GENERAL INFORMATION	
Title	**Bath Taps into Science – a science festival for primary school pupils aged 10 and 11**
Key words	Access to university, activities and support, science education
Objectives	Engage and stimulate the general public with STEM To work in conjunction with schools and colleges to contribute to the raising of students' attainment in the long term Provide public engagement opportunities for undergraduate and postgraduate students at the University.
Phase of studies *(Choose all phases it applies)*	Access X Retain X Graduation Transition to work-life -
Type of degree *(Choose all degrees it applies)*	Bachelor's X Graduate Master's X
Level *(Choose all levels it applies)*	International National X Institutional X Faculty X Group X Individual
Name of the institution	University of Bath
Location *(City and country)*	Bath, UK
Target group/s	Primary school pupils and their families
Stakeholders involved	Schools, Colleges, Parents, Students, Universities, Widening Participation Office, Academic STEM departments and staff.

Description of the organisational process *Actors, triggering evidence, campaigns, graph… (max. 300 words)*	Bath Taps into Science has been designed as a week of activities to support students going through the transition between primary and secondary school. It is not a "fix all" event, but forms part of a wider programme of activities that schools and universities engage in to encourage students to "swing" back towards STEM. Some of the activities also support parents to gain that valuable 'science capital' (Archer *et al*, 2012) The week of events aims to show students and families how the science they learn at school can be applied to the wider world and to inspire them to want to become a 'scientist'.

A. FORMAL EVALUATION CRITERIA

A1. ACCESS TO INFORMATION *Provide sources of information (URL, websites, literature, materials)*	www.bathtapsintoscience.com
A2. TIMEFRAME *Since when has it been in use? What is its maturity level (initial, intermediate, advanced)? Describe if there is evidence of its duration in the long run. (max. 70 words)*	Bath Taps into Science began in 2000 with a relatively small number of students and families attending a science fair. Over the years this has expanded and in 2016 became a festival with a programme of 35 events including two science fairs and activities for the whole family.
A3. NUMBER OF STUDENTS *How many students are involved? Is the number representative considering the target group?*	In 2016 over 8,000 people interacted with an event at the festival. This included 5,000 members of the general public and 3,000 school children of various ages. The largest group of students attended the schools science fair (1,400) and others were groups in schools. Of the students at the schools science fair 49% met the criteria of being under-represented.
A4. SCALABILITY ("volume") *Describe how it has been or can potentially be scaled up and practiced in a wider scale. Or, has it been or can it potentially be scaled down (e.g., from larger to smaller institutions)? (max. 70 words)*	In 2016 the festival was increased from 3 events to 35 through engaging researchers at the University and local industry to run events and activities for schools. In 2017 we aim to increase this further. Funding is a key part of expansion with more attendees requires larger venues, therefore supplementary funding has been sourced through local companies to compliment funding from the host institution. The increased offer is dependent on the willingness of academics to develop and deliver activities and the project team to plan and deliver the festival.
A5. TRANSFERABILITY (from one context to another) *Describe how it has been or can potentially be transferred and applied to different (a) target groups, (b) institutions, and (c) societies. If possible, name also some practices that this initiative was developed from or has inspired to. (max. 70 words)*	The festival is very transferable and could be offered by different subject areas and at many institutions. The delivery of the festival is the same, with the difference coming from the subject of the delivery.

A6. ASSESSMENT	The festival is evaluated through a mixture of methods depending on the event.
Describe how it has been evaluated. How has it proved its relevance as the most effective way to achieve the objective? How it was successfully adopted? How it has had a positive impact on people? How the impact has been measured? Shortly describe how various forms of evaluations have been used in the assessment (A6.1 User evaluation, A6.2 Self-evaluation, A6.3 Peer evaluation, A6.4 External expert evaluation). Provide references, if possible. (max. 200 words)	A6.1 Used to measure the success of the science fairs. Methods include questionnaires, video interviews, social media interactions, measuring amount of interaction (stamp cards) and 'smiley-face' evaluation A6.2 Researchers and staff delivering the events complete a self-reflection questionnaire A6.3 No peer evaluation A6.4 Evaluation Officer critically viewed a number of exhibition stands A report of the 2016 Festival can be found here: http://bathtapsintoscience.com/documents/festivalreport2016.pdf
A7. CONTACT	
Who can be contacted so as to seek support and networks for implementing the practice (name, position, e-mail)?	Dr Andrew Ross andrew@bathtapsintoscience.com Prof. Chris Budd chris@bathtapsintoscience.com

B. CONTENT EVALUATION CRITERIA

B1. SOCIAL JUSTICE PRINCIPLES (see Nelson & Creagh, 2013)

B1.1 Self-determination	*Very weakly* ☐	*Weakly* ☐	*Well* x	*Very well* ☐
Rate and Justify (max. 70 words)				
(how students have participated to its (a) design, (b) enactment and (c) evaluation and how they can (d) make informed decisions about the participation)	Each year the festival improves because of the feedback from previous years. Evaluation data is analysed and acted upon to ensure that students get the best out of all the activities and events on offer.			

B1.2 Rights	*Very weakly* ☐	*Weakly* ☐	*Well* x	*Very well* ☐
Rate and Justify (max. 70 words)				
(how it is assured that all participants are treated with dignity and respect. How have their individual cultural, social and knowledge systems been recognised and valued?)	All venues are selected as they have good access for all people attending. In 2017 there will be a quiet hour at the largest science fair to allow those with specific needs to enjoy the fair at their own pace. All researchers work with a diverse student body on a daily basis and are aware of issues around inclusion.			

B1.3 Access *Rate and Justify (max. 70 words)*	*Very weakly* ☐	*Weakly* ☐	*Well* ☐	*Very well* x
(how it is assured that there is an active and impartial access to the resources (e.g., curriculum, learning, academic, social, cultural, support, and financial resources))	All students and families, irrelevant of background, take part in the festival, with a specific push towards encouraging under-represented groups to take part, including under-represented genders. All resources are made available through the festival website, with additional resources for the interactive science fair stands linked via a QR code on each stand. In 2017 the largest family focused science fair will have a quiet hour for people with disabilities to engage with the activities on offer.			

B1.4 Equity *Rate and Justify (max. 70 words)*	*Very weakly* ☐	*Weakly* ☐	*Well* ☐	*Very well* x
(how if it openly demystifies and decodes dominant university cultures, processes, expectations and language for differently prepared cohorts)	Events are run for people of all ages by a variety of people, who promote the variation in people in STEM roles. We ensure that we break down the stereotype that all scientists wear white coats and that all engineers fix cars, by showing the variety and depth of STEM research that is undertaken across the area.			

B1.5 Participation *Rate and Justify (max. 70 words)*	*Very weakly* ☐	*Weakly* ☐	*Well* x	*Very well* ☐
(how it has led to socially inclusive practices. How does it increase students' sense of belonging and connectedness?)	The festival 'normalises' science across the city with parents and students taking part in some of the science together. The large event in the centre of the city, supports this by being based in a park, not a normal place you would expect science. The events for schools are on offer for students of all ages and with the festival running each year means there can be progression through the events across the years. (e.g. primary school students attend a large science fair and some secondary school students present at the fair alongside researchers and companies. Over the years students progress through attending the fair to presenting at it.)			

B2. COLLABORATION *Describe what kind of collaboration there is between various stakeholders. (max. 70 words)*	The Widening Participation Office manage the festival and work with other academic departments and the Public Engagement Unit to deliver the programme. Partnerships are created with local industry who support the festival financially as well as through offering activities and exhibitions.
B3. STUDENT SATISFACTION *Describe the student perception of this initiative. Is there evidence of their satisfaction? (see also A6.1) (max. 200 words)*	Students really enjoy taking part in the activities on offer and teachers think that it supports their learning and thinking about STEM. Evaluation of engagement and enjoyment at the science fairs shows that almost all students enjoyed the experience and engaged with an average of eight stands during their 1.5 hour visit.

B4. STUDENT WELLBEING *How does it influence on students' (a) psychological, (b) social, (c) academic, and (d) physical wellbeing?* What kind of evidence there is? *(max. 200 words)*	b) Most of the events and activities offered as part of the festival are tailored towards the curriculum, supporting the students' learning and contextualising their knowledge outside of the classroom. One off events like the festival will have little impact on a,b and d, but activities added in the lead up to the 2017 festival will have a more sustained impact on the students.
C. FINAL REFLECTIONS (based on the previous description of you good practice)	
Success factors *What are the factors required for the successful implementation? (max. 200 words)*	- A clear set of aims and objectives for the event tied into a comprehensive evaluation framework - Team of staff experienced in delivering high quality events to students and families - Researchers delivering engaging events and activites, where possible tied to the curriculum - Good communications with schools so they are clear about what is on offer
Sustainability *What is needed for the practice to sustain? What resources are required? How it contributes to environmental, economic or social sustainability? (max. 200 words)*	Over the past few years Bath Taps into Science has received funding and support from the University of Bath and has supplemented that with sponsorship form local companies. Working with researchers to include the Bath Taps into Science festival within Pathways to Impact statements of grant proposals will ensure that the festival becomes self-sustaining.
Challenges *What are the constraints identified? How easy it is to learn and implement? (max. 200 words)*	The largest constraint is budget, as more activities are possible with sufficient funding. Each year the budget has increased and has allowed the festival to expand through larger venues. Development of a team of staff has also allowed the festival to grow, a few years ago the festival relied on volunteers who changed each year and so there was little continuity and little growth. The festival takes a long time and a team of two staff to organise, the current team have been in place for three years and this has led to improvements each year. This can be replicated with a consistent team and starting small with steady growth and improvement each year.

Sources

Kunttu, K. 2005. The study ability model. The Finnish Student Health Service (FSHS). (http://www.yths.fi/filebank/692-ENG_OPISKELUKYKYMALLI_pdf.pdf)

Nelson, K & Creagh T. 2013. A Good Practice Guide: Safeguarding Student Learning Engagement. Queenslad University of Technology. Brisbane, Australia. (http://safeguardingstudentlearning.net/wp-content/uploads/2012/04/LTU_Good-practice-guide_eBook_20130320.pdf)