

# TECHFEST

Promoting Science, Technology, Engineering and Mathematics

Scottish Charity No SC010349

## PRIMARY OUTREACH WORKSHOPS 2024

For enquiries, please contact:

Jenny Taylor, **Festival Manager**

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

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**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:** £66 per core workshop (min 2 to be booked) + mileage cost of £15 per day visit. Please note the workshop Pollution Investigators is £86 as it requires two members of staff to deliver it.

**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.

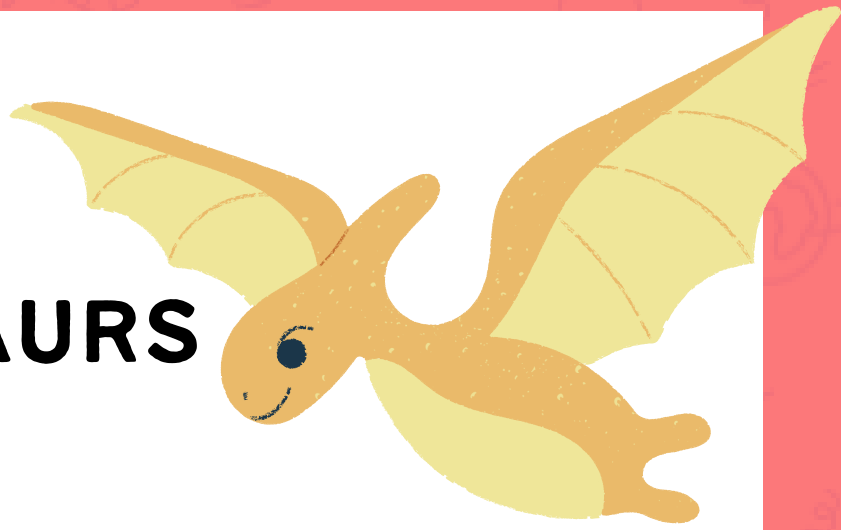
Due to the high cost of living we have had to take the hard decision to apply mileage costs to all our core workshops. To make it fair to all schools across the Aberdeen and Aberdeenshire area we have averaged out the cost to £15 and will place this on all bookings from 01 April 2023.

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).

***There is no workshop fee or mileage charged for ON DEMAND workshops.***



# 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>EY &amp; 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>

# SLEEPY HEDGEHOG



## KEY CONCEPTS

This story-based workshop uses a game, activities and poetry to learn about familiar wild animals, their tracks and homes. The hibernation of hedgehogs is the main thread in the storyline.

<b>AGE RANGE:</b>	<b>EY - P1</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES</b>
<b>CFE LINKS</b>	<b>SCN 0-20A LIT 0-01A / LIT 0-11A / LIT 0-20A LIT 0-19A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<b>ROOM REQUIREMENTS: TABLES ARRANGED AROUND THE OUTSIDE OF THE ROOM IN A GENEROUS U SHAPE, WITH AN OPEN FLOOR AREA IN THE CENTRE WHERE CHILDREN CAN SIT.</b>

# 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>	<ul style="list-style-type: none"><li><b>CHAIRS FOR PRESENTERS AND ADULTS</b></li></ul>



# MONEY MATHS: SHORT CHANGED



## KEY CONCEPTS

Join us for a hands-on maths add-venture to learn all about money. Puzzles, games and challenges explore how we use currency. Guaranteed high interest! Takeaway resources for using back in the classroom.

<b>AGE RANGE:</b>	<b>EY &amp; P1-P3</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES</b>
<b>CFE LINKS</b>	<b>MNU 0-09A, MNU 1-09A, MNU 1-09B, SOC 0-20A, SOC 1-20A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• <b>SPACE FOR CLASS TO SIT FOR STORY PRESENTATION</b></li><li>• <b>ACTIVITIES CAN BE SET UP ON TABLES OR ON THE FLOOR.</b></li></ul>

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# ISAAC'S BIG IDEA



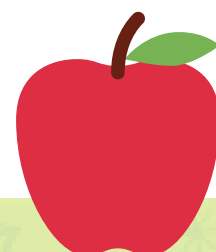
## KEY CONCEPTS

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.

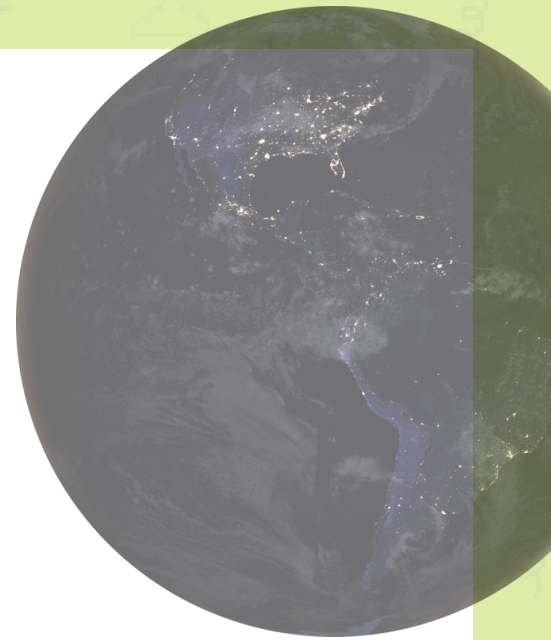
<b>AGE RANGE:</b>	<b>P 1 -3</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	<b>SCN 0-07A, SCN 1-07A, SCN 1-08A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• <b>PRESENTER CHAIR AND TABLE</b></li><li>• <b>CHAIRS AND TABLES FOR PUPILS TO WORK AT</b></li><li>•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

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# TECHFEST DOME: NIGHT & DAY



## KEY CONCEPTS

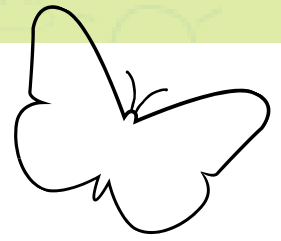
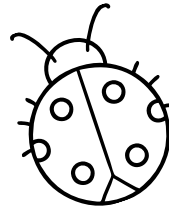
What makes day and night? Where does the sun go at night? This show demonstrates how the Sun moves across the sky during the day in both summer and winter. Find the North Star, the Plough, Orion, Betelgeuse, and Sirius in the night sky and relate them to the Greek constellations.

<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>

*Apache*



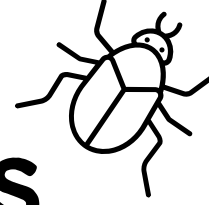
1



2

3

4



# 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>	P1-3
<b>RUNNING TIME:</b>	45 MINUTES
<b>CFE LINKS</b>	MNU 1-02A, MNU 1-03A, MNU 1-20B, SCN 1-01A
<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>



# WONDERFUL WIND P1-3



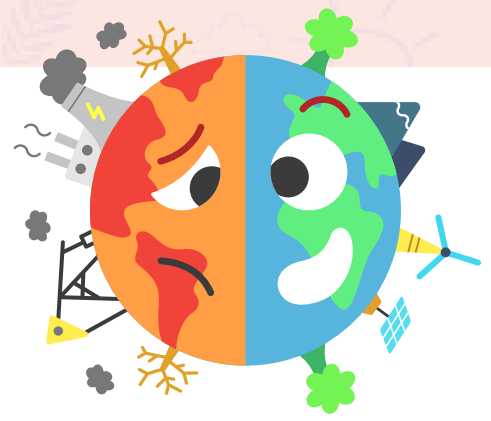
## KEY CONCEPTS

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>• <b>PRESENTER CHAIR AND TABLE</b></li><li>• <b>CHAIRS AND TABLES FOR PUPILS TO WORK AT</b></li></ul>



# FORCES OF NATURE

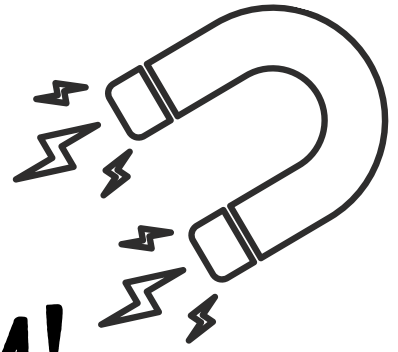


## KEY CONCEPTS

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>

# ENERGISING THE TRANSITION: ELECTROMAGNETISM!

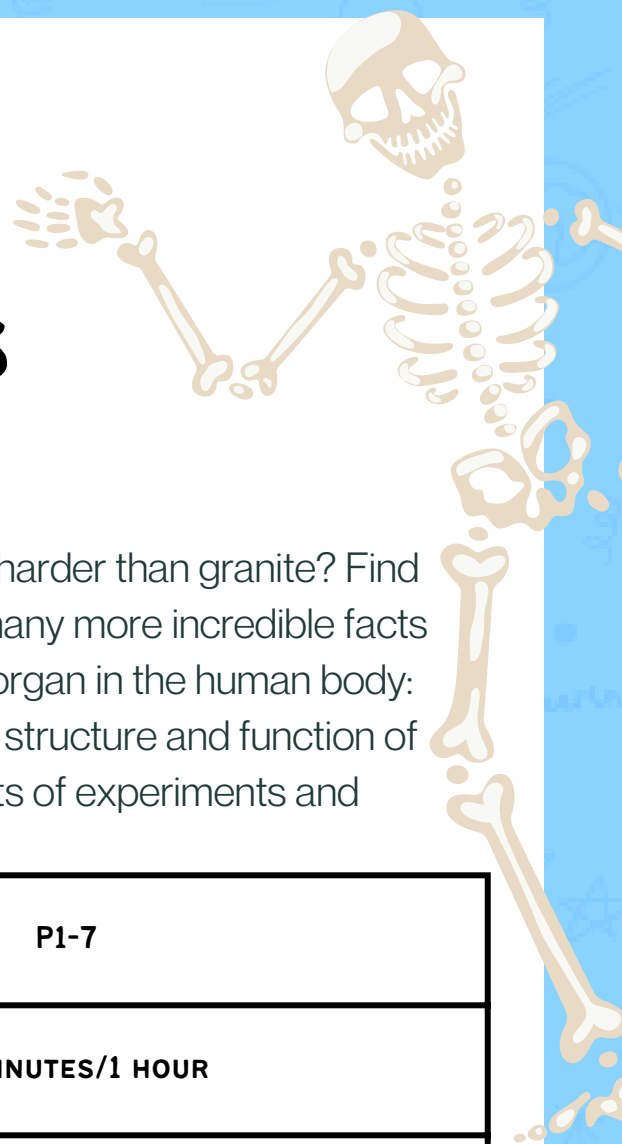


## KEY CONCEPTS

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>

# BRILLIANT BONES



## KEY CONCEPTS

What part of your body is stronger than steel and harder than granite? Find out the answer to these questions and discover many more incredible facts about the skeleton as we investigate the hardest organ in the human body: bones. We'll take a closer look and investigate the structure and function of skeletons from across the animal kingdom with lots of experiments and practical activities for the whole class.

<b>AGE RANGE:</b>	<b>P1-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	<b>SCIENCE, HEALTH &amp; WELLBEING HWB 0-47B / HWB 1-47B, SCN 1-12A, SCN 2-12A, SCN 3-12A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• <b>LARGE PRESENTER TABLE</b></li><li>• <b>SPACE FOR 33 SITTING STUDENTS</b></li><li>• <b>SPACE IN FOR PARTICIPANTS TO UNDERTAKE ACTIVITIES IN</b></li><li>• <b>GROUPS (SEATED AT TABLES OR ON THE FLOOR)</b></li><li>• <b>CHAIRS FOR TEACHERS AND PRESENTERS</b></li><li>• <b>ACCESS TO RUNNING WATER AND SINK FOR SET UP</b></li></ul>

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# 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>P1-7</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?

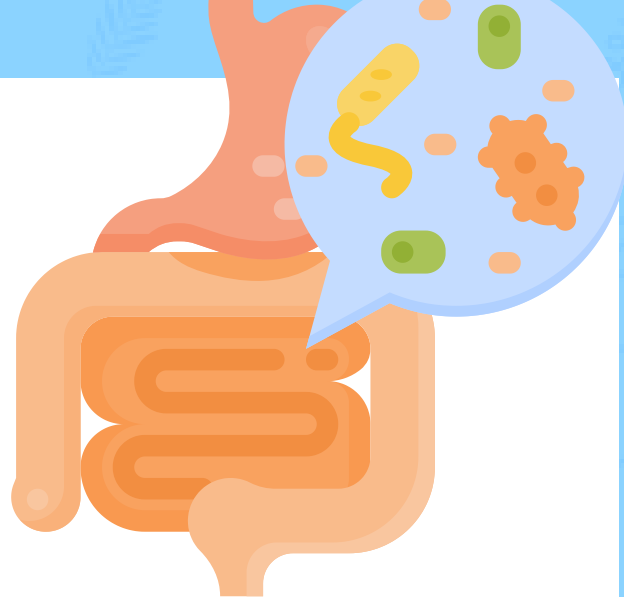
<b>AGE RANGE:</b>	<b>P1-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	<b>HEALTH AND WELLBEING (PHYSICAL WELLBEING) HWB-1- 15A/HWB 2-15A &amp; HWB 1-16A/HWB 2.16A HEALTH AND WELLBEING (SAFE AND HYGIENIC PRACTICES) HWB 1-33A/HWB 2-33A SCIENCES (BODY SYSTEMS AND CELLS) SCN 1- 13A/SCN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

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# 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.

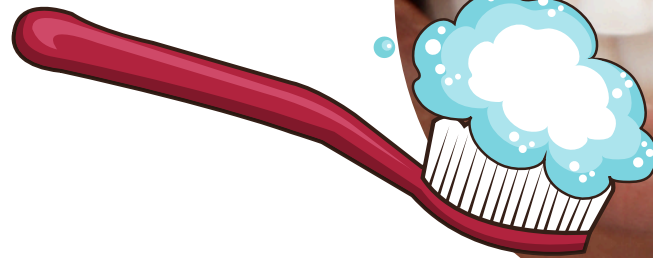
<b>AGE RANGE:</b>	<b>P1-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	<b>P1-P3: TCH 0-11A, TCH 0-12A P4-P7: TCH 2-05A, TCH 2-09A, SOC 2-06A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• <b>CHAIRS FOR PRESENTER AND ADULTS</b></li><li>• <b>FLOOR SPACE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

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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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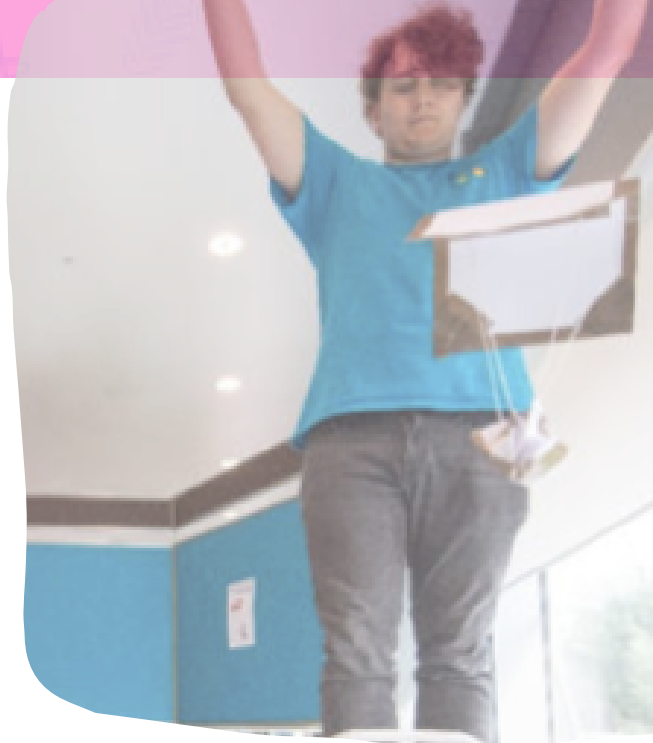






# APOLLO 7 CHALLENGE

## KEY CONCEPTS

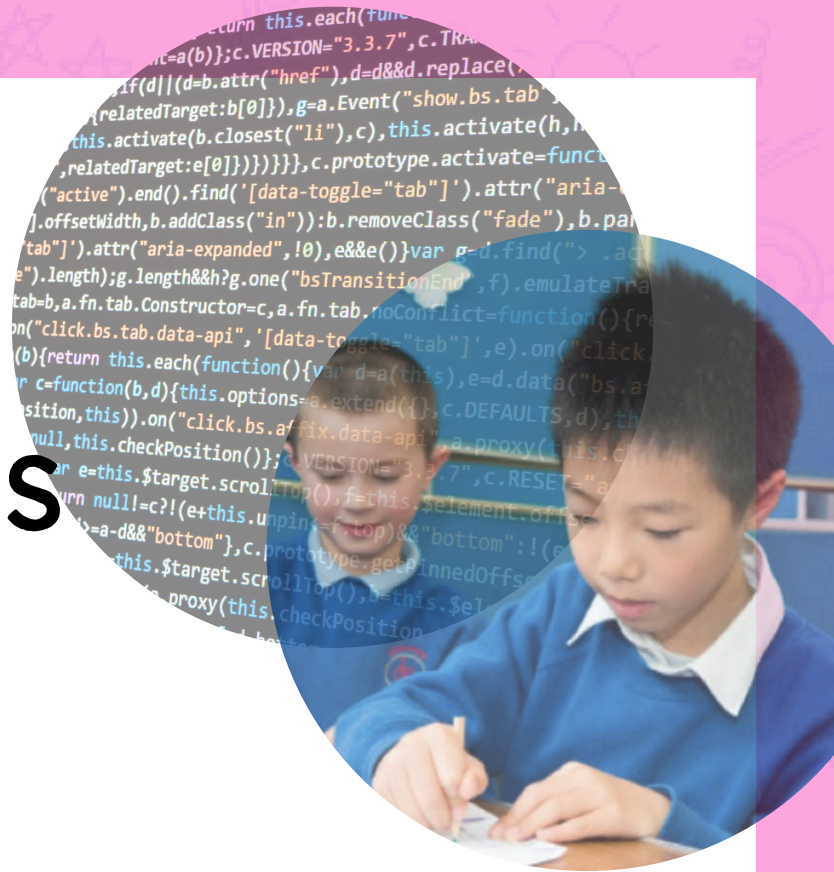


Ensuring astronaut safety is one of the biggest challenges faced by NASA engineers. This workshop aims to facilitate pupils working as a team to apply physics and engineering principles in a dynamic and creative way to bring an astronaut safely back to Earth.

<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>



# 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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# 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>• CHAIRS FOR TEACHERS AND PRESENTERS</li><li>• ACTIVITIES CAN BE SET UP ON TABLES OR FLOOR</li></ul>

# STEM THROUGH THE AGES

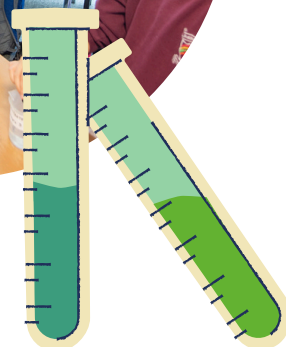


## KEY CONCEPTS

Learn about the Science, Technology, Engineering and Maths that helped ancient civilisations become so successful. Learn about Roman health and hygiene and how they make fresh water accessible. Learn about some of the world's greatest Greek thinkers, their discoveries and gain an insight how Ancient Egyptians prepared their dead for the afterlife.

<b>AGE RANGE:</b>	<b>P4-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	<b>NUMERACY AND MATHEMATICS MNU 2-03A MNU 2-11A/MNU 2-11c/MNU 2-20B SCIENCES SCN 2-08B/SCN 2-20B TECHNOLOGY TCH 2-12A HEALTH AND WELLBEING HWB 2-15A</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></ul>

# 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>45 MINUTES/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 DOME: NIGHT SKIES

## 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>P4-7</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>



# WONDERFUL WIND

## P4-7



### KEY CONCEPTS

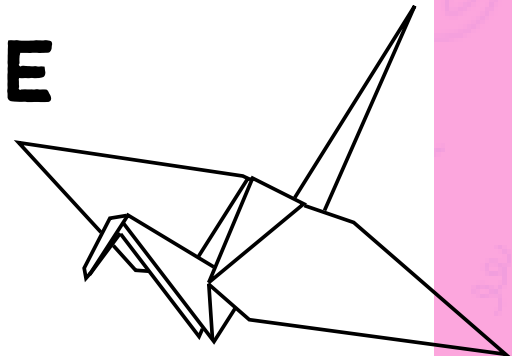
The workshop explains the fundamentals of wind energy, using high quality equipment and 'playlets' to enhance learning. The workshop includes experimental work, including the concept of a fair test.

<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>• <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>

**ON DEMAND**



# BUILD A STARSHADE ORIGAMI IN SPACE



## KEY CONCEPTS

This workshop explores principals of engineering with the example of NASA using origami to transport vital equipment into space.

Part one of the workshop will be done in your own time and consists of watching a video and building origami star shades.

Part two will be a virtual visit from an industry professional, giving pupils the opportunity to discuss their work and ask questions.

<b>AGE RANGE:</b>	<b>P4-7</b>
<b>RUNNING TIME:</b>	<b>PART 1: 45 MINS PART 2: 45 MINS</b>
<b>CFE LINKS</b>	<b>TCH 1-05A, TCH 1-06A, TCH 2-07A, TCH 1-09A, TCH 2-09A, TCH 2-10A, TCH 2-12A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• <b>TABLES AND CHAIRS FOR EACH STUDENT TO WORK AT,</b></li><li>• <b>SCREEN FOR PLAYING VIDEO.</b></li></ul>

**apollo**



# 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>

## TECHFEST

Aberdeen and North-East Scotland's  
Festival of Science, Technology,  
Engineering & Mathematics  
[www.techfest.org.uk/festival](http://www.techfest.org.uk/festival)



# 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>P6-7</b>
<b>RUNNING TIME:</b>	<b>1 HOUR</b>
<b>CFE LINKS</b>	<b>SCIENCE, ENGINEERING, RENEWABLE ENERGY</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>

**ON DEMAND**

You can choose to do this workshop in your own time without a visit from TechFest. Get in touch for more information

# 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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# WILDLIFE INVESTIGATORS



## KEY CONCEPTS

Growing tired of going on the same daily walk? Need to add in more excitement? Well, why not put on your investigators hat and find out how much biodiversity is just outside your door! Plus, take part in some fun DIY projects to make your outdoor area even more wildlife friendly!

<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 2-02A, SCN 0-01A</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, SCISSORS, STRING</b></li><li>• <b>AV TO WATCH VIDEO</b></li></ul>

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# CODE BREAKERS



## KEY CONCEPTS

Put your problem-solving skills to the test and see if you can crack the code! You'll learn about different types of codes and ciphers as well as creating your own code to send your own secret messages. Will you be able to get a coded message to TechFest's team of secret agents before it's too late?!

<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>TCH 2-13A, MNU 3-03B</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</b></li></ul>

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# MICROBIOLOGY

## KEY CONCEPTS

Discover the hidden world of the microbe in TechFest's introduction to microbiology. Through observation and practical investigation explore the impact of microorganisms (or germs) on health. Experiment with the roles of microorganisms in breaking down materials with yeast.

<b>AGE RANGE:</b>	<b>P5-7</b>
<b>RUNNING TIME:</b>	<b>45 MINUTES/1 HOUR</b>
<b>CFE LINKS</b>	<b>SCIENCE, HEALTH AND WELLBEING SCN 1-13A, SCN 2-13A</b>
<b>WORKSHOP REQUIREMENTS:</b>	<ul style="list-style-type: none"><li>• CHAIRS FOR PRESENTER AND ADULTS</li><li>• ACCESS TO BOILING WATER DURING SET UP</li><li>• TABLES FOR MODEL MICROBES (DEPENDENT ON CLASS- WHOLE CLASS SHOULD BE ABLE TO STAND AROUND TABLES)</li></ul>

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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.techfestsetpoint.org.uk/crest](http://www.techfestsetpoint.org.uk/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)**