

Victoria Primary School pupils apply some engineering in circus skills classes

The circus goes to school this British Science Week, as pupils at Victoria Primary School welcome Let's Do Engineering and Think Circus who have teamed up to deliver a set of engineering inspired circus workshops and linked activities at the school. Think Circus developed the workshops in collaboration with engineers; exploring three types of circus skill – hula hoop, juggling and plate-spinning.

For each skill the professional performers from Think Circus (Kat and Ella on the day) will introduce a core concept of motion; with children able to experience on a basic level how these concepts relate to the skill and feeling the forces in action. As a result, participants will be able to better relate these concepts to everyday actions (such as throwing a ball or moving an object). They will also learn a basic skill which may encourage them to be more active and creative physically.



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Victoria Primary teacher, and STEM Development Lead for Edinburgh, Norry Leonard said: “One of my aims for leading STEM throughout Edinburgh is to demonstrate the importance of creativity and partnerships in STEM. Think Circus provides excellent creativity and scientific thinking in a motivating and engaging way for both learners and teachers. The Let’s Do Engineering project provides great partnerships with engineers, musicians, and artists to show the learners some of the vast careers in the STEM industry.”

Let’s Do Engineering is a research project funded by the Engineering and Physical Sciences Research Council under the Engagement Champions Awards Council to introduce 3-7 years olds to engineering through play. By age seven children have already narrowed their career aspirations based on stereotypes and this needs to be readjusted to tackle current and future challenges. The goal of Let’s Do Engineering is to create fun, engaging and inspiring resources, based on engineering, to support play and learning.



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Dr Helen Bridle, an Associate Professor, at Heriot-Watt University is the project lead.

She says: "We've developed a wide range of activities,

including engineering challenges, songs, dance, drama, circus skills, games and arts and crafts, aimed to provide an exciting and fun introduction to engineering ideas and concepts. Our key messages are that engineering can be for everyone and that engineering is all around us, not just building bridges and fixing cars but also designing smartphones and computers, advancing medicine and providing food and energy.

“We’re excited to bring the circus workshops to Victoria Primary for British Science Week and look forward to reaching more schools and nurseries across Scotland in the near future.”



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The hula hooping activity was developed with two engineers working on satellites in space, linking the idea of satellite

orbits with the motion of the hula hoop. Building on the hula hooping skills children can then undertake engineering challenges to build and launch a paper rocket and play a space junk clean up game.

Juggling requires our brain to process and predict the trajectory of the ball(s) and was developed with an engineer who tries to learn from how the brain sees images to improve computer image recognition. The circus activity is followed by a card game exploring image recognition.

Plate spinning was designed to link with energy generation via wind turbines and an activity to build a wind turbine.





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British Science Week is a celebration of science, technology, engineering and maths that takes place between 11-20 March 2022. The 10-day programme covers of thousands of events

running throughout the whole of the UK with the aim of celebrating science, engineering, technology and maths. With no restrictions on who can organise events, the topics on which they are focused, the audience or the venue, the resulting programme is a hugely varied and eclectic mix suitable for people of all ages and abilities.

The Let's Do Engineering project, and all data collection, is approved by the Heriot-Watt University Engineering and Physical Sciences Ethics Committee. Any questions please contact Helen on h.l.bridle@hw.ac.uk

Project website: www.letsdoengineering.com and Think Circus: www.thinkcircus.co.uk/