



STEM: Let's Learn More About Engineering!

**2 day FREE Professional Learning Program
for Primary School Teachers, F-4**

A FREE workshop open to all Government School Primary Teachers

Day 1 : 16 July 2018

Day 2: 17 July 2018

**Venue: Victorian Space Science Education Centre,
400 Pascoe Vale Road, Strathmore, 3041**

Total Cost: \$135 plus GST per person (for catering only)

Seeking ...

35 primary teachers (Including STEM teachers and science specialists) to participate in a two-day professional development program

Energize...

your STEM teaching and enhance your understanding of engineering concepts and skills. Learn how to incorporate and feature Engineering content and processes in your classroom using effective instructional strategies. There needs to be a commitment to integrate engineering design into the structure of science education by raising it to the same level as scientific inquiry when teaching science disciplines at all levels, from Foundation onward.

Participants will ...

- **learn an Engineering Design Process**
- **learn about the differences between science and mathematics practices and engineering design processes**
- **develop a draft engineering-based lesson appropriate for their students either by revising a lesson provided or developing their own**
- **participate in engineering lessons aligned with the F-4 Victorian science standards.**

Expect...

- **a copy of the engineering lessons and additional resources**
- **opportunities to work with others to align engineering lessons with STEM/science curriculum maps based on the Victorian Standards**
- **learning experiences that include engaging in model pracs, creating or revising sample lessons and activities that support STEM learning focused on Engineering**
- **connections to a professional learning community to help sustain the program implementation.**

SESSION DESCRIPTIONS

Day 1

With STEM teaching and learning there needs to be a commitment to integrate engineering design into the structure of science education by raising engineering design to the same level as scientific inquiry when teaching science disciplines at all levels, from kindergarten onward. There are both practical and inspirational reasons for including engineering design as an essential element of science education. Providing students with a foundation in engineering design allows them to better engage in and aspire to solve the major societal and environmental challenges they will face in the decades ahead.

The focus of the learning on day one includes:

- learning about the differences between science and mathematics inquiry-based practices and engineering design processes
- learning an Engineering Design process which includes defining and delimiting engineering problems, designing solutions to engineering problems and optimizing the design solution
- engaging in sample engineering design challenges related to physical science and space science across P-4.

Day 2

In some ways, children are natural engineers. They spontaneously build sand castles, forts and dollhouses, and hamster enclosures, and they use a variety of tools and materials for their own playful purposes. Children's capabilities to design structures can be enhanced by having them pay attention to points of failure and asking them to create and test redesigns. During day 2 participants will:

- develop a draft engineering-based lesson appropriate for their students either by revising a lesson provided or developing their own
- review resources provided to link sample engineering lessons to existing curriculum maps and STEM lessons
- engage in sample engineering design challenges related to life science and earth science across P-4, and
- discuss engineering design challenges to solve problems based on local issues.



ABOUT THE PRESENTER

Anne Tweed is a Science and STEM Consultant with STEM Learning Solutions. Her work supports professional development in the areas of effective science and maths instruction, inquiry-based instruction, formative assessment, high quality instructional practices, and STEM implementation. Ms. Tweed is a past president of the National Science Teachers Association (NSTA, 2004-2005) and a 30-year veteran science and maths educator and supervisor. Ms. Tweed received the Distinguished Service Award and the Distinguished Science Teaching Award from NSTA. She is the author of *Designing Effective Science Instruction; Hard-To-Teach Biology Concepts: A Framework to Deepen Student Understanding* and co-author of *Teaching Science through Inquiry-Based Instruction*.

For more information and bookings contact **Vicky Scicluna** vicky.scicluna@vssec.vic.edu.au

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BOOKING FORM



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Day 1: 16 July 2018

Day 2: 17 July 2018

Time : 8:30am - 3:30pm

Cost: \$50 plus GST per person for catering only

RSVP : Friday 22nd June 2018

vicky.scicluna@vssec.vic.edu.au or fax : 03 9374 3855

School: _____

Address : _____

Telephone : _____

Fax : _____

Teacher Name (s) : _____

Email (s) : _____

Special Dietary Requirements: _____

**Yes, I /we would like to attend the 2 Day
Teacher Professional Learning Program**

Number of places