

Meaningful Learning Experiences

Strategic Commitment	✓	Part of a regional, ESF-funded 'Careers Local' programme
Curriculum Provision	✓	One of a series focusing on 'dry' Science topics
Employer Partnerships	✓	Developing a relationship with an existing school contact
Reflective Young People		
Informed Career Choices	✓	Raising awareness about vocational career pathways

UPVC window manufacturer helps GCSE students apply theory about Polymerisation

Tupton Hall School in Chesterfield asked the Science faculty to identify five curriculum topics that would provide a basis for staff development, showing how employers can bring 'dry' topics to life in the classroom. As part of GCSE Chemistry studies, students learn about bonding, structure, and the properties of matter. This includes the topic of Polymerisation, which can sometimes come across as theoretical learning and drawings of molecular structures.

Established in 1974, Eurocell is located just a 20 minute drive from the school and is a major employer in the area. The school had already met with the company to explore possible ways of working together. The curriculum project allowed students to apply their learning about the theory of polymerisation to a real situation and a purposeful challenge.

Students were provided with briefing papers about Eurocell's product range and corporate objectives. Working in groups, they produced Powerpoint presentations to communicate their ideas, which were submitted to Eurocell for feedback. Ideas included phone covers, cases for USB drive and drain covers, but the proposals selected for further development involved emergency shelters for use in disaster areas and pagodas and other domestic outdoor living spaces. The initial brief explained that these groups would be invited for a VIP visit to Eurocell's head office.

Benefits for the Students

- *'Experiencing new opportunities and learning about many jobs that involve UPVC that you can get into when you leave school'*
- *'Working as a team to create an idea and carry it through to the results'*
- *'Thinking outside of my comfort zone to create a unique product for our group'*
- *'Experiencing different job environments and getting involved in new skills that are needed for jobs after leaving school'*
- Impact data reveals that the project particularly helped students develop skills in 'Resilience' and 'Self-Motivation'

Benefits for the School

- All five Science projects involved topics that had been described as 'dry'. The projects are exemplars for all teaching staff to see how classroom learning can be brought 'to life'
- Eurocell is a large local employer, offering apprenticeships and a range of career paths, helping the school to fulfil its duty to show possible pathways for students beyond school
- Student groups who were selected with the best proposals were invited to see their ideas mocked up by a 3-D printer, creating a PR opportunity for the school

Benefits for the Employer

- Eurocell has a significant CSR programme, including work with schools. This project embedded their expertise in an important topic in the Science curriculum
- With growing sensitivity about plastic waste, the project allowed the company to communicate its leading work in recycling of UPVC
- With a corporate commitment to innovation, the company was open to fresh ideas. The two best ideas picked up on existing areas for product development and ethical practice

Eurocell UPVC Challenge

Proposals will need to:

- Demonstrate knowledge about polymers and UPVC
- Show an understanding about Eurocell's products
- Apply this knowledge in creative and practical ways
- Show contributions by all members of the group



Our product: UPVC Emergency shelter

- Our shelter will be made up of mostly injection-moulded UPVC, and held together with plastic doweling and dovetail joints. It will feature a removable entrance with a hinged door, removable anchor points and will be completely flat packed for easy transportation. The shelter will come in a variety of sizes, starting at two people and going all the way up to eight people. One side will be covered in reflective film, and depending on the way it is constructed, it can be on the outside for hot climates and on the inside for cold ones. There will be potential for cooking inside the shelter, however cookers will have to be manufactured and shipped from elsewhere.

GCSE Chemistry covers the topic of Polymerisation, requiring students to learn about the molecular structure and properties of a variety of different polymers.

A partnership with nearby Eurocell resulted in project that challenged students to submit proposals for new products that would make effective use of extruded UPVC. A video feedback message was played in the classroom and two groups with the best ideas – involving emergency shelters and outdoor living spaces – were invited to Eurocell's head office for a VIP experience.

