

The Science and Industry Museum in Manchester, built on the site of the world's oldest surviving passenger railway station, is devoted to innovative discoveries in science and technology.

Given a relationship that stemmed back to 2015, when Goodfellow provided materials for the Wonder Materials: Graphene and Beyond exhibition, museum staff once again contacted the Goodfellow technical team with a request for materials for their latest science workshop.

The new Dragons' Den-style workshop challenges 11–16 year olds to look at an array of different materials and pitch a prototype product using those materials.



Challenge

The advantages of aluminium foam are virtually limitless. This light and durable material has many beneficial properties that can be applied to the museum's new design challenge of creating a prototype for use in one of four scenarios: eco-friendly home, emergency spacesuit, a rocket, or an apocalypse-proof super-vehicle. The students pitch their product to investors (the teachers) before experiencing a peer review and pushing their ideas, vocabulary and curiosity further.

The Creative Science: Materials and Design workshop creates a platform to challenge students and provide experience in STEM subjects in a different way. By removing pressure and limits, promoting independent learning and widening perspectives on careers, the workshop blends science with art, design technology and English to reflect the professional environment in a more realistic way.





Solution

Over the years Goodfellow has provided technical advice about the properties of each material as well as donating holographic periodic tables and additional items which are crucial for the workshop.

The experts knew the materials provided had to have many exceptional properties and be used as an all-rounder to create a base for the prototypes created. Goodfellow provided approximately 20 pieces of aluminium foam, which was easy to examine under a small traditional microscope or a digital one.

Goodfellow also provided another material, vitreous carbon, to give the prototypes another dimension and create a new and innovative way of thinking for workshop attendees.

"It's increasingly difficult for teachers to bring groups of students out to museums. When pitching a trip to the stakeholders back at school, it helps teachers to be able to highlight the unique benefits. The materials that Goodfellow has provided for us adds that element of uniqueness. These are things that the students can't access in school. The materials also point to real-world applications, adding vital context and substance to the work back in class."

Adam Flint, Creative Content and Event Developer at the Science and Industry Museum in Manchester



