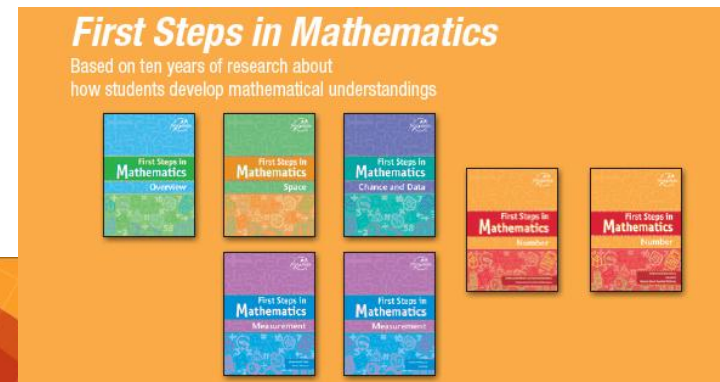




STEPS Professional Development

First Steps in Mathematics links to **The Australian Curriculum** V3.0



The Australian Curriculum: Mathematics aims to ensure that students:

- are confident, creative users and communicators of mathematics, able to investigate, represent and interpret situations in their personal and work lives and as active citizens
- develop an increasingly sophisticated understanding of mathematical concepts and fluency with processes, and are able to pose and solve problems and reason in *Number and Algebra, Measurement and Geometry, and Statistics and Probability*
- recognise connections between the areas of mathematics and other disciplines and appreciate mathematics as an accessible and enjoyable discipline to study.

The Australian Curriculum: Mathematics is organised around the interaction of three content strands and four proficiency strands.

The content strands are *Number and Algebra*, *Measurement and Geometry*, and *Statistics and Probability*. They describe what is to be taught and learnt.

The proficiency strands are *Understanding*, *Fluency*, *Problem Solving*, and *Reasoning*. They describe how content is explored or developed, that is, the thinking and doing of mathematics. They provide the language to build in the developmental aspects of the learning of mathematics and have been incorporated into the content descriptions of the three content strands described above. This approach has been adopted to ensure students' proficiency in mathematical skills develops throughout the curriculum and becomes increasingly sophisticated over the years of schooling.

First Steps in Mathematics resources will help teachers make decisions about instruction and appropriate approaches to teaching, including purposeful activities to achieve the learning outlined within all strands of the *Australian Curriculum: Mathematics*. *First Steps* resources do not stand in place of a curriculum or a set of standards but can be used as a powerful and practical resource in conjunction with the new *Australian Curriculum*.

The following pages provide an illustration of the broad links between the *Australian Curriculum V 3.0* and the *First Steps in Mathematics* resource texts.

This document will provide guidelines of where you will find support information within *First Steps* Maths text chapters for each of the Mathematics Content Descriptors. This includes links to all *First Steps* in Mathematics Key Understandings (KU) within the Number, Measurement, Space and Chance & Data Texts.

Please email STEPS professional development if you have any questions about this document- info@stepspd.com.au

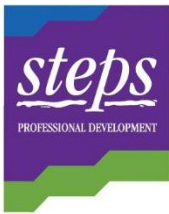
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Australian Curriculum Strand: Statistics and Probability

YEAR 1: Australian Curriculum Content Descriptors	FSIM Chance and Data Text Chapter 3: Understand Chance							FSIM Chance and Data Text Chapter 4: Collect and Process Data Part A: Collect and Organise Data					FSIM Chance and Data Text Chapter 5: Collect and Process Data Part B: Summarise and Represent Data						FSIM Chance and Data Text Chapter 6 Interpret Data		
	KU1	KU2	KU3	KU4	KU5	KU6	KU7	KU1	KU2	KU3	KU4	KU5	KU1	KU2	KU3	KU4	KU5	KU6	KU1	KU2	KU3
Chance																					
Identify outcomes of familiar events involving chance and describe them using everyday language such as 'will happen', 'may happen' or 'might happen'.	✓																				
Data representation and interpretation																					
Choose simple questions and gather responses								✓	✓												
Represent data with objects and drawings where one drawing represents one data value...													✓			✓					
...Describe the displays																			✓	✓	

Australian Curriculum Strand: Number and Algebra

YEAR 2: Australian Curriculum Content Descriptors	FSIM Number Text 1 Chapter 3: Understand Whole and Decimal Numbers								FSIM Number Text 1 Chapter 4: Understand Fractional Numbers							FSIM Number Text 2 Chapter 3: Understand Operations									FSIM Number Text 2 Chapter 4: Calculate										FSIM Number Text 2 Chapter 5: Reason about Number Patterns									
	KU 1	KU 2	KU 3	KU 4	KU 5	KU 6	KU 7	KU 8	KU 1	KU 2	KU 3	KU 4	KU 5	KU 6	KU 7	KU 1	KU 2	KU 3	KU 4	KU 5	KU 6	KU 7	KU 8	KU 9	KU 1	KU 2	KU 3	KU 4	KU 5	KU 6	KU 7	KU 8	KU 9	KU 10	KU 1	KU 2	KU 3	KU 4	KU 5	KU 6				
	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	✓		✓																																				✓		✓			
Recognise, model, represent and order numbers to at least 1000	✓	✓	✓	✓	✓	✓																																						
Group, partition and rearrange collections up to 1000 in hundreds, tens and ones to facilitate more efficient counting		✓		✓	✓	✓																																						
Explore the connection between addition and subtraction																✓	✓							✓																				
Solve simple addition and subtraction problems using a range of efficient mental and written strategies																									✓	✓			✓	Plus background notes														
Recognise and represent multiplication as repeated addition, groups and arrays																				✓	✓	✓																						
Recognise and represent division as grouping into equal sets and solve simple problems using these representations																				✓	✓	✓																						



Australian Curriculum Strand: Measurement and Geometry

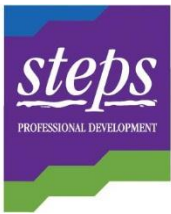
YEAR 2: Australian Curriculum Content Descriptors	FSIM Measurement Text 1 Ch 3: Understand Units								FSIM Measurement Text 1 Ch 4: Direct Measure						FSIM Measurement Text 2 Ch 3: Indirect Measure				FSIM Measurement Text 2 Ch 4: Estimate			FSIM Space Text Chapter 3: Represent Location			FSIM Space Text Chapter 4: Represent Shape			FSIM Space Text Chapter 5: Represent Transformation				FSIM Space Text Chapter 6: Reason Geometrically							
	KU 1	KU 2	KU 3	KU 4	KU 5	KU 6	KU 7	KU 8	KU 1	KU 2	KU 3	KU 4	KU 5	KU 6	KU 1	KU 2	KU 3	KU 4	KU 1	KU 2	KU 3	KU 1	KU 2	KU 3	KU 1	KU 2	KU 3	KU 1	KU 2	KU 3	KU 4	KU 1	KU 2	KU 3	KU 4	KU 1	KU 2	KU 3	KU 4
	Using units of measurement																																						
Compare and order several shapes and objects based on length, area, mass, volume and capacity using appropriate uniform informal units			✓	✓							✓																												
Compare masses of objects using balance scales			✓	✓							✓																												
Tell time to the quarter-hour, using the language of 'past' and 'to'																																							
Name and order months and seasons																																							
Use a calendar to identify the date and determine the number of days in each month																																							
Shape																																							
Describe and draw two-dimensional shapes, with and without digital technologies Describe the features of three-dimensional objects																									✓	✓	✓					✓	✓	✓	✓				
Location and transformation																																							
Interpret simple maps of familiar locations and identify the relative positions of key features																						✓	✓																
Investigate the effect of one-step slides and flips with and without digital technologies Identify and describe half and quarter turns																																✓							
Geometric Reasoning																																							

Australian Curriculum Strand: Statistics and Probability

YEAR 2: Australian Curriculum Content Descriptors	FSiM Chance and Data Text Chapter 3: Understand Chance							FSiM Chance and Data Text Chapter 4: Collect and Process Data Part A: Collect and Organise Data					FSiM Chance and Data Text Chapter 5: Collect and Process Data Part B: Summarise and Represent Data						FSiM Chance and Data Text Chapter 6 Interpret Data		
	KU1	KU2	KU3	KU4	KU5	KU6	KU7	KU1	KU2	KU3	KU4	KU5	KU1	KU2	KU3	KU4	KU5	KU6	KU1	KU2	KU3
Chance																					
Identify practical activities and everyday events that involve chance. Describe outcomes as 'likely' or 'unlikely' and identify some events as 'certain' or 'impossible'		✓																			
Data representation and interpretation																					
Identify a question of interest based on one categorical variable. Gather data relevant to the question.								✓	✓												
Collect, check and								✓	✓												
.... classify data										✓											
Create displays of data using lists, table and picture graphs and													✓			✓	✓				
.... interpret them																		✓	✓		

Australian Curriculum Strand: Statistics and Probability

YEAR 3: Australian Curriculum Content Descriptors	FSIM Chance and Data Text Chapter 3: Understand Chance							FSIM Chance and Data Text Chapter 4: Collect and Process Data Part A: Collect and Organise Data					FSIM Chance and Data Text Chapter 5: Collect and Process Data Part B: Summarise and Represent Data						FSIM Chance and Data Text Chapter 6 Interpret Data		
	KU1	KU2	KU3	KU4	KU5	KU6	KU7	KU1	KU2	KU3	KU4	KU5	KU1	KU2	KU3	KU4	KU5	KU6	KU1	KU2	KU3
Chance																					
Conduct chance experiments, identify and describe possible outcomes and recognize variation in results						✓															
Data representation and interpretation																					
Identify questions or issues for categorical variables. Identify data sources and plan methods for data collection and recording.								✓	✓												
Collect data								✓	✓												
...., organize into categories and										✓											
....create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies													✓	✓		✓	✓				
Interpret and compare data displays																		✓	✓	✓	



Australian Curriculum Strand: Measurement and Geometry

YEAR 4: Australian Curriculum Content Descriptors	FSIM Measurement Text 1 Ch 3: Understand Units								FSIM Measurement Text 1 Ch 4: Direct Measure						FSIM Measurement Text 2 Ch 3: Indirect Measure				FSIM Measurement Text 2 Ch 4: Estimate			FSIM Space Text Chapter 3: Represent Location			FSIM Space Text Chapter 4: Represent Shape			FSIM Space Text Chapter 5: Represent Transformation				FSiM Space Text Chapter 6: Reason Geometrically				
	KU 1	KU 2	KU 3	KU 4	KU 5	KU 6	KU 7	KU 8	KU 1	KU 2	KU 3	KU 4	KU 5	KU 6	KU 1	KU 2	KU 3	KU 4	KU 1	KU 2	KU 3	KU 1	KU 2	KU 3	KU 1	KU 2	KU 3	KU 1	KU 2	KU 3	KU 4	KU 1	KU 2	KU 3	KU 4	
Using units of measurement																																				
Use scaled instruments to measure and compare lengths, masses, capacities and temperatures		✓				✓	✓	✓	✓						✓																					
Compare objects using familiar metric units of area and volume		✓				✓	✓	✓	✓						✓																					
Convert between units of time																																				
Use simple am and pm notation and solve time problems															✓																					
Shape																																				
Compare the area of regular and irregular shapes by informal means																																				
Compare and describe two-dimensional shapes that result from combining and splitting common shapes, with and without the use of digital technologies																																				
Location and transformation																																				
Use simple scales, legends and directions to interpret information contained in basic maps																																				
Create symmetrical patterns, pictures and shapes with and without digital technologies																																				
Geometric Reasoning																																				
Compare angles and classify them as equal to, greater than or less than a right angle	✓	✓																																		

Australian Curriculum Strand: Statistics and Probability

YEAR 4: Australian Curriculum Content Descriptors	FSIM Chance and Data Text Chapter 3: Understand Chance							FSIM Chance and Data Text Chapter 4: Collect and Process Data Part A: Collect and Organise Data					FSIM Chance and Data Text Chapter 5: Collect and Process Data Part B: Summarise and Represent Data						FSIM Chance and Data Text Chapter 6 Interpret Data		
	KU1	KU2	KU3	KU4	KU5	KU6	KU7	KU1	KU2	KU3	KU4	KU5	KU1	KU2	KU3	KU4	KU5	KU6	KU1	KU2	KU3
Chance																					
Describe possible everyday events and order their chances of occurring			✓																		
Identify everyday events where one cannot happen if the other happens			✓																		
Identify events where the chance of one will not be affected by the occurrence of the other			✓																		
Data representation and interpretation																					
Select and trial methods for data collection, including survey questions andrecording sheets								✓	✓												
Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs and picture graphs where one picture can represent many data values										✓											
Evaluate the effectiveness of different displays in illustrating data features including variability																			✓	✓	✓

Australian Curriculum Strand: Statistics and Probability

YEAR 5: Australian Curriculum Content Descriptors	FSIM Chance and Data Text Chapter 3: Understand Chance							FSIM Chance and Data Text Chapter 4: Collect and Process Data Part A: Collect and Organise Data					FSIM Chance and Data Text Chapter 5: Collect and Process Data Part B: Summarise and Represent Data						FSIM Chance and Data Text Chapter 6 Interpret Data		
	KU1	KU2	KU3	KU4	KU5	KU6	KU7	KU1	KU2	KU3	KU4	KU5	KU1	KU2	KU3	KU4	KU5	KU6	KU1	KU2	KU3
Chance																					
List outcomes of chance experiments involving equally likely outcomes and represent probabilities of those outcomes using fractions				✓	✓																
Recognize that probabilities range from 0 to 1				✓	✓																
Data representation and interpretation																					
Pose questions and collect categorical or numerical data by observation or survey								✓	✓												
Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies													✓	✓	✓	✓	✓				
Describe and interpret different data sets in context																		✓	✓	✓	

Australian Curriculum Strand: Statistics and Probability

YEAR 6: Australian Curriculum Content Descriptors	FSIM Chance and Data Text Chapter 3: Understand Chance							FSIM Chance and Data Text Chapter 4: Collect and Process Data Part A: Collect and Organise Data					FSIM Chance and Data Text Chapter 5: Collect and Process Data Part B: Summarise and Represent Data						FSIM Chance and Data Text Chapter 6 Interpret Data		
	KU1	KU2	KU3	KU4	KU5	KU6	KU7	KU1	KU2	KU3	KU4	KU5	KU1	KU2	KU3	KU4	KU5	KU6	KU1	KU2	KU3
Chance																					
Describe probabilities using fractions, decimals and percentages						✓	✓														
Conduct chance experiments with small and large numbers of trials using appropriate digital technologies						✓	✓														
Compare observed frequencies across experiments with expected frequencies						✓	✓														
Data representation and interpretation																					
Interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables																			✓	✓	✓
Interpret secondary data presented in digital media and elsewhere																			✓	✓	✓

Australian Curriculum Strand: Statistics and Probability

YEAR 7: Australian Curriculum Content Descriptors	FSIM Chance and Data Text Chapter 3: Understand Chance							FSIM Chance and Data Text Chapter 4: Collect and Process Data Part A: Collect and Organise Data					FSIM Chance and Data Text Chapter 5: Collect and Process Data Part B: Summarise and Represent Data						FSIM Chance and Data Text Chapter 6 Interpret Data		
	KU1	KU2	KU3	KU4	KU5	KU6	KU7	KU1	KU2	KU3	KU4	KU5	KU1	KU2	KU3	KU4	KU5	KU6	KU1	KU2	KU3
Chance																					
Construct sample spaces for single-step experiments with equally likely outcomes							✓														
Assign probabilities to the outcomes of events and determine probabilities for events							✓														
Data representation and interpretation																					
Identify and investigate issues involving numerical data collected from primary and secondary sources											✓	✓									
Construct and compare a range of data displays including stem-and-leaf plots and dot plots													✓	✓	✓	✓	✓	✓			
Calculate mean, median, mode and range for sets of data...													✓	✓	✓	✓	✓	✓			
...Interpret these statistics in the context of data																			✓	✓	✓
Describe and interpret data displays using median and mean range																			✓	✓	✓