

Maths Plus NSW Syllabus

Help students build their skills, develop understanding and make connections over time



Practise, master, assess

MATHS PLUS AT A GLANCE

TEACHING AND LEARNING APPROACH

- Spiralling, also known as 'spacing'
- Supports practice and consolidation

HOW?

Students explore and revisit mathematical concepts over time, building their skills, developing understanding and making connections.

WHAT SORT OF ACTIVITIES ARE INCLUDED?

- learning, practice and consolidation activities
- problem-solving tasks
- extra support and extension activities
- mentals and homework activities

LEARNING OUTCOME

The spiralling approach helps students develop robust recall of information, consolidating learning and increasing their mathematical fluency.

STUDENT RESOURCES

- Student Books
- Student Dashboards
- Assessment Books
- Mentals and Homework Books

TEACHER RESOURCES

Teacher Books

Teacher Dashboard, which provides online access to a wealth of resources and support material for Kinder to Year 6, including:

Teaching resources

- interactive teaching tools to introduce concepts
- blackline masters and investigations
- lesson plans and learning support
- potential difficulties video tutorials

Planning and assessment material

- curricula and planning documents
- assessment tests and diagnostic term reviews
- dictionary of mathematical terms
- answers

CURRICULUM ALIGNMENT

The series is fully aligned with the NSW Syllabus for the Australian Curriculum.

What does Maths Plus look like in the classroom?





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Plan and implement teaching

Use the Teacher Dashboard or Teacher Book to access lesson plans and learning support, including explicit references to the Student Books.

Assess the results

Use the post-tests to measure student growth and report on competency and understanding.

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Practise

The Student Books and Student Dashboards provide multiple problem-solving opportunities for the students to explore and practise mathematical concepts.

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Master

The Mentals and Homework Books allow students to practise their skills, consolidate understanding and increase fluency.





Challenge and extend

Advanced Primary Maths is an accelerated program of mathematics that can be used in conjunction with Math Plus.

It engages and extends students in Years 3 to 6, and supports the effective teaching of mathematics through problem solving and openended learning in real-world contexts

See pages 22-25.



Plan and implement teaching

RESOURCES

Teacher Book and Teacher Dashboard



Refer to the *Maths Plus* **Teacher Book** for curriculum links, direct instruction and links to the Teacher Dashboard, Mentals and Homework Books and *Advanced Primary Maths*.

Use the *Maths Plus* **Teacher Dashboard** to access a wealth of additional teaching and learning resources such as interactive teaching tools, videos, blackline masters, investigations, answers and more!

Teacher Book



Teacher Book

Term planner from the *Maths Plus 3* Teacher Book*

Term planners

		TERM 1	SUGGESTED PLANNER		····
VEEK	UNIT	PAGES	Number & Algebra	Measurement & Geometry	Statistics & Probability
1	1	2–5	Solve addition facts to 20. Add two-digit numbers with materials. Find a pattern in an addition grid. Skip count to find a total. Skip count to complete patterns	Identify prisms and cylinders. Match 3D objects with their names. Measure items using centimetres. Draw lines to exact centimetres.	
2	2	6–9	Subtraction facts to 20. Missing numbers in subtractions. Model and write three-digit numbers. Order three-digit numbers.	Draw lines of symmetry on shapes. Complete drawings of symmetrical shapes. Compare informal areas. Measure areas informally. Compare area units.	
3	3	10–13	Make combinations of 10 for addition. Solve problems by making 10s. Explore addition and subtraction as inverse operations.	Describe the position of objects. Follow directions to place items in a grid.	Use tally marks to record survey results. Interpret a column graph.
4	4	14–17	Solve subtraction facts from addition. Solve problems. Write an addition problem. Use mental strategies and arrays to multiply by two.	Match sets of faces and surfaces to 3D objects. Recognise vertices and edges of 3D objects. Measure and estimate the length of objects in centimetres.	
5	5	18–21	Model odd and even numbers. Find patterns in odd and even numbers. Round numbers to 10. Round numbers to estimate answers to addition number sentences.	Investigate the properties of triangles. Recognise the minute, hour and second hands of a wateh. Show the time on clock faces.	
6	6	22–25	Expand three-digit numbers. Use > or < to compare numbers. Use mental strategies and arrays to multiply by five.	Use a grid to locate and give positions.	Interpret column graphs. Construct a column graph.
7	7	26–29	Introduce and use the division symbol. Write and solve division number sentences. Use the 'jump' strategy to solve addition of two-digit numbers.	Identify parallel lines from a group of lines. List sets of parallel lines in the environment. Measure capacity using informal units. Choose appropriate measuring units.	
8	8	30–33	Extend subtraction facts. Introduce numerator and denominator. Identify and model halves, quarters and eighths.	Identify faces, edges and vertices of pyramids. Describe a pyramid. Develop strategies to calculate area.	
9	9	34–37	Use the split strategy to add two- digit numbers. Solve problems using the split strategy. Relate the two and four times tables. Use the double then double again strategy. Recognise tables patterns in the hundreds chart.	Interpret and construct picture graphs. Read, record and order digital times.	
10		38–39		Diagnostic review 1	

Teacher Book

NSW Syllabus cross-reference chart from the **NSW Syllabus Outcomes** Maths Plus 3 Teacher Book* 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 1 2 3 4 5 6 7 UMBER AND ALGEBRA Units Whole Numbers Working Mathematically MA2-1WM MA2-2WM MA2-MA2-4NA applies place value to order, read and represent numbers of up to five digits Addition and Subtraction Working Mathematically MA2-1WM MA2-2WM MA2-2WM MA2-5NA uses mental and written strategies for addition and subtraction involving two-, three-, four- and five-digit numbers `*• |*••|*•• Multiplication and Division Working Mathematically MA2-1WM MA2-2WM MA2-3V MA2-6NA uses mental and informal written strategies for multiplication and division Fractions and Decimals Working Mathematically MA2-1WM MA2-3WM MA2-7NA represents, models and compares commonly used fractions and decimals Patterns and Algebra Working Mathematically MA2-8NA MA2-8NA MA2-8NA MA2-8NA Guide science and the rrement Working Mathematically MA2-1WM MA2-2WM h Working Mathematically MA2-1WM MA2-3WM MA2-9MG measures, records, compares and estimates lengths, distances and per metres, centimetres and millimetres, and measures, compares and records temper eters in Area Working Mathematically MA2-1 MA2-10MG measures, records, compares and estimates areas using squa guare metres Area M MA2-2 re centim Volume and Capacity Working Mathematically MA2-1WM 2-3WM MA2-11MG measures, records, compares and estimates volum millilitres and cubic centimetres and capacities ing litres, Mass Working Mathematica MA2-12MG measures, records, compares and estimates the mean digrams -2WM MA2 g kilograms tically MA2-1WM Time We MA2-13MG reads and records time in one ninute in vals and co ts between hours, minutes Geometry tically MA2-1WM MA2-3WM Three-Dimensional Sp MA2-14MG makes, compares, sketches and names time-dimensional objects, including prism pyramids, cylinders, cones and spheres, and describes frei features Two-Dimensional Space Working Mathematically MA2-1WM MA2-3WM es three-dimensional objects, including prisms, ribes their features MA2-15MG manipulates, iden quadrilaterals, and describes the fies and sketches two-dimensional shapes, including special Work MA2-16MG identifies, describes, compares a Position king Mathematically MA2-1WM MA2-16MC identifies, describes, compares and classifies angles Position Working Mathematically MA2-17WM MA2-3WM MA2-3WM MA2-17WM Guess simple maps and grids to represent position and follow routes, including using compass directions Data Working Mathematically MA2-TWM MA2-2 MA2-1859 selects appropriate methods to collect data, and constructs, compare, interprets and evaluates data displays, including tables, picture graphs and column graphs MA2-18WM MA2-3WM MA2-3W MA2-19SP describes and compares chance events in social and experimental contexts Working Mathematically Outcomes MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problem MA2-3WM checks the accuracy of a statement and explains the reasoning used vi

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*Materials marked DRAFT are part of the new edition Student Books and not yet available on the Teacher Dashboard



RESOURCES

Student Books and Student Dashboards



The *Maths Plus* **Student Books** and **Student Dashboards** offer opportunities for spiralled learning and practice, and for students to develop and consolidate skills in understanding, fluency, reasoning and problem solving.

They include:

- four diagnostic term reviews (Years 1-6) to assess concepts and skills
- contextual support and examples
- a dictionary (Years 2–6)
- answers (Years 2–6)

Student Book



Student Book

Activity page from the Maths Plus 3

Student Book for Unit 25: Patterns and non-patterns



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Diagnostic term review from the Maths Plus 3 Student Book

Diagnostic revic

	_	Add or subtract times on the 2nd clock		
Sketch these objects.		Add of subtract times on the 2nd clock.		
a Any prism	c Cylinder	a Add 15 min 15 min 15 min 10 min		
b Cone	d Any pyramid	b Subtract 10 min c Add 1 1 2 2 9 8 7 1 1 1 1 1 1 1 1 1 1 1 1 1		
	DADT			
Colour the shapes th	at are parallelograms	Write these times in digital form.		
		d Half past 6		
	e			
		e Quarter past 2		
b d /		e Quarter past 2 : PART 1		
b d		e Quarter past 2 : PART 11 Record each length measurement as a decimal.		
b d		 Quarter past 2 : PART 11 Record each length measurement as a decimal. a 1 m 25 cm = . m 		
b d	PART 9	 Quarter past 2 :		
	PART 9	 Quarter past 2 :		
	PART 9	 Quarter past 2 : PART 1 Record each length measurement as a decimal. a 1 m 25 cm = . m b 2 m 37 cm = . m c 6 m 49 cm = . m 		
	PART 9	 Quarter past 2 :		
		e Quarter past 2 : PART (1) Record each length measurement as a decimal. a $1 m 25 cm = . m$ b $2 m 37 cm = . m$ c $6 m 49 cm = . m$ PART (12) Answer the questions.		
		e Quarter past 2 : PART 1 Record each length measurement as a decimal. a $1 m 25 cm = . m$ b $2 m 37 cm = . m$ c $6 m 49 cm = . m$ PART 12 Answer the questions. a How many millilitres in 1 litre?		
		 Quarter past 2 :		
b d d C C C C C C C C C C C C C C C C C C	PART () Vel north 4 spaces. vel 3 spaces	 Quarter past 2 :		
b d b d c c c c c c c c c c c c c c c c c c c	PART 9 PART 9 Vel north 4 spaces. vel 3 spaces. ravel 3 spaces.	 Quarter past 2 :		
b d b d C	PART () PART () Vel north 4 spaces. vel 3 spaces. ravel 3 spaces. es then north 3 spaces.	eQuarter past 2:PART (1)Record each length measurement as a decimal.a $1 m 25 cm =$ mb $2 m 37 cm =$ mb $2 m 37 cm =$ mC 6 m 49 cm =Mart (12Answer the questions.a How many millilitres in 1 litre?b How many centimetres in 1 metre?c How many grams in 1 kilogram?d How many minutes in 1 hour?e How many millilitres in $\frac{1}{2}$ litre?		
b d b d C	PART 9 PART 9 Vel north 4 spaces. vel 3 spaces. avel 3 spaces. es then north 3 spaces. es. rou find?	eQuarter past 2:PART 11Record each length measurement as a decimal.a1 m 25 cm =mb2 m 37 cm =mc6 m 49 cm =mPART 12Answer the questions.aHow many millilitres in 1 litre?bHow many centimetres in 1 metre?cHow many grams in 1 kilogram?dHow many millilitres in $\frac{1}{2}$ litre?fHow many centimetres in $\frac{1}{4}$ metre?		



RESOURCES

Mentals and Homework Books



The *Maths Plus* **Mentals and Homework Books (Years 1–6)** provide opportunities to practise and develop skills and strategies.

The Mentals and Homework Books:

- provide essential revision and consolidation activities
- directly correspond to the concepts and units of work presented in the Student Books
- link all activities to the three Australian Curriculum: Mathematics strands.





Assess the results

RESOURCES

Assessment Books



The *Maths Plus* **Assessment Books** provide teachers with an easily administered, yet comprehensive, post-assessment tool. They:

- provide opportunities for teachers to measure student growth
- include short post-tests for each topic
- include a simple marking system that enables easy conversion to percentages.





Challenge and extend

RESOURCES

Advanced Primary Maths



Advanced Primary Maths is the only advanced mathematics program written specifically for Australian students. It engages and extends students in Years 3 to 6 in line with the Australian Curriculum.

Use the curriculum cross-reference charts, Term Planners and Find a Topic pages to prepare your lessons.



Advanced Primary Maths

Use the Diagnostic Reviews and Answers section to assess students' understandings of concepts covered.



Number patterns	from Advanced Primary Mathe 2	
6 Complete each pattern then write a rule for it. a 8 12 16 20	Unit 23: Number	
b 7 10 13 16	Patterns	
c 18 22 26 30		
d 30 35 40 45		
2 Add 6 to this sequence of numbers.	My pattern is	
+ 6 16 26 36 46 56 66 76 86 6	take away 5. 55, 50, 45,	
What did you learn about this number sequence?		
Image: Subtract 6 from this sequence of numbers. - 19 29 39 49 59 69 79 89 99	the second s	
6		:
What did you learn about this number sequence?		Students can use the Super
Complete the pattern up to 8 numbers, then state what the pattern up to 8 numbers, then state what the pattern up to 8 numbers.	tenth number or term	Open-ended Challengers and
a 2 4 6 8 10 c 14 18	2 26 30	Weekly Testers, to consolidate
What would be the tenth number? What would	e the tenth term?	
b 3 6 9 12 15 d 16 22 3	3 34 40	
What would be the tenth number? What would	e the tenth term?	
		÷
10 Complete the number patterns.	Su	per problem solving UNIT 23
a 16 32 64 b 512 256	128	the work in the brackets first
104 Describe, continue and create number patterns resulting from per	a $(3+7) \times 2 = f$ $(20-6) \div 2 = f$ b $2 \times (5-2) = g$ $(20-12) \times 4 = f$	$k = 5 \times 4 + 3 \times 6 =$
	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$m 2 \times 7 + 26 \div 13 = n 6 \times 6 - 15 \div 3 =$
Super Questions for exploring	e $(13 - 7) \times 5 = j$ $9 \times 5 - 27 =$	o $10 \times 5 - 16 \div 4 =$
concepts at a higher level	a Taylor scored 58 runs and b	5 pizzas cost Mr Brown \$35.
	What was his total score?	How much did each pizza cost if they were all the same price?
Weekly Testers	WEEKLY TESTER	
•••••••••••	13 Ken and Barby each made a prism. Barby prism and proudly displayed it. Ken was a	finished her a bit of a slow
	a If Ken's prism were to have the same number	his prism. er of blocks as
	b Design and sketch another prism that is made	de of 24 cubes. Barby's model
		Ken's model
pen-ended Challenger questions		
rith multiple solutions	OPEN-ENDED CHALLENGER Rebecca paid \$15 for her aroup to enter the	ne zoo. How many childre************************************
	could have been in Rebecca's group if chil some examples.	Idren cost \$1.50 and ac
		Solution Solution
		from Achieve
		Primary Matha z

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