TEACHER'S PACK

KEY STAGE 3 & 4 – Activity Days

Sustainability Education in Action.

You can choose from the following topics for your day visit.

- **Energy Use and Resources**
- **Sustainable Building and Biomimicry Design**
- **Food, Farming and Permaculture**
- **Woodland Management, Forest Skills and Eco Art**

Days normally run from 10am to 2.30 pm depending on when you have to leave from school and get back to school by.

If you would like to stay longer and come and experience a residential you can choose activities from these days and we can arrange extra activities for the evening such as Forest Skills and campfires.

The cost is £8.40 per pupil per day with a minimum fee of £140 for the day.

For more information please contact Penny Rose

penny@sustainability-centre.org

or 01730 823166

Energy Use and Resources

Pupils will learn about energy resources, including oil, gas, biomass, food, wind, solar, waves and batteries, the distinction between renewable and non-renewable resources, the pros and cons of each. Pupils will also learn about water as a resource and about solutions to waste.

Activities include:

- A tour of our site with our solar panels, biomass boiler, woodland, eco-renovated building and live in yurts with solar and wood burners and our natural WET sewage treatment system.

- Using and building interactive models to look at how solar and wind work to create energy. How solar panels work.

- Pupils also have the opportunity to walk to a local site where a wind farm was planned and discuss the pros and cons of using wind turbines, through role play and wind measuring.

This is a day of activities inside and out, with visual presentations and discussions on sustainability.

Science: Earth as a source of limited resources and the efficacy of recycling. Electrical current. How the environment can be protected, fossil fuels, energy resources.

Geography: Sustainable development.

ICT: Measuring physical data.

Design and Technology: Investigate new and emerging technologies. Understand developments in D&T, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists. Judging the quality of products; resources have been used appropriately; global environmental impact of products and assessment for sustainability.

Citizenship: Develop an interest in, and commitment to, participation in volunteering as well as other forms of responsible activity. Debating a global issue, the interaction of people and the environment.



Pre-visit suggestions:

- Check out our website http://www.sustainability-centre.org/with your class. Look at the Projects section to learn more about the WET system and our renewable energies on site.

- Remember to bring cameras with you on the day.

Post-visit suggestions:

- Fill out the feedback forms that we will send you back at school to reflect on what was learnt during your visit.

- Join our Facebook page http://www.facebook.com/pages/Sustainability-Centre/246307236589 and post any photos you have from your day with us.

- Students can design an energy audit for their school to find out where the school uses and possibly wastes energy. The students can write up a suggested action plan for the school.

Food , Farming and Permaculture



This packed day will give a good overview of where food comes from. Pupils will spend half of their day with Farmer George on his large tractor trailer on our neighbouring farm and learn about what food is produced on the chalk down-lands, and how farming effects the environment. Back at the Centre, pupils will learn about food miles and think about how food gets from farm to plate.

They will gain an understanding of the global impact of food on the environment, FairTrade and what 'sustainability' means in terms of the food we eat. Pupils will also get hands on experience of food growing, Permaculture Design & planning and potentials for recycling and reusing materials. Pupils will gain an understanding of why food is important and how growing your own can be fun and help contribute to a more sustainable world.

With activities including: Farm tour, hands on sessions in our garden, planned to the seasons, identifying plants and vegetables, ending the day with group work of planning a garden back at school with an action plan designed for success using basic Permaculture design tools.

Science: Environment and feeding relationships, plants and photosynthesis, plants for food, protecting the environment, energy resources, management of food production, sustainable development in the countryside.

Geography: Sustainable development, resources,

ICT: Measuring physical data.

Citizenship: Debating a global issue, the interaction of people and the environment. Investigate the basis of concerns about biodiversity, genetically modified crops, and the use of growth hormones and antibiotics in the production of food,



Pre-visit suggestions:

- Check out our website http://www.sustainability-centre.org/ with your class.
- For more information on Permaculture Design see www.permaculture.co.uk
- Back Issues of *Permaculture Magazine* are available from us – please ask.
- Make copies for the whole class of the School site plan of outside area. Split class into small groups and give them each an area to work on. Bring these plans to the centre for the garden planning session.
- Remember to bring cameras with you on the day.

Post-visit suggestions:

- Fill out the feedback forms that we will send you back at school to reflect on what was learnt during your visit.
- Join our Facebook page http://www.facebook.com/pages/Sustainability-Centre/246307236589 and post any photos you have from your day with us.
- Students could find out where the food for school comes from, work out the food miles of a typical lunch, find out much food is wasted, and look into alternatives such as suggesting a meat free Friday or a local food Wednesday. The students can write up a suggested action plan for the school.
- Students can help to design and build a school garden. If you would like help with this from one of our staff, **we can come to your school- ask for more details.**
- Students can re-design their school canteen and suggest menus.

Sustainable Building and Biomimicry Design



On this day pupils will get hands on experience of sustainability in building design. They will have a tour of the grounds to look at the buildings we on site including our straw shower bale block, cobb oven, outdoor woodland classroom, yurts and tipis and eco-renovated hostel. Pupils will explore what resources can be reused or recycled, the quality of materials used and gain an understanding of the appropriate use of resources- sustainable and not sustainable. They will also gain a better understanding of sustainability and the global issues of buildings and people.

Pupils will also have an excellent opportunity to learn how to make cordwood wall, a sand bag arch, a shingle roof, and a cob oven! They will also design their very own eco-house using inspiration from the science of Biomimicry.

Science: Sustainability in building design; energy resources.

Design and Technology: Judge the quality of products; resources have been used appropriately; global environmental impact of products and assessment for sustainability; justify instances where it may be appropriate to use materials or practices that are not sustainable.

Art & Design: Work independently and collaboratively, taking different roles in teams, explore areas that are new to them, including ideas, techniques and processes. Engage with contemporary art, craft and design, working with creative individuals and in creative environments where possible. Make links between art and design and other subjects and areas of the curriculum.

Geography: Sustainable development, resources,

Citizenship: Debating a global issue, the interaction of people and the environment.



Pre-visit suggestions:

- Check out our website http://www.sustainability-centre.org/ with your class. Look at the Projects section to learn more about the buildings we have on site.
- To find out more about Biomimicry Design see http://biomimicty.net/
- Remember to bring cameras with you on the day.

Post-visit suggestions:

- Fill out the feedback forms that we will send you back at school to reflect on what was learnt during your visit.
- Join our Facebook page http://www.facebook.com/pages/Sustainability-Centre/246307236589 and post any photos you have from your day with us.
- Students can continue working on their eco- house plans back at school and make them into 3 dimensional models. *(Egham School Case Study)*
- Students can help to design and build an Earth Oven in the school grounds.
- At specific times of year **we may be able come to your school** to work with the students to build a living willow fence, archway or dome.
- Students can research further in to eco –build designs such as Brighton's Earthship. http://www.lowcarbon.co.uk/earthship-brighton

Woodland Management, Forest Skills and Eco Art



Students will have a day using materials available in the woodland to create structures and art works. Pupils will explore what resources can be used, the quality of materials used and gain an understanding of the appropriate use of limited resources and the impact on the environment They will also gain new skills, use problem solving and team work to achieve their goals.

Getting hands - on as a class in the natural environment is one of the keys to learning respect for the world around us and can also introduce a greater sense of belonging and of self esteem. Students will be guided by our Forest School trained leaders through some classic bush craft tasks which may include shelter building, fire lighting, tracking and craft activities. They will also learn how to use found natural materials to make ephemeral sculptures and art works.

Where possible our shelter will be our beautiful woodland classroom and the woods themselves. We can only work with one class during the day to ensure that pupils get the most from their experience. The smaller the group the more focused the activities can be.

Art & Design: work independently and collaboratively, taking different roles in teams, explore areas that are new to them, including ideas, techniques and processes. Engage with contemporary art, craft and design, working with creative individuals and in creative environments where possible. Make links between art and design and other subjects and areas of the curriculum.

Science: How the environment can be protected; habitats,

Geography: How people's values and attitudes, including their own, affect contemporary social, environmental, economic and political issues; environmental change and ways of managing it.

Design and Technology: Judge the quality of products; resources have been used appropriately; global environmental impact of products and assessment for sustainability.

Citizenship: Debating a global issue, the interaction of people and the environment.

Pre-visit suggestions:

- Check out our website http://www.sustainability-centre.org/ with your class. Look at the Natural Burials section to find out more about our woodland and how it is managed and used.
- Look at the work of artist Andy Goldsworthy.
- Remember to bring cameras with you on the day.

Post-visit suggestions:

- Fill out the feedback forms that we will send you back at school to reflect on what was learnt during your visit.
- Join our Facebook page http://www.facebook.com/pages/Sustainability-Centre/246307236589 and post any photos you have from your day with us.
- Students can explore their own school grounds for ideas of creating structures or artworks.
- Find out about our options for planning a Forest School at our Centre on our website.
- To find out more about Forest School see http://www.forestschoolassociation.org