



Geography

How can we live more sustainably?

Year 4

Unit 2

Intent:

The concepts of sustainability and sustainable development lie at the heart of a geographical world view that sees the subject as the study of the interrelationship of people with the environments in which they live and upon which they depend. Many of those beginning school this year will live to see the next century. The greatest global challenge during their lifetimes will be how to marry economic and personal development with the principles of sustainability. That is, ensuring that everyone can enjoy a comfortable and fulfilling life without undermining the integrity of the lives of others or the environment that sustains them. Because of this it is essential that children and young people have an opportunity to explore the concept of sustainability from a young age. The main objective of this enquiry, therefore, is for the pupils to understand through the use of a number of examples what sustainability entails and how they might approach applying those principles to their own lives. It is important for young geographers to grasp that sustainability is not just confined to how we interact with the environment. It also has equal relevance to many aspects of their life, especially in the context of personal and social wellbeing. - David Weatherly, Connected Geography

Pupils should be taught to:

Locational knowledge

name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time

Place knowledge

understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region within North or South America Human and physical geography

describe and understand key aspects of:

human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water

Geographical skills and fieldwork

use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied

use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies.

Prior learning:

ELG	Year 1	Year 2	Year 3		
People, culture and communities	Why do we love living by the seaside?	How does the geography of Kampong Ayer compare with where I live?	Why do so many people live in megacities?		

Key Vocabulary:

Tier 2 - Multiple meanings or high frequency

Recycle	Atmosphere
Pollution	Electrons / electricity Power

Tier 3 - Subject specific

Sustainable	Solar	Wind Turbine	
Reusable	Finite / Infinite	Renewable	Non-renewable

Etymology and morphology

Prefix / Suffix / Root	Meaning	Examples
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geography	the study of the physical features of the earth and its atmosphere, and of human activity as it affects and is affected by these, including the distribution of populations and resources and political and economic activities.	From geographia (Greek) - geographie (French) - geography (English 15 th Century).
Sustainable	Being able to do something forever without having a negative impact on the environment that supports life on Earth or people living elsewhere in the world.	1610s, "bearable," a sense now obsolete, from sustain + -able . Attested from 1845 in the sense "defensible, capable of being upheld;" by 1965 with the meaning "capable of being continued at a certain level;"
Living sustainably	Using what we need now to live a comfortable lifestyle and, at the same time, doing what we can to minimise our impact on the environment so that everyone in the future has the same opportunity to live well, wherever they are in the world.	

Idioms and colloquialisms	
	Meaning

Misconceptions	
Not true	Teach this

Lesson number	Key enquiry question & learning objective	Suggested learning activities	Cumulative questions
1	<p>What does being sustainable actually mean?</p> <p>L.O. That describe and explain, with examples, what living sustainably means.</p>	<p>Connected Geography Lesson 1.</p> <ul style="list-style-type: none"> In groups, get the children to describe what they see in the pictures from resource 1 (slides 2-12). Explain that these images show examples of 'being sustainable'. Can the children use this to help work out what sustainability means? In groups, look at the images in resource 2 (slides 13-20) these photos also show things that are sustainable, but in a different way – <i>personal sustainability; physical and mental health and wellbeing</i>. In pairs or groups, give the children a set of photographs from resource 3 (slides 21-30). Ask the children to sort them into 2 categories: activities that can be considered to have a high degree of sustainability (could continue fairly indefinitely into the future) and activities with a low level of sustainability (cannot continue in the same way forever). Support the children to identify resources that are finite and non-renewable and those that are renewable and infinite. Encourage discussion particularly around categorising concepts such as fishing, forestry and wood as these often generate the phrase, "well it depends ..." and discuss considerate use of these resources. Children could create a list / poster / leaflet / PowerPoint presentation on sustainable and unsustainable resources with explanations to show their understanding of sustainability. 	1-3
2 & 3	<p>How can we make our school more sustainable?</p> <p>L.O. That identify areas where we</p>	<ul style="list-style-type: none"> Conduct an environmental review of the school using the 11 areas of sustainability – energy, litter, waste, water, transport, healthy living, biodiversity, school grounds, global perspective, green procurement and pupil participation (see resource 4 Connected Geography). Walk around the school building and its grounds and collect observations and data on the above areas. Discuss which areas the children think they could improve on a practical level and how they could do this. Generate an ideas board as a class. Draw up an action plan as a class clearly showing the children's ideas about what they can do to improve the sustainability of the school. What could be implemented fairly easily and quickly? What would need more time? What would be needed in order for these actions to work? Bring to the children's attention that renewable energy methods are not always inexpensive to set up despite potentially saving money in the long term. 	4-6

	<p>can make our school more sustainable and suggest practical ways that we could improve.</p>	<ul style="list-style-type: none"> • Children could complete action plans as groups for particular areas of sustainability or they could complete their own chart / table covering the ideas. • Children could write a letter to Mr Hackett explaining what they would like to do in order to make the school more sustainable. • Children could plan future actions for making the school more sustainable and put these into practice over time. <p>https://www.bbc.co.uk/bitesize/topics/zshp34j/articles/z6m7vk7 This BBC link links to sustainability and plastic use /waste and could be useful in supporting ideas for practical ways to be more sustainable.</p>	
4	<p>Why are we seeing more wind and solar farms in the countryside?</p> <p>L.O. Tbat understand and explain how solar panels and wind turbines generate electricity. (In simple terms)</p>	<p>N.B. The children may have noticed the wind turbines and solar panel farms around the local area if / when they may have been out to places. There is additional information that teachers may find useful in the Connected Geography planning for ancillary question 3.</p> <ul style="list-style-type: none"> • Use an electrical appliance in the classroom to generate discussion about how it works e.g. boiling a kettle – they can see the heating element inside which heats up using the electricity from the mains and boils the water. (Ensure that you mention how a flow of electrons flow into the heating element). <p>The links below might be useful for explaining electrons to the children in case they don't know anything about them.</p> <p>https://study.com/academy/lesson/electrons-lesson-for-kids.html https://kids.kiddle.co/Electron#:~:text=An%20electron%20is%20a%20very,broken%20down%20into%20anything%20smaller.</p> <ul style="list-style-type: none"> • Show the children images of solar farms and wind farms (resources 5 and 6 Connected Geography or ones of your own). What is the connection between these and the boiling kettle? After discussion, establish the link between wind turbines and solar panels and electricity. • Solar panels convert the sun's energy into electricity. Inside the panels there are lots of solar cells full of electrons. When the sun's light hits the cells, the electrons inside begin to move and start to flow as a current of electricity. • Wind turbines work when the wind turns the blades of the turbine, which spins a shaft that connects to a generator to make electricity. • This film clip shows how different designs of windmills can generate electrical power. <p>https://video.link/w/UkEUc</p>	7-9

		<ul style="list-style-type: none"> • This link explains the different types of renewable energy. https://www.bbc.co.uk/bitesize/topics/zc3g87h/articles/zdyocr2p <p>(The explanations about how solar cells work are very complicated and mostly beyond the level of the children, but you may find one that gives them some idea). You could try the first part of this one https://video.link/w/SsEUc</p> <ul style="list-style-type: none"> • Revisit the ideas of renewable and non-renewable sources of energy. Why are solar and wind renewable but coal is non-renewable? It will eventually run out which is a good reason to slow down how much of it we use, but it also releases carbon dioxide when it burns which is a greenhouse gas https://video.link/w/JxEUc • Burning coal pollutes the Earth’s atmosphere and this is another reason why we need to use less of it. • Children can explain in their books why more solar and wind farms will be seen in the future. They can use annotated diagrams, posters etc. • They could create a poster or leaflet explaining what people can do to be more sustainable in terms of energy production. 	
5	<p>What other sources of renewable energy are there?</p> <p>L.O Tbat make comparisons and reach conclusions.</p>	<ul style="list-style-type: none"> • With the children, find out about fossil fuels, what they are and why we use them to generate energy. https://www.nationalgeographic.org/encyclopedia/fossil-fuels/ (some useful resources here) • https://www.nationalgeographic.com/environment/article/fossil-fuels (some useful info here) <ul style="list-style-type: none"> • Can the children identify that they are non-renewable sources of energy? • Use the link below to access some more info about fossil fuels and also, alternative, renewable energy sources e.g. hydropower, solar, wind and geothermal https://www.bbc.co.uk/bitesize/topics/zshp34i/articles/zntxgwx • Children could carry out their own research into these types of energy and present their findings in a way of their choosing e.g. poster, leaflet, PowerPoint presentation, verbal presentations to the class. 	10-11

6	<p>How can we promote sustainability in the future?</p> <p>L.O. That observe and explain why and how people living in poorer countries can live more sustainably</p>	<ul style="list-style-type: none"> • Review with the children what they have learned and understood regarding renewable and non-renewable energy and living sustainably so far. • You could use the Connected Geography unit, ancillary question 5 – How are solar cookers helping Sunita and her family to live more sustainably? • Use the images in resource 15 and discuss that something has happened to help Sunita and her family to live much more sustainably. • Use the images in resource 16 to discuss the children’s ideas about the country that Sunita lives in and what life in that country might be like. (Sunita lives in Nepal, ranked the 166th poorest of the 198 countries in the world. Only 24% of people in Nepal have electricity and Sunita is one of these lucky people). How might she and her family carry out ordinary, everyday tasks like cooking dinner or heating the house? Resources 20 and 21 provide the answer. • Sunita recently received something from an aid charity worker aimed at improving the lives of people living in Nepal – resource 22 what is it and how does it work? <p>https://video.link/w/vsgVc https://video.link/w/GsgVc</p> <p>Watch the 2 films as well.</p> <ul style="list-style-type: none"> • Generate ideas with the children as to how this solar cooker could be making Sunita’s life more sustainable. • Children could annotate a picture of Sunita and the solar cooker explaining how the solar cooker works and why they are improving the quality of life for people such as Sunita as well as helping to conserve the environment. 	12
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