

ENERGY MATTERS!

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Learning about energy and climate change matters. In this article, Alex offers ideas on tackling the topic with young pupils and highlights the importance of discussion using a good vocabulary in the classroom.

How do you explain energy to pupils? You cannot see or feel it, and it involves using lots of technical terms and processes that some adults find hard to grasp. If we are going to produce new generations of energy-aware adults, it is vital that we educate pupils about how our energy use links to climate change.

Here, I outline a lesson that introduces pupils to the concept of energy and climate change, and the idea that they can play a part in sustainability. Tapping into the LESS CO2 Programme and Ashden Awards (see web panel), the lesson starts pupils in thinking about the subject area; additional lessons on related and extended topics can then follow. I developed this lesson with year 2 pupils at St Augustine's Catholic Primary in Kent, and my top three tips for success are shown in Figure 1.

Giving pupils power!

Pupils enjoy having the responsibility for making an impact on their surroundings. It allows them to develop a sense of ownership. In this topic area, they take pride in suggesting energy-saving measures to teachers and parents/carers. For those pupils who do not excel in other areas, gaining responsibilities can be especially empowering.

In this lesson, year 2 pupils learned about what energy is, the different types of energy available and how we use energy at home and in school. The discussions (Figure 2) and generation of questions helped to demystify the concept of energy.

The concept of climate change can be challenging to teach to younger pupils and, as mentioned in Figure 1, it is key to avoid a message of doom and gloom. We talked about the importance of looking after our environment to help ourselves, the climate, the world, and the plants and animals that inhabit it. Pupils discussed the concept of protecting the planet and how we can care for it responsibly for future generations. Links were made to how we may look after a toy we want to pass on to younger sibling, and how

1. Keep it simple and positive – avoid complexity and gloomy messages about climate change.
2. Use lots of local and global photos to demonstrate weather and climate.
3. Give the pupils ownership of the investigation and empower them to make changes.

Figure 1: Alex's Top three tips for success in teaching about energy use and climate change.

we keep our classroom tidy and in good condition so that next year a new class can use it. We discussed the fact that when we use too much energy from fossil-fuel sources, we are creating problems for everyone else. We linked this to one indicator: the rapid change in the climate and the weather we experience and how it affects others.

Focus for discussion

- Equipment at home or in the classroom that use energy; plugs and batteries being a clue. We need energy for screen time.
- Lighting, heating, cooking, learning.
- A change in global and regional climate patterns due to the impact of people.
- Sunny days, heavy rain, droughts, floods, increased temperature.
- Energy use (fossil fuels) causes more carbon dioxide to be released into the atmosphere.

Questions

- Why is energy important? How does it make a difference?
- What would life be like with no power? Where in the world do people live without power?
- What does climate change mean? How does energy use impact on the climate?
- What can we do about it?

Figure 2: Aspects of the energy topic that lead to discussion and questions.

Exploring weather and climate

We explored the idea that there can be 'good' weather (warm, sunny days with a bit of rain to keep our gardens looking pretty) and 'bad' weather (days or weeks of storms, and flooding or droughts). Pupils talked about how, when we use too much energy, it can cause more of the 'bad' weather that is having an impact on people's lives around the world. The pupils were aware of recent stories about flooding in the media and could draw on this in their discussions.

When energy and sustainability are integrated into learning they can be used as linking threads between curriculum areas. In my experience, pupils gain the best understanding of sustainability and the environment when the theme recurs throughout their learning, a point emphasised by Scoffham and Owens (2017). Here, pupils learned about the immediate impact of their behaviour (e.g. always having the lights on in the classroom) on the local and global climate by focusing on recent news coverage of extreme weather events around the world. With more advanced pupils, I recommend that teachers explain the basic concepts of relative wealth: how some people have no access to energy and how their lives might differ from our own. In this lesson, I used class activity time to lead these discussions with small groups of pupils.



Figure 3: Edward, from Year 2 in St Augustine's Catholic Primary School, created this poster to help remind teachers and pupils to turn lights off.



Figure 4: Pupils supporting each other to learn the new energy vocabulary while creating their posters. Photo credit: Alex Green/Ashden.

What we did

We split the class into small groups. Their task was to design a poster to remind people to save energy (Figure 3). As well as encouraging them to use key vocabulary (energy, climate, switch off and planet) (Figure 4) we stated that the most important start point is to actively reduce energy use and that anyone, including themselves, can begin to do this. We discussed what makes a good poster – size, colour, pictures and artwork to convey a clear message (who is the poster for?), then gave them responsibility for their learning – the pupils loved the feeling of power (Figure 5).

‘I made a poster to put in our headteacher’s office, so that she will remember to turn off her lights when she leaves the room.’ (Sofia)

‘If we waste energy it isn’t good for our planet.’ (Aiden)

Figure 5: Pupils’ comments on their posters.

To take the work further you could...

- Use ICT for the poster design session
- Present energy saving messages to the school in assembly
- Write to parents about energy saving – using persuasive writing skills
- Make a pledge to save energy – create a tree of pledges written on leaves on a display board
- Speak to key staff and governors about the posters around the school
- Present findings to the school governors
- Learn about energy use in their own home. How can they make savings?
- Learn about climate champions (e.g. Al Gore, David Attenborough, Ashden Award winners)
- Learn about sustainability through stories (e.g. *The Lorax* by Dr Seuss)
- Write poems about the environment and energy saving
- Learn about different types of extreme weather and their impact around the world, linked to locational knowledge
- Tap into LESS CO2 (see web panel). This programme helps schools across the UK to reduce their energy use and engage with staff and pupils about

energy and sustainability. Clusters of 15 schools take part, supporting each other to make changes, learning from experts and sharing best practice.

References

Scoffham, S. and Owens, P. (2017) *Teaching Primary Geography*. London: Bloomsbury.

WEB RESOURCES

Al Gore ‘An Inconvenient Truth’: <https://www.youtube.com/watch?v=mOrHnctozrY>
 Ashden Awards: www.ashden.org
 David Attenborough BBC ‘Blue Planet II’: www.bbc.co.uk/programmes/p04tjbtX
 LESS CO2 Programme: www.lessco2.org.uk
 Dr Seuss’ *The Lorax*: www.youtube.com/watch?v=aa82mcXO9AQ

As Schools Programme Manager at Ashden, Alex runs the LESS CO2 programme and works with partner organisations to support schools to save energy, as well as increase sustainability awareness in young people.