string and the stick**	GP1. Awareness of the attribute of length and use of descriptive language	F	**Measurement and Geometry** Students identify measurement attributes in practical situations and compare lengths, masses and capacities of familiar objects. They order events, explain their duration, and match days of the week to familiar events. Students identify simple shapes in their environment and sort shapes by their common and distinctive features. They use simple statements and gestures to describe location.	**Using units of measurement** Use direct and indirect comparisons to decide which is longer, heavier or holds more, and explain reasoning in everyday language (VCMMG078)
54 a, b, c	**The string and the stick**	GP2. Comparing, ordering, & matching with the attribute of length	2	**Measurement and Geometry** Students order shapes and objects, using informal units for a range of measures. They tell time to the quarter hour and use a calendar to identify the date, days, weeks and months included in seasons and other events. Students draw two-dimensional shapes, specify their features and explain the effects of one-step transformations. They recognise the features of three-dimensional objects. They interpret simple maps of familiar locations.	**Using units of measurement** Compare and order several shapes and objects based on length, area, volume and capacity using appropriate uniform informal units (VCMMG115)
55 a, b	**The straw and the paper clips**	GP3. Quantifying length accurately, using units and attending to measurement principles	1	**Measurement and Geometry** Students use informal units of measurement to order objects based on length and capacity. They tell time to the half-hour and explain time durations. Students describe two-dimensional shapes and three-dimensional objects. They use the language of distance and direction to move from place to place.	**Using units of measurement** Measure and compare the lengths, masses and capacities of pairs of objects using uniform informal units (VCMMG095)

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
56 a, b	**Using the ruler**	GP4. Choosing standard units for estimating and measuring length, with accuracy	3	**Measurement and Geometry** Students use metric units for length, area, mass and capacity. They tell time to the nearest minute. Students identify symmetry in natural and constructed environments. They use angle size as a measure of turn in real situations and make models of three-dimensional objects. Students match positions on maps with given information and create simple maps.	**Using units of measurement** Measure, order and compare objects using familiar metric units of length, area, mass and capacity (VCMMG140)
57 a, b, c	**Tearing the streamer**	GP5. Applying knowledge, skills and concepts of length	4	**Measurement and Geometry** Students compare areas of regular and irregular shapes, using informal units. They solve problems involving time duration. Students use scaled instruments to measure length, angle, area, mass, capacity and temperature of shapes and objects. They convert between units of time. Students create symmetrical simple and composite shapes and patterns, with and without the use of digital technology. They classify angles in relation to a right angle. Students interpret information contained in maps.	**Using units of measurement** Use scaled instruments to measure and compare lengths, masses, capacities and temperatures (VCMMG165)
			5	**Measurement and Geometry** Students use appropriate units of measurement for length, area, volume, capacity and mass, and calculate perimeter and area of rectangles and volume, and capacity of rectangular prisms. They convert between 12 and 24-hour time. Students use a grid reference system to locate landmarks. They estimate angles, and use protractors and digital technology to construct and measure angles. Students connect three-dimensional objects with	**Using units of measurement** Choose appropriate units of measurement for length, area, volume, capacity and mass (VCMMG195)

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Mathematics Online Interview Tasks	ENRP Growth Points (GP)	Level	Achievement standard	Content Description
			their two-dimensional representations. They describe transformations of two-dimensional shapes and identify line and rotational symmetry.	

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
Section G: MASS MEASUREMENT					
58 a, b	**What do you notice?**	GP1. Awareness of the attribute of mass and use of descriptive language	F	**Measurement and Geometry** Students identify measurement attributes in practical situations and compare lengths, masses and capacities of familiar objects. They order events, explain their duration, and match days of the week to familiar events. Students identify simple shapes in their environment and sort shapes by their common and distinctive features. They use simple statements and gestures to describe location.	**Using units of measurement** Use direct and indirect comparisons to decide which is longer, heavier or holds more, and explain reasoning in everyday language (VCMMG078)
58 c, d, e, f	**What do you notice?**	GP2. Comparing, ordering, & matching with the attribute of mass	2	**Measurement and Geometry** Students use informal units of measurement to order objects based on length, mass and capacity. They tell time to the half-hour and explain time durations. Students describe two-dimensional shapes and three-dimensional objects. They use the language of distance and direction to move from place to place.	**Using units of measurement** Compare masses of objects using balance scales (VCMMG116)
59	**Teddies and coins**	GP3. Quantifying mass accurately, using units and attending to measurement principles	2		
60	**One kilogram**	GP4. Choosing standard units for estimating and measuring mass, with accuracy	3	**Measurement and Geometry** Students use metric units for length, area, mass and capacity. They tell time to the nearest minute. Students identify symmetry in natural and constructed environments. They use angle size as a measure of turn in real situations and make models of three-dimensional objects. Students match positions on maps with given information and create simple maps.	**Using units of measurement** Measure, order and compare objects using familiar metric units of length, area, mass and capacity (VCMMG140)
61	**Using standard units**				

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
62	**Using kitchen scales**	GP5. Applying knowledge, skills and concepts of mass	4	**Measurement and Geometry** Students compare areas of regular and irregular shapes, using informal units. They solve problems involving time duration. Students use scaled instruments to measure length, angle, area, mass, capacity and temperature of shapes and objects. They convert between units of time. Students create symmetrical simple and composite shapes and patterns, with and without the use of digital technology. They classify angles in relation to a right angle. Students interpret information contained in maps.	**Using units of measurement** Use scaled instruments to measure and compare lengths, masses, capacities and temperatures (VCMMG165)

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
Section H: PROPERTIES OF SHAPE					
63 a, b	**Sorting shapes**	GP1. Holistic recognition of shape	F	**Measurement and Geometry** Students identify measurement attributes in practical situations and compare lengths, masses and capacities of familiar objects. They order events, explain their duration, and match days of the week to familiar events. Students identify simple shapes in their environment and sort shapes by their common and distinctive features. They use simple statements and gestures to describe location.	**Shape** Sort, describe and name familiar two-dimensional shapes and three-dimensional objects in the environment (VCMMG081)
63 a, b, c	**Sorting shapes**	GP2. Classification of shapes, attending to visual features	1	**Measurement and Geometry** Students use informal units of measurement to order objects based on length and capacity. They tell time to the half-hour and explain time durations. Students describe two-dimensional shapes and three-dimensional objects. They use the language of distance and direction to move from place to place.	**Shape** Recognise and classify familiar two-dimensional shapes and three-dimensional objects using obvious features (VCMMG098)
			2	**Measurement and Geometry** Students use informal units of measurement to order objects based on length, mass and capacity. They tell time to the half-hour and explain time durations. Students describe two-dimensional shapes and three-dimensional objects. They use the language of distance and direction to move from place to place.	**Shape** Describe and draw two-dimensional shapes, with and without digital technologies (VCMMG120)
64 a, b	**Choosing triangles**	GP3. Identification of "classes of shapes" by some properties	2	**Measurement and Geometry** Students order shapes and objects, using informal	**Shape** Describe and draw two-dimensional shapes,

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
64 a, b, c	**Choosing triangles**	GP4. Definition of shapes using properties		units for a range of measures. They tell time to the quarter hour and use a calendar to identify the date, days, weeks and months included in seasons and other events. Students draw two-dimensional shapes, specify their features and explain the effects of one-step transformations. They recognise the features of three-dimensional objects. They interpret simple maps of familiar locations.	with and without digital technologies (VCMMG120)

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
Section I: VISUALISATION					
65	**Shapes in the environment**	GP1. Static, pictorial images formed in conjunction with models or manipulatives	F	**Measurement and Geometry** Students identify measurement attributes in practical situations and compare lengths, masses and capacities of familiar objects. They order events, explain their duration, and match days of the week to familiar events. Students identify simple shapes in their environment and sort shapes by their common and distinctive features. They use simple statements and gestures to describe location.	**Location and transformation** Describe position and movement (VCMMG082)
65	**Shapes in the environment**	GP2. Re-orientation of shapes mentally	2	**Measurement and Geometry** Students order shapes and objects, using informal units for a range of measures. They tell time to the quarter hour and use a calendar to identify the date, days, weeks and months included in seasons and other events. Students draw two-dimensional shapes, specify their features and explain the effects of one-step transformations. They recognise the features of three-dimensional objects. They interpret simple maps of familiar locations.	**Location and transformation** Investigate the effect of one-step slides and flips with and without digital technologies (VCMMG123)
66	**Peeking over**				
67 **68** **69**	**Triads**		F	**Measurement and Geometry** Students identify measurement attributes in practical situations and compare lengths, masses and capacities of familiar objects. They order events, explain their duration, and match days of the week to familiar events. Students identify simple shapes in their environment and sort shapes by their common and distinctive features. They use simple statements and gestures to describe location.	**Location and transformation** Describe position and movement (VCMMG082)

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Mathematics Online Interview Tasks		ENRP Growth Points (GP)	Level	Achievement standard	Content Description
67 68 69	**Triads**	GP3. Dynamic imagery	2	**Measurement and Geometry** Students order shapes and objects, using informal units for a range of measures. They tell time to the quarter hour and use a calendar to identify the date, days, weeks and months included in seasons and other events. Students draw two-dimensional shapes, specify their features and explain the effects of one-step transformations. They recognise the features of three-dimensional objects. They interpret simple maps of familiar locations.	**Location and transformation** Investigate the effect of one-step slides and flips with and without digital technologies (VCMMG123)
70	**Puzzle**				
71	**Design**	GP4. Extending and applying visualisation and orientation			
72	**Rearrange the square**				