

# TECHFEST

Promoting Science, Technology, Engineering and Mathematics

Scottish Charity No SC010349

## PRIMARY OUTREACH WORKSHOPS 2025

For enquiries, please contact:

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# THANK YOU TO OUR SPONSORS, WHO MAKE PRIMARY OUTREACH POSSIBLE

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SPACE



ENERGY



FORCES



MATHS



ENVIRONMENT



THE HUMAN BODY



ENGINEERING

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# WORKSHOPS BY THEME

## SPACE



TECHFEST DOME: NIGHT AND DAY  
SCIENCE OF FLIGHT  
TECHFEST DOME: WE ARE STARS  
APOLLO 7 CHALLENGE  
TECHFEST DOME: THE NIGHT SKY  
MARS HERE WE COME  
RACING ROCKETS

## ENERGY



ENERGISING THE TRANSITION: ENERGY EXPLORERS  
WONDERFUL WIND  
ENERGISING THE TRANSITION: ELECTROMAGNETISM  
HAPPY HYDROGEN  
ENERGISING THE TRANSITION: BRIGHT IDEAS

## FORCES



ENERGISING THE TRANSITION: ELECTROMAGNETISM  
ISAAC'S BIG IDEA  
SCIENCE OF FLIGHT  
EUREKA MOMENT  
RACING ROCKETS

## MATHS



WILD ABOUT MATHS  
TIME TO TIME  
CODES AND CYPHERS  
MATHS AROUND THE WORLD

## ENVIRONMENT



CREATIVE CATERPILLARS  
WONDERFUL WIND  
FORCES OF NATURE  
TIME TO TIME  
POLLUTION INVESTIGATORS

## THE HUMAN BODY



GLORIOUS GERMS  
GRUESOME GUTS  
TERRIFIC TEETH  
DNA DETECTIVES

## ENGINEERING



K'NEX DINOSAURS  
AMAZING ABERDEEN  
GEOLOGY ROCKS  
K'NEX LIGHTHOUSES

**Booking Information:** If you would like to book one of our workshops, please contact us:

E: [jennytaylor@techfest.org.uk](mailto:jennytaylor@techfest.org.uk)

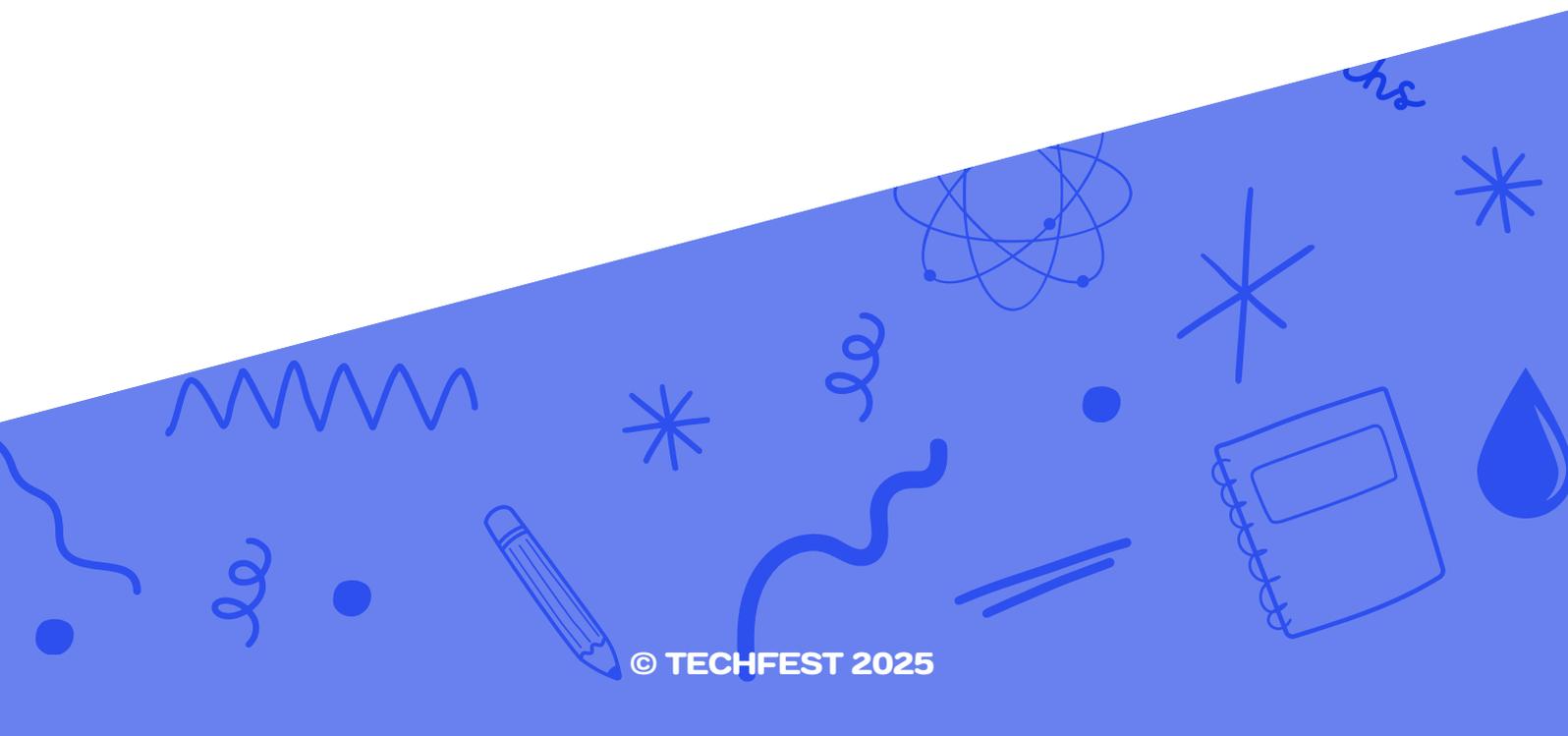
Maximum capacity for workshops: 33 pupils – please note there is no cost for staff

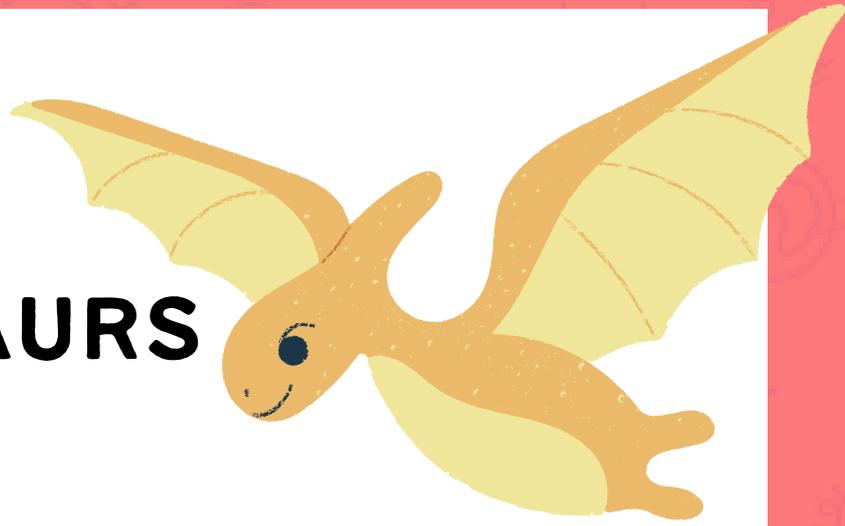
**Fee:** £76 per core workshop (min 2 to be booked) + mileage cost of £15 per day visit.

**Dome:** £96 per workshop + mileage cost of £15 per day visit. Minimum of 2 workshops to be booked either 2 x Dome or 1 x Dome and 1 x core workshop.

Due to the high cost of living we have had to take the hard decision to apply mileage costs to all our core workshops. To make it fair to all schools across the Aberdeen and Aberdeenshire area we have averaged out the cost to £15 and will place this on all bookings from 01 April 2023.

For schools outwith Aberdeen and Aberdeenshire, mileage is charged at 45p per mile and is calculated from TechFest offices (Butchart Centre, University of Aberdeen, University Road, Aberdeen, AB24 3UT).





# K'NEX DINOSAURS

## KEY CONCEPTS

An introduction to the fascinating world of engineering design. Kid K'NEX allows younger children to develop their construction skills and build up their creative confidence by producing their own unique model.

<b>AGE RANGE:</b>	<b>P1 - P2</b>
<b>RUNNING TIME:</b>	<b>60 MINUTES</b>
<b>CFE LINKS</b>	<b>TCH 0-12A, TCH 1-12A, TCH 0-14A, TCH 0-15A, LIT 0-09A, LIT 1-09A, LIT 0-10A, LIT 1-10A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• <b>CHAIRS FOR PRESENTERS AND ADULTS</b></li><li>• <b>OPEN FLOOR SPACE FOR PUPILS TO WORK AROUND BOXES</b></li></ul>

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**ENERGY**

# ENERGISING THE TRANSITION: ENERGY EXPLORERS

## KEY CONCEPTS

Welcome Energy Explorers! In this fun and interactive workshop learn about different types of energy and the various energy sources helping to power our world!

In this energy inspired workshop, pupils get the opportunity to explore the science behind energy, from oil and gas to renewables, and take part in hands-on activities. Join us on this exciting energy journey and discover more about the world around you!

<b>AGE RANGE:</b>	<b>P1 - P2</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES</b>
<b>CFE LINKS</b>	<b>SCIENCE, ENGINEERING, RENEWABLE ENERGY</b>
<b>WORKSHOP REQUIREMENTS:</b>	<b>CLASSROOM SET UP WITH SOME SPACE AT THE FRONT</b>

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# ISAAC'S BIG IDEA

## KEY CONCEPTS

Pupils will hear the story of Isaac Newton and learn how forces interact with objects. Through storytelling and a range of fun activities students will learn about different forces, and the role they play in everyday life.

<b>AGE RANGE:</b>	<b>P1 -3</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	<b>SCN 0-07A, SCN 1-07A, SCN 1-08A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• <b>PRESENTER CHAIR AND TABLE</b></li><li>• <b>CHAIRS AND TABLES FOR PUPILS TO WORK AT</b></li><li>• <b>FLOOR SPACE</b></li></ul>

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# **CREATIVE CATERPILLARS KEY CONCEPTS**

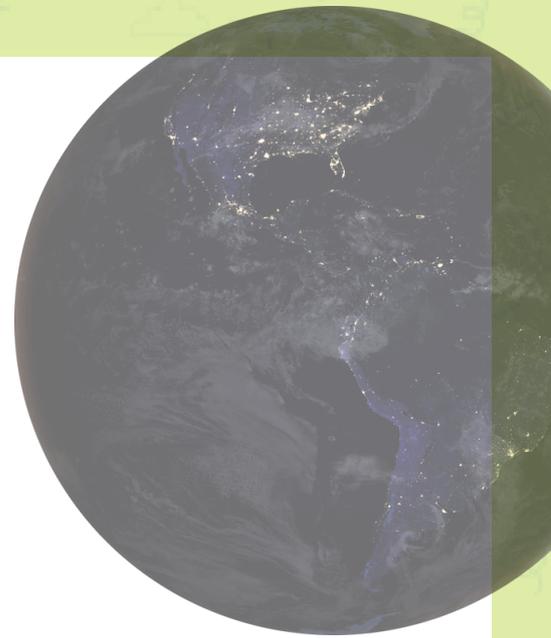
In this workshop the children will gain an understanding of the lifecycle of a caterpillar, based on the famous children's book 'The Very Hungry Caterpillar' by Eric Carle. The children will categorise the food that the hungry caterpillar ate in our story as well as other foods the children are familiar with in their everyday diet. The children will be getting their hands dirty creating wild seed mini gardens. Using the presenters scientific knowledge we will show the children how to grow a butterfly using basic household items.. We will be introducing symmetry using the butterfly as a reference in a fun and creative way.

<b>AGE RANGE:</b>	<b>P1-3</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	<b>MNU 0-01A, 0-02A, 0-19A, 0-16A SCN 0-01A, TCH 0-04A HWB 0-11A, 0-21A LIT 0-01B, 0-01C EXA 0-14A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<b>TABLES AND CHAIRS (APPROXIMATELY 6-10 CHILDREN AROUND EACH TABLE).</b>

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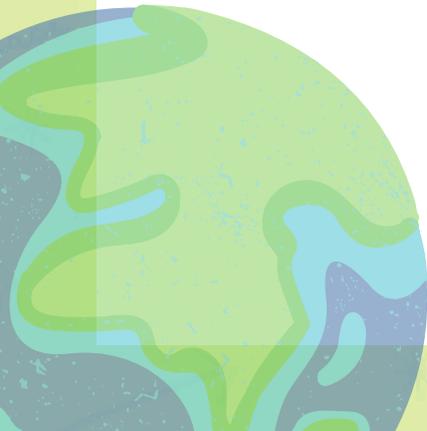


# TECHFEST DOME: NIGHT & DAY

## KEY CONCEPTS

What makes day and night? Where does the sun go at night? This show demonstrates how the Sun moves across the sky during the day in both summer and winter. Find the North Star, the Plough, Orion, Betelgeuse, and Sirius in the night sky and relate them to the Greek constellations.

<b>AGE RANGE:</b>	<b>P 1 -3</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES</b>
<b>CFE LINKS</b>	<b>SCN 0-06A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"> <li>• <b>FLAT, CLEAN, DRY, INDOOR AREA 6M X 6M X3.5M (MINIMUM)</b></li> <li>• <b>2X 13 AMP SOCKETS WITHIN 10M</b></li> <li>• <b>NO DIRECT SUNLIGHT ON THE DOME</b></li> <li>• <b>A QUIET LOCATION</b></li> </ul>





**MATHS**

# WILD ABOUT MATHS

## KEY CONCEPTS

Explore the Maths that can be found in the natural world, by looking at lots of legs! This fun interactive workshop covers the concepts of classification, number place, number bonds and addition.

<b>AGE RANGE:</b>	<b>P1-3</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES</b>
<b>CFE LINKS</b>	<b>MNU 1-02A, MNU 1-03A, MNU 1-20B, SCN 1-01A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• FLOOR SPACE FOR WHOLE CLASS TO SIT TOGETHER</li><li>• CHAIRS FOR PRESENTER AND ADULTS</li><li>• TABLES FOR ACTIVITIES IF POSSIBLE</li><li>• EXTRA ADULT HELP MAY BE REQUIRED FOR YOUNGER / LESS CONFIDENT READERS.</li></ul>



**equinor**



ENERGY



ENVIRONMENT

# WONDERFUL WIND P1-3



## KEY CONCEPTS

Introduces the basic concept of using wind to generate electricity, using poetry to set the context.

<b>AGE RANGE:</b>	<b>P1-3</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES</b>
<b>CFE LINKS</b>	<b>SCN 0-09A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• PRESENTER CHAIR AND TABLE</li><li>• CHAIRS AND TABLES FOR PUPILS TO WORK AT</li></ul>

**STROMAR**

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# FORCES OF NATURE

## KEY CONCEPTS

The workshop covers weather and climate, investigates climate change and considers how production of greenhouse gases might be reduced.

<b>AGE RANGE:</b>	<b>P2-4</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES</b>
<b>CFE LINKS</b>	<b>SCN 0-20A, SCN 1-20A, SCN 1-04A, SCN 0-05A / SCN 1-05A, SCN 2-05A, SCN 2-04B (TOUCHED UPON), SCN 3-04B (TOUCHED UPON)</b>
<b>WORKSHOP REQUIREMENTS:</b>	<b>THIS WORKSHOP INCLUDES A NUMBER OF CRAFT ACTIVITIES; SOME REQUIRE ACCESS TO CLASSROOM RADIATOR OR WINDOW ETC WHICH MAY NOT BE POSSIBLE. THEREFORE, THERE ARE ALTERNATIVES WHICH, IT IS HOPED, WILL MAKE IT POSSIBLE TO TAILOR THE ACTIVITIES TO THE AVAILABLE FACILITIES. THE CRAFT ACTIVITIES ARE ALL INCLUDED IN THE TEACHER RESOURCE DOCUMENT WHICH CAN BE LEFT WITH THE TEACHER IF SO DESIRED.</b>



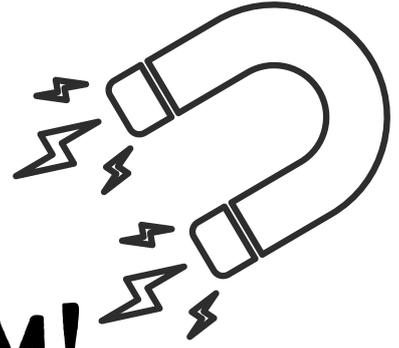


**ENERGY**



**FORCES**

# ENERGISING THE TRANSITION: ELECTROMAGNETISM!



## KEY CONCEPTS

Understanding the properties of magnets is central to the energy industry and to many aspects of our daily lives. In this hands-on investigative workshop, working in small teams, pupils discover the properties and uses of magnets and magnetism and are introduced to the amazing phenomenon of electromagnetism.

<b>AGE RANGE:</b>	<b>P3-P5</b>
<b>RUNNING TIME:</b>	<b>60 MINUTES</b>
<b>CFE LINKS</b>	<b>SCIENCE</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"> <li>• CLEAR SPACE FOR CHILDREN TO SIT,</li> <li>• TABLES FOR ACTIVITIES IF POSSIBLE.</li> </ul>



**CNOOC**



# AMAZING ABERDEEN

## KEY CONCEPTS

Pupils will look at the scientists and engineers who have made Aberdeen the incredible city it is. With focus on Charles Abercrombie and the work he did on building the Union Bridge and developing Union Street, the workshop will highlight to the pupils the interpersonal and transferable skills required to be an engineer.

The core skills in engineering we will explore include communication, teamwork, designing, planning, problem solving, time management, project management and creativity.

<b>AGE RANGE:</b>	<b>P4-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	<b>TECHNOLOGY, ENGINEERING, OTHER – LITERATURE LIT 0-02A / ENG 0-03A , LIT 1-02A, TCH 0-12A, TCH 1-12A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• <b>FLOOR SPACE FOR WHOLE CLASS TO SIT TOGETHER</b></li><li>• <b>CHAIRS FOR PRESENTER AND ADULTS</b></li></ul>

This workshop was developed with an Engineering Education Grant Scheme which is a joint funding programme between the Institution of Engineering and Technology and the Institution of Mechanical Engineers.



# GEOLOGY ROCKS

## KEY CONCEPTS

Get your hands on some exciting rocks in this interactive workshop, learn about natural processes that have shaped the surface of the earth and delve underground to explore

<b>AGE RANGE:</b>	<b>P4-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	<b>EARTH MATERIALS: TCH 1-024A, SCN 2-17A, SCN 3-17A PROCESSES OF THE PLANET: SCN 2-05A, SCN 3-05B, FORCES: SCN 2-08B PROPERTIES: SCN 2-15A EXPLORING USES OF MATERIALS: TCH 0-10A, TCH 1-PROPERTIES: SCN 2-15A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• <b>PRESENTER CHAIR AND TABLE</b></li><li>• <b>CHAIRS AND TABLES FOR PUPILS TO WORK AT</b></li><li>• <b>FLOOR SPACE</b></li></ul>

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# GLORIOUS GERMS



## KEY CONCEPTS

Plunge into the mysterious world of sickness and disease. Learn about the transmission of germs and how to protect your body. How long would you have lasted during an outbreak of the Black Death?

<b>AGE RANGE:</b>	<b>P1-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	<p><b>HEALTH AND WELLBEING (PHYSICAL WELLBEING)</b>  <b>HWB-1- 15A/HWB 2-15A &amp; HWB 1-16A/HWB 2.16A</b></p> <p><b>HEALTH AND WELLBEING (SAFE AND HYGIENIC PRACTICES)</b> HWB 1-33A/HWB 2-33A</p> <p><b>SCIENCES (BODY SYSTEMS AND CELLS) SCN 1-13A/SCN 2- 13A/ SCN 3-13C</b></p>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"> <li>• <b>PRESENTER CHAIR AND TABLE</b></li> <li>• <b>CHAIRS AND TABLES FOR PUPILS TO WORK AT</b></li> <li>• <b>FLOOR SPACE</b></li> </ul>

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**SPACE**



**FORCES**



# SCIENCE OF FLIGHT

## KEY CONCEPTS

Pupils will develop their technology skills in make-and-take flight activities. Learn about the science of flight and the concepts of thrust and drag, lift and gravity as we lift up, up and away in this interactive workshop.

<b>AGE RANGE:</b>	<b>P4-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES</b>
<b>CFE LINKS</b>	<b>SCN 0-07A, SCN 1-07A, SCN 2-07A, TCH 0-14A, TCH 1-14A / TCH 2-14A, TCH 1-14B / TCH 2-14B</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"> <li>• <b>CHAIRS FOR PRESENTERS AND ADULTS</b></li> <li>• <b>AREA FOR STUDENTS TO SIT AROUND PRESENTER FOR INTRODUCTION</b></li> <li>• <b>CHAIRS AND TABLES FOR STUDENTS TO WORK AT</b></li> </ul>



**MATHS**



**ENVIRONMENT**



# TIME TO TIME

## KEY CONCEPTS

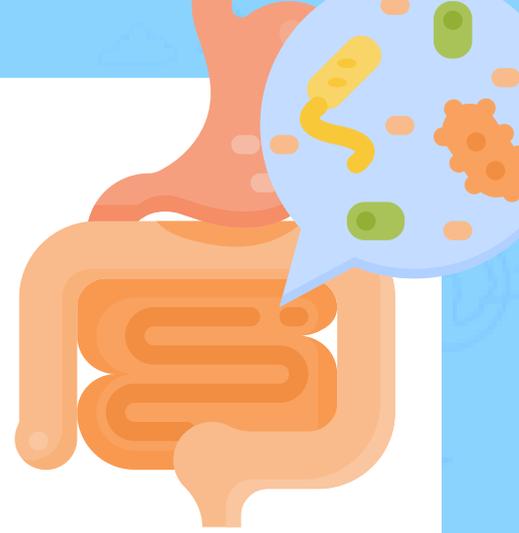
This workshop examines Time in the context of day length, seasons of the year and, finally the timeline of the universe.

<b>AGE RANGE:</b>	<b>P4-7</b>
<b>RUNNING TIME:</b>	<b>45-60 MINUTES</b>
<b>CFE LINKS</b>	<b>SCN 0-20A; SCN 1-06A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"> <li>• <b>PRESENTER CHAIR AND TABLE</b></li> <li>• <b>CHAIRS AND TABLES FOR PUPILS TO WORK AT</b></li> <li>• <b>ADDITIONAL TABLES AVAILABLE FOR SET UP OF EQUIPMENT.</b></li> </ul>

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# GRUESOME GUTS

## KEY CONCEPTS

Follow the journey of food from your mouth, through the acid bath in your stomach, along metre after metre of pulsating guts and out the other end! Find out how the body gets energy and nutrients from food, and what waste we leave behind. Children learn about the key organs and functions in the digestion system. The idea is that we follow the journey of a piece of food from the mouth all the way through the digestive system and out the other end.

<b>AGE RANGE:</b>	<b>P1-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	<b>HEALTH AND WELLBEING (PHYSICAL WELLBEING)</b> <b>HWB-1- 15A/HWB 2-15A &amp; HWB 1-16A/HWB 2.16A</b> <b>HEALTH AND WELLBEING (SAFE AND HYGIENIC PRACTICES) HWB 1-33A/HWB 2-33A</b> <b>SCIENCES (BODY SYSTEMS AND CELLS) SCN 1-13A/SCN 2- 13A/ SCN 3-13C</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"> <li>• <b>LARGE TABLE TO LAY OUT EXPERIMENTS</b></li> <li>• <b>AV TO PLAY YOUTUBE VIDEO (OPTIONAL)</b>  <a href="https://www.youtube.com/watch?v=UMNNA50IDIY">HTTPS://WWW.YOUTUBE.COM/WATCH?V=UMNNA50IDIY</a> </li> </ul>

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# TERRIFIC TEETH



## KEY CONCEPTS

A fun and interactive experiment investigating the science behind a healthy smile. Pupils will help scientists at the Bright Smile Toothpaste Company make and test a new, top secret toothpaste recipe. Examination of ingredients and simple experiments encourage pupils to build their investigative skills and scientific understanding.

<b>AGE RANGE:</b>	<b>P1-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES</b>
<b>CFE LINKS</b>	<b>SCN 0-07A SCN 1-07A SCN 2-07A TCH 0-14A TCH 1-14A TCH 2-14A TCH 1-14B TCH 2-14B</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"> <li>• <b>ACCESS TO WATER DURING SET UP AND TIDY UP</b></li> <li>• <b>FLOOR SPACE FOR WHOLE CLASS TO SIT TOGETHER</b></li> <li>• <b>WIPE CLEAN TABLES FOR MAKING TOOTHPASTE</b></li> <li>• <b>CHAIRS FOR PRESENTERS AND ADULTS</b></li> </ul>

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# TECHFEST DOME: WE ARE STARS



SPACE

## KEY CONCEPTS

Join us on an exciting adventure through space and time! Discover how tiny building blocks, like Hydrogen and Carbon, help make everything around us - even you! A long time ago, stars exploded and spread their special ingredients across the universe. Those same star pieces became everything on Earth, including us! Come explore the magic of the stars and how we are all made from them!

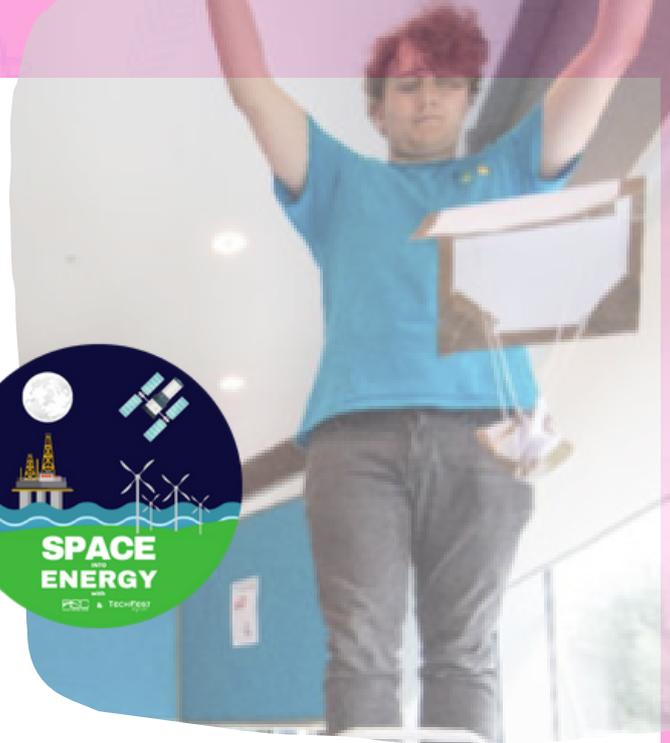
<b>AGE RANGE:</b>	<b>P1-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES</b>
<b>CFE LINKS</b>	<b>SCN 1-06A, SCN 2-06A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• <b>FLAT, CLEAN, DRY, INDOOR AREA 6M X 6M X3.5M (MINIMUM)</b></li><li>• <b>2X 13 AMP SOCKETS WITHIN 10M</b></li><li>• <b>NO DIRECT SUNLIGHT ON THE DOME</b></li><li>• <b>A QUIET LOCATION</b></li></ul>





SPACE

# APOLLO 7 CHALLENGE



## KEY CONCEPTS

Ensuring astronaut safety is one of the biggest challenges faced by NASA engineers. This workshop aims to facilitate pupils working as a team to apply physics and engineering principles in a dynamic and creative way to bring an astronaut safely back to Earth.

<b>AGE RANGE:</b>	<b>P4-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	<b>PLANET EARTH (SPACE) SCN-2.06A FORCES, ELECTRICITY AND WAVES (FORCES): SCN 3-08A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"> <li>• PRESENTER CHAIR AND TABLE</li> <li>• CHAIRS AND TABLES FOR PUPILS TO WORK AT</li> <li>• FLOOR SPACE</li> <li>• JUNK BOX MATERIALS; EGG BOXES, KITCHEN ROLL TUBES ETC</li> </ul>





**MATHS**

# CODES AND CYPHERS



## KEY CONCEPTS

Explore the enigmatic history of codes and cyphers in this hands-on session. Students will learn how to send secret messages and how they can be broken, inspired by dastardly deeds and historical intrigue.

<b>AGE RANGE:</b>	<b>P4-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	<b>MTH 1-12A, MTH 2-12A LIT 0-02A / ENG 0-03A , LIT 1-02A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"> <li>• <b>PRESENTER TABLE</b></li> <li>• <b>SIX WORKSTATIONS / TABLES FOR PUPILS TO WORK ROUND</b></li> </ul>

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[www.techfest.org.uk/festival](http://www.techfest.org.uk/festival)





# K'NEX LIGHTHOUSES

## KEY CONCEPTS

Shine a light of creativity to tackle a historic engineering challenge. Investigate challenges associated with the construction of lighthouses. Use your engineering skills to develop a lighthouse prototype.

<b>AGE RANGE:</b>	<b>P4-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	<b>P1-P3: TCH 0-11A, TCH 0-12A P4-P7: TCH 2-05A, TCH 2-09A, SOC 2-06A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• <b>CHAIRS FOR PRESENTER AND ADULTS</b></li><li>• <b>FLOOR SPACE TO BUILD AND TEST MODELS</b></li></ul>



**MATHS**

# MATHS AROUND THE WORLD

## KEY CONCEPTS



A fun, hands-on maths workshop designed to challenge and build confidence. A variety of puzzles, representing different countries, are set out around the room. In small teams, pupils travel around each puzzle with a customised passport logging the countries they have visited. Help and encouragement is at hand and solutions checked.

<b>AGE RANGE:</b>	<b>P4-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	<b>MNU 0-07A, MNU 1-07B, MTH 1-07C, MTH 1-12A, MTH 0-13A, MTH 1-13A, MTH 1-13B, MTH 2-13A, MTH 1-15B, MTH 0-16A, MTH 1-16A, MTH 1-16B, MTH 2-16A, MTH 0-17A, MTH 1-17A, MTH 2-17B, MTH 2-17C, MTH 1-18A, MTH 0-19A, MTH 1-19A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• <b>CHAIRS FOR TEACHERS AND PRESENTERS</b></li><li>• <b>ACTIVITIES CAN BE SET UP ON TABLES OR FLOOR</b></li></ul>



**equinor**



# POLLUTION INVESTIGATORS



## KEY CONCEPTS

As part of the environmental pollution monitoring team you have been called to a fish kill incident. Using scientific tests, you must uncover what happened and put a plan in place to prevent future incidents.

<b>AGE RANGE:</b>	<b>P4-7</b>
<b>RUNNING TIME:</b>	<b>1 HOUR</b>
<b>CFE LINKS</b>	<b>SCIENCES: SCN 2-01A, SCN 2-16A, SCN 2-18A NUMERACY AND MATHS: SCN 2-03A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"> <li>• CHAIRS FOR TEACHERS AND PRESENTERS</li> <li>• CHAIRS AND TABLES FOR PUPILS TO WORK AT</li> <li>• FLOOR SPACE</li> <li>• ACCESS TO SINK FOR SET UP AND CLEAR UP</li> </ul>

## TECHFEST

Aberdeen and North-East Scotland's  
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**ENERGY**



**ENVIRONMENT**

# WONDERFUL WIND

## P4-7



### KEY CONCEPTS

The workshop explains the fundamentals of wind energy, using high quality equipment and 'playlets' to enhance learning. The workshop includes experimental work, including the concept of a fair test.

<b>AGE RANGE:</b>	<b>P4-7</b>
<b>RUNNING TIME:</b>	<b>45-60MINS</b>
<b>CFE LINKS</b>	<b>SCN 2-09A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"> <li>• PRESENTER CHAIR AND TABLE</li> <li>• CHAIRS AND TABLES FOR PUPILS TO WORK AT</li> <li>• ADDITIONAL TABLES AVAILABLE FOR SET UP OF EQUIPMENT.</li> </ul>

# STROMAR

Powered by Ørsted,  
BlueFloat Energy  
and Renantis

# TECHFEST DOME: NIGHT SKY



SPACE

## KEY CONCEPTS

A tour of the night sky includes the North Star, the Plough and Orion. Watch how the stars move at night and discover how we get different constellations with the changing seasons. Listen to the amazing story of Perseus and Andromeda and find out which planets you can see in the sky tonight.

<b>AGE RANGE:</b>	<b>P1-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES</b>
<b>CFE LINKS</b>	<b>SCN 1-06A, SCN 2-06A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• <b>FLAT, CLEAN, DRY, INDOOR AREA 6M X 6M X3.5M (MINIMUM)</b></li><li>• <b>2X 13 AMP SOCKETS WITHIN 10M</b></li><li>• <b>NO DIRECT SUNLIGHT ON THE DOME</b></li><li>• <b>A QUIET LOCATION</b></li></ul>



**FORCES**



# EUREKA MOMENT

## KEY CONCEPTS

Pupils will learn about Archimedes Principle, and then apply their knowledge to designing a boat and testing how many marbles it can hold.

This workshop contains lots of experimenting with different materials and an introduction to concepts such as Archimedes Principle and density

<b>AGE RANGE:</b>	<b>P5-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	<b>SCN 0-07A, SCN 1-07A, SCN 1-08A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• <b>TABLES ARRANGED IN 5 WORKSTATIONS (FOR CLASSES OF 30-33 PUPILS)</b></li><li>• <b>ACCESS TO SINK AND RUNNING WATER DURING SET UP</b></li></ul>

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# DNA DETECTIVES



## KEY CONCEPTS

Dive into the wonderful world of genetics! Learn about DNA, the marvellous molecule that contains the instructions for all life on earth! You can even try your hand at translating some DNA sequences to find the hidden meaning. Find out what your DNA says about you!

<b>AGE RANGE:</b>	<b>P5-7</b>
<b>RUNNING TIME:</b>	<b>CAN BE TAILORED TO FIT TIMETABLE</b>
<b>CFE LINKS</b>	<b>SCN 1-14A, SCN 2-14B,</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"> <li>• <b>TABLES AND CHAIRS FOR EACH PUPIL</b></li> <li>• <b>PAPER, PENS, PENCILS</b></li> <li>• <b>AV TO WATCH VIDEO AND USE CROSSWORD</b></li> </ul>

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**ENERGY**



# HAPPY HYDROGEN

## KEY CONCEPTS

Happy Hydrogen introduces the properties of solids, liquids and gases. Using hands-on activities, the behaviour of particles in a gas is described and pupils are introduced to the structure of the hydrogen atom. This leads to the process of hydrogen generation by electrolysis and the operation of the hydrogen fuel cell.

<b>AGE RANGE:</b>	<b>P5-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	TCH 2-02B SCN 2-09A SCN 2-15A TCH 2-02B
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• TABLES FOR CHILDREN TO SIT AT</li><li>• SPACE AT THE FRONT FOR THE STORYTELLING/DRAMA ACTIVITY</li><li>• CHECK FOR LATEX ALLERGY (DO NOT USE BALLOONS IF ALLERGIC PERSONS PRESENT)</li></ul>



An integrated energy partnership



# MARS HERE WE COME

## KEY CONCEPTS

Introduces the idea of measuring devices and choosing appropriate device for length to be measured. Builds up to measurement of planetary distances within the solar system. Children calculate the distances from the Sun to each of the planets in Astronomical Units. The calculated values are used to construct a scale model of the solar system.

<b>AGE RANGE:</b>	<b>P5-7</b>
<b>RUNNING TIME:</b>	<b>50 MINS</b>
<b>CFE LINKS</b>	<b>SCN 2-06A, MNU 0-11A, MNU 1-11A, MNU 2-11B, MNU 1-20A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• SEATS AND TABLES FOR CHILDREN</li><li>• FACILITIES TO SHOW POWERPOINT</li><li>• LARGE SPACE (PERHAPS OUTSIDE)</li></ul>





**SPACE**



**FORCES**



# RACING ROCKETS

## KEY CONCEPTS

The sky's the limit when pupils put their imagination to the test to design a space rocket that is out of this world. This team challenge encourages students to think about rocket design to build a rocket that will travel as high as possible.

<b>AGE RANGE:</b>	<b>P4-7</b>
<b>RUNNING TIME:</b>	<b>45 MINS</b>
<b>CFE LINKS</b>	<b>TCH 0-09A, TCH 1-09A, TCH 2-09A TCH 0-12A, TCH 1-12A, TCH 2-12A (DETAILS ON FINAL PAGE)</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"> <li>• SEATS AND TABLES FOR CHILDREN</li> <li>• FACILITIES TO SHOW POWERPOINT</li> <li>• LARGE SPACE (PERHAPS OUTSIDE)</li> </ul>





**ENERGY**



# ENERGISING THE TRANSITION: BRIGHT IDEAS!

## KEY CONCEPTS

Look around you. Are the lights on? Is your computer running? Or the TV playing? All of these things require energy! We use energy every day to power our world.

In this workshop, delve into the exciting future of energy and take part in hands-on, interactive experiments to learn about different energy sources, and the trade-offs associated with each. Which energy source will you choose to power your future?

<b>AGE RANGE:</b>	<b>P5-7</b>
<b>RUNNING TIME:</b>	<b>1 HOUR</b>
<b>CFE LINKS</b>	<b>SCN 0-04A, SCN 1-04A, SCN 2-08A, SCN 2-09A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• <b>TABLES AND CHAIRS FOR EACH STUDENT TO WORK AT</b></li></ul>



# TECHFEST

Promoting Science, Technology, Engineering and Mathematics

Scottish Charity No SC010349

## TECHFEST PROGRAMMES

### EARLY YEARS CATALOGUE



Our mission is to promote STEM (Science, Technology, Engineering and Mathematics) to young people and wider communities. We seek to demonstrate kids as young as 3 years old that science is FUN and sparkle their interest in STEM fields from early age.

TechFest offers a variety of outreach workshops suitable for nursery & early years. All the workshops are led by experienced presenters with a teaching or science background and provide an excellent opportunity for children to engage in enjoyable activities.

Click [here](#) for more information.

### TEACHER LED CATALOGUE

TechFest offers a variety of outreach workshops suitable for primary schools and early years.

We are also offering schools the chance to take part in on demand workshops which have no cost and can be done in your own time.

Click [here](#) for more information:



### ENGINEER 'N' OUR LIVES

The Engineer'n' Our Lives (EOL) Programme has, for over a decade, introduced school-aged children to engineering through interactive, curriculum-linked challenges. Now partnered with Energy Transition Zone Ltd (ETZ), the programme highlights how engineers contribute to the energy transition with skills in areas like hydrogen, drones, and carbon reduction. Pupils from P1-P7 take part in hands-on challenges—covering materials, design, prototyping, and processes—that connect school subjects with real-world engineering. Supported by over 100 industry professionals, EOL not only develops pupils' problem-solving, teamwork, and meta-skills but also offers teachers sustainable classroom resources while giving students insight into how engineering shapes everyday life and future careers.



For more information and to sign your school up to our waitlist visit <https://www.techfest.org.uk/education/ages-under-11/engineer-n-our-lives>

### STEM ON THE FARM

#### TECHFEST



STEM ON THE FARM

Supported by



'TechFest's STEM on the Farm' is a five-day programme (delivered one day per week over five weeks) that invites P6 pupils from schools across the North East of Scotland to participate in project-based, curriculum-linked learning and explore each stage of the food production supply chain.

Aimed at P6 pupils, each day of the programme addresses a part of the food production process, including the work of agricultural engineers, farm workers, food scientists, logistics experts, etc. Guided by expert STEM Ambassadors from each section of the supply chain, pupils develop their STEM knowledge through immersive workshops and discover the impact agricultural innovations have on food production.

The knowledge they gain from the programme is then used to create eye-catching display boards and instruct the script for an end-of-project assembly attended by parents, carers, and the school community. By participating in 'TechFest's STEM on the Farm', pupils learn about food security, climate impact, health & nutrition, modern agricultural innovations, animal care, and how STEM plays a vital role in all of these.

For more information and to sign your school up to our waitlist visit <https://www.techfest.org.uk/education/ages-under-11/techfest-s-stem-on-the-farm>

### 24 DAYS OF STEM



Our '24 Days of STEM' advent calendar offers exciting activities designed for all interests and skill levels. Participants will develop science, design, and coding skills while enjoying festive surprises.

For more information and to sign up visit <https://www.techfest.org.uk/news-events/upcoming-events-new/event/332-24-days-of-stem>

### RI SHOWS



The Royal Institution Science Lives Here

State schools are eligible to apply for a free visit from the Ri worth £800, which includes three science show performances and a CPD session for teachers.



Click here for more information and for the next funding rounds.

<https://www.riqib.org/learning/grants-schools>



THE **CREST AWARDS** SCHEME IS THE BRITISH SCIENCE ASSOCIATIONS FLAGSHIP PROGRAMME FOR YOUNG PEOPLE, PROVIDING SCIENCE ENRICHMENT ACTIVITIES TO INSPIRE AND ENGAGE 5 – 19 YEAR OLDS.

It is the only nationally recognised accreditation scheme for project work in science, technology, engineering and mathematics (STEM) subjects.

In addition to giving young people the opportunity to undertake hands-on science, CREST Awards are designed to help develop skills that are transferrable to other subjects, further education and future employment.

To find out more about CREST Awards and to see how you can get involved visit the TechFest website: [www.techfest.org.uk/education/crest](http://www.techfest.org.uk/education/crest) or email: [kirstycranna@techfest.org.uk](mailto:kirstycranna@techfest.org.uk)

TechFest is your Regional CREST Support Organisation for Scotland..  
[TechFest.org.uk](http://TechFest.org.uk)

To find out more information about CREST and how to register for awards follow the link below:  
[www.crestawards.org](http://www.crestawards.org)