Strengthening Numeracy

DECYP Position Statement for Teaching Mathematics

The Department *for* Education, Children and Young People (DECYP) is committed to ensuring that all learners have the knowledge, skills and confidence in mathematics to be numerate and succeed in learning, work and life.

Being numerate means having the knowledge, skills, behaviours, and dispositions to confidently use mathematics in a wide range of real-world situations. It involves recognising, understanding, and applying mathematical concepts across learning areas and everyday life, which enables individuals to make informed decisions, solve problems and engage productively in society.

The Australian Curriculum: Mathematics describes the essential mathematical knowledge, skills, proficiencies and processes that students need to be numerate.

To improve numeracy outcomes for every learner, DECYP will implement an evidence-based, structured, systematic and explicit approach to mathematics instruction within a multi-tiered system of supports (MTSS) framework.

Within this approach, all students from Prep to Year 10 will receive a minimum of five hours of high-quality Tier 1 mathematics instruction per week. For some students, when they need it, Tier 1 instruction will be supplemented with targeted Tier 2 or Tier 3 interventions informed by ongoing screening, monitoring and assessment.

High-quality Tier 1 instruction will be planned and implemented using a consistent, whole-school approach supported by shared, instructional materials. The structured approach to the teaching of mathematics will provide students with multiple opportunities to learn and then master key concepts and skills, reason, practice, explain, apply their learning, solve complex problems, develop fluency and review previously taught content. Tier 1 instruction will also promote positive dispositions, such as thinking flexibly, checking if answers make sense, learning from mistakes and persevering.

Mathematics instruction will be inclusive of all students, including those with disability or from culturally and linguistically diverse backgrounds. It will also reflect culturally appropriate practices for Tasmanian First Nations learners.

The following strategies will be implemented to strengthening numeracy in the school years through an MTSS framework:

Implementing evidence-based, systematic and explicit instruction

A structured and systematic approach to teaching mathematics ensures students receive consistent, sequential and cumulative instruction that builds knowledge and addresses gaps in learning. This means that:

- system provided and supported instructional materials will include year level plans with logically sequenced content and mapped spaced retrieval practice to provide opportunities for strengthening connections within long-term memory
- planned sequences of learning are designed to activate prior learning, build conceptual and procedural understanding, develop fluency and provide opportunities to apply learning

through problem-solving in a variety of contexts

- instructional materials include opportunities for students to develop fluency with number facts and computational strategies to support more complex problem-solving
- formative and summative assessment are embedded in sequences of learning

Explicit instruction supports students to build understanding, mastery and fluency with new concepts and skills and then apply these in more complex situations. Effective explicit instruction in mathematics means that teachers:

- make learning objectives clear throughout the lesson
- identify and activate prior learning and support students to make meaningful connections between concepts
- explain new knowledge and skills in concise steps, using worked examples, 'think alouds,' concrete materials and visual representations to build understanding
- use questioning to maximise participation by providing frequent opportunities for students to respond, demonstrate their understanding, explain their strategies and justify their reasoning
- explicitly teach and model mathematical language in context
- frequently check for understanding, provide immediate affirmative and corrective feedback and respond to individual needs by adjusting instruction
- use planned and responsive scaffolds, adapting and reducing support as students demonstrate proficiency and require extension and challenge
- provide opportunities for guided and independent practice to consolidate learning in long-term memory
- explicitly support the application of learning to reason and solve real-world problems

Using high-quality instructional materials

DECYP will provide access to high-quality, instructional materials to ensure consistency in teaching within and across year levels and enhance teacher knowledge and confidence.

These materials will support students in developing conceptual and procedural understanding, fluency, problem-solving, reasoning and positive dispositions aligned with Australian Curriculum V9. They will ensure that topics are logically sequenced, comprehensively covered and revisited over time to promote long-term retention through retrieval practice.

Implementing system-wide approaches to monitor student progress

Implementing a MTSS framework for mathematics will enable early identification of students at risk through screening and quality assessment practices. Standardised assessments will be used systematically to drive effective and timely decision making within the three tiers of support.

Providing professional learning and guidance

DECYP will provide high-quality professional learning and guidance to ensure that teachers are supported to implement an evidence-based, structured, systematic and explicit approach to mathematics within an MTSS framework.

Working in partnership with families and community

Educators, families, and the community play a key role in supporting children to develop confidence in their capacity to learn and use mathematics. DECYP will provide guidance for families to support their children to develop numeracy skills and a positive mindset to learning mathematics.

Definitions

TERM	DEFINITION	REF
Fluency	The ability to apply mathematical procedures efficiently, flexibly, accurately and appropriately and apply knowledge and understanding of concepts readily.	Australian Curriculum
High-quality Instructional Materials	Materials that align to the curriculum, are grounded in evidence and support teachers in planning and delivering effective instruction. They include well-sequenced content, clear learning goals, and scaffolded supports for all students.	Australian Educational Research Organisation (AERO)
Mathematics	Mathematics is the study of concepts, skills, procedures, and processes in number, algebra, measurement, space, statistics, and probability.	Australian Curriculum
MTSS (multi-tiered system of supports)	A framework that provides varying levels of support based on continuous student monitoring, assessment and identified need. Tier 1 - Evidence-informed instruction provided to all learners Tier 2 - Targeted support for some learners in addition to Tier 1 Tier 3 - Intensive and individualised support for a few learners in addition to Tier 1	DECYP Position statement for multi-tiered system of supports AERO
Numeracy	The ability to understand, use and apply mathematical concepts in real-life situations.	Australian Curriculum
Positive dispositions	Tendency or inclination to view mathematics with interest, confidence, and perseverance, and to engage with mathematical ideas with a positive attitude and in a productive way. It is less about what a student *knows* and more about how they *approach* learning mathematics.	Australian Curriculum National Research Council
Retrieval practice	The practice of providing students with opportunities to actively recall previous learning. Retrieval practice uses the principles of cognitive science to help students consolidate their learning in long-term memory, so they retain the information for longer and are better able to apply their learning in the future.	Australian Educational Research Organisation (AERO)
Summative assessment	Assessment of student learning at the end of a learning sequence or period of time. Summative assessments are used by teachers to understand student learning against an expected standard, benchmark or outcome and anticipate where students may need additional support.	DECYP Assessment Guide

References

- Australian Curriculum: Mathematics. Australian Curriculum, Assessment and Reporting Authority (ACARA). https://www.australiancurriculum.edu.au/
- Australian Association of Mathematics Teachers. (2025). *Mathematics pedagogy*. Australian Association of Mathematics Teachers Ltd. Retrieved from https://aamt.edu.au/wp-content/uploads/2025/01/AAMT-Pedagogy-in-Mathematics.pdf.
- Australian Education Research Organisation. (2024). *Developing maths proficiency*. Australian Education Research Organisation. Retrieved. from https://www.edresearch.edu.au/sites/default/files/2024-09/developing-maths-proficiency-aa%20%281%29.pdf.
- Australian Education Research Organisation. (2023), *How Students Learn Best: An Overview of the Learning Process and the Most Effective Teaching Practices*, AERO – How students learn best
- Australian Education Research Organisation. (2024) *Introduction to a Multi-tiered System of Supports*, AERO Explainer – Introduction to a multi-tiered system of supports.
- Australian Education Research Organisation. (2024) *How Students Learn: The Science of Learning* How students learn | Australian Education Research Organisation.
- Centre for Independent Studies. (2024, June). *Screening that counts*. https://www.cis.org.au/wp-content/uploads/2024/06/RR49-Screening-that-counts_Print.pdf
- Department of Education, Children and Young People, *DECYP's position statement for multi-tiered system of supports (MTSS)* (2024), DECYP's position statement for MTSS
- Department of Education, Children and Young People, *The Pedagogical Framework: Teaching for How Students Learn* (2024), The Pedagogical Framework.
- Department of Education, Children and Young People, *The Assessment Guide* (2025),
- The Assessment Guide.
- Education Services Australia, Mathematics Hub (2023) Explicit Teaching in Maths Course: What is explicit teaching?
- Hunter, Haywood, Petrie and Parkinson, Grattan Institute *The Maths Guarantee: How to Implement Great Maths Teaching in Primary School*, *A Guide for Principals* (2025) The Maths Guarantee: A guide for principals - Grattan Institute.
- Hunter, Haywood, Petrie and Parkinson, Grattan Institute *The Maths Guarantee: How to Implement Great Maths Teaching in Primary School*, (2025) The Maths Guarantee: How to boost students' learning in primary schools
- Lovell, Oliver (2020) Sweller's Cognitive Load Theory in Action John Catt Educational Ltd
- National Research Council. (2001). *Adding it up: Helping children learn mathematics.* J. Kilpatrick, J. Swafford, & B. Findell (Eds.). Washington, DC: National Academy Press. https://doi.org/10.17226/9822
- Powell, Sarah, The Centre for Independent Studies (2024), *Maths Practices You Can Count On: Five Research-Validated Practices in Mathematics*, Maths Practices You Can Count On –.
- Powell, S. R., Namkung, J. M., & Lin, X. (2022). An investigation of using keywords to solve word problems. *The Elementary School Journal, 122*(3), 452–473. https://doi.org/10.1086/717888.
- Victorian State Government, Department of Education (2025) Mathematics *Position Statement: The Education State – Excellence in Every Classroom* mathematics position statement.pdf