

## Resources to Support Citizenship and Sustainability

Publications and online resources can be used to give ideas for both primary and secondary teachers. The list is not definitive and the authors of this section would be pleased to hear from readers of any resources that they have found that are particularly valuable so we can add them. The best general resource to support citizenship is the new [Professional Resource Network](#) (PRN). Try putting 'science' into their search engine and you will find a good range of articles that your student teachers may find useful to stimulate discussion or support their work in the classroom.

### Teachers' Resource and Handbooks

ASE (1996) *Science Resources for Key Stage SATIS 8-14: 2: Health* [ASE](#) booklet provides a variety of small projects that put science and technology into a social, industrial context. The topics include using orthodontic braces, headlice, smoking, cholera and challenging stereotypes of fitness which could be linked to QCA units. Activity sheets are provided that encourage evaluation and discussion of information as well as prompt children to question stereotypes.

ASE (1996) *Science Resources for Key Stage SATIS 8-14: 2: Materials* [ASE](#) booklet provides a variety of small projects that put science and technology into a social, industrial context. While most topics relate technology and science there are two topics that lend themselves to discussing citizenship issues: considering whether firework displays should be private or public; and solving the problem of waste disposal on the Isles of Scilly.

[ASE](#) *Science Global Dimension* This publication can be downloaded. It gives an overview of incorporating citizenship and sustainability into the Key Stage 3 & 4 science curriculum. It covers science in different cultures, biological diversity and valuing different perspectives in scientific collaboration. Issues of sustainability such as global warming, acid rain and use of energy are covered as are citizenship issues such as environmental protection, conservation of energy and the role of the citizen. General classroom examples for Sc 1-4 are given.

Burke C and Grosvenor I (2003) *The school I'd like: Children and young people's reflection on an education for the 21st century*. RoutledgeFalmer ISBN 0415301157 has lots of examples of what our children's visions of the world they want. This book is informed, up to date and convincing.

Burns S. and Lamont G. (1996) *Values and Visions: Development Education Project* Hodder Arnold ISBN: 0340644125 is a resource that aims to explore children's spirituality for all faiths or for those with none. It is full of practical activities which are easily adapted and can be used for many subjects including science and citizenship. It includes themes such as 'advocacy', 'conflict' and 'setting goals'. Key Stage 1 & 2 & 3.

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Birmingham Development Education Centre (DEC) (1998) *Fats, Felts and Sugar Paper*; is a book packed with ideas for activities to tackle global issues that have a particular emphasis on speaking and listening skills. There are some good ideas for teaching strategies that can be used for primary science. Key Stage 1& 2 (Look on Leeds DEC website for details.)

Capra F (2002) *The hidden connections: a science for sustainable living* Harper Collins; ISBN: 0006551580 This text demonstrates how tightly humans are connected with the fabric of life and states that it is imperative to organise the world according to a different set of values and beliefs, not only for the well-being of human organisations, but for the survival and sustainability of humanity as a whole.

Littleddyke, M., Ross, K., and Lakin, L. (2000) *Science Knowledge and the Environment* David Fulton ISBN 1853466255. This book is a guide for students and teachers in primary education. It is a valuable resource for raising awareness of how science and learning about the environment are inextricably linked. There is plenty of detailed background knowledge on a gamut of environmental issues ranging from biodiversity to the cycling of materials. Within each section there are some good examples of practice with adults and children therefore making this a useful text to draw upon for both ITT tutors and teachers in the classroom.

Rowe D (2001) *Introducing Citizenship. Video Case Studies* A&C Black ISBN 0713658576 has been developed by the Citizenship Foundation and is a handbook for teachers by teachers. It brings together examples of best practice in citizenship education. A free video accompanies the book and shows many of the teaching strategies in action for personal study and training purposes. There are also four 'thinkers' which are brightly coloured picture story books which can be used as part of science work and have been created specially to inspire children to explore and discuss citizenship themes. This is a very useful resource for adults as well as children new to Citizenship.

Sterling, Stephen (2001) *Sustainable Education: Revisioning Learning and Change* Green Book ISBN: 1870098994 Sterling argues that while the emergence of environmental education, and latterly "education for sustainable development", are important trends, they are not sufficient in themselves to reorient and transform education. An outline, with illustrative examples, of a transformed education that can lead to transformative learning is given.

Ratcliffe M. and Grace M. (2003) *Science Education for Citizenship* Open University Press ISBN 0335210856 Research case studies are used to examine the advantages and problems as science teachers try new learning approaches, including ethical analysis, use of media-reports, peer-group decision-making discussions and community projects. The book offers practical guidance in devising learning goals and suitable learning and assessment strategies.

Summers M., Childs A., Corney G., Kruger C. & Mant J. (2002) *Teaching Sustainable*

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<Resources to Support Citizenship and Sustainability Key Stages 1-4> Authored by Tina Jarvis, University of Leicester. Accessed from [http://www.ase.org.uk/sci-tutors/professional\\_issues/professional\\_values/sustainable\\_development.php](http://www.ase.org.uk/sci-tutors/professional_issues/professional_values/sustainable_development.php) date created [Aug 2004] page <2> of <8>

*Development in Primary Schools* [ASE](#) ISBN 0863573363 consists of a set of case studies for teaching of sustainable development in primary classrooms. There are key ideas for teachers about the topic, learning objectives, ways of ensuring a sustainable development focus, full details of the lesson sequences together with descriptions of pupil activities and resources needed. Topics covered are the tropical rainforests, the Indian tiger, energy, the changing environment, litter, waste and recycling and water. Details of the case studies can also be found on [www.nc.uk.net/esd/teaching/case\\_studies](http://www.nc.uk.net/esd/teaching/case_studies)

Summers M., Kruger, C., Childs A. & Mant J. (2000) *One Small Step: Understanding the Science of Environmental Issues* [ASE](#) ISBN 0863573207. This book gives basic scientific support covering biodiversity, the carbon cycle, global warming, ozone, energy sources, life-cycle analysis of a manufactured product and the concept of sustainability. Each section covers subject knowledge, a guide to what to teach and possible pupil misconceptions.

### **Children's fiction for Key Stage 1 - 3 on environmental issues**

These books can be used as part of literacy work as well as science. The story and text can be used with young children, while older pupils can study the books with a view to using them as a model to write their own version.

Burningham J. (1991) *Oi! Get off our Train* Red Fox ISBN: 009985340X A little boy goes to bed and dreams of going on his toy train. Each time the train stops another endangered animal climbs on board having explained why it must leave its own habitat. The elephant wants a ride because someone wants to cut off its tusks, the stork because the marshland is being drained, and so on. Key Stage 1 & 2.

Burningham J. (1999) *Whatdayamean* Jonathan Cape ISBN: 0099266687 is a story that encourages children to use their imagination and believe that they too can 'make a difference'. The story starts when God returns to the beautiful Earth we have misused and two small children are instructed to find a way of bringing people to their senses.

Baker J. (2002) *Window* Walker Books ISBN: 0744594863 At the beginning a mother and baby look through a window at a view of wilderness. With each page, the boy grows and the scene changes. By the time the boy is twenty, the village has developed into a city. There is no narrative, the story is told using detailed collage constructions. Key Stage 1 & 2.

Baker J. (1989) *Where the Forest Meets the Sea* Walker Books ISBN: 0744513057 This book is illustrated by excellent life-like collages. It raises issues about the environment, conservation, and responsibilities for the future. A boy travels with his father to a tropical rain forest. He imagines the forest as it might have been in the past, with now-extinct creatures and aboriginal children inhabiting it. How much longer, the boy wonders, will the forest remain? It is available in both standard and big book formats making it very accessible to children across Key Stages 1 & 2.

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Curry J. (1990) *The Last Rabbit* Mammoth ISBN 0749702524. Poems about environmental issues written by poets and children from 5 years old. Key Stage 1-3.

Durrant A. (2004) *Angus Rides and Goods Train* Corgi ISBN: 0552548898: When the goods train, laden with milk, honey, and rice, speeds away across land and sea, Angus is full of excitement as he stands beside the driver but has to decide what to do when the train wont stop for those who are hungry and thirsty. Key Stage 1 & 2.

Foreman M. (1993) *Dinosaurs and All That Rubbish* Puffin ISBN: 014055260X One day, when man had set out for a distant star, the dinosaurs come back to life and tidy up the barren wastes he had left behind him. Man is only allowed back when he agrees that the earth should be shared and enjoyed by everyone. Key Stage 1 & 2

Hedderwick M (1993) *Katie Morag and the New Pier* Red Fox ISBN: 0099220822 examines conflicts of interest that arise in a community about the building of a new pier. The book explores the different points of view of those involved including planners, businesses and residents, young and old. Key Stage 1& 2.

James S. (1993) *Dear Greenpeace* Walker ISBN: 0744530601 This excellent picture book combines illustrations with text in the form of letters. Worried that the whale living in her pond is unhappy, Emily embarks on a correspondence with Greenpeace who suggest that it would be impossible for a whale to live in a pond. Finally the whale returns to the sea. Key Stage 1 & 2.

Keeping C. (1989) *Adam & Paradise Island* Oxford ISBN 0192798421 tells how Adam and his friends fight their local council in order to stop them from knocking down the old shops and warehouses on Paradise Island to build a motorway. Key Stage 2 & 3.

McKee D. (1989) *Elmer: The Story of a Patchwork Elephant* Red Fox ISBN: 0099697203 is a popular storybook that celebrates individuality and personal difference. It is available in both standard and big book format making it very accessible for children at Key Stage 1.

McKee D. (1990) *Tusk Tusk* Red Fox ISBN: 0099306506 is continues McKee's theme of elephants, but this time on focusing on conflict. This is a great book for dealing with the complex issue of ethnic conflict with younger age groups.

Morpurgo M. and Foreman M. (Eds) *Beyond the Rainbow Warrior: A Collection of Stories to Celebrate 25 Years of Greenpeace* Chrysalis ISBN: 1857938887 covers a wide variety of subjects on an environmental theme with stories that range from a tale of a remote New Zealand forest to the legend of the original Rainbow Warrior. Key Stage 2 and above.

Snell G. (1996) *Lottie's Letter* Orion ISBN: 1858811872 Lottie and Max are so incensed

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by the damage done to animals by people and pollution that they decide to send a letter of protest to the Queen of the World. The letter is signed and delivered by all the animals, with paw-marks, claw-marks, wing-marks, sting-marks, scale-marks, tail-marks, leg-marks and even egg-marks. Key Stage 1 & 2.

Trivizas E. (1993) *The 3 Little Wolves and the Big Bad Pig* Puffin 1860210414 The big bad pig comes along and when huffing and puffing fails to work, he uses a sledgehammer to bring the house down. Next the wolves build a home of concrete. The pig demolishes it with his pneumatic drill. The three little wolves erect a house made of steel, barbed wire armour plates and video entry system, but the pig blows it up with dynamite. It is only when the wolves construct a fragile house made of flowers, that the pig pauses to smell the lovely scent and has a change of heart.

### **Children's non-fiction for Key Stage 1 - 3 on environmental issues**

Brownlie A. (2001) *Why Are People Vegetarian?* Hodder Wayland ISBN: 0750237120 This book covers all aspects of vegetarianism - what it is and why some people make the decision to become vegetarian. It provides details on the food industry and covers many contemporary health/food issues. There are real-life case studies and interesting facts and figures from around the world.

Mason C. (2002) *Why do People Harm Animals* Hodder Wayland ISBN 0750237198 The author looks at whether animals have rights and whether it is right to kill them for food. It explains the different reasons why animals are killed and also looks at animal welfare organisations. Together with case studies and quotes from people with different attitudes this book aims to provide the facts for readers to make up their own minds about the subject. Key Stage 2.

## Organisations Providing Support on Citizenship & Sustainability

Association for Citizenship Teaching, Queensbridge Building, Albion Drive, London E8 4ET Tel No: 0207 241 7418 Fax: 0207 241 7412 has a useful range of resources available and new ones being developed all the time.

BBC's Newsround website has extensive materials for teachers, including lesson plans. These are organised by theme, including a number of science related topics [news.bbc.co.uk/cbbcnews/hi/static/teachers/default.stm](http://news.bbc.co.uk/cbbcnews/hi/static/teachers/default.stm) Another relevant BBC education site is [www.bbc.co.uk/schools/citizenx/](http://www.bbc.co.uk/schools/citizenx/)

Centre for Alternative Technology, Machynlleth, Powys SY20 9AZ. Good range of resources and visits Key Stage 3 + including pupil booklets and projects about solar, water and wind power.

Chemical Industry Education Centre has a number of resources for Key Stage 2 - 4 produced by the Centre including *Caring for the Environment e-resource* to help teach environmental topics to 8-12 year-olds. Each topic is based on a site visit to a local industrial site. Other booklets include *Noisebusters* about investigating practical solutions for environmental noise pollution problems. The site also has a more general collection of reviews of primary and secondary resources to help teach science. Comments on these materials have been made by teachers.

Centre for Citizenship Studies in Education promotes research and education for citizenship, human rights and the teaching of democracy in schools. While much of the material is not science specific, there are good links to Department for International Development (DfID), DfES and NC Citizenship sites and to other UK and International Citizenship education websites, resources and materials.

Citizenship Foundation, Ferroners House, Shaftesbury Place, Off Aldershot Street, London, EC2Y 8AA Tel: 0207 367 0500 and Fax: 0207 367 0501

Citizenship Education: The Global Dimension Global citizenship is closely woven with Education for Sustainable Development (ESD). This site is mostly for KS 3& 4 but links to recommended sites and resources for primary level support material is also available.

Council for Environmental Education is the umbrella body for environmental education and sustainable development in England. They are one of the major co-ordinators of Education for Sustainable Development (ESD) in the UK. CEE is a network of over 300 members and associates - national, regional and local organisations and individuals. CEE's website provides a gateway to a wide-ranging resources and knowledge of the CEE network. There is a good search facility with regard to topics and comments on resources including targeted age range.

Development Education Association is a membership organisation site that provides

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information on local initiatives around the country. It forms part of the Global Education Network

[ECOSCHOOLS Project](#) gives ideas and activities for schools to be involved in. There are plenty of free materials and ideas for how to carry out an environmental review and make an action plan for school.

[Environment Agency](#) is a valuable and frequently updated environmental database.

[Environmental Campaigns \(ENCAMS\)](#) is the charity which runs the Keep Britain Tidy campaign. There are online background information and resources for schools on litter; waste minimisation; energy; water; transport; healthy living; school grounds. Key Stage 2 and above.

[Environment Matters](#) is a small company that aims to raise awareness of human impact on the environment and the role it has to play in developing a sustainable future by encouraging links between Industry and Education.

[Four Seasons Project](#) This web site has three school based projects and a range of environmental education resources for schools. Each project is related to the weather and makes use of data collected from automatic weather stations at a series of sites in England. The Bishops Wood Centre is particularly interesting. There is information on how schools can become involved in Local Agenda 21, the action plan for sustainability and environment, seasonal reminders for school grounds maintenance and development.

[Friends of the Earth](#) is a campaigning organisation website

[GLOBE](#) is a world-wide hands-on school-based education and science program which is mainly secondary but with some primary work. GLOBE is a cooperative effort of schools, led in the United States supported by organisation such as NASA, NSF, EPA and the U.S. State Department. There are partnerships with many other countries. Children conduct scientific measurements of their own environment and enter the data on to a huge database via the Internet which is available and used by scientists. The study areas cover the atmosphere, hydrology, soils, and land cover/phenology. Reports from the pupils are on the site.

[Global Dimension](#) A useful database of global education resources for all levels

[Greenpeace](#) a campaigning organisation website

[National Healthy School Standard](#), Health Development Agency, Holborn Gate, 330 High Holborn, London WC1V 7BA Tel: 0207 061 3072 has lots of resources to support health education.

[Growing Schools](#) is a government-funded initiative that aims to harness the full potential

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of the 'outdoor classroom' as a teaching and learning resource. It is about providing tried and tested methods that will enable and inspire teachers to use the outdoor classroom as an inherent part of everyday learning.

[Learning Through Landscapes](#) is an excellent, comprehensive yet easy to use website about developing school grounds.

[QCA's Education for Sustainable Development](#) developed by the DFES and QCA provides case studies and activities that promote citizenship and education for sustainable development from Key Stage 1 to secondary + for all curriculum areas including science. Details of the activity and an explanation of why it was good with respect to Education for Sustainable Development is given. There are excellent links to other useful web sites are given with most case studies.

[Teacher's in Development Education \(Tide\)](#) is a teachers' network which supports creative work to meet young people's educational entitlement to understanding the global dimensions, development perspectives and human rights principles which will shape their lives. It has useful links to project work that has been carried out from KS1-4 around the UK.

[Royal Society for the Prevention of Cruelty to Animals RSPCA](#) has online resources and publications including videos and animal care sheets to order for Early Years, Primary and Secondary.

[Royal Society for the Protection of Birds RSPB](#) has a variety of support for teachers including clubs, magazines, resources such as a CD for Key Stage 3/4 pupils on why human activity effects the environment. There is also a good variety of online resources for 5 – 16+ ages.

[Worldwide Fund for Nature](#) has online material and publications on climate change, forests, freshwater and marine species, toxics etc. These are mainly geared to Key Stage 4 and above but with relevance to key Stage 3.