



A Maths & STEM Program for preschool children & educators



UNIVERSITY OF
CANBERRA



Australian Government
Department of Education

PREPARED BY :

Centenary Professor Tom Lowrie
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*Early Learning STEM Australia (ELSA) was funded
by the Federal Government Department of
Education. © Commonwealth of Australia.*



A play-based Maths & STEM Preschool program



Makes STEM fun through play

ELSA helps you spark a curiosity in Maths & STEM.
Balances physical and digital play to boost children's spatial literacy and numeracy skills.

Discover the benefits of ELSA Preschool

Boosts numeracy and STEM

Children engaged in the ELSA Program show significant gains in numeracy and STEM skills compared to other children.

Built for preschool programs

Designed for children aged 4 years in any Australian preschool program.

Simplifies program planning

We show you how to enhance your existing Maths and STEM activities and simplify your planning.

From the co-creator of the EYLF

ELSA is brought to you by the co-creator of the EYLF, Professor Tom Lowrie, and maps to its outcomes.

Digital games and room activities

Balancing physical and digital play to boost children's numeracy skills, STEM Practices and spatial understanding.

Educator learning and support

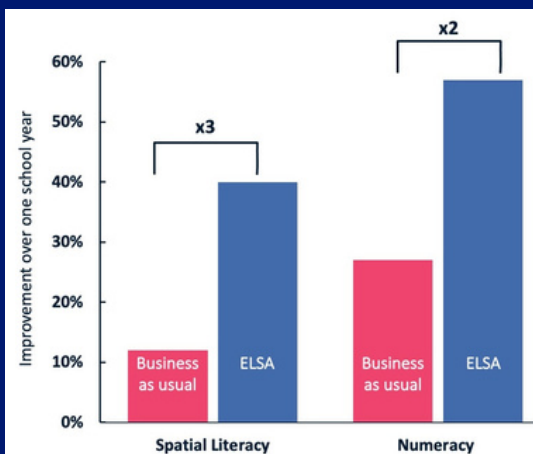
An online professional learning program from our academic team, as well as access to our help desk for any support needs.

What educators say

I would definitely recommend ELSA to anyone. It changes your thinking around STEM and what it means in early learning and how embedded it actually is.

Kathryn Wallis
Preschool Teacher

Research shows ELSA boosts numeracy and STEM



Evidence from a University of Canberra research project shows that educators and children who participate in a full year of the ELSA Preschool Program achieve considerable STEM outcomes.

For STEM literacy skills, children improved at a rate 3 times higher than children not involved in the program.

For numeracy, the children improved at a rate twice that of the business-as-usual cohort.



'ELSA has certainly enriched and broadened my understanding of STEM. To me it was a winner from the start. I think immediately everyone in the room thought, 'Okay, we can do this'.
— Robyn Croucher, Centre Director

A presentation slide with a white background and a blue border on the left. At the top, the text "Welcome to" is in black, and "ELSA" is in orange. Below the text are two icons: on the left, a teacher standing and a student sitting at a desk; on the right, a student sitting at a desk. Below each icon is the label "Teachers" and "Students" respectively. At the bottom, there is a decorative graphic of blue and orange waves.

ELSA

Students

Lessons

Reports

Training

Games

Support

Student Login

My Classes ▾

Emoji Passcodes

Bulk Upload

Add Student

Your class **Preschool Test Sept (Preschool)**

Student list

Student	Actions	1. Lunch Boxes	2. Photo Story	3. Let's Decorate	4. Let's Dance	5. Little Helpers	6. Playground	7. Directions
TestSept18 Preschool	Edit	0%	0%	0%	0%	0%	0%	0%
Ross Hope	Edit	0%	0%	43%	0%	0%	0%	0%
Test 3	Edit	11%	0%	0%	0%	0%	0%	0%
E M	Edit	0%	0%	0%	0%	0%	0%	0%
Macca Test1	Edit	89%	80%	43%	100%	100%	100%	100%
Ross2026 Test	Edit	100%	0%	0%	0%	0%	0%	0%

ELSA

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Preschool Test Sept Detailed Report

My Classes

Print

Macca Test1

Patterns and Relationships

Sorting

I have tried to sort

I can sort by type of food

I can sort by colour

I can sort by a mathematical attribute - shape - circle

I can sort by a mathematical attribute - shape - triangle

I can sort by a mathematical attribute - shape - rectangle

I can sort by a mathematical attribute - size - small

I can sort by multiple attributes

I can sort by a mathematical attribute - shape - long

Ordering

I can put a story in order when it's missing the first picture

I can put a story in order when it's missing the last picture

I can put a story into order when it's missing two pictures

I can put a story into order when it's missing three pictures

I can put a story into order when it's missing four pictures

Patternning

I can copy a pattern

I can extend a pattern - (AB, ABC, AAB, ABB, ABCD)

I can create a pattern - (AB, ABC, AAB, ABB, ABCD)

I can fix a pattern by replacing an incorrect item - (AB, ABC,

Location and Arrangement

Position

I can follow instructions and understand positional language - into

I can follow instructions and understand positional language - onto

I can follow instructions and understand positional language - out

I can follow instructions and understand positional language - front

I can follow instructions and understand positional language - off

I can follow instructions and understand positional language - inside

I can follow instructions and understand positional language - next

I can follow instructions and understand positional language - under

I can follow instructions and understand positional language - below

I can follow instructions and understand positional language - above

I can follow instructions and understand positional language - between

I can follow instructions and understand positional language - behind

I can follow instructions and understand positional language - across

I can follow instructions and understand positional language - up

I can follow instructions and understand positional language - down

I can follow instructions and understand positional language - from

I can follow instructions and understand positional language - opposite

I can follow instructions and understand positional language - through

I can follow instructions and understand positional language - towards

Representations

Decoding

I can follow simple instructions and build the drum

I can follow complex instructions and build the marimba

I can follow complex instructions and build the guitar

Encoding

I can create a musical sound byte

I can experiment with modifiers and one sound

I can experiment with one modifier and multiple sounds

I can experiment with multiple modifiers and multiple sounds

I can create a musical pattern

Conditionals

I can dress a character with one item of each type of clothing

I can dress a character appropriately for the weather

I can debug an inappropriate clothing choice for the weather

Investigations

Observe

I can use pre-sourced materials to complete a task

I can select appropriate materials to complete a task

I can persist to solve problems

I can use everyday knowledge to complete multiple and increasingly sophisticated challenges

Verify

I can interpret information and complete a task with help

I can interpret information and complete a task without help

I can frame my problem solving

I can persist while searching to solve problems

The ELSA Preschool Program includes...

Twelve children's games

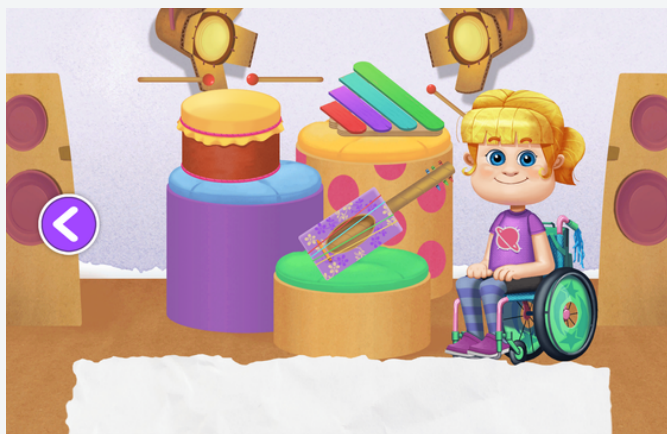
Patterns and Relationships



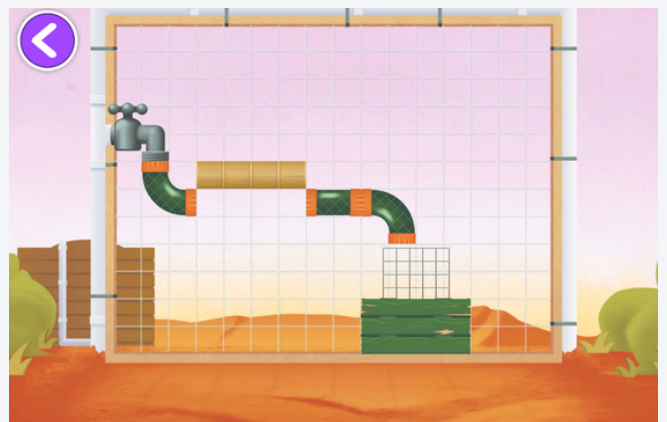
Location and Arrangement



Representations



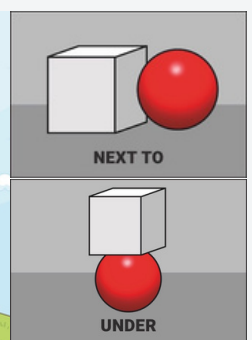
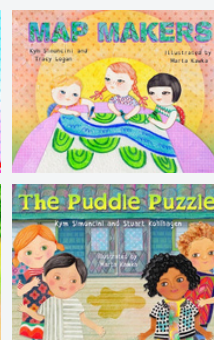
Investigations



Families' website



Books and games



Find out more about ELSA Preschool – scan the QR code



ELSAPROGRAM.COM.AU