Tony Cotton reviews *15 Minute STEM: Book 2: More quick, creative Science, Technology, Engineering and Mathematics activities for 5-11-year-olds.*

Mathematics Teaching has a lot of requests for reviews. One of the criteria used to select books to feature is asking the question, "Would this be useful to teachers in the classroom?" The immediate response to this book was a resounding, "Yes." I knew this as the currently resident 8-year-old took the book off a pile on my shed/office and immediately began flicking through it. He sat for 15 minutes flicking through, occasionally saying, "I've done this one." to himself and more often shouting out, "Can we do this one Grandad.".

As you may have deduced this book is a collection of 40 ideas for activities that are linked to the STEM agenda. I would argue that I could make the case for including them in any mathematics classroom. They also passed the 'lockdown test'. That is they were able to focus learners' energies at a distance. I offered the ideas in the morning, the children and their parents explored them during the day and came back online later to tell me what they had discovered.

There is great advice for teachers and parents at the beginning of the book explaining how we can provide a hook to persuade children that the activities are worthwhile and that this hook will allow us to step back and let the children lead the learning. To be honest the ideas were so good that I could just allow my learners to look through the book and select for themselves the investigation they wanted to explore. The author, Emily Hunt, also explains and illustrates how exciting and fruitful STEM activities do not need expensive and complex resources.

There are links throughout the book to jobs that can be associated with the activities. So, for example, the first activity is going on an animal camouflage walk, taking photographs of all the animals we can find and then classifying and discussing them. This is linked to the jobs of 'biologist' and 'naturalist'. I wonder if this part of the design is more parent focussed. The children I was working with did not take very much notice of these suggestions. "But I'm going to be a farmer" was the response. What was more interesting was the 'What are we learning?' paragraph attached to each activity. This section discusses, in some detail and in a non-patronising way, the important ideas to be explored. It also introduced key vocabulary, something I found very useful and the learners found fascinating. We have been talking about 'warning colouration' every time we have seen a bee or a wasp ever since we went on our animal camouflage walk.

I asked the children I was working with to select a few of their favourite investigations for this review. This is their selection.

Beaver dams: We had great fun in the stream in the local park making dams and trying to break each other's dams. We then watched video footage on the web of beavers building dams.

Bottle rockets: they were particularly excited about this one as it linked to one of their current favourite youtube channels on which similar rockets are made and fired. We explored lots of different ratios of bicarbonate of soda to vinegar and had remarkably few accidents! We never quite worked out how best to measure the heights the rockets got to though.

Ramp racing: This has long been a favourite activity. Racing cars down ramps to see which go

the furthest. My grandson decided he was a 'real scientist' because an activity he had invented was in a 'proper science book'.

No hands pyramid: This became a competition for the whole family at a (socially distanced) barbecue. The winning pyramid, made from beer cans rather than paper cups I have to admit, was five layers high. I developed the idea later in the week to talk about triangular numbers, which got us on to talking about square numbers.

So, this book is genuinely 'fun for all the family'. It also gains the equivalent of a 5* review. It has stayed on my shelf rather than be given away to a local school.