Our future Derby

Funded through the Department for Education Opportunity Area programme.

Case study

Redwood Primary School in Derby

Employer Engagement:

Busy engineering firm helps year 5 discover how levers and forces work on a JCB

Redwood Primary School in Derby identified a number of curriculum areas in year 5 that,'… we find a struggle due to lack of resources, difficult to explain, dull or just lost for ideas!' Among these was the Science topic of Forces, specifically helping children to,'recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect'.

Existing resources included textbook illustrations to describe the different kinds of levers, with labels to show the fulcrum, force and load in each case.

An approach to local firm CR Civil Engineering provided images and information that were compiled into a classroom challenge in which children were shown a picture of a mechanical digger and asked,

'Can you use your knowledge about levers to correctly label this diagram?' The classroom resources included video clips of a similar digger at work and a short video about jobs in the Construction sector. The worksheet also asked children to list some of the jobs they had heard about.

Children were told that their work would be sent to CR Civil Engineering, who would provide feedback – both about their work and to show how powerful forces are used in the heavy equipment they use on major construction projects around the country, ranging from motorways and railways to airports and flood defences.

Feedback involved photographs and short video messages from the company's head of maintenance for the firms huge fleet of heavy equipment.

Benefits for the Students

- Before the project, some children thought Engineering was not interesting, '…because it's just building and stuff', as one child put it.'
- 'I felt kind of nervous because you never know if they're going to like your work or not … because civil engineers know more about forces and equipment, so they know if it's going to be right or wrong.'
- - I am more interested in this kind or work because, '… I thought Engineering was just one job, but it turns our there's more.'

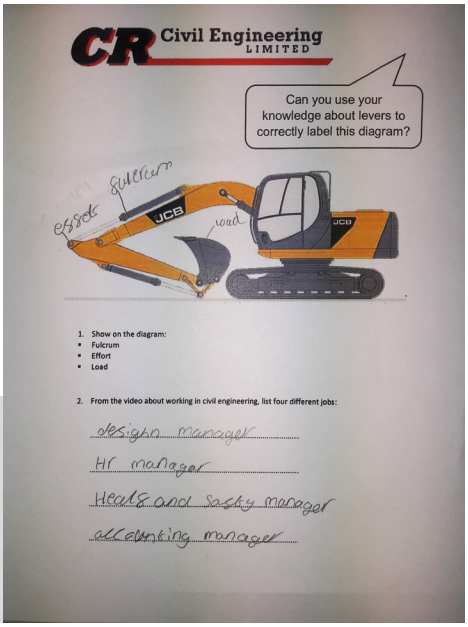
Benefits for the School

- - In addition to the Science topic of Forces, the school identified other curriculum content that would benefit from being brought to life, including 'Greece and Greek Culture' and 'Belief in our Community'.
- - As part of the feedback, CR Civil Engineering committed to send an invitation to Redwood Primary School for an experience day later in the year, when children can try their hand at using some of the heavy construction equipment.

CR Civil Engineering LIMITED

Benefits for the Employer

- - CR Civil Engineering is a successful company and, at the time of the project, was fully committed to many major contracts. This project required no staff to visit the school, but still enabled the firm to have an impact on a whole year group.
- - The company has a strong commitment to corporate social responsibility and promoting careers in their industry sector. This project helped to raise awareness about the range of career paths among children well ahead of when they need to make course choices.



Year 5 children applied what they had learned in the classroom about Forces and different kinds of levers to a task set by CR Civil Engineering. They also showed what they had learned about different job roles in the Construction industry. Their work was sent to the engineering company, who demonstrated the fulcrum and forces involved in using a real mechanical digger.

Strategic Commitment - Part of a Derby Opportunity Area careers initiative
Curriculum Provision - Supporting the year 5 Science topic of 'Forces'
Employer Partnerships - Engaging a busy local civil engineering company
Reflective Young People - Evaluated as part of the 'Our Future Derby' programme
Informed Career Choices - Changing perceptions about careers in Construction