

Science on a shoestring

A British Science Association programme. Registered charity no. 212479 and SC039236.

This document is designed to act as your rough guide to running your own BSW event or activity on a shoestring budget. It contains information from other organisers who have planned and run BSW activities themselves, as well as a few ideas from us. The most important thing is to remember to have fun and be creative!

'Imagination is more important than knowledge.' -Albert Einstein

1. Think of a theme

It often helps when organising an event or activity to think of a theme that links the event together and allows different subject areas to be involved.

"Choose a good over-arching, accessible theme – for example, water; the 3Rs: reduce, reuse, recycle or space all worked brilliantly from Nursery to Year 6." -

Ebunoluwa Olufunwa

2. Get a presenter or book an activity

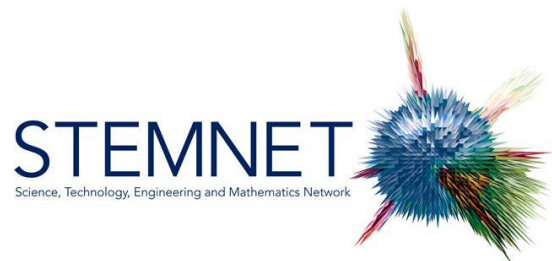
Inviting a presenter to your science week can be a powerful way to engage young people in science and engineering. However, this can be expensive. Nevertheless, it is possible to find a volunteer speaker that will come into your event. Below are five sources of presenters, many of whom are willing to help by offering their time.

STEM Ambassadors

The STEM Ambassadors programme brings illumination to students and switches on the minds of young people to the potential of STEM subjects and careers. STEM

Ambassadors are everyday people from real working backgrounds who volunteer their time to act as inspiring role models to young people.

Ambassadors are an invaluable resource. They offer their time voluntarily to enthuse and inspire students about STEM subjects. They can do this through a variety of activities such as clubs, careers talks, helping with school events, lessons and competitions, and much more. Your local STEM Ambassadors Management contract holder can help you decide how best to employ an Ambassador.



www.stemnet.org.uk

Local community

Other sources of free speakers and activities can be found within your local community. There are many people who will be willing to get involved with your science week, you just need to ask.

Which local community groups could you go to for help? How could your local college or university get involved? Do you know any doctor, nurse, dentist or anybody working in a laboratory? Do you know any engineers or architects? Who's your local builder? – even he or she could help! Don't forget the resource of people; your local community is full of talented individuals just waiting to be asked. If mums and dads get involved in sports events, why not science events?

"A friend of one of the staff brought in his reticulated python and ran small sessions for each class to get to know her! A local farmer lent us an incubator and ten ready-to-hatch eggs. I also contacted the University Physics Department and for the price of ingredients all the children got to eat ice-cream made in the demonstration of what liquid nitrogen can do!" -Michelle Tett

"If you have a theme then people who do things locally may come to you with an idea – for example, we had "Colour in Science" as a theme and I tutored art so we learnt about colour mixing, the colour wheel and absorption of water based paints by salt. What we were using to paint on was satin which had been near the entrance to the marquee at my brother's wedding. In these days of reduce, reuse and recycle, I'm sure lots more ideas for how you can do things cheaply or free would be available if you're brave enough to ask." -Kerynne Robertson

STEM directories

The STEM directories are another great source of presenters. They comprise a collection of schemes and activities provided by organisations from across the UK that aim to enhance and enrich your curriculum. These schemes are usually based around events or experiences that cannot be delivered with standard contacts and resources. Each activity is linked to the curriculum so that the impact of the experiences and outcomes can be sustained.

www.stemdirectories.org.uk

FameLab

FameLab is a source of talented communicators, many of whom are prepared to come to your school and help out as volunteers. Take a look at the FameLab and see what they can offer.

www.famelab.org

3. Work together

Working together can be a great way to achieve a really dynamic science week. Collaborating with other organisations can make science more fun and appealing to audiences who would not normally think science and engineering was for them. Exchanging ideas and resources also takes advantage of generic resources and gets everyone involved.

Another way to guarantee a great science week can be to work with local schools. School pupils can be unexpectedly good communicators and demonstrators and unexpectedly receptive audiences, so why not get them together? And pooling resources keeps the budget down!

4. Free resources

British Science Week activity packs

The British Science Association provides a range of free activity packs, all full of science and engineering hands-on activities and projects. These activities are ideal to be used as part of a science fair or in a science club. Each year new activity packs are available.

www.britishscienceweek.org/plan/activity-packs

In your own stock room

Don't overlook the resources you already have. Have a look at what's hiding away at the back of the stock room. Are there any leftover materials that can be used? You might have lots of elastic bands or a load of large boxes going spare: what can be done with them? See what's in there, and get it out!

Remember to collect materials all year round: empty bottles, toilet rolls, cereal boxes, elastic bands, newspapers, etc. This way you will have lots of great things to use during your science week. Alternatively, check to see whether there is a scrap shop/store/club in your local area. These shops are often membership based and can provide a brilliant, inexpensive or free resource for card, plastic, bits of material – all sorts. These things can be turned into rockets, cars, spaceships; you name it, the kids will think of it!

Look at **www.childrensscrapstore.co.uk** to find a UK directory of scrap stores, or, use Google to find your nearest store.

“In previous years I have held a Science Club and have requested white shirts for the children to use as lab coats. Each week we decorated the shirts with new vocabulary. The kids loved this! I have tried doing this in science week and asked the children to each bring in an old white shirt that they can decorate with vocab and definitions throughout the week. If there haven't been enough, we have used old cloths and covered the table and the children have written/drawn on these instead. They love it!” -Sara Blashford

“You can do lots of fun and educational science and activities with very little money, just a bit of imagination :) In a former life I organised loads of cheap and cheerful ‘challenge’ type activities, e.g., making the best paper aeroplane, parachute, bridge, tower, raft, etc. They can be done with everyday materials (paper, newspapers, old plastic bottles, bin bags, etc.), and part of the challenge is that the materials are not ideal and the quantity of materials is limited. This encourages team working, problem solving and practical skills and can be done with one class or a whole school and tailored to suit any age including the public. Throw in a few prizes and it's surprising how competitive they get!” –Dr. Sarah McLusky

Your local library

Your local library is a veritable ‘village pump’ of information for your local area. This can be a good place to advertise your event, recruit volunteers and collect free resources.

Local businesses

Local businesses are normally willing to provide free resources. One man's rubbish can be all another man means to build an empire! Again, all you need to do is ask.

“IKEA offered a range of materials. They have a point of contact, and as long as we went to collect it, we could go each week, fortnightly or monthly and they would just give us whatever scraps of materials or useful resources they had.” -Sara Blashford

“I've had film canisters from the camera shop and cellophane from the baby club art box to show how the different plants grow with different coloured light. The local Tesco store awarded us £10 to spend in store, and we did several different experiments from this including growing flowers (from my garden and the florists) in different coloured waters with food colouring, which gave spectacular results and which the florists were happy to display in their window.” -Kerynne Robertson

5. Get funding

- Applications for BSW 2017 are now open and will close on 21 November 2016 at 5pm.

There are three grant schemes available to support British Science Week (10-19 March 2017) activities: one for schools, one for community groups, and one for BSA branches.



Kick Start Grants

This scheme offers grants for schools in challenging circumstances to organise their own events as part of British Science Week. There are two options available:

Kick Start grant: A grant of up to £300 for your school to run an activity

Kick Start More grant: A grant of up to £700 for your school to host a science event or activity which involves your students and the local community

BSW Community Grants

This scheme offers £500-1000 grants for community groups that work directly with audiences who are traditionally under-represented and currently not engaged in science activity. Our definition of groups that are underrepresented in science includes:

- people who are Black Asian Minority Ethnic (BAME)
- people with low socio economic status (SES)
- young people with anti-social behaviour, including those not in education, employment or training (NEET)
- people with a disability, defined as a physical or mental impairment that has a substantial and long-term effect on someone's ability to do normal daily activities ([Equalities Act 2010](#))
- girls and women
- people living in a remote and rural location

BSW Grants for BSA branches

This scheme offers £300-1000 of funding for BSA branches to take part in our national celebration by running local events during BSW. This scheme is open to [BSA volunteer branches](#) only.

Please visit our website and read the grant guidelines for each respective grant for more information: www.britishtscienceweek.org/plan/grants.

Where else can I get funding?

Check out the BSW *Guide to Funding* for details on other organisations that provide grants and how to apply: www.britishtscienceweek.org/plan/how-to-guides.

You could also ask local businesses to sponsor your science week. Offer to put their logo on your posters and in any press releases in return for sponsorship.

"I contacted local shops and businesses for any donations linked to the theme or even for vouchers. Marks and Spencer provided us with £50 of vouchers, which I used for some prizes for the best scientists of the week." -Sara Blashford

6. Register for a CREST Award



CREST Star (5–12 years)

CREST Star is a UK-wide award scheme that enables children to solve scientific problems through practical investigation. The activities focus on thinking about, talking about, and doing science. They are designed to be used primarily outside of class time (e.g., in a science club), although some are suitable for use in a classroom and curriculum links are identified for each activity.

CREST Stars has three award levels: **Star**, **SuperStar** and **MegaStar**. As part of each award, children work through a number of practical activities to achieve their award.

Resources are now available online and once registered you will have access to activity cards for the students and organiser cards for the adult leading the session for over 60 activities. You will also have access to the templates for the stickers and star logs for the students to track their progress through the award.

CREST Star resources can be used for stand-alone activity ideas throughout BSW, or as a set of activities for a teacher to run as a circus of events in a school hall and in a classroom. The great thing about the scheme is that the organiser cards include all

the science background that you will need to run the activity. **Adults can run these sessions without a science background and feel confident in doing so.**

www.britishecienceassociation.org/creststar

CREST Discovery (11–19 years)

CREST is a UK award scheme recognising success, building skills and demonstrating personal achievement in STEM (science, technology, engineering and maths) project work. CREST Awards are available at **Discovery, Bronze, Silver and Gold** levels, depending on the amount and depth of work carried out.

CREST Awards are recognised by UCAS for use in personal statements and can be used towards a 'skills section' in the Duke of Edinburgh's Award scheme. Another key strength of the scheme is that it encourages projects with strong industry or academia links.

The CREST Discovery Award provides activities that can be completed in a day, encourages the development of skills in problem solving, independent learning organisation, teamwork and communication. We also have a growing list of CREST linked schemes at Discovery level, offering more opportunities to link with the scheme outside of school/college. Why not run a Discovery activity during science week?

www.britishecienceassociation.org/crestdiscovery

6. Words of wisdom

We have compiled the best case studies from different event organisers for you to learn from real experiences. You can download them to find ideas, inspiration and advice. You will find case studies from Event Award winners, first-time organisers and organisers who targeted specific audiences.

www.britishecienceweek.org/plan/case-studies

7. A few additional ideas

Science-Themed Assemblies

You can get the whole community involved in your science week by doing a week's worth of science-themed assemblies. If you need some inspiration on what to

include, have a look at the websites in the online resources area below. These sites are full of ideas and resources that should fill you with inspiration.

You could also invite guest speakers to the assemblies. Maybe one of the people you found from your local community can come in.

British Science Week Fair

Science Fairs can get the whole community involved in your science week, and they can be cheap to organise. You could get children to create science activities that can be presented at the fair, or get them to run some of the activities from the activity packs. Try to make the stands as interactive as you can for maximum audience participation.

“We have run Science Fairs previously and have found them very good for building community cohesion and enthusiasm for the subject.” -Nasreen Majid

“I think we attracted a lot of people in by making it a community lunch day and also inviting parents to go on nature trail with their own children. We were using our new digital microscope to look at creatures we had captured (temporarily) and the theme of our day doubled up with In Darwin's Footsteps, a county/field studies project we have been doing....so our subject matter was 'free'. We advertise via our website and the school newspaper and also Radio Shropshire, who came along with their bus for the day.” -Jude Duffy

Competition

Organising competitions is a good way to get children excited and families involved. You could set a challenge for them to compete with other family teams. For example, who can build a 60-second marble run? You could give a handout with a few science games, crosswords, puzzles and a few questions to be completed. Have a look in the activity packs and the websites listed below for some ideas.

We produce a quiz each year that can be done online or as a 'pub quiz' style activity. The quizzes are tailored to the curriculum so the children should be able to answer the questions. The quizzes could also be a challenge for parents!

‘I spent most of my budget (£50ish) on buying prizes for the various competitions we ran during the week: ‘Name the science superstar,’ ‘Guess the mystery object,’ ‘Art in science,’ etc. This was really popular.’

8. Online resources

The internet is full of free resources just waiting for you to find them. We have listed below a few sites that we have found that we think you will find useful.

- www.britishscienceweek.org/plan/activity-packs
- www.nationalstemcentre.org.uk/elibrary/
- www.planet-science.com
- www.exploratorium.edu
- www.techniquet.org
- www.stevespanglerscience.com
- www.thenakedscientists.com
- www.bbc.co.uk/schools/gcsebitesize/science
- www.at-bristol.org.uk/education.html
- www.nhm.ac.uk/education/index.html
- www.nhm.ac.uk/nature-online/
- <http://www.iop.org/activity/outreach/resources/pips>
- www.assemblies.org.uk
- www.teacherview.com
- www.education.nationalgeographic.com
- www.nuffieldfoundation.org/practical-biology
- www.nuffieldfoundation.org/practical-physics
- www.rsc.org/learn-chemistry/resource/listing?searchtext=demonstrations&eMediaType=MED0000009
- richannel.org/videos?query=&source=0&duration_start=0&duration_end=60&theme=&type=&year=
- www.ase.org.uk/resources/

If you find any other useful sites that you think we should, include please let us know and we will add them in.

9. We are here to help

The BSW team are here to help you. If you need any help or advice with your science week plans, please don't hesitate to get in touch with us.

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