

As you enter, take a plate
and a wipe and play.



<https://padlet.com/groveh/steam>





ABBOTSLEIGH

STEAMING AHEAD

Ms Marian Doull and Mrs Caroline Surendra

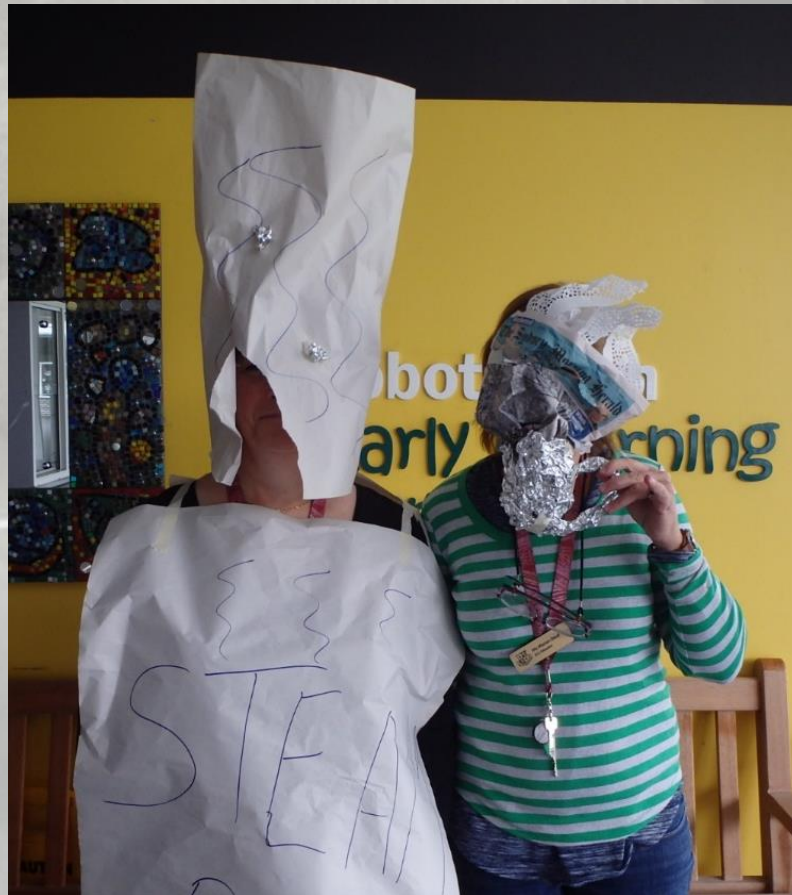


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We recognise and acknowledge Australia's First Peoples and value their cultural knowledge, strength and resilience.

We pay our respect to the Larrakia people and their Elders, past and present, and

We are committed to the empowerment of the Aboriginal and Torres Strait Islander communities.



Steaming Ahead, Aims of this workshop

To consider how we as educators use STEAM in our programs

To investigate the importance of the provocations we put to the children

To evaluate the questions we ask ourselves...why do we do what we do?

To empower ourselves as Early Childhood Educators to be confident in our competencies and challenge our practice

To use the mini Makerspace resources to experience play based enquiry within a STEAM context.



“What STEM does is give a label to what you are already doing, helping children to explore, observe, ask questions, predict, integrate their learning.

Its what we’ve always done in Early Childhood education.”

Dr. Sherri Killins

Former Commissioner, Department of Early Education and Care

VP, Education and Family Learning, Boston Children’s Museum



WHAT IS STEAM?

A Government initiative introduced initially in schools, aimed at integrating learning across disciplines.
Sometimes called STEM

SCIENCE

TECHNOLOGY

ENGINEERING

ARTS

MATHS



**Science is observing and experimenting,
making predictions, sharing discoveries.**

**It is about asking questions, and
wondering how things work.**





**Technology is using tools, being
inventive.**

**It is about identifying problems,
and making things work.**




Engineering is a way of doing.

Engineering is solving problems and using a variety of materials.

It is designing and creating, and building things that work.

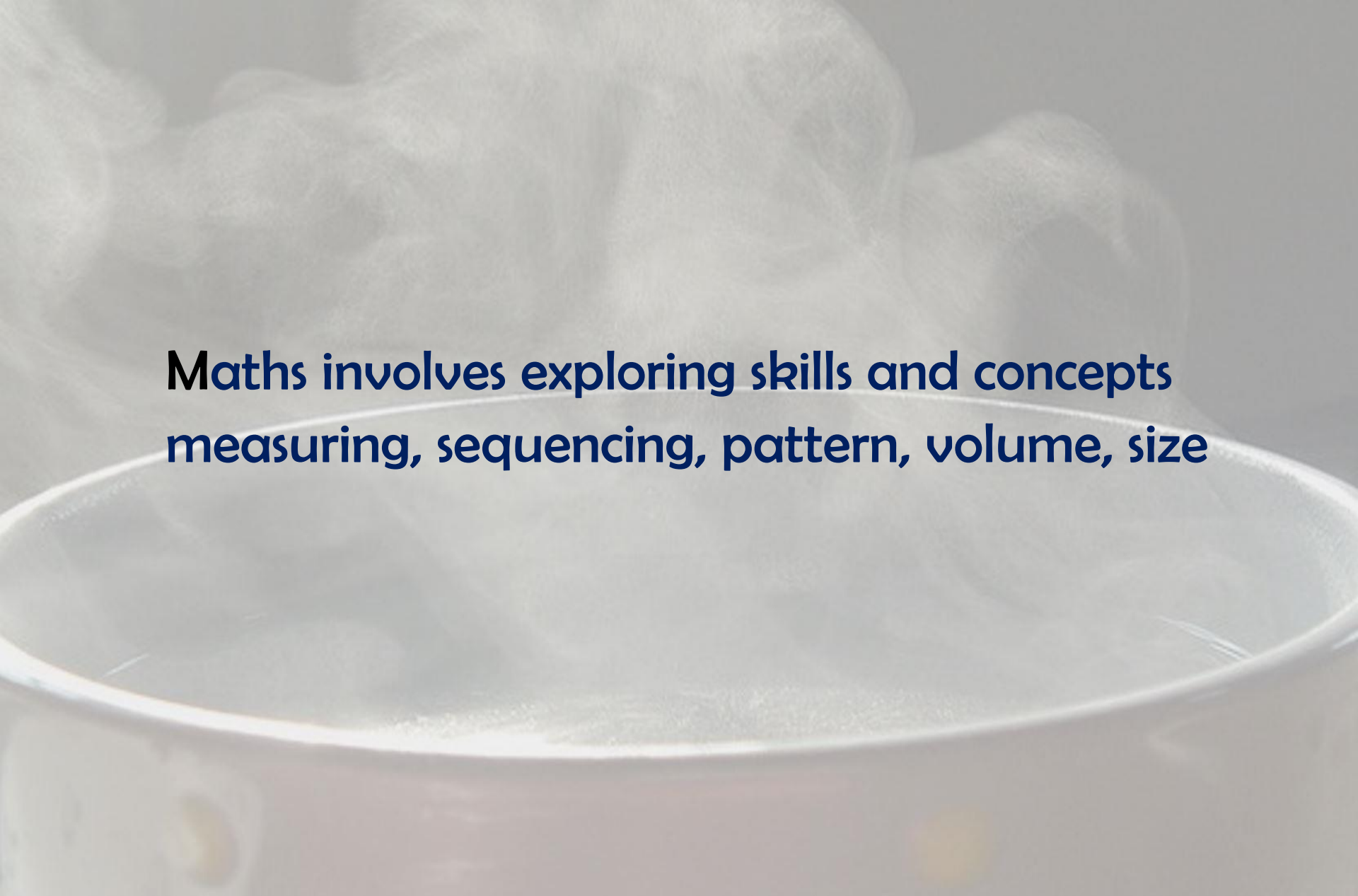




**The Arts (music, dance,
visual, literature) connect
action and cognitive
activity.**

**Experimentation,
expression, creativity.**





**Maths involves exploring skills and concepts
measuring, sequencing, pattern, volume, size**



STEAM

LEARNING EXPERIENCE/S

PROVOCATION

SCIENCE

Observing, experimenting,
predicting, sharing

TECHNOLOGY

Using tools, being in-
ventive

ENGINEERING

Solving problems, making
things that work

ARTS

Experimentation, creative
thought, expression

MATHS

Measuring, sequencing,
volume



Asking STEAM questions.....of children

Rather than ask **'why'**

Ask **'what'**

What happened there?

What did you try?

What did you notice when....?

What do you think will happen if...?

What happened when you blew on the toy?



Asking STEAM questions.....of ourselves

Can STEAM engage children in a broader range of activities?

Can STEAM empower staff to explore unfamiliar areas and stretch thinking?

Can STEAM validate individual enquiry?

Can we use STEAM in everything we do with young children?

How does our language affect what the children explore and investigate?

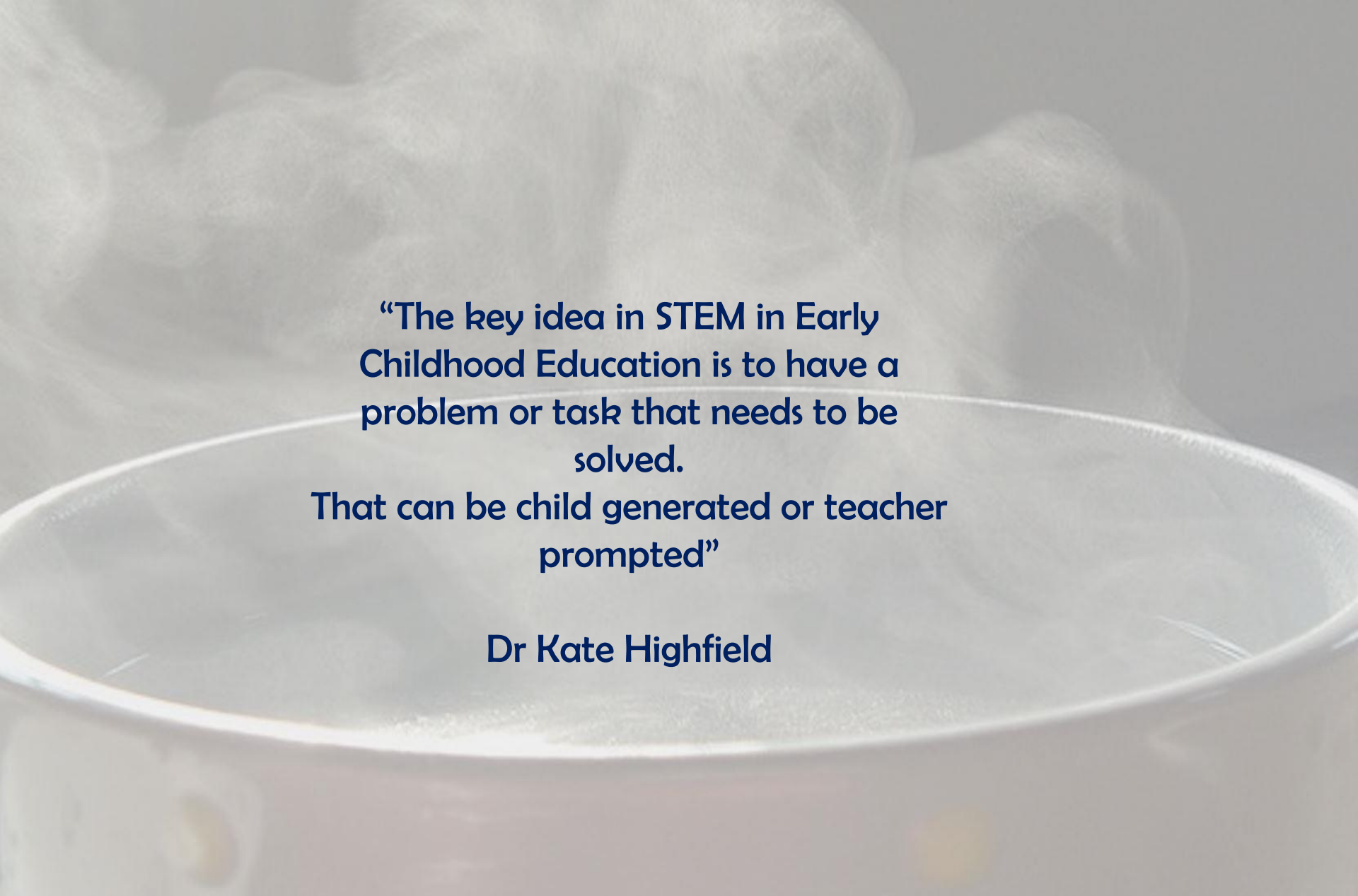


Making Learning Visible to Parents

“This is fantastic - Darren and I both had a good chuckle. Thanks very much!”

“What a great problem solving activity. Thank you Marian and Caroline!”





**“The key idea in STEM in Early
Childhood Education is to have a
problem or task that needs to be
solved.**

**That can be child generated or teacher
prompted”**

Dr Kate Highfield



Further thoughts

A provocation or problem

A question

Not giving the answer

Allowing time to think, experiment and revisit

Productive failure (celebration?)

Notice and reflect on the language YOU use



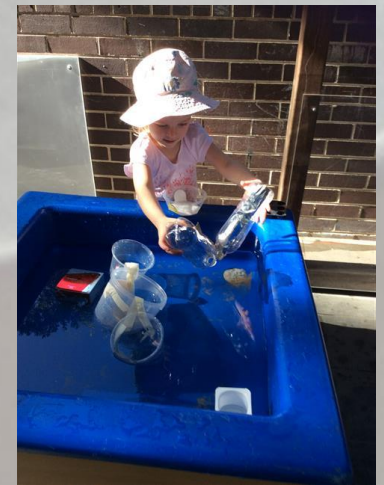
One provocation:-

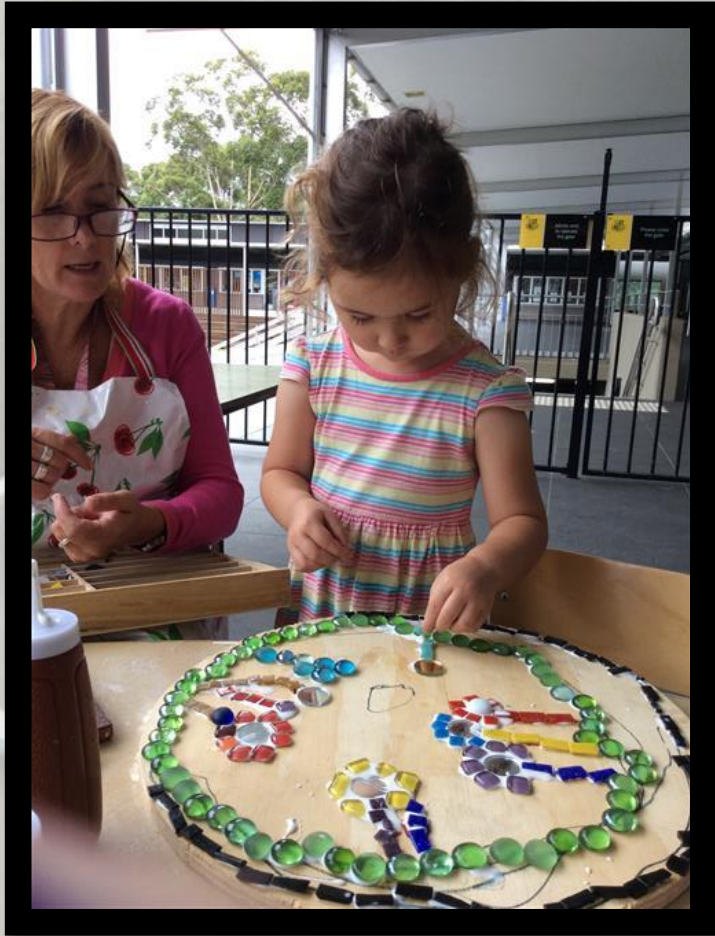
How can we
help the
dolly with
the broken
leg cross the
water?



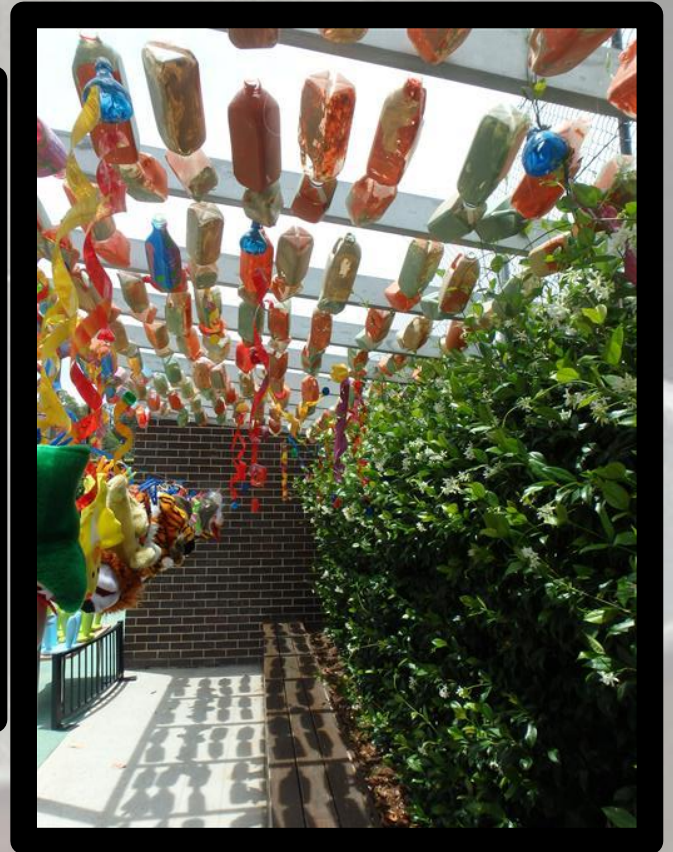
"a bridge"
"a lifejacket"
"lets make a boat, that's
a much better idea"
"lets make a really pretty
boat for the little girl"



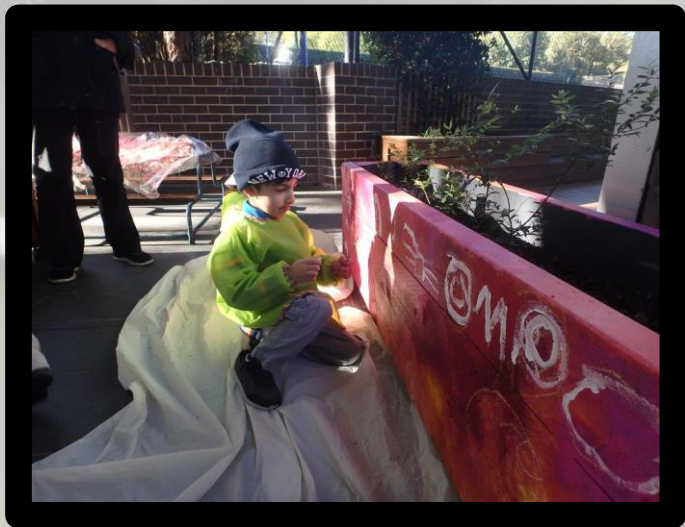


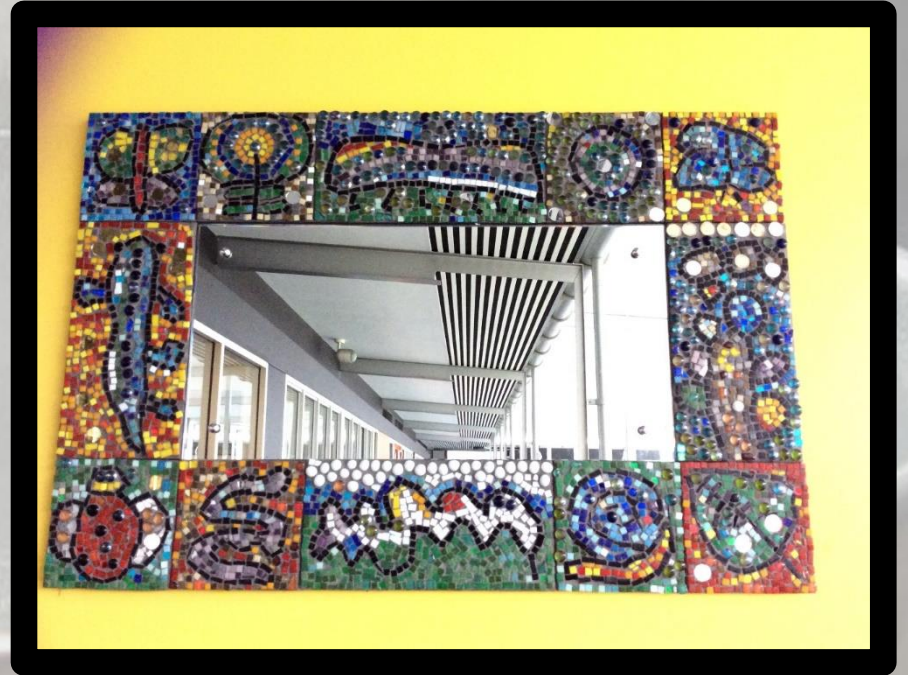


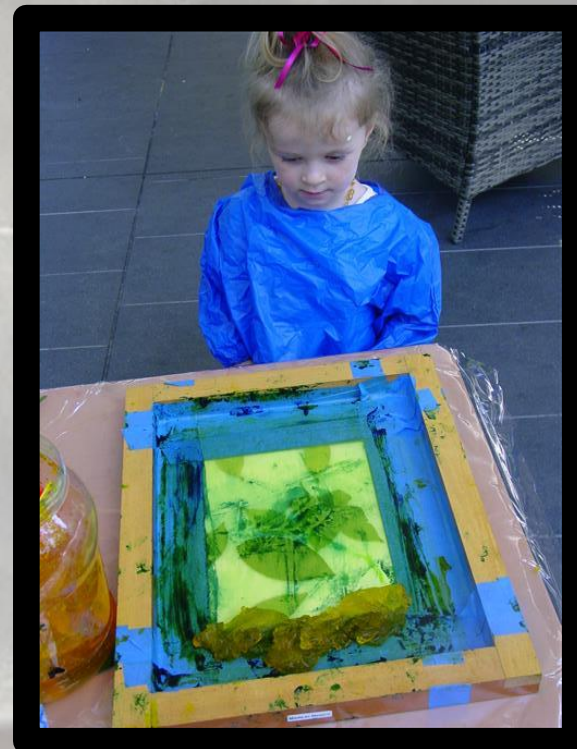
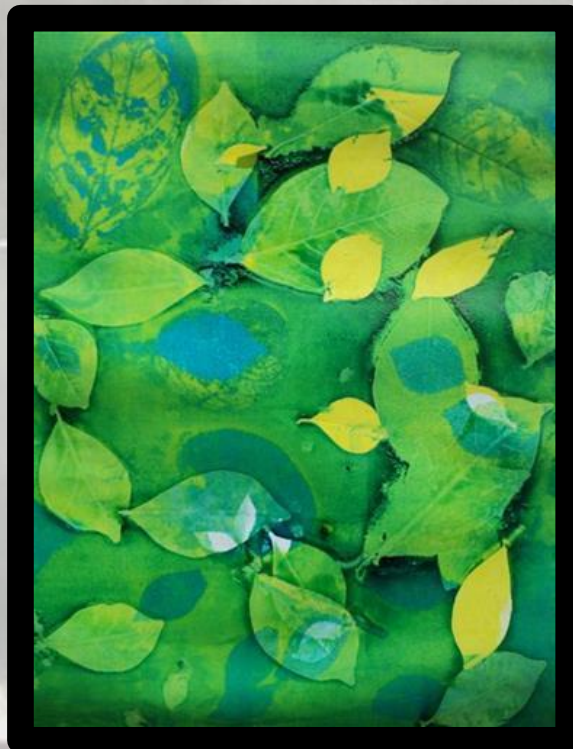




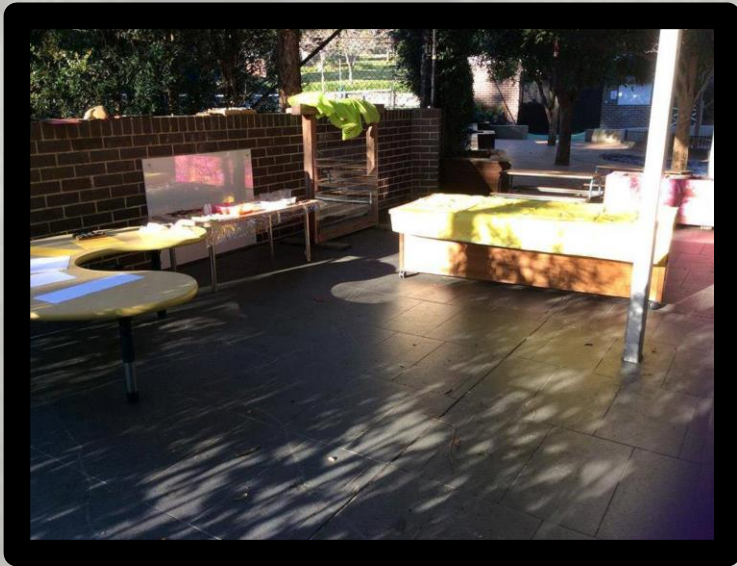












**How has the goldfish
expanded its practice?**



Your turn to play, create, have fun !

**Use the Mini Makerspace to make a
disguise that shows how STEAM can
expand your practice.**



Discussion Time

Talk with the person next to you about
how your 'Disguise Making' covered the
areas of
STEAM



“What happened to my water bottle?”



References

Boston Children's Museum. STEM Sprouts

<http://www.bostonchildrensmuseum.org/stem-sprouts>

Dr Sherri Killins

<https://twitter.com/sherrireneee49?lang=en>

Dr Kate Highfield

<http://www.csu.edu.au>

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