

SCIENCE TECHNOLOGY ENGINEERING ART MATHEMATICS

Engineering in ECEC – Engineers Week 2026

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Who Am I?

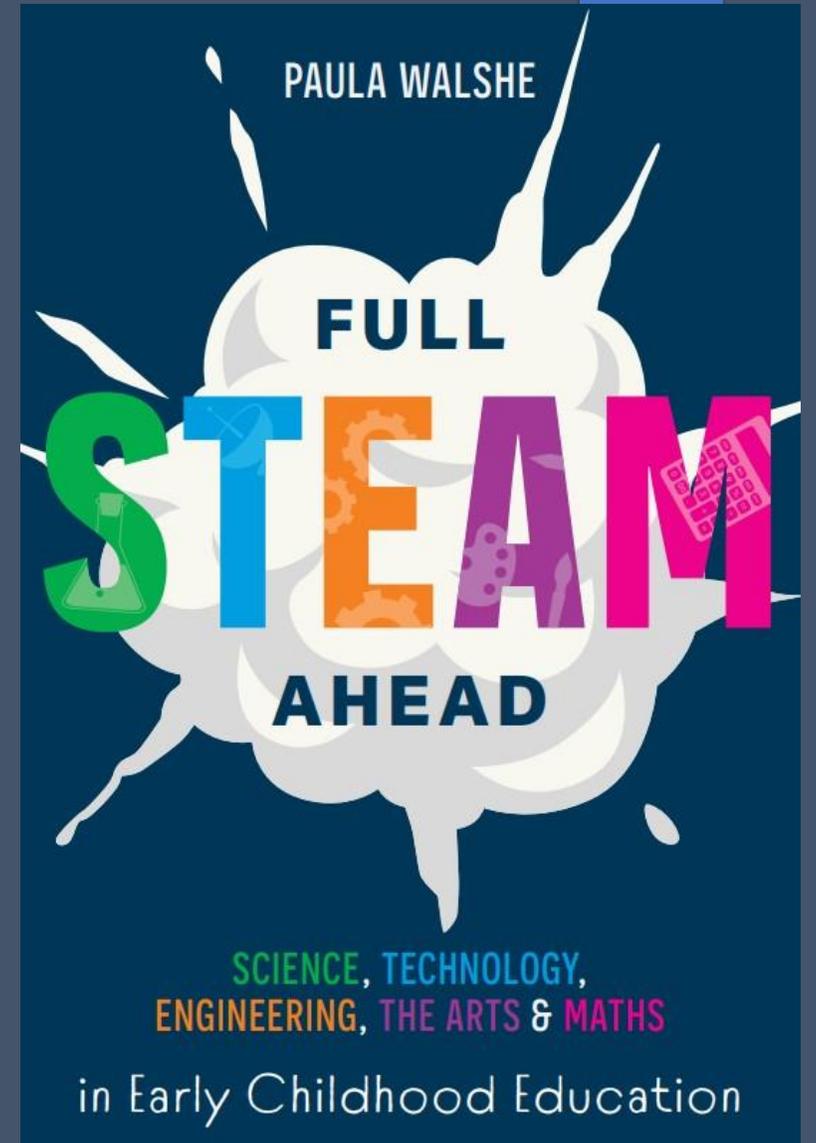
Paula Walshe

- Assistant Lecturer in ECEC at South East Technological University.
- PhD candidate researching STEAM in ECEC in Dundalk Institute of Technology
- Former educator and manager of outdoor preschool.



My Book:

- *Full STEAM Ahead: Science, Technology, Engineering, the Arts and Maths in Early Childhood Education (2023).*
- Available from www.borupress.ie



ECEC and Engineers Week 2026



- How to get involved for ECEC educators.
- Resources and activity ideas.

Engineering is All Around Us!

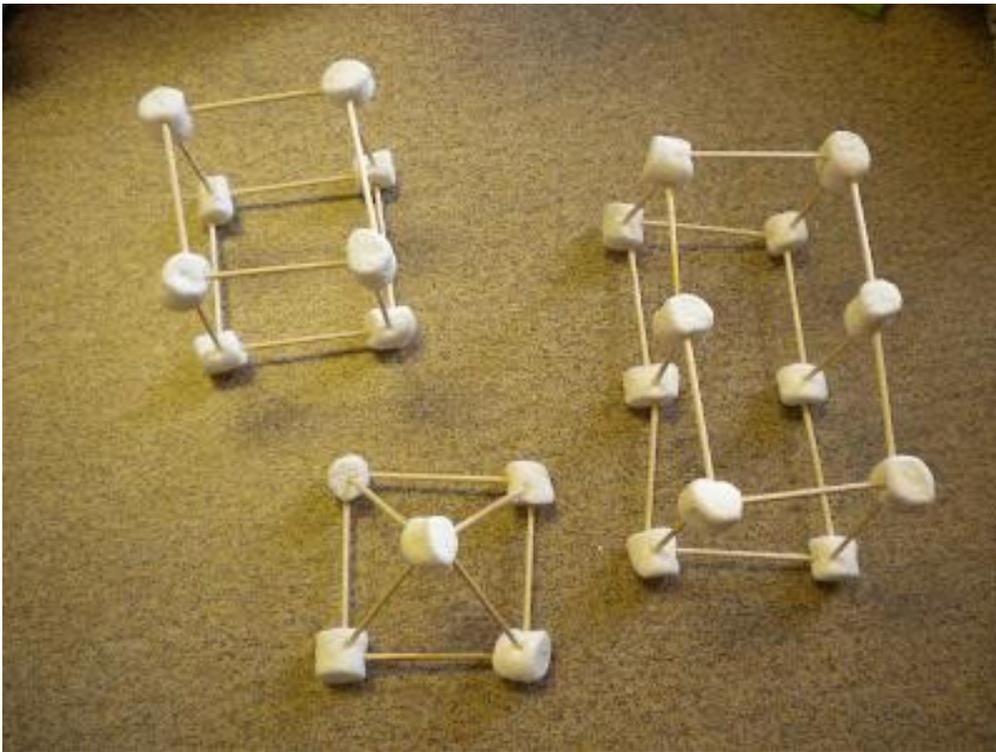


Engineering in STEAM



- ▶ Building towers – construction, distance/span, dimensions, height, amount and type of materials.
- ▶ Cars and ramps – speed, trajectory, distance, angles.

Engineering in STEAM



- ▶ Playdough – sticking and adhering items together, construction, stability, form, shape, design.
- ▶ Den building – space, area, height, dimensions.

Promoting Engineer through Interactions & Language

- ▶ Build
- ▶ Construct
- ▶ Design
- ▶ Build
- ▶ Test
- ▶ Solution
- ▶ Speed
- ▶ Angle
- ▶ Materials
- ▶ Shape
- ▶ Amount
- ▶ Length
- ▶ Height
- ▶ Capacity
- ▶ Full
- ▶ Empty



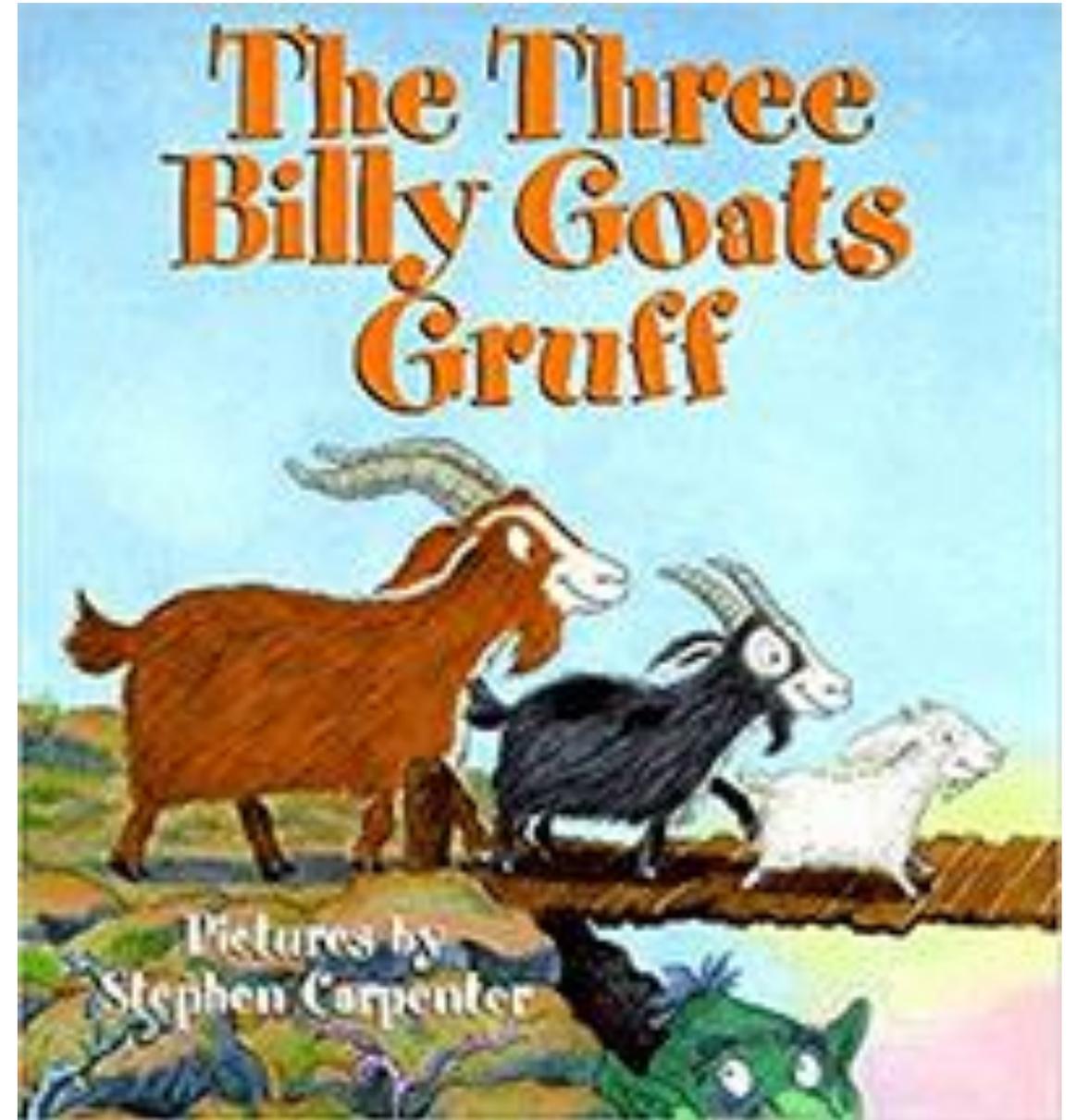
STEAM and Engineering in Songs and Stories

- ▶ We often sing songs and read stories to children, but how often do we think about how they support engineering concepts and skills?



Engineering in Stories

- ▶ Some obvious stories which promote engineering.
- ▶ Can you think of any more?
- ▶ Put them in the chat...



Engineers Week 2026 – ECEC Resources

- ▶ ECEC children are born engineers – imaginative, creative, curious.
- ▶ Experiential, hands-on learning through play.



Engineers Week 2026 – ECEC Resources

- ▶ Focus on engineering in stories and associated follow-on activities.
- ▶ Choose from one of the activity card examples provided or...
- ▶ Create your own using the blank template.
- ▶ Register your Engineers Week activity on Engineers Ireland website.

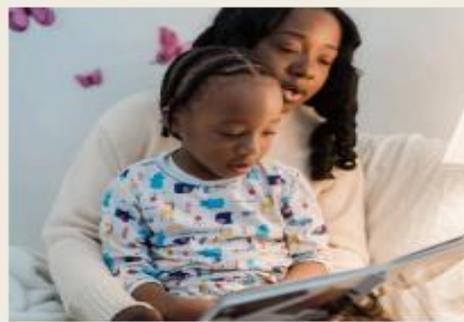


Goldilocks & the 3 Bears

DESIGN A SEAT



To support this activity explore the various types of chairs and seating in your setting. Let the children try them out and describe how they feel, if they are comfortable and what they like and dislike about each chair. Print off and laminate different types of indoor and outdoor seating and discuss their various functions.



READ THE STORY

Tell the story of Goldilocks and the 3 Bears. Goldilocks has broken baby bear's chair and now the bears need a new chair. Baby bear would like a new chair that the whole family can sit on. How could we make one?



ENGINEERING WORDS

Focus on words in the story which are linked to engineering concepts eg:

- Size, shape, function, design, woodwork, carpenter
- Large, big, medium, small, just right
- Soft, hard, comfortable, texture
- Structure, strength and stability
- Build, construct, test, improve



ENCOURAGE INTERACTIONS

Encourage the children to think about engineering concepts present in the story, ask open questions such as:

- Which chair is your favourite and why?
- Can you name the parts of a chair?
- How many kinds of chair can you think of?
- What if we didn't have chairs?

PLAY - DESIGN A CHAIR

Provide various loose parts and junk art/recyclable materials, playdoh, scraps of material, beads etc.

The children can design and build their own chair for baby bear's family. How can they make it the right size for the whole family to sit on it and how will they make sure it is comfortable?



We're Going on a Bear Hunt

EXPLORE THE WIND



READ THE STORY

Tell the story of the family who set out on a bear hunt as they navigate through various obstacles like 'long wavy grass' and a 'swirling whirling snowstorm'. How can we explore the power of the wind? Perhaps we could build a wind tunnel?



ENGINEERING WORDS

Focus on words in the story which are linked to engineering concepts eg:

- Build, construct, structure, create
- Shape, size, length, force, power, push, pull, high, low, over, under, around, lift
- Design, build, test, change, solution
- Action, reaction, observe, result



ENCOURAGE INTERACTIONS

Encourage the children to think about engineering concepts present in the story, ask open questions such as:

- What materials should we test?
- How is wind made? Can we make wind?
- What do you predict will happen?
- Let's test other objects or materials.
- Did it work? How could we fix it?
- Why do we need wind?

PLAY - CREATE A WIND TUNNEL

Make a tunnel using blankets over a table or a fabric play obstacle tunnel. Ask the children to gather various items they wish to test. Provide a variety of wind producing tools eg: straws, hand held fans, room fan, hair dryers (cool setting). Which tools provide the most wind? How do the different items react to each tool?



Further extend this activity and challenge the children to use their own wind power by blowing to keep the balloons afloat.

Set up a table top activity with coloured tape in different patterns - straight, wavy, spiral etc. Provide the children with straws and pom poms to blow along the various patterns. Have pom pom blowing races across the table. Create balls from paper, tin foil etc. and test how *they* react when blowing them through a straw - why do they react differently?

Explore the topic of windmills - are there any in our local area?
What are windmills used for?



Resources Available – Engineers Ireland Website

- ▶ 3 Billy Goats Gruff
- ▶ Goldilocks and the 3 Bears
- ▶ The 3 Little Pigs
- ▶ We're Going on a Bear Hunt
- ▶ Room on the Broom
- ▶ Blank template – create your own engineering activity based on a story of choice.



Choose Your Book

PLAN AN ENGINEERING ACTIVITY

What is the name of the story book?

How Does this Activity Link to Aistear?

Reflection & Ideas to Extend the Learning Activity?



READ THE STORY

Main theme of story and the idea for an engineering activity?



ENGINEERING WORDS

What engineering focused words are present in this story?



ENCOURAGE INTERACTIONS

What open ended questions could you ask the children to encourage engineering concepts?



PLAY - ACTIVITY & RESOURCES

What is the engineering problem and what resources do we need?

Interested in Learning More?



Email:

steps@engineersireland.ie

Instagram:

@STEPSEngineersIreland

Interested in Learning More?

- Book '**Full STEAM Ahead – Science, Technology, Engineering, The Arts and Maths in Early Childhood Education**' available from www.borupress.ie
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Thank You
for Listening!

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