the Bristol Method: how to bring sustainability to life in the classroom
## Contents

**Bristol Green Capital Official Schools Programme**

- Introduction 3
- What does the programme consist of? 4
- Five Component Parts 6
- What we’ve learned (so far) 14

**Case studies**

- Letting children experience nature 15
- Teaching children about climate change 16
How to bring sustainability to life in the classroom

State-funded schools in the UK follow a national curriculum. This ensures a standardised approach to what is taught, making it easier to assess progress and compare schools and students. Within the boundaries of the curriculum, there is plenty of room to be creative. Though they largely don’t decide what they teach, teachers certainly choose how they do it.

The vision for the Bristol Green Capital Official Schools Programme is to empower teachers to deliver engaging lessons on sustainability that support the curriculum.

The intention is to empower educators to be able to teach sustainability as part of a lesson on any subject, not just science or geography where it has typically sat in the past. Rather than deliver a single lesson on climate change and then move on, this programme aims to weave the narrative of greener living into many different possible lessons. The ethos is to make sustainability core to children’s learning, not a subject that sits by itself. The introduction of the new national curriculum in September 2014 makes this a particularly well-timed project: this programme supports teachers as they introduce it, whilst injecting new and interesting ways to teach it.

Of course, embracing sustainability is about more than just teaching children: it is about the ethos of the school and how it manages its environmental impacts, as well as the way it empowers pupils and the wider school community to take action.

Another of the programme’s aspirations is to connect young people with the Bristol’s European Green Capital designation. In some neighbourhoods, awareness of the year has been low and so this project has provided an opportunity to share why Bristol won it and increase knowledge about - and pride in - the infrastructure and initiatives that makes the city so special.

This is the first time a winner of the European Green Capital award has included a dedicated schools programme. It is led by Bristol 2015 Ltd., the company charged with delivering the activation of the designation.
What does the programme consist of?

The project is a three-year programme. In the first year (2015), the Schools Programme used Bristol as a test bed for a series of projects and programmes targeted at Key Stage 2 pupils. Having been thoroughly road-tested, successful lesson plans and resources were made available to educators everywhere via a legacy website launched in September 2015. The website is funded to run for two years before an alternative host is required.

As well as testing ideas and materials on Bristol’s school children, all the resources and experiences from the year were developed with close involvement from Bristol teachers via a Teachers Advisory Panel to ensure all materials fully support the national curriculum.

In line with Bristol 2015’s key themes, the learning materials are divided into five sustainability topics: energy, food, nature, resource and transport.

Web resources

The different elements of this programme were designed to produce output that is created by Bristol teachers and school children but that is useful for classes nationwide. The idea was to offer a series of innovative resources to help teachers bring sustainability themes into their lessons, making it a regular learning objective in a child’s life.

In addition, the team has sifted through existing sites and resources in order to offer recommendations of the most useful. This was decided following a review of existing online materials: there is a huge amount of content available but it can be overwhelming for a teacher to sort through it to find high-quality resources. All content on the website has been audited by teachers.

The new online platform also signposts teachers to free opportunities in their area, letting them know about free and funded projects that support teachers in school by bringing specialist sustainability knowledge into the classroom. The website launched in September 2015.

How is it funded?

When Bristol won the designation of European Green Capital, a team was brought together to manage a year of events and activities. This team – the Bristol 2015 Company – applied to the Department of Energy and Climate Change (DECC) for funding to maximise the potential impact of the year, both locally and nationally. The government awarded £7 million to fund the wider project, £800,000 of which was earmarked for a national primary schools programme.
What is Key Stage 2?

Key Stage 2 covers years 3, 4, 5 and 6 meaning children are aged between 7 and 11 years old.

Why was this age group chosen?

At this age, evidence shows that children are particularly receptive to the topic of sustainability and most likely to adopt long-lasting changes to their behaviour. It is a crucial part of understanding the world around them. Connecting with this age group is also a valuable way to engage harder to reach communities within the city.

What is the Teacher’s Advisory Panel?

Early in the project’s life, the project’s Head of Education, Jo Taylor, offered an opportunity for schools to be involved in a Teacher’s Advisory Panel, to shape ideas and act as a sounding board. The Panel meets monthly and comprises ten teachers from local Bristol schools, representing state and independent primary schools as well as special needs schools working with children at Key Stage 2 levels.

At the start of the year, both Bristol 2015 and Bristol City Council promoted this opportunity to all teachers through e-newsletters and networking events. Teachers were asked to fill in an online form expressing their interest and were chosen to represent different schools in the city according to geography, deprivation levels, school inspection reports and the level of commitment to the panel they could provide. The Bristol 2015 Company covers the cost of supply teachers, enabling people to volunteer their support without impacting their school.
Sustainability workshops

Facilitated workshops are a favourite with time-poor teachers: external experts join a class for a lesson, sharing tested materials and, typically, plenty of new energy.

The Schools Programme offers a suite of five creative and inspiring workshops – one on each of the themes – four of which are facilitated by a local specialist; the fifth is a virtual tutorial which teachers can easily take their classes through.

These workshops were carefully crafted to highlight that sustainability is a topic that can support all areas of curriculum learning and show teachers new and innovative ways to use a subject to cover key learning objectives in Key Stage 2.

The one-hour workshops are offered free of charge and are specifically designed to enhance and support classroom teaching. Each workshop has been tailored to capture the children’s imagination, and inspire them to be ambassadors for a greener Bristol.

There are 112 schools in Bristol and 22,500 young people in Key Stage 2 and the ambition is to engage as many of them as possible. Between May and November 2015, 17,500 pupils from 80 schools participated in a workshop.

Working in partnership

Bristol is blessed with being home to the head offices of a number of major national green organisations. This project celebrates that by inviting these local experts to co-develop and deliver four of the five workshops (the fifth one being teacher-led). As well as serving to promote awareness of Bristol’s intellectual capital, this has helped these organisations build closer relationships with local schools.

The teams leading the workshops are ambassadors for Bristol 2015 – both the company and the year. The project team took the time to make sure the delivery partners understood the project’s aims, and collaborated with them to ensure all the education materials (lesson plans, teaching resources, online support) were carefully planned and executed.
The workshops

“A wonderful range of workshops which were well pitched for Key Stage 2 pupils.”
St Barnabas School

Energy

The only module designed to be delivered by the teacher, this lesson helps children learn how to code. Designed in partnership with Aardman and the Code Club, players guide Shaun the Sheep around a virtual world to switch off appliances around the house, learning as they go which are the most energy-hungry.

This workshop is designed to meet a clear need to support teachers to teach computer coding, one of the newest additions to the national curriculum. The engaging and challenging tutorial-based lesson is child-led, with supporting resources that are designed to build the confidence of teachers.

This resource has proven to be the most popular with more than a third of all the bookings being for this session.

Food

This interactive workshop helps children gain a wider knowledge of where food comes from. It is a literacy session designed to allow plenty of inspirational moments for creative writing which shows where vegetables and fruit fit into a healthy diet, how to choose seasonal and local produce, and how to reduce waste. This lesson is delivered by a storyteller with content designed by the Soil Association and Bristol Healthy Schools.

This workshop was designed to overcome concerns that lessons about healthy eating can often feel like ‘nagging’. The subject is addressed through storytelling, and embraces the excitement of trying something new. It supports learning by inviting children to use their imagination to do creative writing, and is intended to support the city-wide ambition to improve overall literacy standards.

This workshop has been incredibly popular with schools. There have also been several requests for ‘Farmer Jack’ to go back into school and additional bookings from groups who work with adults with learning difficulties.

“Excellent - he hooked the children from start to finish…The children loved the drama with storytelling and the workshop leader was fantastic! … the kids really enjoyed listening to what he had to say. One of the best workshop leaders we’ve had here. Thank you!” Fonthill Primary School

Nature

For this workshop, a presenter from the Avon Wildlife Trust guides children through science investigations and games which explore the wildlife that lives and travels through their community. This helps them connect with nature and understand what they can do to protect and extend habitats and create a nature-rich city.

An appreciation of nature is the most obvious route to understanding the importance of sustainability. The main aim of this workshop was therefore to get classes outside to celebrate green spaces and explore what lives in their school grounds. This workshop also looks at what might live in their wider community, encouraging pride in their neighbourhood.

This workshop provided a great opportunity to showcase teaching outside of the classroom and the benefits to the children.

“A really active workshop and perfectly aimed at the children's level. The leader was very knowledgeable and membership in the nature club in school has now grown considerably!” Torwood House School
Resources

In a lesson delivered by Resource Futures, classes rise to the challenge of being more sustainable by exploring the three R’s: Reduce, Reuse, Recycle. Tailored to support lessons in personal, social and health education (PSHE), the workshop teaches them about the impact that waste has on the planet, and how every person can reduce or reuse their rubbish.

Today’s young people – like their parents – are typically aware of the importance of recycling and do so regularly. However, there remains a lack of understanding about the value of reducing and reusing resources. This workshop challenges children to look at what they have and whether it is needed, and whether they can reuse something in a different way before they recycle it.

The resources workshop challenged children through game play, looking at how they can reduce, reuse, recycle and repurpose.

“The children were able to make links in their learning when talking about begin green and they really enjoyed the workshop it was fun and effective.” Parson Street Primary School

Transport

This workshop invites pupils to explore how they can motivate their school community to travel more actively in order to benefit their health and the environment. Improving numeracy levels is another city-wide target and this lesson asks children to interpret data and graphs and use problem solving to explore sustainable transport opportunities. It encourages them to travel to school in a more sustainable way such as by public transport or on foot, or using a scooter or bicycle.

This lesson is delivered by Sustrans who already work nationally with a number of local councils to ease rush hour traffic by running sustainable transport workshops for children.

This lesson has been marginally less popular than the other workshops as it has not had Shaun the Sheep or a drama resource associated with it. However, the feedback has been consistently good and teachers have found it valuable in their teaching.

“The children were immersed in citizenship, science, maths, literacy (reading, speaking and listening) and PHSE all in a single activity. The children also felt very strongly that they needed to persuade their parents to let them chose to walk to school and were prepared with a myriad of arguments to press their case!” Fonthill Primary School
Best of Bristol Fieldtrips

Bristol won the European Green Capital designation because there are so many inspirational and innovative projects going on in the city. This element of the programme aims to share these stories with children: first, through fieldtrips for local children and then, for a wider audience, as virtual tours online.

Over the summer and autumn of 2015, ten classes from different schools were taken on one-day trips to explore and understand a part of Bristol’s unique sustainability story. Each trip was different, with the topics spread across the five theme of the year: energy, food, nature, resources and transport.

In order to share these fieldtrips with a national audience, each one was documented on film. The children themselves helped to devise the film’s structure and act as presenters and voiceover artists. A Bristol film company, Woven Films, visited each school in advance of the fieldtrip to work with the children to create a storyboard and filming schedule as well as practice presentation and interview techniques. On completion these films were ‘premiered’ at a school event, allowing them to share their experience with the school community and parents. The children taking part in these fieldtrips have had unique experiences, visiting places around Bristol that are not normally open to the public and getting an opportunity to question experts at each location. Not only has it opened up children’s and teachers’ eyes to what is going on in Bristol, but the organisations who have taken part have enjoyed being part of the fieldtrips and wish to continue building on these relationships to encourage more schools to enjoy fieldtrips such as these.

The finished Best of Bristol films are now available as virtual fieldtrips on the programme website www.sustainablelearning.com, alongside materials designed to support a teacher leading a lesson on the content of the film.
Supporting Schools to become greener

Eco-Schools is an international award programme that guides schools on their sustainability journey, providing a framework to help embed these principles into the heart of school life.

Accreditation is sought after, and the scheme is very popular with British schools. Unusually, it is led by the students themselves, which means that it has a life much larger than just the school’s administration.

The Bristol Green Capital Official Schools Programme aims to support schools working towards, or reaching the next level of, their Eco Schools awards, as well as other awards in the city that support schools to go green.

The Teacher’s Advisory Panel is devising the exact nature of this support which is expected to include pre-assessment support, financial support applying for the award and an advisory contact to coach them through the process. At present, the programme is based around regular informal learning gatherings and training to share best practice and spotlight opportunities to get schools involved. In early 2016, the output of this process will be turned into an online resource that schools all over the world can access to support their journey towards more sustainable practices.

About Eco-Schools

Eco-Schools is an environmental education programme and is managed in England by the environmental charity Keep Britain Tidy, the anti-litter campaign for England. Eco-Schools England has the most Eco-Schools in the world, with 70% of all schools in England currently registered with the programme (that’s just shy of 17,000 schools).

The Eco-Schools International Programme was developed by the Foundation for Environmental Education (FEE) as a response to some of the needs identified at the 1992 UN Conference on Environment and Development. The Programme's official start was in 1994, with support of Denmark, Germany, Greece and United Kingdom.

Eco-Schools is now run in 53 countries around the world, linking more than 40,000 schools. 
Visit http://www.eco-schools.org.uk/ to learn more.
Sustainable Shaun online game

Shaun the Sheep is a local hero: made here in Bristol in Aardman’s studio, their latest clay creation is proving a hit with children (and adults) everywhere. The film *Shaun the Sheep: The Movie* opened in February 2015 to a highly favourable critical reception and has made tens of millions in box offices around the world.

The team behind the Bristol Green Capital Official Schools Programme were delighted when Aardman agreed to license the character’s use at a reduced cost for an online game to help children learn about sustainability.

The School’s Programme team collaborated with Aardman to create ‘Sustainable Shaun’, a critical-thinking game which invites youngsters to build their own sustainable city by cleaning up a brownfield site and then repurpose it, while considering the ideal balance of various sustainability objectives.

The game can either be played by children on their own by choosing the ‘free play’ mode, or switched to ‘mission mode’ so can it support teachers in a classroom setting. There are also complementary resources to connect the activity to the national curriculum and to help connect the sustainability lessons learned in the virtual world with real-life. These resources are all available online at [www.sustainablelearning.com](http://www.sustainablelearning.com)

‘Sustainable Shaun’ was launched in Bristol on 11 July to coincide with the first weekend of the Shaun the Sheep trail. The Bristol 2015 lab was converted into a 3D version of the game for the duration of the school summer holiday and was visited by more than 150,000 people keen to find out more and learn from the volunteer ‘Shaun’s Shepherd’ how to play the game.

By the end of 2015, more than 30,000 unique players from 146 countries had been recorded playing the game online. The fantastic success of Sustainable Shaun was recognised in November 2015 when it was awarded a TIGA games industry award for best game with a purpose.

“We are so pleased to have Shaun the Sheep on the team! Making lessons fun is one of the easiest ways to get young people engaged and the coding game has been brilliantly well received so far.”

*Savita Custead*
Director of Education and Engagement, Bristol 2015

“Shaun is always recycling and upcycling items found on Mossy Bottom Farm to aid his farmyard adventures, which is why he makes the perfect Bristol 2015 schools ambassador. We are delighted that Shaun the Sheep can bring a sense of fun to learning about sustainability issues. The interactive ‘Sustainable Shaun’ game will help engage and educate children about green issues in a fun and immersive way.”

*David Sproxton*
Executive Chairman of Aardman
‘Green for Good’ Schools Award

As local schools were the pioneers and guinea pigs for the Bristol Green Capital Official Schools Programme, the team has created an award to recognise and reward their contribution.

Every school that completes 15 sustainable challenges in 2015 will receive a trophy and be given the rights to use the ‘Green for Good’ logo, connected with the public campaign #Do 15 in 2015.

Each of the five workshops counts as one of the challenges, and the remaining ten are made up by choosing two actions from each of the five themes. A series of pledges is offered online to inspire schools and teachers receive regular emails to alert them to new opportunities.

The award is designed to support and complement other awards in schools such as Eco Schools, the Mayor’s award for excellence and Food for Life Schools.
What we’ve learned (so far)

The project is still in its first year but, already, the team have learned a great deal. Here Jo Taylor, Head of Education for Bristol 2015, shares some of the knowledge she’s gleaned so far:

Plan for unknown demand

We wanted to offer all 112 schools in Bristol the opportunity to have each of the five half-day workshops for free. However, at the point of contracting with the workshop facilitators, we did not know what demand to expect. We therefore agreed to guarantee each facilitator payment for 30 days work to allow them to resource the programme accordingly – a couple of our partners recruited head count especially for this project.

We knew that not every school would take up our offer of free workshops as some teachers plan their year ahead with a mapped curriculum so had locked down their lesson plans before our year as European Green Capital began. We have worked hard to reach as many schools as possible and have engaged over 70% of schools (generally school uptake for free projects is about one third of all schools, so we are pleased by the overall uptake and continue to work closely with the remaining schools).

Expect teachers to be busy

Marketing to schools is notoriously challenging. During term time, teachers are hard to reach and we knew they had very little time to hunt down opportunities by themselves. To manage this, we created an online booking platform that enabled them to take control of when the workshops were scheduled, and reduce to-ing and fro-ing on email. We noticed that a lot of the bookings were arranged outside normal working hours, which is proof of the need for a system that suits teachers’ busy diaries.

Offer solutions, not extra burdens

The quantity of topics in the new curriculum and the pressure of assessing children means the timetable can seem tightly packed. We resisted the temptation to propose the workshops as extracurricular activities and instead sought to position them as support for core subjects (math, literacy etc) with them theme of sustainability woven through them.

We also made sure that all teaching resources were as flexible as possible: the school year is often planned out well in advance meaning teachers have a plan of when each topic will be taught. We therefore provided materials that could be adapted for each school and which genuinely helped to meet the requirements of the curriculum.

Help plug gaps in knowledge

The new national curriculum was enforced from sept 2014, creating challenges for teachers but an opportunity for us. The computing curriculum was new to many teachers so our workshop and resources to help teach coding has been very well received.

Expect the unexpected

With any new project, there are bumps that have to be ironed out as you go. Twice, the presenter of the Food workshop stepped down due to other work commitments. This has meant developing the final workshop with a new presenter at very short notice. We are proud that this is proving to be one of the most popular, despite its bumpy start.

Be adaptable

We originally wanted the resources workshop to be a craft session but recognised that group sizes would make this unworkable. We also had to overcome the challenge that each city and region has different waste and recycling systems so creating an online toolkit for use nationally has required additional careful thought.

One of the largest challenges we had was ensuring that the energy coding workshop would work on the majority of school IT systems since some run older software. We made sure the website worked on a wide range of browsers, including very old versions of Internet Explorer and Flash. Aardman understood this constraint from the beginning and worked around it. We also briefed all teachers on the IT requirements well in advance so any updates they needed on their individual computers could be done long before the lesson.

We also made sure our website and scratch project site were ‘whitelisted’ – a process used by the council which unblocks certain channels so schools can visit these websites. We are also working with the Department for Education to replicate this process nationally.
## 2015 Timeline

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<th>MAY</th>
<th>Workshop series launched for Bristol school children</th>
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<tr>
<td>JULY</td>
<td>Launch of Sustainable Shaun online game for Bristol children</td>
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<td>SEPT</td>
<td>Sustainable Shaun game launched online</td>
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<td></td>
<td>Launch of national schools website</td>
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<td>OCT</td>
<td>Ecoschools support commence</td>
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Case Study: letting children experience nature in a Forest School

Forest Schools uses hands-on and interactive teaching sessions to teach children the importance of sustainability and give them the skills they need to act upon environmental issues.

The outdoor activities offer children who may not have access to their own gardens a chance to gain an appreciation for the outdoors. They also get the chance to learn about the environment and learn skills such as den building, fire-making and animal-rearing.

The activities teach children team-building skills and help to build pupils’ confidence. The project also helps with the behaviour and attention of children in the classroom.

Young people studying at the University of Bristol are able to volunteer to support Forest School sessions at Bannerman Road Community Academy. They are asked to give two hours of their time each week to allow the schools to provide a wider range of activities, including ‘riskier’ activities like building fires.

The volunteering programme is designed to show students their potential to shape a better world, as well as connect them to opportunities to make a difference during their time at university, and support them to become social leaders in their future lives and careers. In 2015, ten students from the university are working as volunteers.

"Forest Schools is a unique part of our curriculum at Bannerman Road Community Academy as it enables our children to experience the outdoors when many of our children live in small flats with no access to gardens. Without the dedicated volunteers from Bristol University we would not be able to do many of the activities that inspire the children such as den building, fire lighting and sawing. All of these activities have a huge impact on the children such as learning how to work as a team, risk analysis, independence and knowledge of the world around them."

Samantha Fisher, Deputy Head, Bannerman Road Community Academy
Case Study: Teaching school children about climate change through a cross-curricular workshop

During key stages 3 and 4, UK school children learn about climate change in both science and geography classes. Students therefore encounter climate change in a wide range of educational contexts, which may make learning about an already complex subject even more difficult.

During Bristol’s year as Green Capital, student teachers studying for a PGCE at the University of Bristol developed a cross-curricular workshop on climate change in order to unlock the potential for new ideas and strategies to emerge from the fertile ground of interdisciplinary discussion.

The team at the University of Bristol saw value in adding a historical perspective to the typical science and geography lens to help pupils gain historical perspective and understand the long arc of development.

The students prepared the sessions by doing subject-specific reading in all three subjects, in order to understand what is already being taught in schools.

The workshops were held in five schools, reaching approximately 250 Year 9 students, aged between 13 and 14. The pupils enjoyed the unique way of teaching the topic, and found the cross-curricular approach helpful as it revealed different perspectives on climate change. For the student teachers, it gave them experience of working across other subject areas, showing them how these connect and enhance each other.
BRISTOL 2015

European Green Capital is a prestigious annual award designed to promote and reward the efforts of cities to improve the environment. Bristol is the first ever UK city to win the award.

European Green Capital is run by The European Commission, recognising that Europe’s urban societies face many environmental challenges – and that sustainable, low-carbon living is vital to the future of our cities and our people.

The award was first won by Stockholm in 2010. Since then, Hamburg, Vitoria-Gasteiz, Nantes and Copenhagen have carried the torch. Bristol will hand over to Ljubljana at the end of the year.

THE BRISTOL METHOD

The Bristol Method is a knowledge-transfer programme aimed at helping people in other cities understand and apply the lessons that Bristol has learned in becoming a more sustainable city, not just in 2015 but in the last decade.

Each module of the Bristol Method is presented as an easy-to-digest ‘how to’ guide on a particular topic, which use Bristol’s experiences as a case study. The modules contain generic advice and recommendations that each reader can tailor to their own circumstances.

The Bristol Method modules are published on the Bristol 2015 website at www.bristol2015.co.uk/method

CONTACT

hello@bristol2015.co.uk
+44 (0)117 379 0115
Bristol 2015 Ltd
Units 5-6
1 Canon’s Road
Bristol BS1 5TX
www.bristol2015.co.uk