



Explore
Create
Inspire

INSPIRE THE
NEXT GENERATION
**of scientists
and engineers**

AIRBUS **FOUNDATION**

**DISCOVERY
SPACE**

In partnership with
North Hertfordshire College

Our unique education centre leverages the inspirational power of the ExoMars Project to inspire the next generation of scientists and engineers.



EDUCATION PROGRAMME

We offer school trips and group bookings that galvanize young people to consider a career in science, technology, engineering and maths.

Our education programme is linked to key stage 2 and 3 curriculum and is designed and delivered by North Hertfordshire College and tailored to each group's needs.

Our centre has three state-of-the-art discovery zones that provide a rich, interactive experience – complemented by exclusive access to the Mars Rover Yard, where you can witness history in the making.

Our discovery zones include:

- **Learning zone:** for presenter-led, hands-on activities and science shows
- **Interactive zone:** where visitors can get hands on with our exhibits which cover the themes of space, energy, materials, maths, forces and magnetism.
- **Industry zone:** Industry zone: where visitors can see how the STEM subjects link to careers and the world around us. This area also provides viewing access to the Mars Yard where visitors can actually see Airbus scientists and engineers building and testing the next Mars Rover as part of the ExoMars project.

WHAT WE OFFER

We offer a wide range of shows and activities, linked to key stage 2 and 3 curriculum. These are led by our amazing STEM experts who have already inspired thousands of budding scientists and engineers!

Our interactive science shows cover diverse topics including sound, magnetism and even the science of bodily functions. Our shows keep visitors on the edge of their seats and there are always loads of opportunities for audience participation!

We have a wide range of 'make and take' activities where visitors follow instructions to produce their own take-home item such as real slime, a kaleidoscope or a splatter-patterned bag made with paint rockets!

Our investigation workshops encourage visitors to observe, analyse and experiment. Our varied selection of workshops includes the opportunity to design, make and race balloon powered cars, conduct a blood pattern analysis or even develop programmes for Lego Mindstorm.

The number of activities available in one visit is dependent on time constraints and we'll help you choose a schedule to suit your group's requirements.

OUR PROGRAMME OF ACTIVITIES

Admission to our centre gives you automatic access to our interactive zone. You can also select an assortment of additional shows, workshops and make and take activities, from the pick 'n' mix menu below.

ADMISSION - BASIC FEE

£3.50 PER CHILD

- This includes entry to facility, use of exhibits and access to Mars Yard Viewing Gallery.

PICK 'N' MIX ACTIVITIES

To be selected and booked in advance.

SCIENCE SHOW: £1 PER CHILD

- Entertaining interactive presentation.
- 30 – 45 min

MAKE AND TAKE - ELEMENTARY: £2 PER CHILD PER ACTIVITY

- Provides each child with a take-home item.
- 30 – 45 min

INVESTIGATION WORKSHOP: £4 PER CHILD PER ACTIVITY

- Activity based around investigation, experimentation, problems solving or upskilling, focusing on specific aspects of STEM.
- Build, test and improve structure.
- 60 – 90 min with a break. Allows opportunity to develop team building and problem solving skills.

MAKE AND TAKE - ADVANCED: £3 PER CHILD PER ACTIVITY

- Presenter led, step-by-step instructions to produce a curriculum linked item, more material-heavy.
- Provides each child with a take-home item
- 45 - 60 min

GIFT BAG

£3 PER BAG

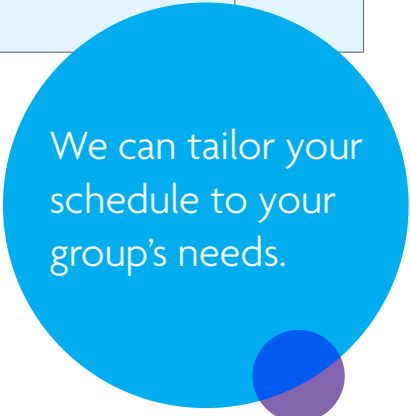
- This is a combination of three items from our gift shop linked to the workshops/sessions.
- Each item has learning value as well as being really fun.



TIMETABLE EXAMPLE

An example timeframe for a visit would look similar to the following.

Time	Activity	Content	Duration
9.45am	Arrival and briefing	Meet group at the door; deposit coats and bags, use toilets and lead into presentation area. Activity Leader to introduce self, team and facilities and welcome visitors. Health and Safety and rules of behaviour outlined, then introduction to specifics of the day.	10 min
10.00am	ExoMars Project	Presentation of the ExoMars Project, including viewing of the Mars Yard Test Area.	30 min
10.30am	Exhibits	Time to engage with our interactive Exhibits.	30 min
11.00am	Activity	Make and Take: Elementary and/or Advanced	60 min
12.00am	Lunch	Lunch and time with interactive exhibits.	45 min
12.45pm	Activity	Investigation Workshop	90 min
2.15pm	Evaluation and Debrief	General recap of day, completion of evaluation forms and organisation of coats and bags before departure.	15 min
2.30pm	Departure		



We can tailor your schedule to your group's needs.

OUTREACH

We can bring some of our activities to your school or organisation. For more information, or to book an outreach visit, contact us at airbusdiscoveryspace@nhc.ac.uk or give us a call on 01462 443050.

SCIENCE SHOWS

£1 PER CHILD

Our interactive science shows cover diverse topics including sound, magnetism and even the science of bodily functions! Our shows keep visitors on the edge of their seats and there are always loads of opportunities for audience participation. Each show lasts 30-45 minutes and can be adapted to your requirements.

COULD IT BE MAGIC?

Great fun for all ages. This show is a lucky dip of science tricks and trivia such as pushing a skewer through a balloon. Could it be magic? Do not be deceived, this is pure science.

KITCHEN CHAOS

A wonderful presentation based around kitchen science, using stuff that can be found in the home. Largely chemistry based and suitable for a wide range of ages.

OPPOSITES ATTRACT

A great way to either introduce or conclude the theme of magnetism. We use interactive demonstrations and lots of audience participation to explore the magic of magnetism.

WHAT'S THE MATTER?

Have a closer look at materials, scrutinize solids, look into liquids and get excited about gases. Through this show we classify materials and how we can change their behaviour.

SHINE A LIGHT

We completely black out the room for this exciting show introducing and exploring the theme of light.

STORIES AMONGST THE STARS

Using a star projector, we look at the constellations and learn about the stories that give the stars their name.

THINGS THAT MAKE YOU GO EEUWW!!!

Fantastic show investigating bodily functions; taking a closer look at all the slimy, smelly, disgusting things that our bodies do every day to keep us well and healthy.

WALL OF SOUND

Awesome show exploring sound, where it comes from, how it travels and how we hear it. Non-stop noise from beginning to end.

WORLD IN MOTION

Highly interactive show investigating forces through Sir Isaac Newton's laws of motion. We use rockets and a bed of nails, requiring lots of help from the audience.

BOOKABLE ACTIVITIES

Our make and take activities offer opportunities for hands-on learning. Our visitors follow instructions to make an item to take away that demonstrates a relevant STEM concept, with links to the curriculum.

MAKE AND TAKE ELEMENTARY £2 PER CHILD PER ACTIVITY

BALANCING BUTTERFLIES

This activity investigates forces, especially gravity and centre of balance. With investigative opportunities this beautifully basic activity is a great way to kick start or conclude a project. Requires some dexterity, suitable for all ages and abilities.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, E

BECAUSE THE LADY LOVES MILKTRAY

Investigating forces and the power of friction. Pupils make a figure and device to help it climb up string using friction to keep it in place. Some dexterity and fine motor skills required, more appropriate for younger pupils.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S

BIGGEST BANGERS

Creating and testing paper bangers to see who can make the loudest noise.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: S, T, E, M

ORIGAMI SPACE SHAPES

Use maths to create stars, rockets and spheres by folding paper. A good introduction to angles and the use of protractors.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, T, M

ROCKET MAN

An amazing workshop examining the science of rockets. We look at the shape and structure of rockets and how to make them fly efficiently. A pressure cylinder is used to launch paper rockets, built by the pupils, helping them achieve great height. Requires some dexterity.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, E

SCRATCH - GAME PROTOTYPE

We offer a range of activities introducing scratch as a basic form of programming. This particular activity allows pupils to build their own prototype computer game. They develop their game further using scratch, python or java on return to school.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: T, M

SEEING IS BELIEVING

We make a thaumatrope to demonstrate how the way we see things can create great optical illusions. Either by following a template or creating their own design, pupils can make their own thaumatrope to take home and astound their friends and family. Some dexterity required to create shapes, suitable for all abilities.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: S

SLIME TO GO

We use simple household materials to make a brilliantly rubbery polymer. Investigating materials and chemical reactions. This workshop is great fun and provides a versatile take home product which can be used in further science experiments. A fabulously simple workshop for all abilities.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, E

TALKING HEADS

This can be a great cross-curricular link activity, as well as offering a great basic introduction to computer animation. It allows pupils to animate pictures of celebrities, to say anything they like! It can be used to create adverts or quote from literature, to fit in with other school projects.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: T, M

WHISTLE WHILE YOU WORK

This activity sets up a great class investigation to take back to the classroom. Based on the concept that movement creates sound, pupils will make items that require them to blow through them to make a whistling noise.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S

YOUR FACE OR MINE

Using CSI face building software programme to utilise observational skills. This activity offers great links to English and characterisation projects.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: S, T



BOOKABLE ACTIVITIES

MAKE AND TAKE ADVANCED £3 PER CHILD PER ACTIVITY

ALKA-SPLAT ROCKETS

For this activity we provide each pupil with a fabric bag and a rocket. We use fabric dye and a secret scientific ingredient to launch the rocket. The chemical reaction takes between 30 seconds to two minutes and sends the rocket flying into the air, leaving a wonderful splatter of colour on the bag. Some motor skills required to participate, wonderfully amusing for spectators. Adult supervision is required for younger pupils.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S

BATH BOMBS

Learn about materials and scientific processes by creating beautifully aromatic bath bombs. Pupils will measure specific amounts and gain an understanding of the terms, soluble, dissolve, mixture and compound.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, M

CAUGHT ON CAMERA

A superb way of looking at light, materials and invention. Pupils will each make their own camera obscura, which will reflect light to project images onto a small screen. Offers great opportunities for follow up investigations on light, reflections and historical technology. Some dexterity required, with adult supervision. More suitable for KST2.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, E, M

DNA BRACELETS

This activity offers a great introduction to the subject of genetics and inheritance. Using a code created from amino acids, pupils will each make a bracelet that spells their name using coloured beads. Each pupil gets to keep both their bracelet and their decoding sheet, providing opportunities for further discussion of DNA. Dexterity and motor skills required.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, M

EARTH ORBIT

Create an ornery style model of the sun, earth and moon to demonstrate how they move relative to each other, the idea of day and night and why we can only see the moon at night.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, E, M

ELASTIC BAND ROCKET

Make slingshot style rockets to investigate forces, energy and projection.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, E, M

EYE-SPY PERISCOPES

This workshop explores light and reflection, making a nifty periscope to peer around corners and use in extended play and investigation. Some dexterity required, additional adult support may be necessary for younger pupils.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, E, M



HAIRY HARRY

In this workshop, pupils will create a face using iron filings and magnets to arrange the hair. A very attractive way to learn about magnetic forces. Requires some dexterity and precision, adult supervision required for younger pupils.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, M

HONEY I SHRUNK THE SHRINKIES

Design a key ring or magnet using plastic with an unusual property – it shrinks! Pupils are provided with a sheet of special plastic, on which to draw their very own design. Using special equipment, we will apply heat to the material, which will shrink it to 1/6 of its original size. Requires some fine motor skills.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S

IMMA-BEE

A tricky activity providing great scope for investigation back in the classroom. This workshop examines the principles of sound being a product of vibration by creating a lasso-like device to produce a buzzing sound. Some motor skills required to participate.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, T, E, M

KALEIDOSCOPE EYES

A brilliant activity looking at light, colour and reflection using kaleidoscopes. Each pupil will make their own kaleidoscope to take home with them. Requires some dexterity and precision, adult supervision required for younger pupils.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, E

LIGHT UP BUG

A brilliant workshop investigating electricity and materials. Each pupil will create a bug with antennae that can detect whether a material can conduct electricity or not. If the material is right, the bug's face

will light up. Dexterity and fine motor skills required.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, T, E, M

LIGHT UP ROBOT CARDS

A really enlightening activity to help clarify the importance of circuits. Each pupil makes their own greetings card, with an in-built circuit and switch. Great at any time of the year, but especially suitable in the lead up to public holidays. Dexterity and fine motor skills required.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, T, M

MAPPING THE SOLAR SYSTEM

Pupils will create a linear map of the solar system, demonstrating relative distances between the planets and the sun.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, E, M

MARS TOPOGRAPHY IN A TEST TUBE

This fantastic workshop helps to introduce the concept of the geography of Mars. Using layers of coloured granules, pupils are able to make their own cross section demonstrating common factors of terrestrial planets. Some dexterity required.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, M

MOON PHASE BOX

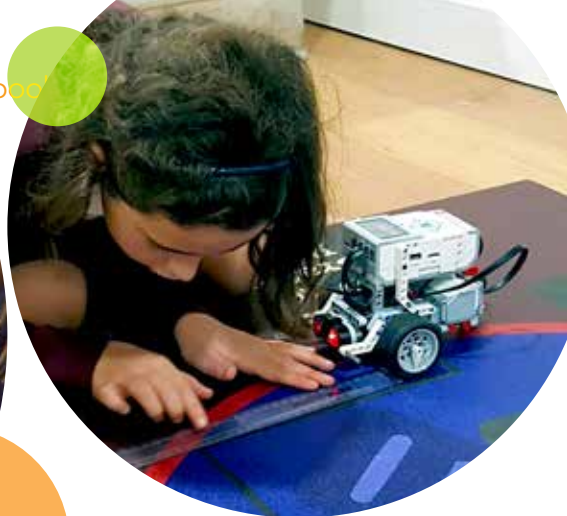
Pupils will create a "moon" in a box with light and viewing holes in the sides to demonstrate the phases of the moon.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: S, E, M

REPULSIVE ZOETROPES

For this activity pupils will be making a zoetrope, using magnets to reduce friction. A brilliant way to see magnetic forces at work.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: S, T, E, M



SOLAR SYSTEM REMEMBERALL

Pupils will create a map of the solar system using beads as a constant reminder of the different planets, their names, characteristics and the order in which they are removed from the sun.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, E, M

SUNCATCHERS

This is a brilliantly creative activity, suitable for a wide range of abilities, allowing pupils to investigate light, colour and materials. Pupils will use a special liquid to produce decorations that look and feel like stained glass.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, E

THE HAND

This is an excellent activity to help pupils begin to understand skeletal structure and its purpose. Each pupil will make their own moving hand, which will help them get a grip on how the bones and muscle structure works. Dexterity and motor skills required.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, E, M

THE LIGHT-FAN PLASTIC

Using 'polymorph', a smart material, we mould shapes, which will cool and solidify to be made into a key ring. To this we add a special pigment which appears to be one colour during the day light, but changes colour and glows at night. A great way to investigate both materials and energy. More suitable for older pupils due to the use of hot water. Some motor skills required.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: S, T, E

WACKY RACERS

We use balloons to demonstrate the third law of motion by designing, making and racing balloon powered cars. A great way to get excited about forces and put theory into action. Requires some dexterity and precision, some adult supervision is also required for younger pupils.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, E

BOOKABLE ACTIVITIES

INVESTIGATION WORKSHOPS £4 PER CHILD PER ACTIVITY

ANIMATION CREATION

This can be a great cross-curricular link activity, as well as offering a great basic introduction to computer animation. This activity offers pupils the opportunity to work in groups to create their own stop motion animation, working through idea development and storyboards, through to the finished product. This can be used to create animations to fit in with other school projects.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: S, T, E, M

BIG BANG INVESTIGATION

This workshop is all about investigating the link between movement and sound, as well as emphasising the importance of working scientifically. Pupils will make and test paper bangers, using a variety of papers, while measuring the volume of the sound.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: S, T, E, M

BLOOD PATTERN ANALYSIS

Use CSI skills to utilise maths skills such as measurements and finding averages.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: S, M

BUBBLES

A magical activity investigating bubbles; their shape, what they are made of and what is inside them. In this activity, pupils will test out a variety of bubble wands made in the session, using a special, strong bubble mix. Each child will need to bring an empty 500ml bottle, so they can

take some bubble mix home with them. Suitable for all abilities.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, M

BUILD A BRIDGE

Design and create a bridge that will span a certain distance (1.5 metres minimum) and hold as much weight as possible. Pupils have to “buy” equipment to complete the challenge.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, E, M

BUZZ WIRE

This fantastic activity is a great way to investigate circuits and electricity, allowing each pupil to make their own buzz wire game to take home. We make the games from scratch, some trouble shooting may be required, but this will help the pupils to better understand electrical circuits and conductivity. Dexterity, precision and fine motor skills required.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, T, E, M

FLOAT YOUR BOAT

We use a water tank for this activity. Teams have to design, build and test their own “boats” to hold as much weight as possible. They must stick to budget and “buy” materials from a limited selection.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: S, E, M

IMMA-BEE

A tricky activity providing great scope for investigation. This workshop examines the principles of sound being a product of vibration by creating a lasso-like device to produce a buzzing sound. Some motor skills required to participate. In this extended version pupils will have the opportunity to experiment with sound.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: S, E, M

MAGNETIC FIELD JAR

This activity involves some general experimentation with different types and strengths of magnet with a variety of magnetic/non-magnetic materials. As a conclusion, the pupils will assemble their own 3D demonstration of a magnetic field.

CURRICULUM LINKS - KST2 SUBJECT AREAS: S, M

MARS ATTACKS

This is a great activity for teamwork, maths and ICT skills. The activity can be adapted to suit time frame and ability. Using Lego Mindstorms, pupils will devise and programme prototype a mini Mars Rover to complete set challenges.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: S, T, E, M

ON A MISSION

This activity will involve programming and controlling mini Mars Rovers using Lego Mindstorms. Pupils will analyse rock samples found during their mission, replicating the work of the ExoMars programme.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: T, E, M

PIT STOP CHALLENGE

We use balloons to demonstrate the third law of motion by designing, making and racing balloon powered cars. This workshop allows time and opportunity to learn more

about resistance to forces. A great way to get excited about forces and put theory into action. Requires some dexterity and precision, some adult supervision is required for younger pupils.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: S, T, E, M

PRESSURE CYLINDER ROCKETS

Pupils will make paper rockets to be launched using pressurised air to investigate forces, air resistance and gravity.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: S, T, E, M

TRANSPORT TROUBLES

Based around the theme of balloon buggies, and working in teams, pupils are given the basic idea of how to build a car chassis and provided with other materials to devise a propulsion unit. Their challenge is to create a method of propelling a vehicle, with a payload to travel a certain distance.

CURRICULUM LINKS - KST2, KST3 SUBJECT AREAS: S, E, M



BOOKING WITH US

We can't wait to welcome you to the Airbus Foundation Discovery Space. If you'd like to book your visit, please call us on 01462 443050 between 9am-5pm Monday to Fridays or email airbusdiscoveryspace@nhc.ac.uk and we'll be in touch to firm up the details.

BOOK NOW

nhc.ac.uk/airbusdiscoveryspace

airbusdiscoveryspace@nhc.ac.uk
01462 443050



LOCATION

We're located on the same site as Airbus Defence & Space on Argyle Way just a short walk from Stevenage train station. We've got lots of parking if you're arriving by car or coach. Our entrance is around the corner from the Airbus Goods In deliveries entrance – look for the big sign on the wall!



Airbus Foundation Discovery Space, Argyle Way, Stevenage, SG1 2AD

OUR OPENING HOURS

Our usual opening hours are 9am – 5pm, Monday to Fridays in term time. All visits need to be booked in advance so please get in touch to arrange your group's visit.

FACILITIES

We're fully wheelchair accessible. If you have any questions regarding your group's specific needs please get in touch and we'd love to help.

We can provide an area for your group to eat your packed lunches. You'll need to bring your own food with you.

AIRBUS FOUNDATION

DISCOVERY SPACE



Hertfordshire
Local Enterprise Partnership