

## Introduction

HS2 Ltd's Education Programme forms part of HS2's broader approach to create skills and employment opportunities. It aims to educate students and their families about HS2 and the employment and training opportunities it will create and support.

The secondary schools programme aims to stimulate secondary students' interest in Science, Technology, Engineering and Maths (STEM), particularly with groups traditionally under-represented in the transport infrastructure sector and help to promote relevant career pathways.

## HS2 Secondary Workshops

Schools are invited to host specially developed interactive workshops, led by trained facilitators, comprising a full day's worth of activities for up to 60 students.

The workshops highlight the 'EPIC' nature of the challenges that engineers face and showcase the creative, technology-driven solutions used in rail and infrastructure industries.

Throughout the day, students will participate in practical engineering and design challenges and have the chance to explore the latest technology in augmented reality on tablet devices and learn about the skills required to build and manage aspects of their own high-speed rail network.

The overarching narrative is to embed early employability skills across each of the workshops activities and to help students to learn about and reflect on their own *STEMPowers* developing career ready skills and improve their knowledge about sustainability, design and construction.

The workshop structure is detailed below. However, If you would like further information please contact Racheal on [HS2EPICWorkshops@zincmedia.com](mailto:HS2EPICWorkshops@zincmedia.com).

Tablet devices are supplied and activity timings are flexible to accommodate the school day.

Additionally, schools may request an optional twilight session for teachers and support staff introducing the HS2 STEM resources and a toolkit for widening participation in STEM careers for students.

## Workshop Structure

Sequence	Approx. Duration	Content
1	30 mins	<p><b>Induction: Welcome to the Team</b></p> <p><b>Purpose:</b> Students will self-examine and reflect on their skills and attributes and understand how these can be used as <i>STEMPowers</i>.</p> <p><b>Activity overview:</b> After a film introducing the HS2 project, students will be inducted to the EPIC team, with the rules for the day and a session plan. Students will be introduced to the wider context of the project, including transport infrastructure careers.</p>
2	40 mins	<p><b>Induction: Joining the Team</b></p> <p><b>Purpose:</b> Students meet the EPIC team and understand how their own <i>STEMPowers</i> could lead to STEM careers.</p> <p><b>Activity overview:</b> Students use Augmented Reality app (HS2 EPIC Engineers) to explore the characters' career roles.</p>

Sequence	Approx. Duration	Content
3	40 mins	<p><b>Stations of the Future</b></p> <p><b>Purpose:</b> Students design a railway station of the future, applying their understanding of STEM career roles and developing their teamwork, creativity and communication skills.</p> <p><b>Activity overview:</b> Students take on the role of either a Civil Engineer, Customer Experience Designer, Environmental Advisor or BIM Technician, and create a design proposal for a station of the future. They present their designs as a group.</p>
4	1hr 40 mins	<p><b>Purpose:</b> Students apply their <i>STEMPowers</i> to solve a real-world design and make problem.</p> <p><b>Activity overview:</b> Students build a railway tunnel structure and test its stability, undertaking a full design and make challenge, exploring design and modelling, including 3D printing and prototyping and its effect on modern engineering practice.</p>
5	1hr 30 mins	<p><b>Rail Rush! Board Game</b></p> <p><b>Purpose:</b> Students apply their <i>STEMPowers</i> and understanding of STEM careers to grow and manage a rail network</p> <p><b>Activity overview:</b> Students must use their STEM skills and information from across the day to make strategic, ethical and cost decisions, working in collaboration to make a rail network for Britain.</p>
6	15 mins	<p><b>Wrapping Up</b></p> <p><b>Purpose:</b> Students will reflect on how their <i>STEMPowers</i> have grown and decide on next steps to a STEM career.</p> <p><b>Activity overview:</b> Students will be asked “What have you learned?” and asked to reflect and evaluate on their progress. Identifying new skills learned, students will consider how they could embark on a STEM career, linking skills demonstrated to career pathways, and linking to the Welcome to the Team session.</p>