FORUM TALENT - POTENTIAL PLAN, DEVELOP & SHARE GOOD PRACTICE

Meaningful Learning Experiences

Strategic Commitment	✓	**Part of a large academy trust's curriculum strategy**
Curriculum Provision	✓	**Enriching the GCSE Science topic of 'Electrolysis'**
Employer Partnerships	✓	**Supported by the voice of the UK Aluminium industry**
Reflective Young People	✓	**Particularly developing skills in Creativity**
Informed Career Choices	✓	**Promoting employers in the Aluminium Industry**

Industry expertise for GCSE students learning about primary production of aluminium

The brief for this project came from a Science teacher at Greensward Academy in Hockley, Essex and focused on GCSE students' learning about Electrolysis: *'It's challenging to teach because it involves abstract concepts all being applied at once; For example, the reactivity series being used at the same time as reduction and oxidation processes. It fundamentally requires students to be fluent in all of the base concepts to be fully understood'*.

As part of the existing scheme of work, students learn about the production of aluminium, including about the high levels of energy required for the electrolytic conversion of bauxite ore. Students were asked to, *'… evaluate the extraction of aluminium from an environmental and sustainability perspective'*.

The Aluminium Federation (Alfed) represents businesses that process, trade and work with aluminium and, with their agreement, the task was made more real and purposeful: *'Use information from Alfed and your knowledge about the production of aluminium to explain whether use of this material can now be justified'*. In addition to using a video titled *'A new force in Green Aluminium'* by Alfed member Alvance, students were asked to review two Alfed publications about primary and sustainable aluminium production.

The project involved students being taught Triple Science: *'… completing the essay task as outlined in the project brief. I have asked for some of the work to include relevant imagery, such that the work can be exhibited in the science corridors and shown off to Alfed'*.

Benefits for the Students

The achievement I am most proud of as a result of this experience is:

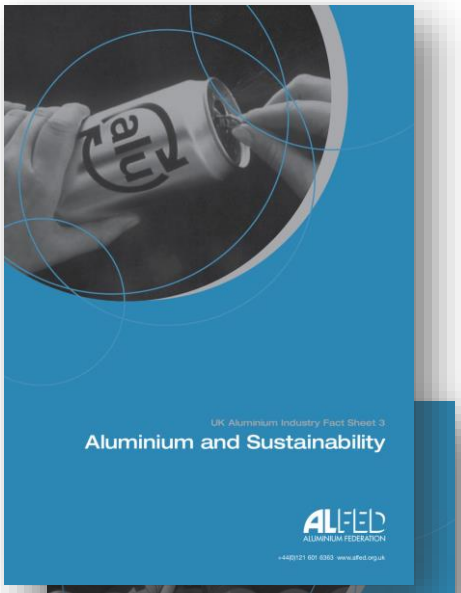
- *'Creating a full essay that fully expressed my opinion.'*
- *'Being able to pile together information to explain how the process worked.'*
- *'Understanding the way that school work is used in different workplaces.'*
- *'How to work in groups.'*
- *'Learning how to be confident and apply myself better to focus on what I need to do to achieve.'*

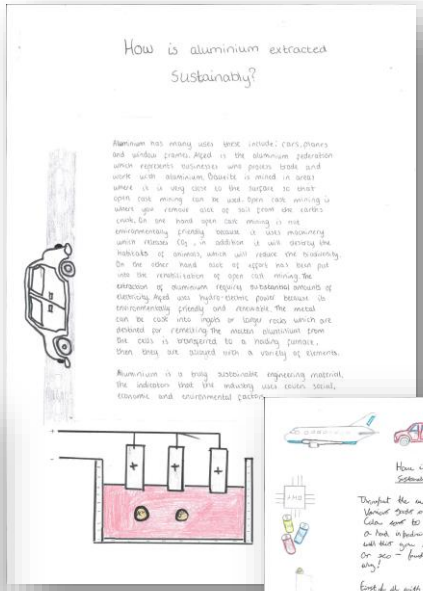
Benefits for the School

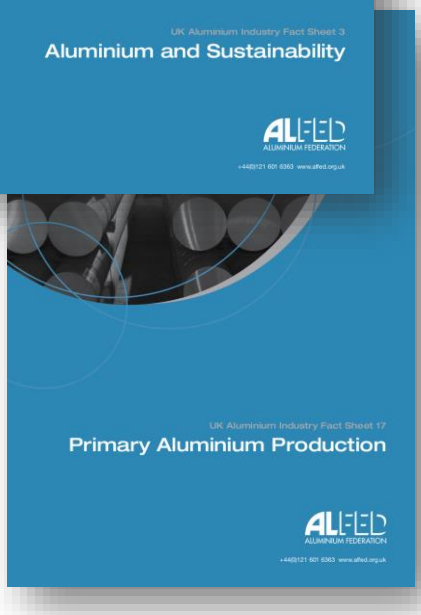
- The project encouraged students to evaluate aluminium extraction genuinely: *'I have the projects in, I'm in the process of proofreading them now. Many of the students have taken a pro-Alfed stance by discussing the measures they take to limit environmental impact. However, a few are critical, would you like those that are critical sent over too?'*
- *'When we leave our year group zones, this work will be displayed - ideally with some quotes from ALFED to link to the employer.'*

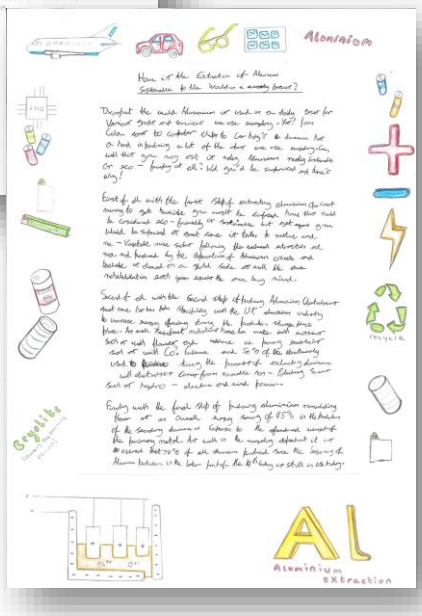
Benefits for the Employer

- The students involved received a certificate from Alfed's 'Aluminium Academy: *'This is a tremendous effort from them and I am very impressed … I sent the children's work to our CEO for some feedback and he has asked if we could have permission to produce a small booklet of their research to be shared with our members as part of our education projects'*.
- The project supported Alfed's aim to promote aluminium as *'… an affordable, highly recyclable material that supports a global circular economy'*.









Work by GCSE Science students about sustainable production of aluminium was informed by expert information from the Aluminium Federation.

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