

# Electricity & Electromagnetism

## Applications of electromagnets



 210 Year 8 students

### Objectives



Increase student's science capital through engagement with employers



Students become aware of and inspired by career and progression opportunities available to them linked to the industries they have explored



Students explore a range of applications of electromagnets across a range of industries



Students develop practical skills and understanding of how circuits and electromagnets work through practical experiments

### Learning activity

#### Electricity and Electromagnetism topic learning in school lessons

Students develop knowledge of how electromagnets work in their science lessons

#### Exploring applications of electromagnetism

Students met with employers in medical, mechanical and creative industries to discover a range of applications of electromagnets as well as exploring different careers and pathways into each industry

#### Industry led practical activity

Students engage in practical activity to apply their learning from lessons to real world applications of electromagnets. Students created a working speaker, built circuits with relays, and made models of an MRI scanner

#### Visits to Komatsu and Newcastle College (Performance Academy)

Opportunity to meet employees and experience the workplace and technical equipment. Opportunity to meet students and explore a Further Education College

### Outcomes



of students enjoyed linking their learning in science lessons to a practical project with an employer



of students felt that working on a project with an employer helped them to understand the importance of science in the world of work



of students felt they had learnt about new roles in STEM



Decrease in the number of students with a perception of having to be highly academic to work in a STEM related job

### Feedback

"We believe that STEM-based education teaches children more than science and mathematics concepts. The focus on hands-on learning with real-world applications helps develop a variety of skillsets, including creativity and problem solving. Our apprentices and young employees are the future of Komatsu and we hope to inspire young people across our region to pursue a career in engineering."

Komatsu

"We decided to get involved with this pilot to inspire our students to consider and pursue careers in STEM. The range of partnerships we have developed and the activities we have been involved with have opened our students' eyes to new jobs in STEM. We can't wait to continue this partnership in the future!"

Callerton Academy

"As a result of visiting Komatsu, meeting engineers and employees from across the company and working with them in our practical, I feel my future opportunities and job choices are now more open."

Student