The Ashden Awards for sustainable energy

Teacher notes for activity: Energising the community

Resources for this activity

- Powerpoint slides to support activity, available on www.ashdenawards.org/schools/activities.
- Sample of 'Home energy survey sheet', and template for 'Energy saving guide': available on www.ashdenawards.org/schools/activities.
- 5-minute Ashden Awards films, available on www.ashdenawards.org/schools/films:
  - **Eastchurch Primary School, UK:** developing a culture of 'Good Energy Housekeeping', led by classroom Energy Monitors, and an 'E-team' of Year 4 pupils.
  - **Woodheys Primary School, UK:** reducing energy consumption through energy efficiency. Pupils read meters and check classrooms for energy wastage.
  - **Cumbria Energy Efficiency Advice Centre, UK:** helping local people make their homes more energy-efficient.
  - **GIRA, Mexico:** providing homes and small tortilla business with the 'Patsari' stove, which saves wood and reduces air pollution.

Curriculum areas and topics

- Main activity: English, Mathematics, Geography, Science, Citizenship, Information and computer technology (ICT), Education for sustainable development (ESD).
- Further activities: English, Mathematics, Geography, Science, DT Citizenship, ICT, ESD.
- Topic links: Improving the local environment, Energy, Light.

Suitability

- Key Stage Two – age approximately 7 to 11 years.
- Main activity needs about two lessons.
- The detailed objectives and approach can be adapted for use with different age groups.

Grouping

- Whole class input.
- Pupils should work in groups to brainstorm and discuss ideas during the activity. Either ability-based or mixed-ability groupings are suitable.

Background

This activity enables pupils to become energy consultants and seek information from a home energy survey in order to produce an energy saving guide in the form of a leaflet for their family. Pupils can then compare 'personalised' leaflets in class, in order to prioritise advice for a generic guide for the local community.

Before starting the activity, it is important to decide whether the community leaflet will be done as an individual effort, a group effort or a competition. It is also important to decide how the generic leaflet will be distributed, and whether any follow-up will be undertaken (see 'Further activities'). This activity can be enhanced by finding a sponsor, such as the local Council or a local business, to support the distribution of leaflets.

Prior knowledge

This activity is designed to build on knowledge about good energy housekeeping in school and extend it to homes, so it is important that pupils are familiar with basic energy saving measures. You may first want to use the activities 'Being energy wise', 'I want to be in the energy team' or 'Making an action plan for change'. The Powerpoint and Teacher notes for these are available on www.ashdenawards.org/schools/activities. It is also useful if pupils have watched some of the school films and discussed how pupils are working to reduce energy use in schools.

Purpose of the activity

- To know a range of measures that can be used to reduce energy consumption
- To be able to explain, in simple terms, why it is important to use energy wisely
- To be able to communicate ideas effectively

How to use the resources

If you have not already done so, it is useful to start by watching one or more of the school films. You might also watch the film about how CEEAC advises the community about energy efficiency.

Powerpoint and Home energy survey sheet.

Use the Powerpoint to introduce the learning objectives and generate initial discussion and ideas. Explain that pupils are to be given the role of energy advisors to the local community and that they will have the chance to design and produce an energy saving leaflet which will be distributed. If you are seeking outside funding for producing the leaflet, you may want to build this in as a prior activity in which pupils are involved in selecting likely sources of funding and writing or telephoning to ask for support.

The next stage is for pupils to carry out a home energy survey. Depending on previous experience you may decide to use this survey as homework prior to the first lesson, or you may want to spend a lesson designing the survey format or adapting the sample provided. It is important to check that pupils understand the terms used (such as 'thermostat') and also to discuss that not all homes have the same equipment – for instance, homes with combi-boilers

do not have hot water tanks. It is useful at this point to review the Eastchurch Primary School film on good energy housekeeping or to re cap how Woodheys Primary School monitor their energy use.

Using the survey results in a personal energy saving guide
The results from the survey can then be used as the basis for each pupil to design an energy saving guide for their own home. Pupils need to consider what the content should be and how it can be presented effectively.

For the content, pupils should look at the points where their family could use energy more carefully, and decide which are the most important to include in their guide. This can be used as an opportunity to look at which aspects require simple changes in behaviour and which require something like insulation to be bought.

For the presentation, you can use the leaflet template provided to draft ideas, or design your own from scratch. This can either be done by hand, or in the computer suite using the template as an ICT resource. There is space on the template for pictures and written comments. The front page has space for the school logo to be inserted in a picture holding frame on the top left hand corner and for the school name to be inserted in the bottom caption space. On the last page, there is a space to insert the name of your sponsor, if you have one. If pupils are making the leaflets by hand you could fill in the school and sponsor details before printing out.

Review and design of generic energy saving leaflet
The review activity is important, because it will give pupils a chance to be critical of the content and appearance of different leaflets before making their final version. There could be a competition at this stage perhaps for the production of the community leaflet.

Pupils should then discuss the different priorities they have identified for their own homes, and find out which occur most often. This will lead to the choice of key points for the generic leaflet for the local community. The community leaflet can be made as an individual or group exercise.

Plenary
In a plenary session it is useful for pupils to watch one or more of the Ashden international films. One relevant film would be from GIRA, which shows the use of energy-saving cooking stoves in Mexico. Pupils can be reminded that they have been finding ways of saving energy in homes in their local community, and that is what people in the film are doing in their homes.

The women in the GIRA film benefit from the new stoves because it reduces the amount of fuel needed and also cuts down on indoor air pollution. This helps to improve their health. Discuss the film and ask pupils to identify how energy consumption has been reduced and what the benefits are for that community. Then compare it to the benefits that we get from reducing energy consumption in our school. What are the similar aspects?

You might want to talk about how, in both the UK and Mexican examples, improving energy efficiency both improves the environment and saves people money.

The Mexican stoves have direct health benefits because they reduce the amount of smoke in the kitchen. You might link this to the less obvious benefits of energy efficiency in the UK. It has been shown that people – in particular old people - have more respiratory illnesses and an increased risk of heart attacks and strokes if they live in cold, draughty houses. Improved insulation, draughtproofing and heating help prevent all these.

Further activities

1) An essential follow up activity is to hold a publicity event to launch the leaflets and contact the local press. Pupils could prepare a Powerpoint presentation to explain their work.
Citizenship, English, ICT

2) Pupils could design a follow-up questionnaire to see if people have changed any of their habits after receiving the leaflets and/or what energy saving tips were already being followed. The results of this survey could then be published on the school website and in newsletters and reported back to any sponsors.
English, Science, Mathematics, ICT

3) Older pupils might devise a scoring system for their own household surveys and then repeat the surveys sometime after the leaflets have been issued, in order to measure improvement.
Mathematics, Science, ICT

4) Review the school films from Cassop and Seaton primary and discuss what energy technologies they are using that you don't. If you have access to the right resources you could design a working miniature wind turbine or experiment with capturing electricity from a small PV cell. Ask pupils what technologies might be appropriate for your school: use 'Investigating energy technologies', available on www.ashdenawards.org/schools/activities, as a follow up activity to explore this in more depth.
Science, Geography, DT

5) If you were able to get sponsors, you should write letters thanking them for their support and explaining why this action was so important.
English, Science, Geography

December 2007, v8