

Chapter 7 The Future Starts Here?

Activity Guidelines

Chapter aims and learning intentions

- To confirm and widen pupil understanding about sustainability.
- To help bring ideas about adapting to climate change and mitigating its effects to life for the pupils via an activity drawing on their creativity and imagination.
- To raise pupil awareness of the exciting developments in eco-design already taking place in schools across the country, and to generate excitement about the type of learning environment that they would enjoy being part of in the future.
- To prompt discussion about the range of actions that can be taken within a school to respond to the challenges of climate change and peak oil.

Pupils may hopefully be inspired to do those things which are within their power, whilst also becoming aware that many actions require the commitment of the whole school community and considerable financial investment. Clearly many schools may already be facilitating this type of involvement through initiatives such as ecocouncils.

Before beginning...

It may help if the pupils are clear about the following points...

1. The concept of sustainability and how this links with the challenges of climate change and peak oil.
2. The concept of mitigating climate change and how this links with eco-design principles (see chapter 6).
3. The fact that there are already some new school buildings within the UK that have been designed to be as sustainable as possible. This includes cutting all forms of carbon emissions as well as other forms of sustainability such as conserving water use and using recycled materials.

Activity 1 North West examples of the sustainable doorways

This activity refers to the DCFS Sustainable Doorways and develops knowledge and understanding about the North West region. It can be completed individually or in pairs.

- Pupils study the Sustainable Doorways worksheet and complete the tasks. This introduces them to different elements of “being sustainable” to help build understanding, and to help them think about a wide range of ideas for activity 2.
- As a follow up activity, these examples could be further researched as in internet based activity. This may help to develop their understanding of the sustainable initiatives and examples of good practice that exist within their home region.

Activity 2 Designing a new school site

This activity involves designing a sustainable school site. The task can be undertaken individually or in pairs and can be presented in a variety of ways.

- Pupils undertake a piece of work which uses their creativity and imagination to design a school for the future. Every element of the design should be chosen to respond to the challenges of climate change and peak oil.

- The finished piece of work could range from an A3 design to a far bigger presentation, taking a number of lessons to complete. The choice of presentation method could vary according to individual preferred learning style. Some may focus on a visual layout with explanatory labels whilst others prefer to include more written content with accompanying sketches.
- The *Design ideas* and *More design ideas* sheets provide a wide range of ideas drawn from real life examples around the country. These can be used by the pupils and combined in any way to give them a range of ideas to work with, or as a starting point for their own inventive ideas. (There are clear opportunities here for additional internet based research.)
- The *Design Brief* sheet offers guidelines for the pupils as well as introducing a scoring system. This is a potential way to evaluate this piece of work, perhaps by self or peer assessment both during the development of the work, and after its completion.
- The *My inspiration* sheet can be used to help them begin to design their piece of work, and to select the key ideas they have chosen to work with from the design ideas resources.

Chapter 7 The Future Starts Here?

Teacher notes and background information

- Aims
- Background information
- Web links

Background information and aims behind this chapter

Chapter 6 introduced the ideas of adapting to climate change and mitigating its effects. It explored in some detail the potential to mitigate some of the likely impacts by reconsidering some of the actions and product designs that we take for granted presently in developed countries. This focus was chosen because of the positive implications, hoping to inspire pupils with optimistic examples of solutions that do exist, and to get creative minds working among tomorrow's inventors and entrepreneurs. Chapter 7 builds on this foundation and examines the school environment.

Many excellent resources already exist which help schools to calculate their carbon footprint. One example is the DSCF Carbon Detectives Kit which guides pupils and staff through this process. These resources also link with the 8 Sustainable Doorways identified by the DSCF, available on teachernet as part of their Sustainable Schools information. Chapter 7 is not designed to repeat these resources but to draw on the same principles.

The Sustainable Doorways worksheet is designed to confirm and widen pupil understanding of sustainability, whilst giving positive examples from within the region. It deliberately uses examples beyond schools to be as broad as possible, but these ideas can be translated to the school environment in the next activity. It is hoped that pupils will gain an understanding of how the design concepts within chapter 6 can be applied to schools, to drastically reduce carbon footprints and become more sustainable in every way (including relying less on oil based products).

Another aim is to help pupils consider what actions they can take within the school environment to help mitigate climate change and rely less on oil. This will hopefully come through discussions about their designs, which may include recycle points and bike sheds and school vegetable patches. They will also hopefully become aware that many of the other actions involve decisions and finances which are beyond their control, but which they may be able to influence via student bodies such as councils and clubs.

Useful websites

<http://www.carbondetectives.org.uk/content/home/index.html>

http://www.teachernet.gov.uk/sustainableschools/framework/framework_detail.cfm

http://www.carbontrust.co.uk/energy/startssaving/sectorselector/schools_21.htm

<http://www.eco-schools.org.uk/>

<http://www.independent.co.uk/incoming/article1145908.ece>

An article about Eastchurch Church of England Primary School, on the Isle of Sheppey in Kent.

<http://www.bsf.gov.uk/>

<http://www.sdchecklist-northwest.org.uk>

<http://www.cheshirerenewables.org.uk/kingsmead.htm>

Great example of a school build project using sustainable construction and collaborative working.

Acknowledgements

Images sourced from www.flickr.com

Chapter 7 My inspiration

Colouring pencils	by Tasumi1968
Pencil	by hatch1921
Lightbulb	by e131

Chapter 7 Desig ideas and more ideas

Solar panels	by Kevinthoule
Garden	by stansil
Interior	by Edublogger
Glass & grass exterior	by Freshcc
Café	by numstead
Wind turbine	by hddod
Re-cycling bin	by CantonPublic
Bike shed	by marksimpksins
Vegetable garden	by marksimpksins
Pencil case	by inel

Chapter 7 Sustainable doorways

Manchester trams	by Shantau Bhar
Liverpool	by Declan McAleese
Make poverty history	by Neil T
Daffodil	by Siderean
Fair trade food	by timojazz
Wood chips	by MrCuac

Chapter 7 Future starts here?

Activity 1 North West examples of the sustainable doorways

One way to think about being more sustainable is to think about the 8 headings or “doorways” around this map. Each has an example attached showing an aspect of sustainability.

Task:

- a) Read each example to find out where it is happening.
- b) Use an atlas to locate each example in the correct place on the map with an arrow.
- c) Take it in turns to explain to your partner **why** each example is sustainable.



Food and Drink

Unicorn Grocery in South Manchester sells local, organic, fairly traded and wholesome foods.



Energy and Waste

Eskdale Youth Hostel in Cumbria uses a bio fuel boiler to provide its heating and hot water.



Travel and Traffic

In Greater Manchester the tram network is a key part of the public transport system.



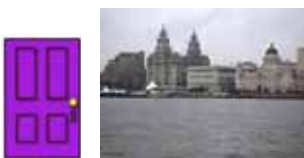
Purchasing and Waste

Lake District National Park Visitor Centre, Brockhole. Practices of recycling, composting, buying recycled paper and using alternatives to plastic bags in the gift shop have helped maintain its eco-award status.



Buildings and grounds

Great Eccleston Copp C of E Primary School, Preston. Pupils and staff have helped develop the grounds to include sculptures, bulb planting, a mini-golf course and a pond and wildlife area.



Inclusion and participation

The new Museum of Liverpool (2010) will include a children's gallery and spaces for community theatre, after school clubs and community meetings.



Local well being

Community action in Gorton Park, Manchester includes bulb planting and tidying of the local park and campaigning to keep local facilities open.



Global dimension

Chester World Development Forum works towards ending worldwide poverty and hunger and promoting fairer trade.

Chapter 7 Future starts here?

Activity 2 Designing a new school site

Design Brief – Your New School?

Imagine...

Imagine you are re-designing your school site.

Your brief is to make it as sustainable as possible by thinking about every aspect of the design.

Use all your understanding about....

1. The causes of climate change
2. The problems with relying on oil-based products such as plastic.

Inspiration...

The Design ideas and More design ideas sheets are full of examples to help get you started.

The more **original** ideas you can add to these the better!
How many genius ideas of your own do you have?

Creating...

Think of the best way of presenting your designs to show off all your excellent ideas.

You can score points for each idea you have included:

5 points for every idea from the resources sheets

10 points for every extra idea you have researched

20 points if it is an original genius idea

Chapter 7 Bright green future?

Activity 2 Design a new school site

The future starts here – designing a new school site

Design ideas to think about...

The roof

- A turfed roof provides natural insulation as well as a habitat for wildlife.



School dinners

- Food sourced from local suppliers to cut food miles and support the local community.
- Wide range of non-processed, healthy and organic content.



Indoor materials

- Insulation from local sheep wool and recycled newspapers.
- Carpets from recycled yarn.
- Natural wood and wooden panels left unpainted.
- All supplied by local companies.



Windows

- Self-regulating buildings with roof windows which open and shut automatically to maintain temperature and keep out rain.
- Windows designed to make the best use of natural light.



Building materials

- Timber frames used from sustainable wood sources, and covered with natural oil-based finishes.
- Recycled bricks and paving slabs from the local area.
- Straw bale and cob walls.
- Gravel and rock reclaimed from local sources such as old railway lines.
- Foundations made from recycled plastic food drums or used tyres filled with recycled concrete.



Site design

- School buildings positioned to make best use of natural light and warmth from the sun.

Transport

- Cycling proficiency courses and safe bike sheds encourage cycling.
- Good public transport services.
- School vehicles models of eco-design.

Chapter 7 Bright green future?

Activity 2 Design a new school site

The future starts here – designing a new school site
More Design ideas to think about...



Purchasing

- All items bought from sustainable companies.
- All products follow “cradle-to-cradle” model.
- Broken items easy to repair or collect.
- Local companies used to reduce transport.

Recycling and re-use

- Easy to use recycling points for all relevant materials.
- Items reused within school whenever possible before recycling.



Waste

- No products bought with excess packaging.
- Compost sites within school grounds.

School grounds

- Spaces for wildlife such as ponds, wildflower gardens and bird boxes.
- Food grown on site by pupils for use in the school kitchens.
- Outdoor learning spaces made using willow etc.

Cleaning

- All products made from natural ingredients and completely bio-degradable.



School uniforms

- Made from organic cotton and hemp, bought from fair trade companies.

Electricity supply

- On-site wind turbines.
- Natural ground heat pumped into the buildings from below ground.
- Solar panels or photovoltaic panels on the roof. These can also supply hot water to the school.
- Any additional energy needs bought from a renewable energy supplier.



Electricity use

- Heating and lighting systems designed to minimise use of electricity.
- All equipment (computers etc) as energy efficient as possible.

Chapter 7 Bright green future?
Activity 2 Design a new school site



My inspiration...



Layout of the site – the buildings and grounds

Building design features I am planning on using....

Ideas about items used inside the buildings....

Other ideas I am planning to include (connected to transport, waste, food etc)....

My original genius ideas!

