

## Case study: Derby STEAM – Destination Rail – Primary Project



### Derby Opportunity Area

Funded through the Department for Education Opportunity Area programme.

### The Challenge

The Derby Opportunity Area commissioned a programme of STEAM grants to support the following objectives for young people in the city:

- Provide a positive image for children and young people of STEAM subjects.
- Improve academic outcomes in STEAM subjects, especially for disadvantaged children and young people.
- Improve the employability skills of children and young people.
- Strive for a better diversity in children and young people following STEAM subjects by tackling pre-existing stereotypes about careers in STEAM.
- Create STEAM partnerships between learning providers.
- Encourage engagement in additional curricular experiences in STEAM.
- Improve early years' provider, school, college, or learning provider based teaching and learning in STEAM.
- Create positive pathways in STEAM.
- Build a strong evidence base of effective STEAM practice which includes the voice of children and young people.
- Build partnerships between learning providers to ensure sustainability of partnership working.

Learn by Design submitted three proposals in response to this, one of which was our Destination Rail Primary project.

### Our Solution

The provision was:

#### Stage 1

##### 'Destination Rail: Departure Day – All Aboard'

A whole school STEAM event day. The school became a railway station with a carousel of activities for the pupils to explore job roles that enable a station to function. These ranged from signalling, customer service, catering, policing, engineering, driving, and logistics.

All activities were designed to demonstrate how STEAM skills are involved in each of these roles. It included a range of learning styles to excite and engage the pupils including interactive games, role play and exploring new technologies.

Activities were supported by employer ambassadors from the rail industry.

#### Stage 2

##### 'Destination Rail: The Journey – On Board and On Schedule'

This was an embedded curriculum project for two year groups – years 4 and 5 – spanning a six-week period.

Each class was on a train journey for the six weeks. During this time they faced a weekly STEAM challenge that highlighted a career opportunity linked to the rail industry. This allowed them to develop the D2N2 employability skills of self-motivation, self-confidence, being aspirational, being informed, being aware, achievement, responsibility, resilience, and entrepreneurial skills.

The activities also linked to the Key Stage 2 curriculum and helped to develop the children's portfolio learning and enquiry learning skills.

#### Stage 3

##### 'Destination Rail: The Arrival and What Destination Next'

This was due to be a final whole-school day to celebrate each class reaching their destination.

During the day they were going to work with rail ambassadors to explore routes into careers in rail.

Due to the COVID-19 outbreak we were unable to deliver these days but instead we developed a suite of materials that could be used by the schools to send out to parents for home learning.

These are hosted on our Learn by Design website.

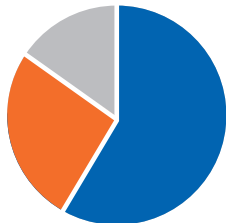
# The Schools Involved

## Feedback

### Learner feedback:

Feedback from the learners was gathered on the first day. We have been unable to gather the impact data from the final day due to COVID-19.

Do you know what STEAM stands for?



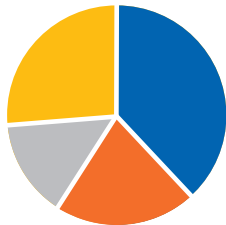
■ Yes ■ No ■ Maybe

Would you consider a career in Rail?



■ Yes ■ No ■ Maybe

How much do you know about the many careers there are in rail?



■ Nothing ■ A little ■ Don't know ■ A lot

Have the activities made you feel more positive about yourself and your skills?



■ Yes ■ No ■ Maybe

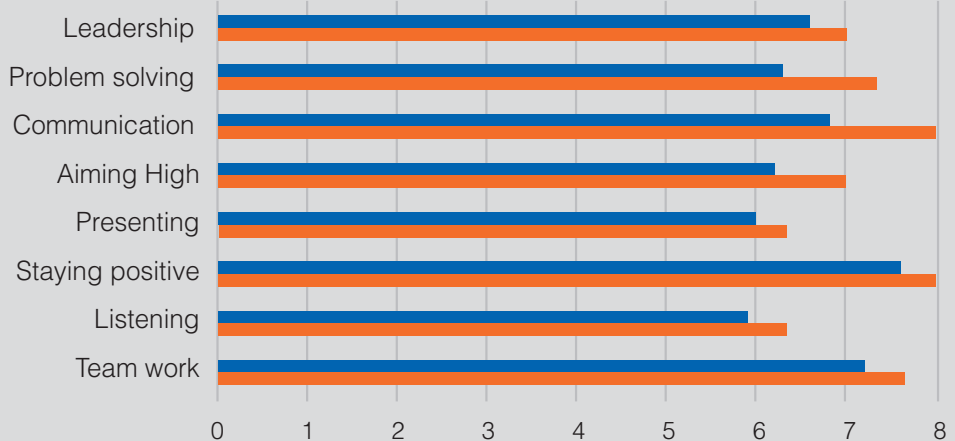
The schools in the project had a high proportion of disadvantaged and vulnerable children on their year 5 roll. Learner attainment was at or below average in mathematics and reading, with only one school above average in writing skills.

Most of the schools had and a higher-than average number of learners accessing free school meals and a higher-than-average number of pupils with special educational needs. The activity was run with all children within the school, but this group was especially integrated and supported within the activities.

## Impact on Employability skills

### Teacher feedback:

■ Pre workshops  
■ Post workshops



"Excellent content, very relevant. Very engaging facilitator, good rapport with students delivered in a way that students easily understood. Very easy to book and efficient service."

"Excellent workshop the balance of information, videos, activity and practical is perfect..."

"Students who are often short of attention span were very engaged. Well-presented and pitched at just the right level for the age group. Informative and entertaining."