

## Energy

Energy	
Assembly Concepts	Interdependence
Assembly Knowledge – move towards more children taking assemblies	<p>Energy</p> <ol style="list-style-type: none"> <li>1. What is energy? Burning fossil fuels to produce energy– impact on environment</li> <li>2. Renewable energy</li> <li>3. Saving energy at home – get caught saving energy</li> <li>4. Energy around school – energy saving project/energy sparks/pledge – Energy Sparks</li> <li>5. Wind energy – visit from Rampion - Awe and wonder comp</li> <li>6. Feedback – photos pledge etc</li> </ol>
Key concepts	<p>Fossil Fuels -link to climate change                      Non-renewable/Renewable energy                      Limited resources</p>
Caring thinking in the environment	<p>Membership of energy sparks                      Use of energy – class pledge                      Buildings – sustainable development</p>
Family Commitment/ Pledge	<p>Energy around the home – get caught saving energy – posting photos blog</p> <p>Our own Earth Day</p>

½ termly climate challenge for a specific year group	How can we save on heating? Guide to changes to living at home
Awe and wonder opportunities above those already in curriculum	Art/photography comp – sun/wind/water
Outdoor learning	Review curriculum
Ethical purchasing/sustainable practice as a school	Meeting to develop more energy saving methods. Looking at Checking on energy provider Energy consumption Energy audit – B&H
Political Engagement	Campaigning for more walking/riding to school – we are not made of sugar
Connecting	Brighton Energy Cooperative Rampion visits to the wind farm/wind farm exhibition Earth Ship
Staff Behaviour	Targets/activities for saving energy in school + own home Watch 2040
Emotional Resilience/Learning Behaviours/Relationships	Perseverance

Key Ideas	By the end of Year 2:	By the end of Year 4:	By the end of Year 6:
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Scientific background	<ul style="list-style-type: none"> <li>Pupils understand that some human activity causes pollution in the air which is affecting the world's climate / making the world hotter</li> </ul>	<ul style="list-style-type: none"> <li>Pupils understand that burning coal, oil and gas has an impact on the climate and have a basic understanding of the scientific processes involved</li> <li>Pupils are familiar with the terms 'atmosphere', 'Climate Change' and 'greenhouse gas emissions'</li> <li>Pupils know that some natural processes like trees growing, healthy soils and oceans take greenhouse gases out of the atmosphere.</li> </ul>	<ul style="list-style-type: none"> <li>Pupils can clearly articulate the link between burning fossil fuels and climate change using appropriate scientific vocabulary</li> <li>Pupils can name key carbon sinks such as forests, peatlands, oceans, algal blooms, and healthy soil</li> <li>Pupils know what the Intergovernmental Panel on Climate Change is and can discuss some recent findings</li> </ul>
Key Ideas	By the end of Year 2:	By the end of Year 4:	By the end of Year 6:
Urgency of need for climate action	<ul style="list-style-type: none"> <li>Pupils know that some impacts of our changing climate are happening now and others will happen in the future</li> </ul>	<ul style="list-style-type: none"> <li>Pupils can explain why many institutions have declared a 'Climate Emergency', and what this means (see below re impacts of Climate Change)</li> <li>Pupils know about some of the impacts that higher temperatures are having on people already.</li> </ul>	<ul style="list-style-type: none"> <li>Pupils can give examples of institutions that have declared a 'climate emergency' at different scales and are aware of synonyms such as 'climate crisis'</li> <li>They are familiar with the concept of emissions reduction targets and can identify different targets and begin to connect these with current scientific estimates for degrees of warming</li> <li>Pupils understand that 2030 is a scientific estimate of a year by which global emissions must have peaked in order to give humanity a reasonable chance of controlling eventual warming levels, and that it is not a deadline for an end-of-the-world scenario</li> <li>Pupils know about current trends in total global climate emissions, i.e. whether they are rising, peaking or falling</li> <li>Pupils begin to understand what climate tipping points are and can connect these with the urgency to act</li> <li>Pupils are familiar with the findings of cost-benefit analyses comparing quicker and slower global responses.</li> </ul>

Key Ideas	By the end of Year 2:	By the end of Year 4:	By the end of Year 6:
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<p>Responses to climate change</p>	<ul style="list-style-type: none"> <li>● Pupils can name some actions which would have a positive impact on the climate and some ways in which we can stop having a negative impact</li> <li>● Pupils can choose some actions they / their class / their school / their family could take to have a positive impact on the climate</li> <li>● Pupils can describe at least one simple / familiar example of how a group of people are taking positive climate action together</li> <li>● Pupils and describe some actions to increase biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>● Pupils understand how using less energy can reduce emissions</li> <li>● Pupils understand what <b>renewable energy</b> is and can explain why it is important in reducing greenhouse gas emissions</li> <li>● Pupils can identify actions that they can take personally to reduce emissions / promote carbon sinks</li> <li>● Pupils can identify actions that can be taken at the level of their school and locality</li> <li>● Pupils understand that leaders of governments make agreements with each other about climate action and can identify some of the content of these agreements</li> <li>● Pupils can name different examples of how a group are taking climate action together and can talk about the outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>● Pupils are familiar with a range of different climate action strategies including reducing consumption, using renewable energy and protecting/ restoring carbon sinks</li> <li>● Pupils begin to discuss what makes some strategies more effective than others</li> <li>● Pupils can identify actions they can take personally and with a group of which they are part</li> <li>● Pupils are familiar with actions that are being taken locally, nationally; and with key content of international agreements</li> <li>● Pupils begin to form their own opinions on these responses</li> <li>● Pupils can describe a range of examples of how a group have taken climate action together, both locally and across the world, and can talk about the outcomes</li> <li>● Pupils can discuss what makes for effective climate action</li> </ul>
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<p>Key Ideas</p> <p>Consumption and climate justice</p>	<p>By the end of Year 2:</p> <ul style="list-style-type: none"> <li>● Pupils know that many of the choices they and others make have an impact on the environment / climate</li> <li>● Pupils begin to be able to rank human activities they are familiar with e.g. how they travel to school, according to how much of an impact they have on the environment / climate</li> </ul>	<p>By the end of Year 4:</p> <ul style="list-style-type: none"> <li>● Pupils can name some of the things that they and others do that are responsible for climate change</li> <li>● Pupils begin to explore alternatives to these activities which are less harmful</li> <li>● Pupils understand that you can measure how much impact an activity has and know that different lifestyles have a greater or lesser impact</li> <li>● Pupils understand that some individuals and countries are more responsible than others for greenhouse gas emissions to date</li> <li>● Pupils compare the carbon footprints of people with a different lifestyle to them, including in other countries</li> </ul>	<p>By the end of Year 6:</p> <ul style="list-style-type: none"> <li>● Pupils can clearly make the connection between climate change and things that they and others consume / activities they and others participate in</li> <li>● Pupils understand that different lifestyles cause much lesser or greater carbon emissions</li> <li>● Pupils can suggest a range of alternatives which might reduce greenhouse gas emissions</li> <li>● Pupils can explain simply what a carbon footprint of an individual, a product, or an activity is</li> <li>● Pupils can explain how some countries are more responsible than others for producing greenhouse gas emissions and compare this with where the climate crisis has the most severe impacts. They can use this information</li> </ul>
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<p>Key Ideas</p> <p>Possible futures</p>	<p>By the end of Year 2:</p> <ul style="list-style-type: none"> <li>• Pupils begin to understand that the future will be different depending on what we do now</li> </ul>	<p>By the end of Year 4:</p> <ul style="list-style-type: none"> <li>• Pupils can imagine different futures within their own likely lifetimes based on different levels of heating, including optimistic scenarios</li> <li>• Pupils know that action or lack of it now will have an effect on these different futures</li> </ul>	<p>to begin to develop their own ideas about rights and responsibilities now and in the future.</p> <p>By the end of Year 6:</p> <ul style="list-style-type: none"> <li>• Pupils can outline different possible future scenarios - typically in 2100 - depending on levels of heating</li> <li>• Pupils have an understanding of current scientific consensus on what these future scenarios may look like, including best-case scenarios</li> <li>• Pupils begin to understand the lack of certainty in future predictions</li> <li>• Students know that our scientific understanding is developing and being revised</li> <li>• Pupils are familiar with the 12 permaculture principles</li> </ul>
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## Resources

Energy – Let’s save it – Good animation with positive actions <https://www.youtube.com/watch?v=1-g73ty9v04>

Quite a complex guide to fossil fuels <https://www.youtube.com/watch?v=zaXBVYr9Ij0>

Guide to non-renewable energy <https://www.youtube.com/watch?v=MpEJnnpye-k>