

# TECHFEST 2022 PROGRAMME REVIEW



TECHFEST EXPAND YOUR IMAGINATION

# TECHFEST

Promoting Science, Technology, Engineering and Mathematics

Scottish Charity No SC010349

2022 saw the last restrictions of the pandemic end allowing TechFest to return to full in person programmes. We were delighted to run our 29th annual flagship festival which was the highlight of the year for the TechFest team.

We are pleased to be able to report lots of positive outcomes from TechFest 2022, including the chance to get back to running in person events and winning our first Celebrate Aberdeen award!



TECHFE91

#### Primary Outreach - January to July

In 2022 TechFest's Primary Outreach bookings took off. TechFest offers a variety of outreach workshops suitable for primary schools and early years. All the workshops are led by experienced presenters with a teaching or science background and provide an excellent opportunity for pupils to engage in enjoyable and challenging activities. Please see data from the period of January to July.





#### My Energy Future LIVE at Subsea Expo

Senior pupils who have an interest in the energy sector had the opportunity to interact with global companies and organisations at OPITO's My Energy Future LIVE, part of Subsea Expo, an event by Global Underwater Hub. They took part in our interactive STEM Challenge, hosted by TechFest, before spending time exploring the exhibition and meeting with energy sector staff who hosted interactive activities on their stand.

The inspirational event saw young people work in teams to complete various exciting STEM challenges such as building the most efficient wind turbine. Tasks were delivered by TechFest, The Royal Navy and LEEA, with volunteers from STEM Ambassadors in partnership with OPITO and Global Underwater Hub. The event was attended by 75 students from 4 schools across the North East of Scotland.



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### Discovery Day at the Science Centre

To celebrate British Science Week, we took part in the Discovery Day held at Aberdeen Science Centre on the 19th of March.

The event was open to the public who had to purchase tickets through their online platform. The day was a success we had 40 people interact with our stall.

#### Maths Masterclasses

Returning this year after pausing due to the pandemic we held a pilot Maths Masterclass in March curious to see if there would still be an appetite for it.

The Royal Institution Mathematics Masterclasses gives S2 pupils an insight into how Mathematics can be applied and utilised outside of the classroom.

The Aberdeen Maths Masterclasses series has been running in Aberdeen for 20 years and the Masterclasses have become very popular with students and teachers in this time

48 STUDENTS





#### Mock Cop 26

The MockCop 26 event was the last stop of The DGA Roadshow 2021 that travelled across the UK. It took place in October at the Aberdeen Science Centre's Shell Learning Zone.

Pupils from across Aberdeen then got the opportunity in March 2022 to take on the role of world leaders and climate experts at a mock COP26 event.

Taking place in the Town and County Hall in Aberdeen, the event explained the aims and objectives of COP26 to the students, emphasising how the energy transition is an integral part of the discussions on climate change and how as the next generation, youngsters have a unique role to influence and persuade world leaders to make important changes.





VARIOUS LOCATIONS IN ABERDEEN CITY

TechFest continues working with Aberdeen City Council and took part in their Easter of Play scheme which offered activity sessions to primary aged kids throughout the Easter holidays across various locations in Aberdeen City.. These were chosen by the City Council as being in areas which would most benefit from the play scheme.

Eoster Play

FOR FULL REPORT GO <u>HERE</u>.

The aim of Sociable Science was to engage all ages in science activities that are done in conversation utilising teamwork, creativity and most of all fun while learning. Each activity was designed to be repeated at home with audiences being our encouraged to share what they had learnt with others. Additional resources included YouTube videos and handouts to support future learning and exploration.

RESULTS



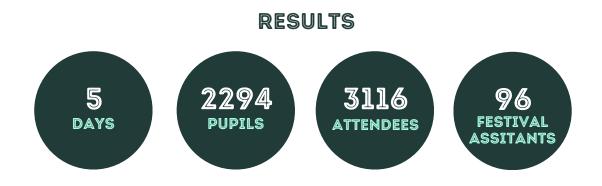




#### **Early Years and Primary Programme**

2022 was the 28th Anniversary for the Festival and was a momentous occasion for education, industry and the wider community. We returned to holding our Festival in person, and with the huge focus on digital in the last 2 years due to the COVID- 19 restrictions, we needed to make sure that there was still an appetite for such a large scale in person event. We recognised the importance of having COVID- 19 safety measures in place when returning to in person on such a large scale, in order to make everyone feel safe.

The Festival had 2 sections: Early Years and Primary Programme, and activity weekend. For many schools, this was their first outing post pandemic, so increasing the number of festival assistants allowed schools to feel safe and looked after. We needed to be able to engage with the public and schools in order to successfully return to in person events, and the numbers reflect us achieving this.

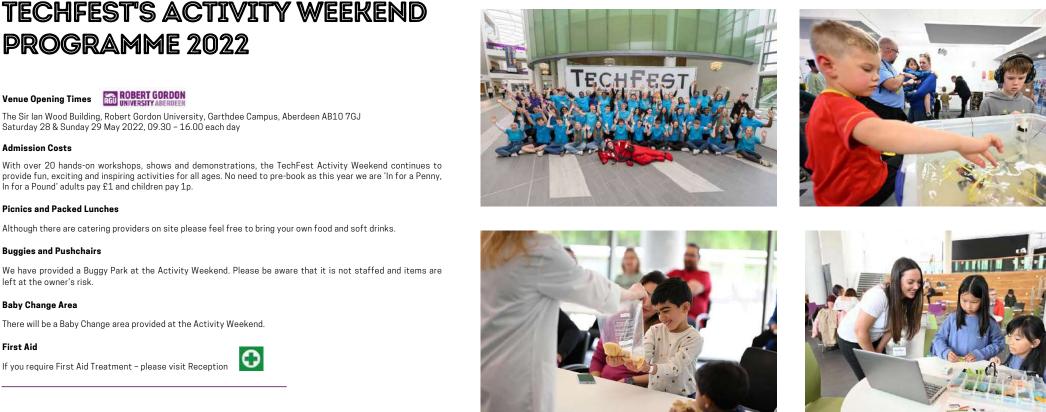


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#### **Activity Weekend**

TechFest's Activity Weekend is one of the most popular events in our events calendar! The weekend was made up of two days of workshops, shows and activities for families to get involved with.



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2282

**ATTENDEES** 

45

FESTIVAL **ASSITANTS** 

#### ROBERT GORDON Venue Opening Times

**PROGRAMME 2022** 

The Sir Ian Wood Building, Robert Gordon University, Garthdee Campus, Aberdeen AB10 7GJ Saturday 28 & Sunday 29 May 2022, 09.30 - 16.00 each day

#### Admission Costs

With over 20 hands-on workshops, shows and demonstrations, the TechFest Activity Weekend continues to provide fun, exciting and inspiring activities for all ages. No need to pre-book as this year we are 'In for a Penny, In for a Pound' adults pay £1 and children pay 1p.

#### **Picnics and Packed Lunches**

Although there are catering providers on site please feel free to bring your own food and soft drinks.

#### **Buggies and Pushchairs**

We have provided a Buggy Park at the Activity Weekend. Please be aware that it is not staffed and items are left at the owner's risk

#### **Baby Change Area**

There will be a Baby Change area provided at the Activity Weekend.

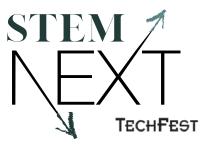
**First Aid** 





#### STEM NEXT LAUNCH RESULTS



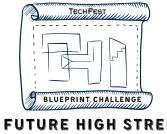


STEM Next essay competition had no subject pre-requisites and was not purely STEM based. There were six potential essay categories to choose and within each category there were a diverse range of potential essay topics, with something to suit every interest. This was a solo project that required independent research and writing. However, it was encouraged that participants get feedback from their peers or teachers before the final submission.

The essay competition was open to all 16 - 18 year olds from across the globe, and there was no limit to how many pupils could compete from each school.

The STEM Next Essay Competition had 509 students sign up from across the globe. The competition launched on 27/04/22, so as to not interfere with the students exams. The students then had ample time over the summer to work on their essays. During this time, the students were supported through a series of live webinars and online resources. The students essay deadline was 16/09/22, and at this point the essay was distributed round our panel of volunteer assessors, and the finalists were selected. STEM Next Finale took place in December and was produced by a prefessional media company Mearns&Gill.

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A FUTURE HIGH STREET SUPPORTED BY =Bluewater

The Blueprint Challenge: A Future High Street project, supported by <u>Bluewater</u>, challenged S5/S6 students to redesign a high street and create a space that allows society to thrive whilst simultaneously celebrating the natural world. In the development of the Future High Street, students were asked to take into consideration the following "modern problems": Architecture, Power generation and consumption, Economic Stability and Well-being.

Project advertisement started at the end of June where students had the entire summer to register. September - December students were working on their designs and support from TechFest volunteers were available.

Due extreme weather conditions we made a decision to move the presentation day online to ensure everyone's safety. 4 student teams showcased their designs online via teams and a panel of 6 judges select the most innovative and well though out design.

sign-UPS





Carnoustie High School team - winners of Blueprint Challenge: A Future High Street Competition

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#### **STEM in the Park**

Due to bad weather conditions we postponed our STEM in the Park dates from April to the July during the summer holidays.

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STEM in the park was delivered in 5 parks across Aberdeenshire, with TechFest staff setting up various activities for all ages to engage in STEM activities that utilise teamwork, creativity and having fun while learning





#### Summer of Play - Sociable Science with Aberdeen City Council

The aim of Sociable Science is to engage all ages in science activities that are done in conversation utilising teamwork, creativity and most of all fun while learning. Each activity is designed to be repeated at home with our audiences being encouraged to share what they have learnt with others. Additional resources included YouTube videos and handouts to support future learning and exploration.

We took the Programme out to 5 locations across Aberdeen City, these were chosen by the City Council as being in areas which would most benefit from the play scheme.







## career ready

TechFest have been taking part the Career Ready in programme. Career Ready is the national social mobility charity that aim to help young people to kickstart a rewarding future. Two of TechFest employees have been mentoring a student - Baranika - and teaching her about the world of work. In addition, as part of the programme, Baranika did a 1 month internship with TechFest.



During her internship Baranika helped us with outreach programme deliveries, she also learned about social media. Baranika's main task was to produce a Festival report. Support throughout the entire internship was provided.

At the end of her internship, Baranika prepared a presentation reflecting on her internship experience and how much she's gotten out of it. She also produced a blog where she talked about the internship.

We developed a very trusting relationship with Baranika and so, she carries on helping out TechFest with our outreach programmes.



READ BARANIKA'S BLOG <u>HERE</u>.

#### Isle of Barra Visit

A a former science lecturer who lives on the island of Barra and who has been a voluntary STEM ambassador for the past 18 years, googled the words: "STEM for kids" and discovered us - TechFest. Without any hesitation, she contacted us and invited to come to the island to promote STEM activities to the local children.

After a 4 hours drive and a 5 hours ferry journey 3 TechFest team members reached Castlebay where they spent 4 days getting to know the people of the island and delivering science activities.

During the drop-in sessions for the public in Vatarsay Community Centre, around 200 people found out about milk art, rainbow rain, growing cress, making a paper wind turbine and watched a show about STEM Through the Ages.



#### **Primary Outreach - August to December**

TechFest offers a variety of outreach workshops suitable for primary schools and early years. All the workshops are led by experienced presenters with a teaching or science background and provide an excellent opportunity for pupils to engage in enjoyable and challenging activities. Please see data from the period of August to December.







STEM in the Pipeline; Energising the Transition is one of TechFest's key events across our annual programme. This event is aimed at secondary school pupils aged 17-18 and was devised to give them an insight into the Energy Industry.

STEM in the pipeline; Energising the Transition is split into 3 parts: a Project Launch Day, a 3 month period of independent project work at school and a Presentation Day, which this year was held at bp. Each part of the process allows the students to advance their knowledge of STEM subjects whilst encouraging them to develop both their personal and team working skills.

The aim of the project is to produce a field development plan for 'The STEM Oil Field', in the form of a report. The report is then to be presented to a panel of industry professionals, acting as judges, at the presentation day where awards are given to the teams based on the panel's assessment of all the projects.

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#### Introduction Day at RGU



1st Place winners: Krow Inc., Fraserburgh academy



Having produced a brand new digital version of Discovery My Energy Future we were able to provide Orkney Science Festival with a range of activities to add to their online offering.







#### **Tour of Britain**

To promote TechFest to a wider audience, we took part in the Aberdeen City and Aberdeenshire Councils' Tour of Britain event which was based on Union Street Aberdeen in September. This proved

popular with the public and there were a wide variety of activities onsite as well as the final stage of the Cycle Race.





#### **Caithness Science Festival**

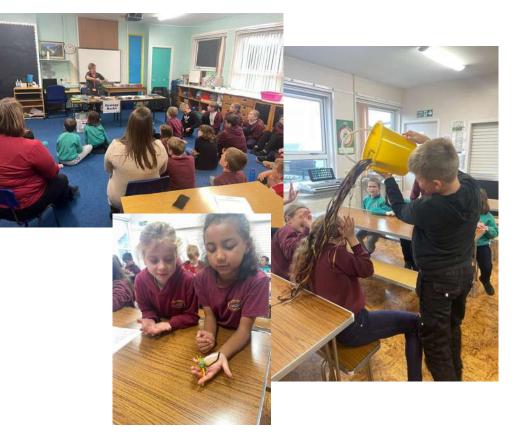


After two years of appearing Digital at Caithness Science Festival we were delighted to return in person for the September festival.

Taking our workshops Geology Rocks and Glorious Germs over the course of the week we managed to reach 620 pupils.







# SEPTEMBEF





Friday 28 October 2022 | 11.00 am - 3.00 pm Powis Community Centre



As part of Explorathon 2022 we took part in the AI & Brilliant Bodies event which was a free, drop-in event, children of all ages and families can try out hands-on activities which explore how technology, specifically technologies labelled "artificial intelligence" or AI can be used in medicine to benefit our health through quicker diagnosis and appropriate treatment of disease.



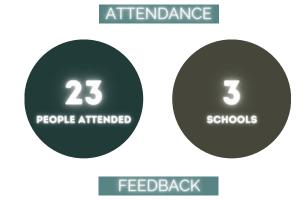


#### Liftex - Career Networking event with LEEA



S5 and S6 pupils were invited to apply the knowledge they have cultivated from STEM subjects to hypothetical yet realistic industry discussions, with Industry professionals attending from LEEA who are passionate about their sector and keen to engage the next generation to join.

Aim of this event was to raise awareness and engage secondary school students with the huge range of opportunities available within the Lifting sector and promote initiatives such as Think Lifting to schools.



All students who filled out the feedback form indicated that this event helped them understand future skills and jobs better.

#### FUTURE

The results demonstrate that students have enjoyed and benefited from this event. Therefore, in line with our mission to inspire young generation, spark their interest in STEM and give them an opportunity to explore their abilities, we aim to host more events like this and we hope to continue working with our current and new sponsors on the events to come.

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#### **Career Networking events with DYW and NESCOL**

TechFest, in collaboration with DYW (Developing Young Force) and NESCOL, invited secondary school pupils - of all ages - from Aberdeen and Aberdeenshire to two career networking events that were held at NESCOL.





Pupils had an opportunity to listen to an inspirational speaker of the day: Sarah Chew at Fraserburgh Campus and Sarah Cridland at Aberdeen campus, and network with professionals from the energy industry, understand more about their meta skills and engage in industry-linked STEM workshops delivered by TechFest, NESCOL, The Scottish Maritime Academy and other programme partners.



ATTENDANCE



#### My Energy Future

As part of OPITO's "My Energy Future" programme, TechFest has designed a suite of workshops to engage and inspire students within the world of energy. The workshops range from early primary through to senior high school ages to ensure that at each key stage of a student's education they have the opportunity to engage with a My Energy Future project. As such, from a young age, students have the opportunity to explore and develop the skills that empower them to pursue an interest in STEM subjects. The workshops were designed to be complimentary to OPITO's My Energy Future website, and students are encouraged to utile this fantastic resource.

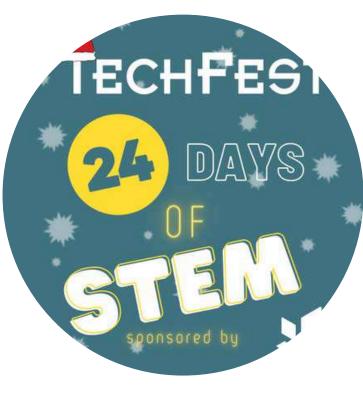








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Back by popular demand! Following a successful pilot year in 2021, we were delighted to relaunch our 24 Days of STEM Advent Calendar in December 2022. Running the length of advent, we created a brand new interactive calendar designed for use in the classroom and at home. Content included jokes, videos, and a variety of engaging STEM activities, perfect for the festive season.

The STEM advent calendar was hosted on TechFest's website and there was no cost to take part.

It is worth noting that the estimated participants is a rough number worked out from the number of sign ups. Many participants did not tell us how many people would be taking part.



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Launched in 2021 as a 'podcast by students for students, TechFest Talks combines interviews with subject matter experts and the unique perspective of the young people hosting the podcast. TechFest Talks gives students from all over the UK the opportunity to share knowledge, learn new skills and bring science and technologybased industries to life in a way that only they can.



A collaboration between Aberdeen Science Centre and TechFest, supported by the Institute of Physics (IOP), the 'Space into Energy' programme gives young people a glimpse into the inner workings of these exciting fields and how the skill sets required for each sector often overlap.

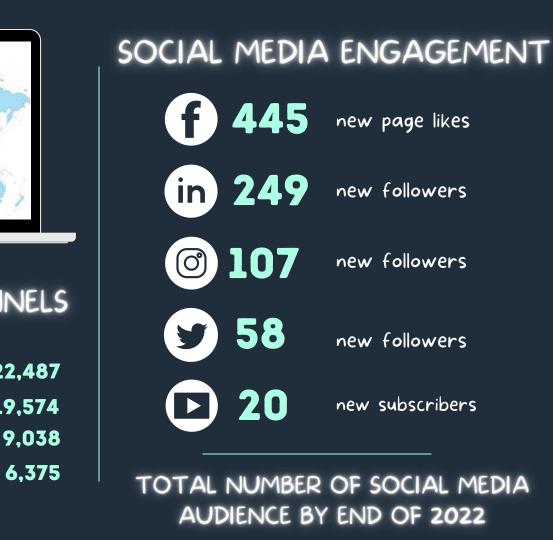


#### **Primary Outreach**

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## **PROGRAMMES TO LOOK FORWARD TO IN 2023**

For years TechFest has been dedicated to not only improve existing projects, but also to come up with new projects! This year we are going to continue improving our current programmes as well as delivering our outreach activities at schools. In addition, following a successful grant application from NCR TechFest is going to develop a brand new project that will ask pupils to design a product.

There are heaps of programmes we are looking forward to delivering this year!

#### **NEW PROJECTS**



#### **UPCOMING PROJECTS**





We are successfully continuing taking part in the Career Ready programme and this year we took on a challenge to mentor 3 students.

