Comparison of AC v8.4 to v9.0

ACiQ | v9.0

Year 5: Mathematics

Key	same/refined	removed	new	moved

Note:
- the key applies to the content descriptions only
- v8.4 content descriptions may have been reordered to align with v9.0 content descriptions..

Version 8.4	Version 9.0
Achievement standard	**Achievement standard**
By the end of Year 5, students solve simple problems involving the four operations using a range of strategies. They check the reasonableness of answers using estimation and rounding. Students identify and describe factors and multiples. They identify and explain strategies for finding unknown quantities in number sentences involving the four operations. They explain plans for simple budgets. Students connect three-dimensional objects with their two-dimensional representations. They describe transformations of two-dimensional shapes and identify line and rotational symmetry. Students interpret different data sets.

Students order decimals and unit fractions and locate them on number lines. They add and subtract fractions with the same denominator. Students continue patterns by adding and subtracting fractions and decimals. They use appropriate units of measurement for length, area, volume, capacity and mass, and calculate perimeter and area of rectangles. They convert between 12- and 24-hour time. Students use a grid reference system to locate landmarks. They measure and construct different angles. Students list outcomes of chance experiments with equally likely outcomes and assign probabilities between 0 and 1. Students pose questions to gather data, and construct data displays appropriate for the data. | By the end of Year 5, students use place value to write and order decimals including decimals greater than one. They express natural numbers as products of factors and identify multiples. Students order and represent, add and subtract fractions with the same or related denominators. They represent common percentages and connect them to their fraction and decimal equivalents. Students use their proficiency with multiplication facts and efficient calculation strategies to multiply large numbers by one- and two-digit numbers and divide by single-digit numbers. They check the reasonableness of their calculations using estimation. Students use mathematical modelling to solve financial and other practical problems, formulating and solving problems, choosing arithmetic operations and interpreting results in terms of the situation. They apply properties of numbers and operations to find unknown values in numerical equations involving multiplication and division. Students create and use algorithms to identify and explain patterns in the factors and multiples of numbers.

Students choose and use appropriate metric units to measure the attributes of length, mass and capacity, and to solve problems involving perimeter and area. Students convert between 12- and 24-hour time. They estimate, construct and measure angles in degrees. Students use grid coordinates to locate and move positions. They connect objects to their two-dimensional nets. Students perform and describe the results of transformations and identify any symmetries.

Students plan and conduct statistical investigations that collect nominal and ordinal categorical and discrete numerical data using digital tools. Students identify the mode and interpret the shape of distributions of data in context. They interpret and compare data represented in line graphs. Students conduct repeated chance experiments, list the possible outcomes, estimate likelihoods and make comparisons between those with and without equally likely outcomes. |

Strands	Content descriptions	Content descriptions	Strands
Number	recognise that the place value system can be extended beyond hundredths ACMNA104	interpret, compare and order numbers with more than 2 decimal places, including numbers greater than one, using place value understanding; represent these on a number line AC9M5N01	Number
	compare, order and represent decimals ACMNA105		
	identify and describe factors and multiples of whole numbers and use them to solve problems ACMNA098	express natural numbers as products of their factors, recognise multiples and determine if one number is divisible by another AC9M5N02	
	compare and order common unit fractions and locate and represent them on a number line ACMNA102	compare and order fractions with the same and related denominators including mixed numerals, applying knowledge of factors and multiples; represent these fractions on a number line AC9M5N03	
		recognise that 100% represents the complete whole and use percentages to describe, represent and compare relative size; connect familiar percentages to their decimal and fraction equivalents AC9M5N04 **Moved from Year 6**	
	investigate strategies to solve problems involving addition and subtraction of fractions with the same denominator ACMNA103	solve problems involving addition and subtraction of fractions with the same or related denominators, using different strategies AC9M5N05	
	solve problems involving multiplication of large numbers by one- or two-digit numbers using efficient mental, written strategies and appropriate digital technologies ACMNA100	solve problems involving multiplication of larger numbers by one- or two-digit numbers, choosing efficient calculation strategies and using digital tools where appropriate; check the reasonableness of answers AC9M5N06	
	use efficient mental and written strategies and apply appropriate digital technologies to solve problems ACMNA291		
	solve problems involving division by a one-digit number, including those that result in a remainder ACMNA101	solve problems involving division, choosing efficient strategies and using digital tools where appropriate; interpret any remainder according to the context and express results as a whole number, decimal or fraction AC9M5N07	
	use efficient mental and written strategies and apply appropriate digital technologies to solve problems ACMNA291		
	use estimation and rounding to check the reasonableness of answers to calculations ACMNA099	check and explain the reasonableness of solutions to problems including financial contexts using estimation strategies appropriate to the context AC9M5N08	
		use mathematical modelling to solve practical problems involving additive and multiplicative situations including financial contexts; formulate the problems, choosing operations and efficient calculation strategies, using digital tools where appropriate; interpret and communicate solutions in terms of the situation AC9M5N09	
		create and use algorithms involving a sequence of steps and decisions and digital tools to experiment with factors, multiples and divisibility; identify, interpret and describe emerging patterns AC9M5N010	
	create simple financial plans ACMNA106		

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	Version 8.4	Version 9.0	
Algebra		recognise and explain the connection between multiplication and division as inverse operations and use this to develop families of number facts AC9M5A01	Algebra
	find unknown quantities in number sentences involving multiplication and division and identify equivalent number sentences involving multiplication and division ACMNA121	find unknown values in numerical equations involving multiplication and division using the properties of numbers and operations AC9M5A02	
	describe, continue and create patterns with fractions, decimals and whole numbers resulting from addition and subtraction ACMNA107 **Moved to Year 6**		
Measurement	choose appropriate units of measurement for length, area, volume, capacity and mass ACMMG108	choose appropriate metric units when measuring the length, mass and capacity of objects; use smaller units or a combination of units to obtain a more accurate measure AC9M5M01	Measurement
	calculate perimeter and area of rectangles using familiar metric units ACMMG109	solve practical problems involving the perimeter and area of regular and irregular shapes using appropriate metric units AC9M5M02	
	compare 12- and 24-hour time systems and convert between them ACMMG110	compare 12- and 24-hour time systems and solve practical problems involving the conversion between them AC9M5M03	
	estimate, measure and compare angles using degrees. Construct angles using a protractor ACMMG112 **Moved to Year 4**	estimate, construct and measure angles in degrees, using appropriate tools including a protractor, and relate these measures to angle names AC9M5M04	
Geometry	connect three-dimensional objects with their nets and other two-dimensional representations ACMMG111	connect objects to their nets and build objects from their nets using spatial and geometric reasoning AC9M5SP01	Space
	use a grid reference system to describe locations. Describe routes using landmarks and directional language ACMMG113	construct a grid coordinate system that uses coordinates to locate positions within a space; use coordinates and directional language to describe position and movement AC9M5SP02	
	describe translations, reflections and rotations of two-dimensional shapes. Identify line and rotational symmetries ACMMG114 **Moved to Year 4**	describe and perform translations, reflections and rotations of shapes, using dynamic geometric software where appropriate; recognise what changes and what remains the same, and identify any symmetries AC9M5SP03	
	apply the enlargement transformation to familiar two-dimensional shapes and explore the properties of the resulting image compared with the original ACMMG115		
Statistics	construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies ACMSP119	acquire, validate and represent data for nominal and ordinal categorical and discrete numerical variables, to address a question of interest or purpose using software including spreadsheets; discuss and report on data distributions in terms of highest frequency (mode) and shape, in the context of the data AC9M5ST01	Statistics
	describe and interpret different data sets in context ACMSP120		
		interpret line graphs representing change over time; discuss the relationships that are represented and conclusions that can be made AC9M5ST02	
	pose questions and collect categorical or numerical data by observation or survey ACMSP118	plan and conduct statistical investigations by posing questions or identifying a problem and collecting relevant data; choose appropriate displays and interpret the data; communicate findings within the context of the investigation AC9M5ST03	
	describe and interpret different data sets in context ACMSP120		
Probability	list outcomes of chance experiments involving equally likely outcomes and represent probabilities of those outcomes using fractions ACMSP116	list the possible outcomes of chance experiments involving equally likely outcomes and compare to those which are not equally likely AC9M5P01	Probability
		conduct repeated chance experiments including those with and without equally likely outcomes, observe and record the results; use frequency to compare outcomes and estimate their likelihoods AC9M5P02	
	recognise that probabilities range from 0 to 1 ACMSP117 **Moved to Year 6**		

Considerations for planning for the first year of implementation

In the initial year of implementing the Australian Curriculum: Mathematics v9.0, teachers need to consider the implications of content changes as they transition from v8.4.

The table below:

- identifies changes between v8.4 and v9.0 that may influence the sequence of students' learning
- outlines considerations for planning teaching and learning programs for the first year of implementation.

Year 4 content in v8.4	Year 5 content in v9.0	Considerations
solve problems involving purchases and the calculation of change to the nearest five cents with and without digital technologies ACMNA080	use mathematical modelling to solve practical problems involving additive and multiplicative situations including financial contexts; formulate the problems, choosing operations and efficient calculation strategies, using digital tools where appropriate; interpret and communicate solutions in terms of the situation AC9M5N09	In v9.0 financial contexts need to be provided for mathematical modelling. Students need to understand the language, processes, concepts and relationships relevant to that context. For example, creating a simple financial plan requires an understanding of language and concepts such as budget, cost, income, expense, savings, deposits, estimates and total.