

# Department of Education Numeracy Plan for Action

2021-2025

RELEASED  
2021





*“all students irrespective of age, can develop positive mathematical identities and become powerful mathematical learners.”*

ANTHONY & WALSHAW



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# Foreword

## Minister

Proficiency in Numeracy is important for people of all ages to ensure engagement and active participation in life, work and further study. Learners become numerate as they develop the knowledge and skills to use Mathematics confidently in everyday life, not just in explicit learning contexts.

Child and Family Learning Centres, our libraries and early care settings offer programs for early numeracy learning which builds on the language and numeracy experiences children have within their families and communities.

Becoming numerate is an important building block for our children at school. By supporting our learners to build a robust understanding of fundamental mathematics we are ensuring they have the knowledge and skills necessary to succeed in further education and into their preferred futures. A range of incredible careers are available to them when they are confident in working with numbers and interpreting and communicating mathematical information. Adult learners can build confidence with number through Adult Literacy Services at our libraries and through workplace and community programs supported by 26TEN.

The Numeracy Framework and Plan for Action 2021-2025 is an important step towards the Department of Education's (DoE) Literacy and Numeracy goal. It will help us build on what we already know and what we have discovered to work together to ensure all learners in Tasmania have the knowledge, skills, behaviours and dispositions to become numerate.

This document sets out the starting point for change focussing on a number of priorities to drive improvement in an incremental and sustainable way over the next five years.



**Sarah Courtney MP**  
*Minister for Education*

## Secretary

We need numeracy every day in ways most of us don't realise. When we can problem solve, reason and use knowledge and skills of mathematics in different situations, we can plan schedules and budgets, and understand charts, statistics or our payslips. If we really love numbers, we can move on to more complex mathematics. And when we can work with numbers, a range of incredible careers become open to us, especially in the digital age. A focus on building the numeracy skills of our children and adults will ensure everyone is able to participate effectively in work and life.

Literacy and Numeracy is one of the goals we set in our 2018-2021 Department of Education Strategic Plan *Learners First: Every Learner, Every Day*. We know that if we want to help all learners to succeed as connected, resilient, creative and curious thinkers, then we need to focus on numeracy.

This Numeracy Framework is one part of a bigger effort to strengthen our approach to curriculum, teaching and learning, and assessment across our schools, as well as the support we provide in the early years and to adults. We are using evidence of what works to help more learners learn more every day.

Over the next five years, we will put five Numeracy Actions into practice. We want to focus on teaching mathematics well, so that we can support all learners to develop the skills and confidence to work with numbers. This work has already begun: our Numeracy Coaching Initiative started in 2021.

I look forward to putting this important work into practice.



**Tim Bullard**  
*Secretary - Department of Education*

# 2021-2025 Department of Education Numeracy Framework

*Connected, resilient, creative and curious learners*

## OUR GOAL

**Our learners will have the skills and confidence in numeracy to successfully participate in learning, life and work**

## WHAT GUIDES US

Australian Curriculum

26TEN Tasmania: Tasmania's Strategy for Adult Literacy and Numeracy 2016-2025

Tasmania's Strategy for Pregnancy to Eight Years 2018 - 2021

Department of Education Systematic Curriculum Delivery

Department of Education Assessment Strategy 2020-2023

Learners First: A Pedagogical Framework

## DOMAINS



### Communication for Numeracy

Inquisitive learners who develop conceptual understanding of mathematical ideas and concepts through exploration, inquiry, and oral and alternative communication

### Learning to be numerate

Skilled and confident learners who actively engage with mathematical ideas and dispositions that are foundational to numeracy success.

### Numeracy for learning

Engaged and confident learners who make connections, and transfer and apply mathematical understanding, skills and dispositions across all areas of learning

### Numeracy for life

Confident and motivated learners who access ways to improve their mathematical capacity.

## WHAT WE AIM TO ACHIEVE

## SYSTEM PRIORITIES

Attention to the importance of numeracy skills and understanding across all ages

Quality teaching of mathematics to improve numeracy

Valid and reliable measures of impact and learner growth in Mathematics

Strengthen and expand the numeracy teaching workforce

## ACTIONS FOR IMPACT

1. Promote the importance of mathematics, reasoning and problem solving for learning, life and work through existing programs, initiatives and public campaigns.

2. Provide quality and targeted professional learning and support for mathematics through the implementation of a Numeracy Coaching Initiative

3. Align with the work being undertaken in delivering the Literacy Framework including developing tools and supports to measure learner growth in numeracy and the impact of system-wide actions on our learners.

4. Focus on understanding, upskilling and incentivising our current workforce to build existing capacity.  
5. Work with the University of Tasmania, other partners and jurisdictions to grow the numeracy teaching workforce in Tasmania.

CHILD AND FAMILY LEARNING CENTRES

SCHOOLS

LIBRARIES



# Mathematics and Numeracy

## Why focus on Mathematics learning?

Numeracy is vital for active participation in life, work and further study.

Learners become numerate as they develop the knowledge and skills to use Mathematics confidently across other learning areas at school and in their lives more broadly. Numeracy encompasses the knowledge, skills, behaviours and dispositions that students need to use Mathematics in a wide range of situations. It involves students recognising and understanding the role of Mathematics in the world and having the dispositions and capacities to use mathematical knowledge and skills purposefully.

Much of the explicit teaching of numeracy skills occurs in the Australian Curriculum: Mathematics. Students need to recognise that Mathematics is constantly used outside the Mathematics classroom and that numerate people apply general mathematical skills in a wide range of familiar and unfamiliar situations.

The Australian Curriculum: Mathematics aims to ensure that learners:

- 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 can 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.

## How does Mathematics contribute to numeracy?

The Australian Curriculum: Mathematics has a central role in the development of numeracy in a manner that is more explicit than in other learning areas. It is important that Mathematics teaching provides the opportunity to apply mathematical understanding and skills in context, in other learning areas and in everyday situations.

A particularly important context for the application of number and algebra is financial Mathematics. In measurement and geometry, there is an opportunity to apply understanding to design. Further, in a twenty-first-century information-driven world, students can interpret data and make informed judgements about events involving chance, becoming critical users of information to support decision making through statistics and probability.

## Numeracy in the curriculum

Within the Australian Curriculum, numeracy offers examples and problems that connect the students with the Mathematics they need to learn. It also provides explicit rationales and encouragement for primary teachers to incorporate/integrate mathematical learning across a wide range of learning areas and for secondary teachers to communicate and collaborate with colleagues across different learning areas.

Numeracy perspectives encourage students to see the world in quantitative terms, to appreciate the value and purpose of effectively communicating quantitative information, and to interpret everyday information represented mathematically. Adopting numeracy approaches in Mathematics teaching can enable students to better anticipate the demands of work and life, and this has implications for curriculum, pedagogy and assessment. Incorporating numeracy perspectives in the teaching and learning of other learning areas can enrich students' understanding of those learning areas.

## Numeracy in the workplace

Research indicates that since informed judgements about money, safety and accuracy are required in workplaces, workers need knowledge that is flexible and adaptable. The research also indicates that the context in which the Mathematics is used is critical, that learners need to be able to apply different disciplines simultaneously, that communication is important and that learners should learn to use non-standard methods as well as the standard mathematical processes.<sup>1</sup>

<sup>1</sup> Sullivan, P, 2011, Teaching Mathematics using research informed strategies, Camberwell, ACER  
<https://research.acer.edu.au/cgi/viewcontent.cgi?article=1022&context=aer>



*“Good literacy and numeracy skills improve a person’s quality of life. They make it more likely for someone to have a job, earn a good income, be in good health and be involved with family and community.”*

26TEN





# Our Goal

Our goal is aligned with the 2018-2021 Department of Education Strategic Plan *Learners First: Every Learner Every Day* and highlights the importance for all our learners to have both the skills and confidence in numeracy to participate in learning, life and work.



# What Guides Us

Our work has been guided by evidence, data and research, along with a range of strategies, policies and curricular frameworks including:

- [2018–2021 Department of Education Strategic Plan](#)
- [Learners First: A pedagogical Framework](#)
- [Department of Education Systematic Curriculum Delivery](#)
- [Department of Education Assessment Strategy 2020-2023](#)
- [Alice Springs Declaration on Educational Goals for Young Australians](#)
- [Tasmania's Strategy for Children – Pregnancy to Eight 2018–2021](#)
- [26TEN Tasmania: Tasmania's Strategy for Adult Literacy and Numeracy 2016–2025](#)
- [Australian Curriculum General Capabilities Numeracy](#)
- Guided Inquiry in Mathematics project Years 3-8
- [National Numeracy Learning Progression](#)



*“We believe that Mathematics teaching is most powerful when it starts with appropriately challenging learning intentions and success criteria. Teachers need to be clear on where their students are, where they need to go, and what the achievement of learning milestones look like.”*

HATTIE, FISHER & FREY



# Our numeracy priorities

Identified as key to improving numeracy outcomes for all learners, our priorities are:

- Attention to the importance of numeracy skills and understanding across all ages
- Quality teaching of Mathematics to improve numeracy
- Valid and reliable measures of impact and learner growth in Mathematics
- Strengthen and expand the numeracy teaching workforce

Alongside literacy, improving numeracy outcomes will be an ongoing goal for the DoE with these priorities representing the important starting points for change across our system over the next five years.

This work is based on what we heard from our extensive consultation during the development of the Literacy Framework, the Systematic Curriculum Delivery Guide, the Pedagogical Framework and more recently during the development of this Numeracy Framework, along with the review and analysis of current education data, research and evidence.



## How we will build numeracy skills

Attention to the importance of numeracy skills and understanding across all ages

1. Promote the importance of Mathematics, reasoning and problem solving for learning, life and work through existing programs, initiatives and public campaigns.

Quality teaching of Mathematics to improve numeracy

2. Provide quality and targeted professional learning and support for Mathematics through the implementation of a Numeracy Coaching Initiative.

Valid and reliable measures of impact and learner growth in Mathematics

3. Align with the work being undertaken in delivering the Literacy Framework 2019-2022 including developing tools and supports to measure learner growth in numeracy and the impact of system-wide actions on our learners.

Strengthen and expand the numeracy teaching workforce

4. Focus on understanding, upskilling and incentivising our current workforce to build existing capacity.
5. Work with the University of Tasmania, other partners and jurisdictions to grow the numeracy teaching workforce in Tasmania.



# Numeracy in our context

As our learners move from early years settings, through the years of schooling and into post Year 10 pathways, they experience mathematical ideas that continue to grow and deepen and follow a sequence of increasing sophistication. These big ideas are reflected in the Early Years Learning Framework, Australian Curriculum and the National Numeracy Learning Progression.

## Numeracy in the Early Years

The Early Years Learning Framework notes that it is essential that the mathematical ideas with which young children interact are relevant and meaningful in the context of their current lives. Educators need a rich mathematical vocabulary to accurately describe and explain children's mathematical ideas and support numeracy development. Spatial sense, structure and pattern, number, measurement, data argumentation, connections and exploring the world mathematically are the powerful mathematical concepts children need to become numerate.

Experiences in early childhood settings build on the language, literacy and numeracy experiences children have within their families and communities.

Positive attitudes to and competencies in literacy and numeracy are essential for children's successful learning. The foundations for these competencies are built in early childhood in play-based settings that emphasise exploration, inquiry and oral interactions.



## Numeracy from Birth to Kindergarten

A child's first five years are a time of rapid learning and development. Early exposure to foundational numeracy provides the critical building blocks for future exploration of mathematical concepts. Young children benefit from having a range of opportunities and experiences that are relevant and meaningful, where they play and explore to develop numeracy skills and mathematical vocabulary.

## Numeracy in Prep to Year 2

In the years P-2 children learn mathematical ideas that are foundational to numeracy success. Children from play-based experiences use problem solving and reasoning to:

- develop a sense of number, order, sequence, pattern and position, using the students' environment
- introduce them to mathematical symbols and language to communicate and explain mathematical ideas
- encourage them to use simple strategies to pose basic mathematical questions and to investigate and solve simple, concrete problems.

Big ideas of trusting the count and place value are key areas of teaching and learning focus in these years.

## Numeracy in Years 3 to 6

In Years 3-6 children learn mathematical ideas that continue to build their numeracy skills and dispositions. They engage in experiences that focus on problem solving and reasoning that:

- extend key understandings of number, patterns and relationships, measurement and geometry, and statistics
- introduce fractions and decimals as connected ideas
- continue to use active and concrete experiences
- increase their use of models, pictures and symbols to represent and communicate mathematical ideas.

Big ideas of partitioning, multiplicative thinking and proportional reasoning are a key focus in these years.

## Numeracy in Years 7 to 10

In Years 7-10 students:

- draw on previously established mathematical ideas to solve non-routine problems and develop more complex and abstract ideas
- make connections between mathematical concepts and their application in the world
- lay the foundations for future studies, including introducing all students to the benefits of algebra and applications of measurement, geometry, statistics and probability.

The curriculum also allows for more mathematically able Year 10 students to be extended with more content to enrich their mathematical study.

Big ideas of proportional reasoning and generalising are a key focus for these years.

## Numeracy in Years 11 and 12

An array of Mathematics courses offered in Years 11 and 12 specifically target future pathways and preparation for life after Year 12. Students can choose from a range of Mathematics course options to help them develop research and analytical skills, improve problem solving abilities and get qualifications that will set them up for a university degree, TAFE course or apprenticeship.

In alignment with the implementation of the 9 – 12 Curriculum Framework new Mathematics courses and associated resource provisions are being developed during 2021, teacher professional learning and further resource development is to be undertaken in 2022 and the first courses made available for delivery in 2023.

## Beyond formal schooling

Adults continue to improve and develop numeracy skills through life and employment. Targeted learning opportunities are important for adults who have not achieved the usual progression in numeracy learning throughout their childhood. Effective numeracy support for these adults does not assume a particular level of mathematical understanding but targets specific learning needs. The Australian Core Skills Framework outlines a possible progression of numeracy concepts but the profile of each individual's understanding will be different.

Child and Family Learning Centres support parents to improve their numeracy skills, for themselves and their families, before, during and after formal schooling.

Libraries Tasmania's Adult Literacy and Numeracy Program provides structured one-to-one and group numeracy learning opportunities for adults targeted to their particular needs, as part of 26TEN, Tasmania's adult literacy and numeracy strategy that is unique to the State and hosted by DoE. In addition to programs through Libraries Tasmania, 26TEN provides direct numeracy support through its employer and community grants reaching people within their workplace or communities, and through professional learning programs for adult literacy and numeracy practitioners. 26TEN also works to raise numeracy capability across sectors where a need has been identified, such as agriculture and health.





# A collaborative and aligned approach

The Numeracy Plan for Action has been developed through an inquiry approach, gathering information, data and evidence to assess our current situation. Various strengths and gaps have been identified and have become starting points for improvement over the next five years.

Knowledge gained from the development of key frameworks and guides have informed our approach to numeracy. The frameworks and guides to which the Plan are aligned and build upon include the DoE Learners First: Pedagogical Framework, Systematic Curriculum Delivery - A guide for school leaders, the Assessment Strategy and the Literacy Framework.

The Guided Inquiry Mathematics Project illustrated the importance of building teacher capacity for the teaching of Mathematics with a focus on enhancing student numeracy outcomes.

Extensive stakeholder engagement was conducted around the development of the Literacy Framework (involving experts, principals, teachers, industry) and as part of this process concurrent feedback was received around numeracy.

Research focusing on specific aspects of numeracy teaching from the Grattan Institute and work by researchers Desimone and Pak (2017), Hattie (2008, 2012) and Jensen (2018) was then reviewed. Consultation was undertaken and valuable insights and feedback were received from the executive of the Mathematical Association of Tasmania, which included teachers from all sectors; the University of Tasmania; and leaders, experts and coaches from within DoE.

There was consultation amongst School communities in Term 4 2020 with School Improvement teams and educator reference groups. With the systemic approaches to Literacy improvement in mind, and after a broad review of evidence, data and feedback from various stakeholders around numeracy, the Numeracy Framework and Numeracy Action Plan have evolved, recognising the need for consistent and aligned practices and evidence-informed teaching.

The benefit of Lead Coaches who can provide “at the shoulder support” in schools has also been recognised and incorporated into the Numeracy Plan for Action 2021-2025 with a pilot initiative commencing in February 2021. Following an EOI selection process, six Quality Lead Numeracy Coaches and in-school coaches are supporting 19 Tasmanian schools. The intention is to expand the reach of this type of coaching support for teachers across all schools into the future.



*We believe that good Mathematics is rooted in discourse and collaboration – both with teachers and among peers – and is orchestrated around appropriately challenging tasks.”*

HATTIE, FISHER & FREY



# Numeracy across life

The Numeracy Priorities and Actions were developed with an understanding that numeracy is acquired within a learning continuum. Ideally, this occurs from birth to adulthood, but we also recognise that some adult learners move through the continuum at later stages in life. We developed the numeracy domains in alignment with those for literacy. This was done within the learning continuum that describes focus areas of improvement for all our learners as they progress through the stages of learning to become numerate.

These domains include:

## Communication for numeracy

Inquisitive learners who develop conceptual understanding of mathematical ideas and concepts through exploration, inquiry and oral and alternative communication.

## Learning to be numerate

Skilled and confident learners who actively engage with mathematical ideas and dispositions that are foundational to numeracy success.

## Numeracy for learning

Engaged and confident learners who make connections, and transfer and apply mathematical understanding, skills and dispositions across all areas of learning.

## Numeracy for life

Confident and motivated learners who access ways to improve their mathematical capacity.







# Implementing the Actions

## Attention to the importance of numeracy skills and understanding across all ages

### What we will do

#### I. Promote the importance of Mathematics, reasoning and problem solving for learning, life and work through existing programs, initiatives and public campaigns.

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26TEN will continue to deliver effective campaigns and events that include the importance of good numeracy skills for adults and where support can be accessed. Numeracy and Mathematics skills will continue to be a focus of the 26TEN employer grants and 26TEN Community: Local Literacy for Work and Life program. 26TEN's professional development program will also incorporate numeracy and Mathematics skills training for adult literacy practitioners involving experts in the field.

Libraries Tasmania will continue to promote the range of learning programs across their network to improve mathematics skills for everyday life, work or further education. We will also continue to build the capacity of Libraries Tasmania staff and, through 26TEN, the adult numeracy workforce in the delivery of effective numeracy support for adults and in the use of the Australian Core Skills Framework (ACSF) to consistently benchmark and assess individual performance across all core skills.

Libraries Tasmania, 26TEN and the Early Years Team will work to ensure all numeracy programs, initiatives and campaigns are aligned and include a focus on number. This includes coordination of effort across all birth to five programs in libraries, Child and Family Learning Centres (CFLC) and Launching into Learning (LiL) supported by resources and professional learning to enhance numeracy skills and knowledge.

We will provide additional funding to the oral language campaign to include a numeracy focus. This campaign promotes the importance of oral language skills across all stages and areas of learning to support building everybody's capacity to be connected, resilient, creative and curious thinkers, problem solvers and learners.

Authorising Agent: Deputy Secretary Support and Development

Strategic Oversight for Alignment: Teaching and Learning

Leads: Strategic Marketing Communications and Media; Libraries Tasmania (26TEN)

Partner: Early Learning

Commence: 2021

Budget and Resources: Teaching and Learning will make a financial contribution to the Oral Language campaign to fund targeted promotion.

# Quality teaching of Mathematics to improve numeracy

## What we will do

### 2. Provide quality and targeted professional learning and support for Mathematics through the implementation of a Numeracy Coaching Initiative.

We have developed and implemented a pilot of the Numeracy Coaching Initiative to build teacher capacity for the effective teaching of Mathematics for improved numeracy outcomes. This includes improved student outcomes for numeracy and improved capacity for the teaching of Mathematics.

We have appointed six Lead Quality Teaching Coaches to provide quality and targeted professional learning and support for Mathematics through the implementation of the Numeracy Coaching Initiative in a selection of schools across the State.

The Lead Quality Teaching Coaches work closely with the Quality Teaching Coach or Numeracy Co-ordinator and leadership teams from participating schools to support the implementation and sustainability of the initiative.

Authorising Agent: Deputy Secretary Support and Development

Strategic Oversight for Alignment: Teaching and Learning

Lead: Teaching and Learning

Partner: Strategic System Improvement, Education Performance and Review

Commence: 2021

Budget and Resources: Six Lead Quality Teaching Coaches to implement the coaching initiative and a Project Support Officer to provide implementation and ongoing project support.

## Valid and reliable measures of impact and learner growth in Mathematics

## What we will do

### 3. Align with the measurement work being undertaken in the Literacy Framework, including developing tools and supports to measure learner growth in numeracy and the impact of system-wide actions on our learners.

In alignment with System Priority 3 of the Literacy Framework – Valid and reliable measures of impact and learner growth - we will

- Identify and develop effective tools to measure student engagement and attitude towards Mathematics and assess teacher practice.
- Provide differentiated professional learning and support to improve formative assessment practices and ensure effective implementation of measurement tools.
- Adopt or develop assessment practices and tools to measure the impact of policy actions on learner growth and teacher practice.

Authorising Agent: Deputy Secretary Support and Development

Strategic Oversight for Alignment: Teaching and Learning

Lead: Teaching and Learning

Partner: Education Performance and Review

Commence: Ongoing

Budget: No additional resources at this stage.

# Strengthen and expand the numeracy teaching workforce

## What we will do

### 4. Focus on understanding, upskilling and incentivising our current workforce to build existing capacity.

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We will develop an understanding of our teaching workforce and their specialisations to understand what is needed to upskill and grow the numeracy teaching workforce. This work has commenced and will be supported by the implementation of the DoE Capturing Workforce Capabilities Program, MyCareer@DoE.

We will continue discussions with the University of Tasmania to explore new and innovative ways to upskill our existing workforce.

We are refining and adapting the Teacher Intern Placement Program (TIPP) scholarship program to ensure we have the specialist teachers we need. TIPP scholarships are awarded to University of Tasmania students, in their final year of teacher education, who demonstrate academic, personal and professional aptitude for quality teaching.

Libraries Tasmania will continue their work in identifying and addressing the support their adult learning workforce requires to build numeracy teaching capacity.

Authorising Agent: Deputy Secretary Support and Development

Strategic Oversight for Alignment: Teaching and Learning

Leads: Human Resources, Professional Learning Institute, Workforce Strategy, Libraries Tasmania

Commence: 2021

Budget: No additional resources at this stage.

### 5. Work with the University of Tasmania, other partners and jurisdictions to grow the numeracy teaching workforce in Tasmania.

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We will continue working with the University of Tasmania to encourage maths and science graduates to participate in the TIPP.

We will broaden strategies to address skills shortages and develop methodologies to attract specialist teachers where there are known shortages.

To build our adult learning workforce, we will continue to work with TasTAFE to build skilled literacy and numeracy tutors through the literacy and numeracy volunteer tutor training course.

Authorising Agent: Deputy Secretary Support and Development

Strategic Oversight for Alignment: Teaching and Learning

Leads: Human Resources, Workforce Strategy, Libraries Tasmania

Partner: Strategic Marketing, Communications and Media

Commence: 2022

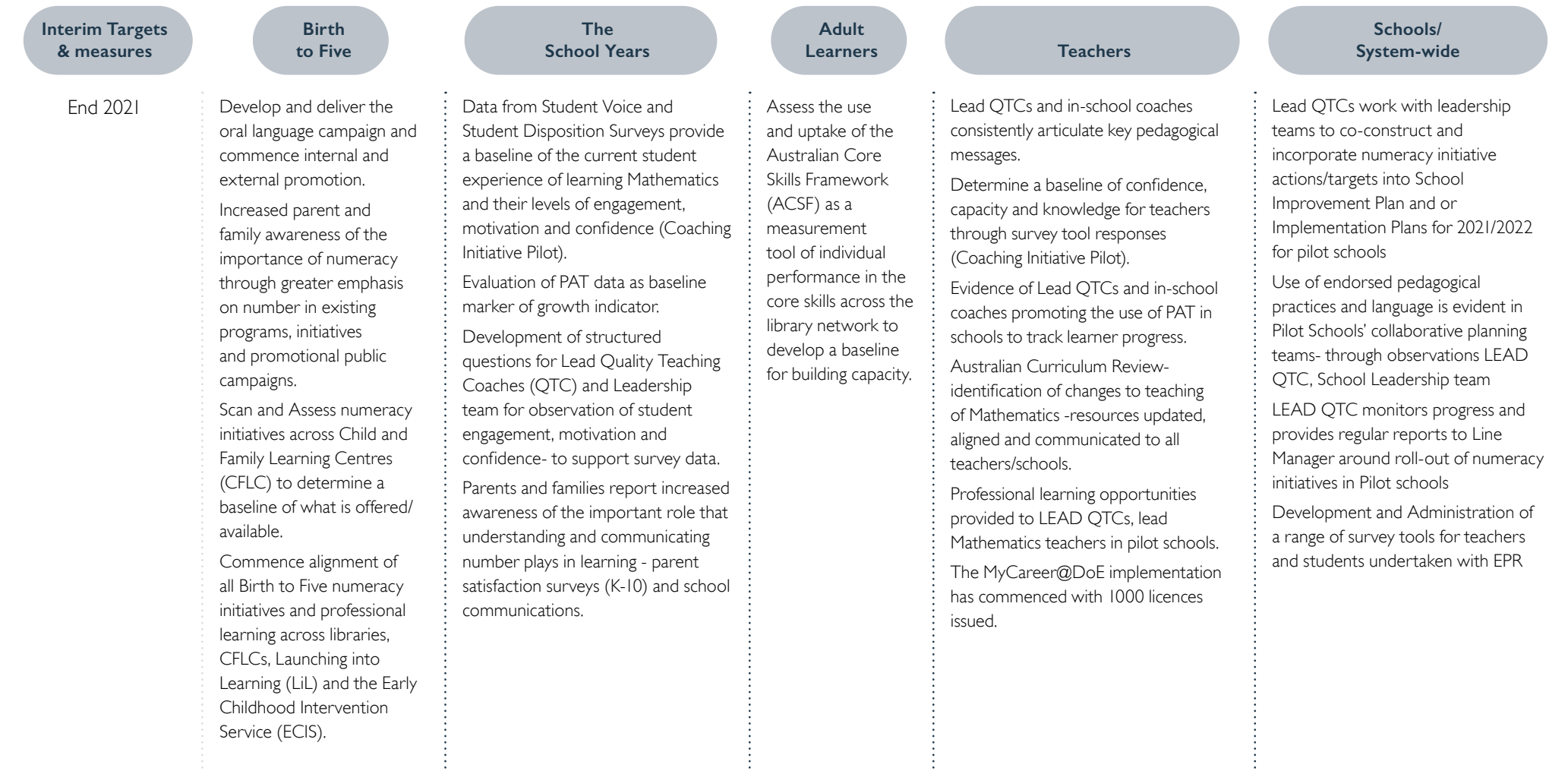
Budget: No additional resources at this stage.





# How we know the plan has worked

In alignment with the system-wide objectives set by the DoE Strategic Plan, we will measure our goals against a series of interim targets based on the aims of the Numeracy Domains. Measuring the success of each action will be undertaken and determined by the business units that take the lead on implementing the actions. Oversight of this Numeracy Plan for Action 2021-2025 will be the responsibility of Teaching and Learning to ensure that there is alignment across all key actions to the goals and targets set. Detailed individual implementation plans will be developed for each Key Action.





### Interim Targets & measures

End 2023

### Birth to Five

MyCareer@DoE is available to all CFLC, Early Childhood Intervention Service (ECIS) and Libraries staff to register their skills and experience.

A coordinated and collaborative approach to all Birth to Five numeracy initiatives and professional learning across libraries, CFLCs LiL and ECIS.

Data indicates that more parents and families are reporting an increased awareness of the important role that understanding and communicating number plays in learning in parent satisfaction surveys (K-10).

### The School Years

An increase in the number of students in the Coaching Initiative Pilot schools who meet expected rates of progress in numeracy capability. (PAT data)

An increase in the number of learners who achieve the expected standard for Mathematics in the Australian Curriculum.

Teachers and leadership team, anecdotally and through structured conversations, report an observably higher level of student engagement, motivation and confidence in Mathematics.

### Adult Learners

All Tasmanians know where to go and how to access the help they need to improve their numeracy skills.

DoE sites and services report an increase in the number of participants in programs/initiatives to improve numeracy.

Across libraries there is the capacity for consistent assessment and benchmarking of individual core skills performance against the ACSF.

### Teachers

Data and feedback from schools involved in the Coaching Initiative Pilot indicate high satisfaction, growth and embedding of learning into practice.

Middle-tier leadership staff are involved in broadening the implementation of the Coaching Initiative.

Teacher Voice surveys indicate an increase in teacher confidence in the teaching of Mathematics.

Comparative data from Teacher Practice Surveys and Student Voice Surveys will indicate greater use of endorsed practices in teaching.

Examples of quality practice and key pedagogical messages are promoted and available for all teachers online.

Quality Teaching Guide - Numeracy updated and available.

Professional Learning opportunities available more broadly than Pilot schools.

MyCareer@DoE is available to all teaching staff to register their skills and experience and there is a benchmark of the depth of numeracy capacity in our system.

Programs developed and delivered to upskill teaching staff through UTAS partnership to enhance mathematics teaching informed by MyCareer@DoE data.

### Schools/ System-wide

Demonstrated increase in the number of schools showing gains across the range of measures for numeracy – Aspire data.

Demonstrated increase in the number of schools who report ease of access and use of the tools to measure learner growth in numeracy.

Quality resources outlining key understandings of the Big Ideas in Number are available for all schools at the start of 2023.

Partnership Schools participate in collegial “numeracy” knowledge – evident in the sharing of exemplars and best practice ideas, creation of working alliances with other schools to support numeracy learning, sharing PL opportunities etc

Pilot schools are meeting numeracy actions/targets in their School Improvement Plan and or Implementation Plans



### Interim Targets & measures

End 2025

### Birth to Five

All CFLC, Libraries and ECIS staff are engaged with MyCareer@DoE having registered their skills and experience.

The approach to Birth to Five numeracy programs, initiatives and professional learning is fully aligned across all libraries, CFLCs, LiL and ECIS.

### The School Years

An increase in the number of students across our all our schools who meet expected rates of progress in numeracy capability. (PAT data)

A further increase in the number of learners who achieve the expected standard for Mathematics in the Australian Curriculum.

Teachers and leadership team, anecdotally and through structured conversations, continue to report observably higher levels of student engagement, motivation and confidence in Mathematics.

### Adult Learners

Tasmanians with numeracy skills at or above OECD's PIACC Level 3 or above at 50% by 2025 (2022 results).<sup>\*2</sup>

### Teachers

All teachers report that they have access to ongoing numeracy support and resources.

All teaching staff are fully engaged with MyCareer@DoE having registered their skills and experience.

Teachers report feeling confident and knowledgeable when teaching Mathematics.

Strategies employed to attract specialist teachers have resulted in an expanded numeracy teaching workforce.

Partnerships with UTAS and other key stakeholders well established to continually support teaching staff to improve their numeracy skills.

### Schools/ System-wide

School Improvement / Implementation Plans of schools in the Pilot reflect measures of success being met for their Mathematics/ numeracy goals.

Improvement in ASPIRE data for numeracy/maths across the system to reflect learner growth and success.

Access to refined and aligned resources to guide quality teaching practices and approaches necessary for learners to achieve success in numeracy.

Well established networks with partnership schools to share and strengthen "numeracy" knowledge, quality practices and support across the State/system.

\*Aligned with the 26TEN target

2 26TEN Tasmania's Strategy for Adult Literacy and Numeracy [https://26ten.tas.gov.au/SiteCollectionDocuments/26TEN\\_Tasmania\\_Strategy\\_2016-2025.pdf#search=Tasmania%E2%80%99s%20Strategy%20for%20Adult%20Literacy%20and%20Numeracy%202016-2025](https://26ten.tas.gov.au/SiteCollectionDocuments/26TEN_Tasmania_Strategy_2016-2025.pdf#search=Tasmania%E2%80%99s%20Strategy%20for%20Adult%20Literacy%20and%20Numeracy%202016-2025)



# Implementation Summary

|  | Actions – What we will do  | When we will start | Authorising Agent                        | Who will lead it  | Who will partner   | What this means across our system   |
|--|--|--------------------|--|---|--|---|
| Attention to the importance of numeracy skills and understanding across all ages | <p>1. Promote the importance of Mathematics, reasoning and problem solving for learning, life and work through existing programs, initiatives and public campaigns</p> | 2021               | Deputy Secretary Support and Development | Strategic Marketing, Communications and Media<br><br>Libraries Tasmania (26TEN) | Early Learning   | <p><b>Child and Family Learning Centres</b><br/>Contribute to and promote numeracy programs, initiatives and public campaigns across all centres</p> <p><b>Schools</b><br/>Promote public campaigns through learning programs, school communications and when interacting with students, parents and families</p> <p><b>Libraries</b><br/>Contribute to and promote numeracy programs and campaigns across all libraries<br/>Build capacity of library network to use the Australian Core Skills Framework</p> <p><b>Business Units</b><br/>Through collaborative effort ensure alignment of Birth to Five numeracy programs, initiatives and professional learning<br/>Develop and deliver the oral language campaign and promote through internal and external networks</p> |
| Quality teaching of Mathematics to improve numeracy                              | <p>2. Provide quality and targeted professional learning and support for Mathematics through the implementation of a Numeracy Coaching Initiative</p>                  | 2021               | Deputy Secretary Support and Development | Teaching and Learning   | Strategic System Improvement<br><br>Education Performance and Review | <p><b>Schools</b><br/>Pilot schools participate and assist in monitoring and review of the initiative.</p> <p><b>Business Units</b><br/>Teaching and Learning coordinate the initiative and work with EPR to measure its progress and success.</p>  |



Valid and reliable measures of impact and learner growth in Mathematics

| Actions – What we will do  | When we will start | Authorising Agent                               | Who will lead it             | Who will partner                        | What this means across our system  |
|--|--------------------|---|------------------------------|---|--|
| <p>3.Align with the measurement work being undertaken in delivering the Literacy Framework including developing tools and supports to measure learner growth in numeracy and the impact of system-wide actions on our learners</p> | <p>2021-2022</p>   | <p>Deputy Secretary Support and Development</p> | <p>Teaching and Learning</p> | <p>Education Performance and Review</p> | <p><b>Child and Family Learning Centres</b><br/>Ensure all staff are aware of and able to use the tools and access supports that are developed to measure growth and system impact.</p> <p><b>Schools</b><br/>Ensure all staff are aware of and able to use the tools and access supports that are developed to measure growth and system impact.</p> <p><b>Libraries</b><br/>Proactively measure adult numeracy learning</p> <p><b>Business Units</b><br/>Develop the tools to measure learner growth and system impact in numeracy in alignment with those for literacy and support schools and sites to use them.</p> |

Strengthen and expand the numeracy teaching workforce

|  |             |   |  |  |  |
|--|-------------|---|--|--|--|
| <p>4.Focus on understanding, upskilling and incentivising our current workforce to build existing capacity</p> | <p>2021</p> | <p>Deputy Secretary Support and Development</p> | <p>Human Resources<br/>Workforce Strategy<br/>Professional Learning Institute<br/>Libraries Tasmania</p> |  | <p><b>Child and Family Learning Centres</b><br/>Encourage all staff to engage with MyCareer@DoE and register their skills and experience</p> <p><b>Schools</b><br/>Encourage all staff to engage with MyCareer@DoE and register their skills and experience</p> <p><b>Libraries</b><br/>Encourage all staff to engage with MyCareer@DoE and register their skills and experience</p> <p><b>Business Units</b><br/>Implement, promote and encourage all business unit staff to engage with MyCareer@DoE; develop programs to upskill teaching staff; and refine and adapt TIPP.</p> |
|--|-------------|---|--|--|--|

|   |             |   |  |  |   |
|---|-------------|---|--|--|---|
| <p>5.Work with the University of Tasmania, other partners and jurisdictions to grow the numeracy teaching workforce in Tasmania</p> | <p>2022</p> | <p>Deputy Secretary Support and Development</p> | <p>Human Resources<br/>Workforce Strategy<br/>Libraries Tasmania</p> | <p>Strategic Marketing, Communications and Media</p> | <p><b>Schools</b><br/>Encourage teaching staff to improve their numeracy skills.</p> <p><b>Business Units</b><br/>Assess current workforce, develop strategies to attract specialist teachers and work with UTAS and other partners to address known shortages.</p> |
|---|-------------|---|--|--|---|



# Glossary

## Australian Core Skills Framework

The Australian Core Skills Framework is a tool which assists both specialist and non-specialist English language, literacy and numeracy practitioners describe an individual's performance in the five core skills of learning, reading, writing, oral communication and numeracy.<sup>3</sup>

### **Capturing Workforce Capabilities Program – MyCareer@DOE**

MyCareer@DOE is a new system that will allow DoE to capture and combine comprehensive workforce data. This will help Principals and Managers across DoE meet strategic and operational staffing needs quickly and effectively, ultimately improving outcomes for Tasmania's learners. It will enable staff to better manage their professional learning and performance-related activities.

### **Curriculum**

Refers to the lessons and academic content taught in a school or specific course or program. It typically refers to the knowledge and skills students are expected to learn, which includes the learning standards, or learning objectives they are expected to meet; the units and lessons that teachers teach; the assignments and projects given to students; the books, materials, videos, presentations and readings used in a course; and the tests, assessments and other methods used to evaluate student learning.<sup>4</sup>

## 9 – 12 Curriculum Framework

The Years 9 to 12 Curriculum Framework seeks to engage a greater number of learners through innovative approaches to course design and delivery. It provides an inclusive and equitable quality education and promotes lifelong learning for all. The Framework establishes five equally valued focus areas including Discipline-based Study; Transdisciplinary Projects; Professional Studies; Work-based learning; and Personal Futures.

The Years 9 to 12 Curriculum Framework provides both depth and breadth of curriculum provision options for schools, suited to their cohort of learners and their identified interests, needs and aspirations. The Australian Curriculum General Capabilities and Cross-Curriculum Priorities will inform the development of considered and focused content as appropriate.

### **Dispositions**

Refers to learning dispositions or ways our learners engage in or relate to the learning process. They are characteristics, attitudes or a mindset to learning. They affect how learners approach learning and therefore the outcomes of their learning.

### **Lead Quality Teaching Coaches**

Provide leadership, direction and high-level support to school leadership teams and teachers in the implementation of the DoE's Numeracy Framework and Action Plan through professional learning, classroom-based modelling and coaching.

<sup>3</sup> Australian Core Skill Framework - <https://www.dese.gov.au/skills-information-training-providers/australian-core-skills-framework>

<sup>4</sup> The Glossary of Education Reform [www.edglossary.org/curriculum/](http://www.edglossary.org/curriculum/)

**Learner**

Every person can develop to be a competent and capable learner. DoE interacts with learners in a range of different contexts and settings including CFLCs, schools, libraries and through workforce development.

**Mathematics**

The study of numbers, shapes and space using reason and usually a special system of symbols and rules for organising them.<sup>5</sup> We teach Mathematics to help our learners become numerate.

**Numeracy/Numerate**

In the Australian Curriculum, students become numerate as they develop the knowledge and skills to use Mathematics confidently across other learning areas at school and in their lives more broadly. Numeracy encompasses the knowledge, skills, behaviours and dispositions that students need to use Mathematics in a wide range of situations. It involves students recognising and understanding the role of Mathematics in the world and having the dispositions and capacities to use mathematical knowledge and skills purposefully.

When teachers identify numeracy demands across the curriculum, students have opportunities to transfer their mathematical knowledge and skills to contexts outside the Mathematics classroom. These opportunities help students recognise the interconnected nature of mathematical knowledge, other learning areas and the wider world, and encourage them to use their mathematical skills broadly.<sup>6</sup>

**Numeracy Coordinator / Quality Teaching Coach**

In-school numeracy specialists who work with the leadership team and school staff to identify specific areas of support and strategies for improvement through professional inquiry, collaboration and co-construction. They model evidence-based practices, and observe classroom practice to assist teachers to monitor student learning and analyse data at the school and classroom level.

**Sites**

Sites refer to each individual DoE facility or location including schools, libraries and CFLCs.

**Supports and Resources**

Refers to providing human, material and financial resources to ensure successful implementation of the Numeracy Plan for Action.

**System-wide**

Refers to all government schools, libraries, CFLCs and supporting business units across all divisions.

**Whole of Department**

All sites and business units of the DoE.

5 Cambridge Dictionary, <https://dictionary.cambridge.org/dictionary/english/Mathematics>

6 Australian Curriculum General Capabilities Numeracy, [www.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/numeracy/](http://www.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/numeracy/)



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