

What does STEM in preschool look like?

**STEM - it's not
new!**

**STEM
Practices**

**Any
questions?**

**What we
mean by
STEM**

**STEM in
your
centre**

**Contact
us**

Why STEM?

STEM - What it might already look like.

STEM stands for Science, Technology, Engineering, and Mathematics - with the letters joined together to indicate integration.

We think about STEM a little differently to many others - but more on that later.

Regardless of definition, you are already doing STEM.

And in this half hour we want to value add to what you are already doing.

Water Play

Building Corner

Why STEM is important

It's important for children to be introduced to STEM in preschool because it:

- helps them understand their world and how it works
- helps them to develop positive attitudes towards STEM
- translates to confidence and success in STEM at school
- prepares them for the jobs of the future

Let's look at some examples of STEM in preschool.

Water Play



Block Play



STEM for us is...

- about skills and practices, rather than content knowledge
- about children learning STEM by doing STEM activities

We don't see STEM as four separate subject areas. We focus on the skills and practices that underpin STEM. Thus, we avoid arguments about STEM vs STE(A)M vs ST(R)EAM vs STEM(M).

We are much more interested in children engaging with STEM in play-based ways, with intentional teaching moments from you.

We want to help you tweak your current activities to make them more STEM focussed.

**STEM
Practitioners**

STEM Practitioners



Horticulturalist



Builder



Architect



Surfboard Designer

Can you think of other examples?

Ideas, Methods, and Values

We think STEM should be about **Ideas, Methods, and Values**.

If we think of the water play from earlier, there is:

- an **Idea** – proposing a water wall to learn about water and drawing plans
- a **Method** – how we go about it, e.g., using tools, reading others' plans
- a **Value** – we are fostering teamwork and persistence

The focus on **Ideas, Methods, and Values** sits comfortably alongside the Being, Belonging and Becoming focus of the EYLF.

Luke Carroll explains STEM Practices:
<https://elsaprogram.com.au/videos/>

EYLF
Practices

Our 18

Your
practices?

EYLF - Children as learners

Children develop

- dispositions (we say **Values**) such as curiosity, cooperation, confidence, creativity, commitment, enthusiasm, persistence, imagination and reflexivity.
- A range of learning and thinking skills and processes (we say **Ideas**) such as problem solving, inquiry, experimentation, hypothesising, researching, and investigating.
- The **Methods** are noted in the evidence section (e.g., use digital tools, make predictions, use representations).

ELSA's STEM Practices

IDEAS

Problem Finding

Finding and Validating Evidence

Questioning

Proposing

Designing and Building

Exploring and Challenging

METHODS

Generating Ideas

Processing Information

Encoding and Decoding Information

Using Appropriate Language and Vocabulary

Using Tools to Produce Artefacts

Thinking Critically

VALUES

Curiosity

Fairness

Imagination

Creativity

Teamwork

Persistence

In your centre...

What are some of the **Ideas**, **Methods**, and **Values** that you use to help you plan activities for the children in your centre?

STEM Practices - in action

What might these STEM Practices look like in your preschool centre?

Remember, it is often the case that an activity has

- one main **Idea**
- one main **Method**
- one main **Value**

But sometimes it could be two of one type.

Am I a robot?

Build like
me

Am I a robot?

Children move around the centre following verbal or symbolic instructions. They might do so on a simple grid drawn with chalk.

STEM **Idea** - Exploring

STEM **Method** - Processing Information

STEM **Value** - Persistence

Follow my plan

Children draw (or take a photo) of their block building. Their friends use the drawing or photo to build the same structure.

- STEM **Idea** - Designing
- STEM **Method** - Encoding and decoding information
- STEM **Value** - Teamwork

What would you like to know more about?

- From this presentation?
- In future presentations?
- About the ELSA team and what we do?

Thank you

Today we have spoken about how you are already doing STEM activities in your classroom.

We hope we've shown you new ways to look at STEM and how to make small adjustments to your existing activities using the **Ideas, Methods** and **Values** from our STEM Practices.

We hope to see you online again for future presentations.

**Our Contact
Details**

Our contact details

Feel free to explore the ELSA program for your centre – it's full of high-quality, STEM resources, ideas, and activities that can support and extend your existing STEM activities.

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