

Topic:	Year group	Term
Sustainability - Renewable energy	6	Autumn

Background knowledge

Children learn about renewable energy and how it can be used to generate electricity. They compare the use of renewable energy to the burning of fossil fuels and the impact they have on the environment. Children have explored global warming in Year 5 but may need reminding of certain terms including "greenhouse gases", "the greenhouse effect" and "climate change".

Children should understand the differences between renewable and non-renewable energy sources. They should identify that fossil fuels (coal, oil and natural gas) are non-renewable because they will eventually run out.

Children explore how renewable energy, such as solar and wind power, is used to generate electricity. They also outline the advantages and disadvantages of non-renewable and renewable energy sources.

Children use their knowledge of renewable and non-renewable energy sources to look at the impact on the environment. Children should understand that using non-renewable energy sources such as coal, oil and natural gas is contributing to global warming.

It is important that children research the different ways that renewable energy can be used to limit the impact of global warming. At the end of this unit, children should consider how they could incorporate renewable energy strategies in their local communities and schools and provide reasons for doing so.

Common misconceptions

- Children may think that renewable energy is expensive
- Wind turbines are a risk to birds

What should I already know?

Children may have seen solar panels on houses or windmills when being out and about. Children will have insights but may not fully understand what they used for or how they work.

<u>Working scientifically</u> Reporting and presenting findings from enquiries in oral and written forms such as displays and other presentations. Identifying scientific evidence that has been used to support or refute ideas or arguments. <u>Scientific enquiry</u> 	1. What is renewable energy? 2. Using renewable energy
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Outcomes
Working towards: I know what renewable energy is. Expected: I know what renewable energy is and can explain how to use renewable energy. Exceeding: I know what renewable energy is and can explain how to use renewable energy. I can offer suggestions on ways we could use this school and our local area.

Key Vocabulary	Timeline / Diagrams
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Solar power - using light energy from the Sun to generate electricity

Wind power - using wind to generate electricity

Renewable - energy sources that do not run out

Non-renewable - energy sources that will eventually run out such as fossil fuels, coal, oil and natural gas)

Solar panels - devices that absorb light from the Sun and convert it into electricity

Wind turbine - a machine that uses wind to generate electricity

Global warming - the gradual increase in the Earth's temperature

Greenhouses gases - gases that trap heat from the Sun and cause the Earth to warm up



Key people / places

STEM scientist - solar power engineer

Question of the week

How can we use renewable energy?