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YORKSHIRE

ESERO Exploring Earth Orbit Data for a Sustainable Future

Event Summary

Stage 1, 22 Mar 2026

Stage 2, 22 Jun 2026

Celebration Event, 14 Jul 2026

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Introduction

The Exploring Earth Orbit Data for a Sustainable Future programme comprised three linked events designed to inspire primary and secondary pupils through space, sustainability and creative learning. The first event introduced satellite missions, model building, launch simulation and data transmission. The second focused on interpreting real Earth observation imagery, experimenting with sensors and exploring how satellite data can support environmental monitoring and better transport choices. The final celebration event brought pupils, teachers, families, STEM ambassadors and project partners together to showcase students' work, share learning and highlight careers in space, science, technology, engineering, arts and mathematics across Yorkshire and Humber.

Schedule

Exploring Earth Orbit Data for a Sustainable Future
Halifax Academy and Greetland Academy

Agenda

Stage 1: Introduction to Satellites and Space Missions
The first event introduced pupils at Halifax Academy and Greetland Academy to the fundamentals of satellites, including how they are designed, launched, controlled and used to collect information about Earth. Through practical activities, pupils developed their own satellite mission concepts, built model satellites and explored how information is transmitted from space to ground stations.

Stage 2: Earth Observation and Sustainability
The second event focused on how satellite imagery and sensors can be used to understand environmental change. Pupils interpreted Earth observation images, explored air-quality monitoring and considered how transport and travel choices affect carbon emissions. The activities connected space technology with local sustainability challenges and encouraged pupils to develop ideas for creating a greener community.

Celebration Event: Celebration and Rocket Launch
The final event celebrated the pupils' achievements and gave them an opportunity to present their projects to teachers, families, STEM ambassadors and programme partners. Pupils shared their satellite designs, environmental ideas and creative work before taking part in an exciting rocket-launch activity. The event reinforced their learning, recognised their teamwork and promoted future education and career opportunities within the space and STEM sectors.

Programme

Speakers and Exhibitors came from 6 organisations.

Three academic institutes

One regional Space coordinator

Two Space businesses

Figure 2: Teams delivering the event

Impact

Stage 1: Introduction to Satellites and Space Missions

The event increased pupils' curiosity, confidence and interest in space, satellite technology and STEM careers. Hands-on mission design and model-building activities made complex engineering concepts easier to understand. Pupils also strengthened teamwork, creativity and problem-solving skills, helping them recognise how satellite systems connect with everyday life and future career opportunities.

Stage 2: Earth Observation and Sustainability

The event improved pupils' understanding of how satellite imagery and environmental data can support sustainability. By examining air quality, environmental change and transport choices, pupils strengthened their data interpretation and critical-thinking skills. The activities encouraged them to connect space technology with local challenges and consider practical actions for greener communities.

Celebration Event: Celebration and Rocket Launch

The final event increased pupils' confidence and pride by giving them an opportunity to present and celebrate their work. Sharing projects with teachers, families, STEM ambassadors and partners strengthened communication skills and community engagement. The rocket-launch activity created a memorable conclusion and increased awareness of future space and STEM pathways.

Summary

The outreach series delivered three engaging events at Halifax Academy and Greetland Academy, introducing primary and secondary pupils to satellites, Earth observation and environmental sustainability. Through mission design, model building, satellite-image analysis, sensor activities and rocket launches, pupils explored how space technology can address real-world challenges. The programme also connected pupils with university space teams, researchers, STEM ambassadors and industry experts from across the region, giving them access to current knowledge, practical guidance and authentic career insights. It strengthened confidence, creativity, teamwork and problem-solving while raising awareness of future opportunities in space, science, engineering and technology.

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Connecting, promoting, and guiding innovation.

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