

TECHFEST-SETPOINT

Promoting Science, Technology, Engineering and Mathematics

Scottish Charity No SC010349



Family Activity Day Sunday 7th November 2010

10am - 5pm

Dundee International Sports Complex

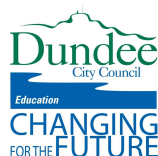
ALL PRESENTATIONS FREE

Organised by

TECHFEST-SETPOINT

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Sponsored by



Welcome to the

Dundee Science Festival

Family Activity Day 2010

TechFest-SetPoint is delighted to be organising the Family Activity Day of the 'Dundee Science Festival' for the 2nd year.

On offer is a series of first class activities to stimulate your interest and provide you with an enhanced experience in the areas of science, technology, engineering and mathematics (STEM).

Inside this programme you will find a whole host of workshops, demonstrations, presentations and hands-on opportunities, all designed to bring STEM alive.

The Dundee Science Festival Family Activity Day promises to spark interest, fire imaginations and improve understanding. We sincerely hope that you will find something in today's programme that will inspire you and your family with a passion for science, technology, engineering and maths.

Feedback forms will be at the reception area of the main hall. Please could you take a few minutes to complete and return it in order to help us continue to improve delivery of our events. **All feedback forms will be entered into a prize draw. The first entry to be drawn on the 15th of November will win £30 of vouchers for the Odeon cinema.**

All of the activities are FREE to participate in, as the event has been funded by Dundee City Council Education Department and the Scottish Government.

In addition to the Dundee Science Festival, TechFest-SetPoint organise a wide variety of STEM activities for schools, targeted at different year groups, both primary and secondary, as well as community events. Details of all these events may be found on our website at www.techfestsetpoint.org.uk

Instructions for booking timed shows

For booking the timed shows please go to the appropriate area where a member of the team will be happy to take your name/s on the booking sheet for the time you require. Please note all bookings are subject to availability and are given out on a first come first served basis.

Other Information

Food is available for purchase at the cafeteria area at the front door of the sports centre. Packed lunches may also be consumed in the eating area provided.

Area 1

Discover the Fun Side of Science

Duration: Drop-in sessions

This is a fantastic opportunity for visitors to have fun with science! The team from Dundee Science Centre will demonstrate some cool science experiments using everyday household ingredients so you can deliver your very own science show at home! Ever wondered why we have fingerprints and even twins' fingerprints are different? You can find out why today and even take your own fingerprints and identify them! Who said maths was boring? Come use our maths kits and see the fun side! Come join Dundee Science Centre to have fun with science!

Presented by: Karen Phelan, Science Learning Officer,
Grant Edwards and Peter Nurick
Science Learning Team at Dundee Science Centre.

Area 2

Creative Waste Workshop – Plastics 'R' Fantastic

Duration: Drop-in sessions

Plastics 'R' Fantastic - We offer children and adults of all ages and abilities an opportunity to have fun whilst being creative with waste. Try your hand at transforming used plastic drinks bottles into flowers, windmills, birdfeeders & rockets!

Presented by: Richard Bennett & Penny Sinclair
Sustainable Communities Initiative

Area 3

The Cell Signalling Challenge

Duration: Drop-in sessions

Noses are sensory organs that smell the aromas of delicious food and send signals that get our brains excited and gastric juices flowing. In this puzzle, discover how a sensory organ inside our bodies - the pancreas – sends signals to our muscles when we eat. Faulty signalling causes an illness called diabetes. Can you fix the faults with medicines and exercise?

Presented by: Professor Carol Mackintosh and colleagues,
MRC Protein Phosphorylation Unit, University of Dundee

Area 4

Getting Switched On

Duration: 1 hour timed shows – bookable at area 4.

Live Wire's newest curriculum-linked electricity show promises to enlighten the participants about the secrets of this amazing energy!

Show times:

First Show	Second Show	Third Show	Fourth Show
10:30 - 11:30	12:00 - 1:00	14:00 - 15:00	15:30 - 16:30

Presented by: Live Wire Productions

Area 5

How Do You Teach a Robot to Dance?

Duration: Drop-in sessions

By solving a number of robot challenges participants shall gain an insight into the world of computer programming. Typical challenges include making a robot dance. These challenges are posed in a fashion that encourages a creative approach to science and problem solving.

**Presented by: Chris Martin and colleagues,
University of Dundee, School of Computing**

Area 6

The Magic of Science

Duration: Drop-in sessions

The Magic of Science will demonstrate the fun and exciting world of science through demonstrations involving smoke filled bubbles and colour changing liquids. There will also be hands on activities for the visitors that such as a ping pong assault course and fingerprint identification as well as hands on sessions

Presented by: The University of Abertay

Area 7

Mr Bug

Duration: 50min timed shows – bookable at area 7.

Age 3+

Come face to face with small, friendly animals from around the world! Meet cockroaches, snails, snakes and lizards and find out about their lives in the wild in this fun, informative session.

Show times:

First Show	Second Show	Third Show	Fourth Show	Fifth Show
10:15 - 11:05	11:25 - 12:15	13:10 - 14:00	14:20 - 15:10	15:40 - 16:30

Presented by: Mr Bug

Area 8

Magnets

Duration: Drop-in sessions

This workshop will take you through a series of enjoyable investigations that cover many aspects of magnetism. Discover the power of attraction and repulsion whilst exploring the strength and shapes of magnetic fields and the uses of magnets.

Presented by: TechFest-SetPoint

Area 9

Balloon Buggies

Duration: Drop-in sessions

Using a balloon, we can demonstrate Newton's third law of motion-"For every action there is an opposite and equal reaction". In this workshop participants will be able to design their own balloon powered racing car which allows topics covering renewable energy, forces, energy and engineering to be combined in a fun and challenging way.

Presented by: TechFest-SetPoint

Area 10

K'Nex Building Bridges

Duration: Drop-in sessions

Team up with friends and family to compete in an open-ended challenge. Use K'Nex to construct a bridge strong enough to hold the weight of a London Bus.

Presented by: TechFest-SetPoint

Area 11

Kid K'Nex

Duration: Drop-in sessions

This workshop is designed to introduce children to the fascinating world of engineering design. Special Kid K'NEX allows younger children to develop their construction skills and build up their creative confidence by designing and building their own unique alien.

Presented by: TechFest-SetPoint

Area 12

Culture Evolves

Duration: Drop-in sessions

Culture so strongly shapes us humans that it might seem at first sight to separate us from the rest of biology and from Darwinian evolution. Our recent research paints a very different picture.

We've discovered that 'culture' (broadly, the passing on of traditions by learning from others) is a much more important force in the animal kingdom than has been assumed. It's richer in quality than anybody thought, in a range of animals from fish to apes, and even insects. And because culture provides a second kind of inheritance, piggy-backing on existing genetic inheritance, discovering the forms it takes is extending and transforming our understanding of biology and Darwinian evolution. Our exhibit shows how we have revealed examples of culture in fish, meerkats and chimpanzees.

Presented by: The University of St Andrews
and the University of Edinburgh

Area 13

Blood Power Technology Challenge

Duration: Drop-in sessions

The LifeScan technology challenge is a scaled up version of one of the products manufactured at the Inverness facility. It represents a test strip that people with diabetes use to monitor their blood glucose levels.

The Challenge is to correctly build the strip from its multiple components into a finished product. If the challenge is correctly assembled it will complete a circuit and trigger a switch that will give a green light positive result. If the challenge is not completed within the 3 minutes it will give a red light result.

Presented by: LifeScan Scotland Ltd

Area 14

The Face Base

Duration: Drop-in sessions

Faces tell us lots of things - how we feel, how we look and even how attractive people think we are. It's not just humans that show these signs, our primate cousins may show these too! Come along to The Face Base and find out more.

Presented by: The Evolutionary and Biological Approaches to Behaviour Research Group, The University of Abertay

Area 15

Who are you? Forensic Anthropology in the 21st Century

Duration: Drop-in sessions

Forensic anthropology serves the investigative and judicial communities by analysing human remains for medico-legal purposes. This specialised area of science requires detailed anatomical and osteological training and experience. Forensic anthropology has adopted a pivotal role in both UK and international investigations, being core to issues of repatriation, mass disasters and war crimes. The research within the Centre is multidisciplinary, covering a wide variety of subjects including anatomy, analysis of adult and juvenile skeletal remains to establish all aspects of biological and personal identity including the sex, age at death, and disease and trauma status of an individual. Staff at the Centre have national and international reputations in forensic anthropology, and several have practical experience of working in conflict zones including Kosovo, Sierra Leone and Iraq. The Centre is regularly contacted for advice and input in high-profile identification cases at home and abroad.

Presented by: Dr Patrick Randolph-Quinney and colleagues
The University of Dundee

Area 16

Chemistry and Energy: The Hydrogen Economy

Duration: Drop-in sessions

Because of concerns about the increasing cost and decreasing availability of fossil fuels and their damaging effect on the environment, we need new ways of generating electricity. This demonstration introduces the various parts of an energy system based on Hydrogen, the simplest chemical element, and shows how they could be used together in a renewable energy system.

Presented by: Dr Richard Baker, School of Chemistry
The University of St Andrews

Area 17

Seeing Life Through a New Light

Duration: Drop-in sessions

New developments in optical technology promise to treat cancers and other skin conditions, while others have the potential to map cellular processes in fascinating detail! The team from St Andrews University return again this year to demonstrate their research and its wider implications.

Presented by: The University of St Andrews

Area 18

Pathology: The Building Blocks of Life

Duration: Drop-in sessions

An interactive display allowing you to discover the role of pathology in healthcare, with small demonstrations, and chat to scientists working in hospital laboratories.

Presented by: Fiona Brandie and colleagues, NHS Tayside

Area 19

Biomass Decision Making Activity

Duration: Drop-in sessions

A computer aided demonstration of a decision making system for biomass usage in the modern environment.

Presented by: Robert Crow and Rebecca Wade
The University of Abertay

Area 20

How Does Science Inform Health and Fitness?

Duration: Drop-in sessions

Ever wondered if you have what it takes to be the next Andy Murray or how you would compare on the football field with Messi – then come and do some simple non-exertional tests and find out if its time for a change or if you already have what it takes to be the next Olympic champion?

Presented by: Dr Andrea Cameron and colleagues,
The University of Abertay

Area 21

The Cosmic Dome

Duration: 35min timed shows – bookable at area 12. **Age 5+**

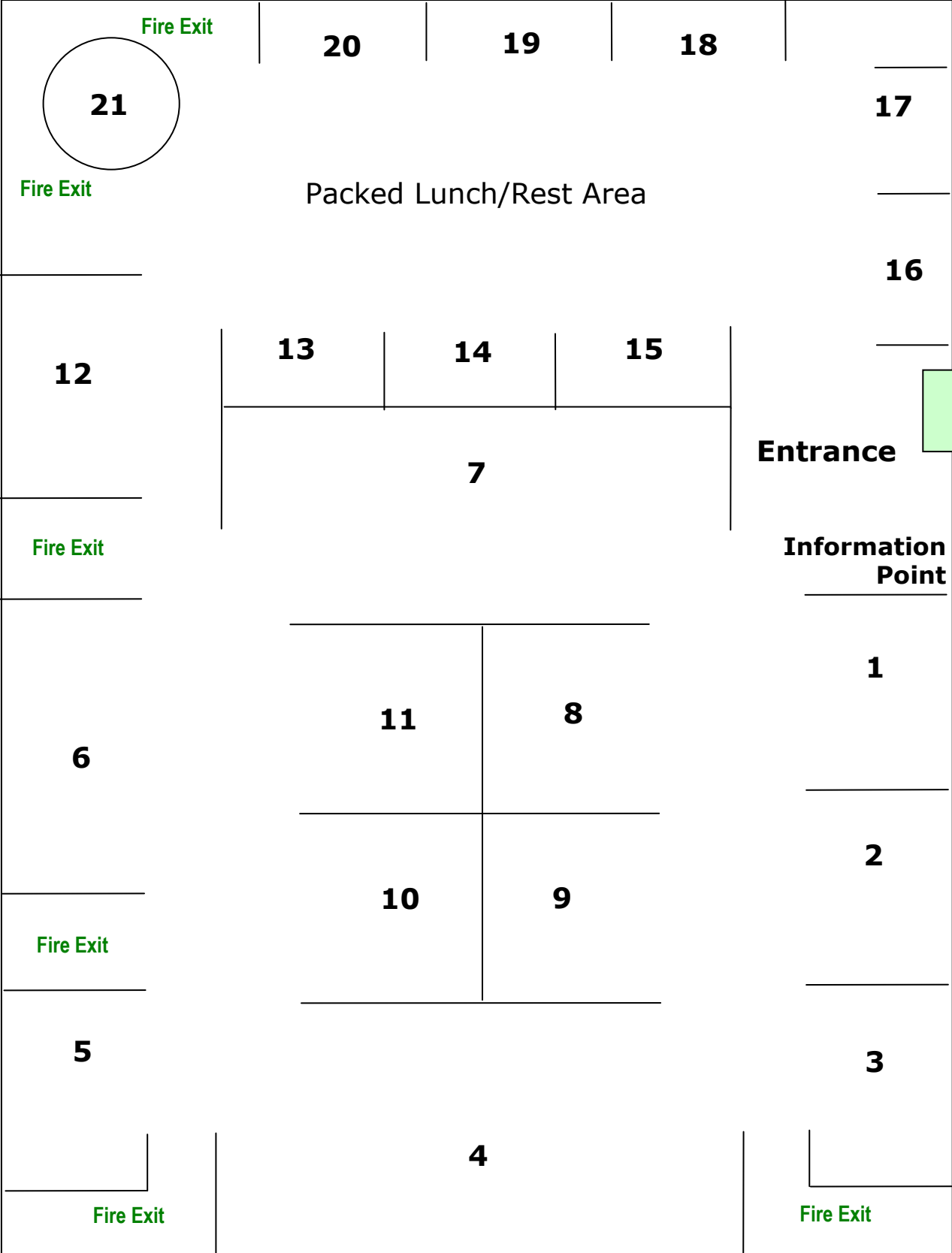
Step inside TechFest-SetPoint’s very own mobile planetarium and discover what planets and constellations are in the sky tonight!

Show times:

First Show	Second Show	Third Show	Fourth Show	Fifth Show	Sixth Show
10:25-11:00	11:25-12:00	12:45-13:20	13:45-14:20	14:45-15:20	15:45-16:20

Presented by: TechFest-SetPoint

Hall Plan



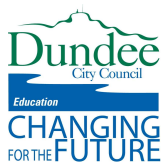
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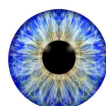
Funders and Partnerships



In-kind supporters



National Pathology Week
1–7 November 2010



Centre for Anatomy &
Human Identification



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THE COURIER

TechFest-SetPoint is a charitable organisation which aims to inspire young people about Science, Technology, Engineering and Mathematics (STEM), working with primary and secondary schools and organisations throughout Scotland to provide activities and information which enhance and enrich the STEM curriculum whilst inspiring students about the challenge and excitement of STEM related careers. TechFest-SetPoint also organises Scotland's second largest science and technology festival 'Techfest in September' held annually in Aberdeen.

For more information go to:

www.techfestsetpoint.org.uk

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Registered Scottish Charity No SC010349

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