Comparison of AC v8.4 to v9.0

Year 4: 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 4, students choose appropriate strategies for calculations involving multiplication and division. They recognise common equivalent fractions in familiar contexts and make connections between fraction and decimal notations up to two decimal places. Students solve simple purchasing problems. They identify and explain strategies for finding unknown quantities in number sentences. They describe number patterns resulting from multiplication. Students compare areas of regular and irregular shapes using informal units. They solve problems involving time duration. They interpret information contained in maps. Students identify dependent and independent events. They describe different methods for data collection and representation, and evaluate their effectiveness. Students use the properties of odd and even numbers. They recall multiplication facts to 10 x 10 and related division facts. Students locate familiar fractions on a number line. They continue number sequences involving multiples of single digit numbers. Students use scaled instruments to measure temperatures, lengths, shapes and objects. They convert between units of time. Students create symmetrical shapes and patterns. They classify angles in relation to a right angle. Students list the probabilities of everyday events. They construct data displays from given or collected data.	By the end of Year 4, students use their understanding of place value to represent tenths and hundredths in decimal form and to multiply natural numbers by multiples of 10. They use mathematical modelling to solve financial and other practical problems, formulating the problem using number sentences, solving the problem choosing efficient strategies and interpreting results in terms of the situation. Students use their proficiency with addition and multiplication facts to add and subtract, multiply and divide numbers efficiently. They choose rounding and estimation strategies to determine whether results of calculations are reasonable. Students use the properties of odd and even numbers. They recognise equivalent fractions and make connections between fraction and decimal notations. Students count and represent fractions on a number line. They find unknown values in numerical equations involving addition and subtraction. Students follow and create algorithms that generate sets of numbers and identify emerging patterns. Students use scaled instruments and appropriate units to measure length, mass, capacity and temperature. Students measure and approximate perimeters and areas. They convert between units of time when solving problems involving duration. Students compare angles relative to a right angle using angle names. They represent and approximate shapes and objects in the environment. Students create and interpret grid references. They identify line and rotational symmetry in plane shapes and create symmetrical patterns. Students create many-to-one data displays, assess the suitability of displays for representing data and discuss the shape of distributions and variation in data. They use surveys and digital tools to generate categorical or discrete numerical data in statistical investigations and communicate their findings in context. Students order events or the outcomes of chance experiments in terms of likelihood and identify whether events are independent or dependent. They conduct repeated chance experiments and describe the variation in results.

Strands	Content descriptions	Content descriptions	Strands
Number	recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and decimal notation ACMNA079	recognise and extend the application of place value to tenths and hundredths and use the conventions of decimal notation to name and represent decimals AC9M4N01	Number
	investigate and use the properties of odd and even numbers ACMNA071	explain and use the properties of odd and even numbers AC9M4N02 **Moved from Year 3**	
	investigate equivalent fractions used in contexts ACMNA077	find equivalent representations of fractions using related denominators and make connections between fractions and decimal notation AC9M4N03	
	recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and decimal notation ACMNA079		
	count by quarters halves and thirds, including with mixed numerals. Locate and represent these fractions on a number line ACMNA078	count by fractions including mixed numerals; locate and represent these fractions as numbers on number lines AC9M4N04	
		solve problems involving multiplying or dividing natural numbers by multiples and powers of 10 without a calculator, using the multiplicative relationship between the place value of digits AC9M4N05	
	apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems ACMNA073	develop efficient strategies and use appropriate digital tools for solving problems involving addition and subtraction, and multiplication and division where there is no remainder AC9M4N06	
	develop efficient mental and written strategies and use appropriate digital technologies for multiplication and for division where there is no remainder ACMNA076		
	solve problems involving purchases and the calculation of change to the nearest five cents with and without digital technologies ACMNA080	choose and use estimation and rounding to check and explain the reasonableness of calculations including the results of financial transactions AC9M4N07	
	solve word problems by using number sentences involving multiplication or division where there is no remainder ACMNA082	use mathematical modelling to solve practical problems involving additive and multiplicative situations including financial contexts; formulate the problems using number sentences and choose efficient calculation strategies, using digital tools where appropriate; interpret and communicate solutions in terms of the situation AC9M4N08	
	investigate number sequences involving multiples of 3, 4, 6, 7, 8, and 9 ACMNA074	follow and create algorithms involving a sequence of steps and decisions that use addition or multiplication to generate sets of numbers; identify and describe any emerging patterns AC9M4N09 **Moved from Year 3**	
	explore and describe number patterns resulting from performing multiplication ACMNA081		
	recognise, represent and order numbers to at least tens of thousands ACMNA072 **Moved to Year 3**		

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	Version 8.4		Version 9.0	
Algebra	find unknown quantities in number sentences involving addition and subtraction and identify equivalent number sentences involving addition and subtraction ACMNA083		find unknown values in numerical equations involving addition and subtraction, using the properties of numbers and operations AC9M4A01	Algebra
	recall multiplication facts up to 10 × 10 and related division facts ACMNA075		recall and demonstrate proficiency with multiplication facts up to 10 x 10 and related division facts; extend and apply facts to develop efficient mental strategies for computation with larger numbers without a calculator AC9M4A02	
	investigate number sequences involving multiples of 3, 4, 6, 7, 8, and 9 ACMNA074			
Measurement	use scaled instruments to measure and compare lengths, masses, capacities and temperatures ACMMG084		interpret unmarked and partial units when measuring and comparing attributes of length, mass, capacity, duration and temperature, using scaled and digital instruments and appropriate units AC9M4M01	Measurement
	compare the areas of regular and irregular shapes by informal means ACMMG087		recognise ways of measuring and approximating the perimeter and area of shapes and enclosed spaces, using appropriate formal and informal units AC9M4M02	
	convert between units of time ACMMG085		solve problems involving the duration of time including situations involving "am" and "pm" and conversions between units of time AC9M4M03	
	use 'am' and 'pm' notation and solve simple time problems ACMMG086 **Moved to Year 3**			
	compare angles and classify them as equal to, greater than, or less than, a right angle ACMMG089 **Moved to Year 3**		estimate and compare angles using angle names including acute, obtuse, straight angle, reflex and revolution, and recognise their relationship to a right angle AC9M4M04 **Moved from Year 5**	
Geometry	compare and describe two dimensional shapes that result from combining and splitting common shapes, with and without the use of digital technologies ACMMG088		represent and approximate composite shapes and objects in the environment, using combinations of familiar shapes and objects AC9M4SP01	Space
	use simple scales, legends and directions to interpret information contained in basic maps ACMMG090		create and interpret grid reference systems using grid references and directions to locate and describe positions and pathways AC9M4SP02	
	create symmetrical patterns, pictures and shapes with and without digital technologies ACMMG091		recognise line and rotational symmetry of shapes and create symmetrical patterns and pictures, using dynamic geometric software where appropriate AC9M4SP03 **Moved from Year 3 and from Year 5**	
	compare objects using familiar metric units of area and volume ACMMG290			
Statistics	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 ACMSP096		acquire data for categorical and discrete numerical variables to address a question of interest or purpose using digital tools; represent data using many-to-one pictographs, column graphs and other displays or visualisations; interpret and discuss the information that has been created AC9M4ST01	Statistics
	evaluate the effectiveness of different displays in illustrating data features including variability ACMSP097		analyse the effectiveness of different displays or visualisations in illustrating and comparing data distributions, then discuss the shape of distributions and the variation in the data AC9M4ST02	
	select and trial methods for data collection, including survey questions and recording sheets ACMSP095		conduct statistical investigations, collecting data through survey responses and other methods; record and display data using digital tools; interpret the data and communicate the results AC9M4ST03	
Probability	describe possible everyday events and order their chances of occurring ACMSP092		describe possible everyday events and the possible outcomes of chance experiments and order outcomes or events based on their likelihood of occurring; identify independent or dependent events AC9M4P01	Probability
	identify everyday events where one cannot happen if the other happens ACMSP093			
	identify events where the chance of one will not be affected by the occurrence of the other ACMSP094			
			conduct repeated chance experiments to observe relationships between outcomes; identify and describe the variation in results AC9M4P02	

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 3 content in v8.4	Year 4 content in v9.0	Considerations
investigate and use the properties of odd and even numbers ACMNA071	explain and use the properties of odd and even numbers AC9M4N02 **Moved from Year 3**	Investigating and using the properties of odd and even numbers was content included in Year 3 v.8.4. As this content has moved to Year 4 v9.0, teaching and learning programs should provide opportunities for students to revise and consolidate conceptual understanding.

Year 3 content in v8.4	Year 4 content in v9.0	Considerations
represent money values in multiple ways and count the change required for simple transactions to the nearest five cents ACMNA059	use mathematical modelling to solve practical problems involving additive and multiplicative situations including financial contexts; formulate the problems using number sentences and choose efficient calculation strategies, using digital tools where appropriate; interpret and communicate solutions in terms of the situation AC9M4N08	In v9.0 financial contexts need to be provided for mathematical modelling. Students need to understand the language, processes, concepts and relationships relevant to the selected context. For example, a transaction in a shop requires an understanding of language and concepts such as shopkeeper/vendor, purchaser, cost, price, total amount, receipt, exchange of money and change.
use 'am' and 'pm' notation and solve simple time problems ACMMG086	solve problems involving the duration of time including situations involving "am" and "pm" and conversions between units of time AC9M4M03 **Moved from Year 3**	Using 'am' and 'pm' notation and solving simple time problems was content in Year 3 v8.4. This content has moved to Year 4 v9.0. Teaching and learning programs should provide opportunities for students to revise and consolidate conceptual understanding.
identify angles as measures of turn and compare angle sizes in everyday situations ACMMG064	estimate and compare angles using angle names including acute, obtuse, straight angle, reflex and revolution, and recognise their relationship to a right angle AC9M4M04 **Moved from Year 5**	The following Year 5 v8.4 content description has been moved to Year 4 v9.0. Estimate, measure and compare angles using degrees. Construct angles using a protractor ACMMG112 In v9.0, Year 4 students transition from identifying angles as measures of turn and comparing angle sizes in everyday situations to estimating, measuring and comparing angles using angle names and recognising their relationship to a right angle. This is an increase in complexity, especially since students have not been exposed to the Year 4 content description v8.4: Compare angles and classify them as equal to, greater than, or less than, a right angle ACMMG089 Teaching and learning programs should provide opportunities for students to compare angles and classify them as equal to, greater than, or less than, a right angle before extending students' knowledge and skills to estimating, measuring and comparing angles using angle names and recognising their relationship to a right angle.
identify symmetry in the environment ACMMG066	recognise line and rotational symmetry of shapes and create symmetrical patterns and pictures, using dynamic geometric software where appropriate AC9M4SP03 **Moved from Year 3**	Identifying symmetry in the environment was content included in Year 3 v8.4. As this content has moved to Year 4 v9.0, teaching and learning programs should provide opportunities for students to revise and consolidate conceptual understanding.