

**Seeds for Schools:  
Ages 7 to 8**

**Overview:** *This Module has been written to be accessible for all schools in the UK. The intention is, as a generic resource, that you may adapt it to the appropriate age group and ability of students that you are teaching.*

This Module has a large Geography/Science slant, but is broadly cross-curricular, offering opportunities for Literacy, Art, ICT, History, Numeracy and developing thinking skills. The aim is to develop awareness that trees are a valuable, manageable resource and that through careful nurturing even on a local scale, they can play a crucial role in regulating our climate. The knowledge the children already have and time available will determine starting points and the degree of cross curricular integration. Class activity is focused on shared learning and whole-class display.

**Most children will:** become more familiar with the way that trees grow and will realise that we can all help to nurture them, creating a positive, aesthetic impact on the environment, whilst also helping trees to provide valuable wildlife habitats and reduce global climate change.

**Some children will not have made so much progress and will:** realise that trees have many varied uses, and that by nurturing them, we can all help to make our world a healthier place.

**Some children will have progressed further and will also:** understand the concept that trees are ‘the lungs of the planet’, that they are prominent contributors to the carbon cycle, and that by exchanging carbon dioxide for oxygen, trees can have a positive impact on climate change.

Learning Objectives	Cross Curricular & Other	Key Resources:
<p><i>To identify main tree parts and their functions, and to understand that trees are especially valuable because they have many uses.</i></p> <p><i>To understand simply the causes and impacts of global warming and that this leads to climate change, but that we can help to slow down or even reverse the changes by taking action.</i></p> <p><i>To understand in a simple way ‘The Carbon Cycle’ and begin to relate this to global warming and climate change.</i></p> <p><i>To recognise a range of tree seeds and understand how they can be encouraged to grow.</i></p>	<p>Science Geography</p> <p>Strong possible links to: Citizenship ICT History Art Literacy Maths (see also Curriculum Web)</p>	<p>‘A Convenient Truth’ DVD WWW and internet Paper, paint and brushes and other art materials Recycled Christmas or birthday cards Age-appropriate video clips and books Seeds, newspapers, compost</p> <p><b>Overall Outcome:</b> To know how to plant and nurture tree seeds, and to be able to discuss simply the importance of developing and preserving sustainable forests and woodlands as an essential tool in the fight against global warming and climate change.</p>
<p><i>To appreciate that it doesn’t take long for a tree to be cut down but it takes years for a tree to become mature - so we must plant for the future.</i></p> <p><i>To understand ‘deforestation’, the need to reverse it, and to appreciate the ‘Seeds for Schools’ challenge to plant 1 million tree seeds.</i></p> <p><i>To show what they have learned by informing others of ‘the reasons for’ and ‘how to help’ using tree planting to combat global warming and climate change.</i></p>	<p><b>Vocabulary:</b></p> <p><b>Words related to global warming and climate change</b> (e.g. greenhouse gases, weather, climate, climate change, non-renewable fuels, coal, oil, gas, renewable fuels, wind turbines, solar panels, sustainable, reduce, reuse, recycle)</p> <p><b>Words related to tree structure and life cycle</b> (e.g. seeds, shoots, trunk, branches, roots, photosynthesis, carbon dioxide, oxygen, carbon cycle)</p> <p><b>Words related to landscape</b> (e.g. environment, deforestation, food chain, habitat, locality)</p>	<p><b>Assessment:</b> Ongoing (see lesson outcomes). Contributing appropriately to the class wall display and being able to explain what it is about and how one thing leads to another. Taking part in a class assembly or contributing to a class newspaper to present findings to a chosen audience.</p> <p><b>Unit Extension:</b> Further research and feedback about climate change, e.g. renewable energy and carbon footprints. Researching historical aspects of deforestation in the UK, when, how and why. Further research into suitable areas for future tree planting.</p>



Learning Objectives	I can statements	Suggested Activities	Extension	Outcomes	Resources and web links
<b>(1) A Living Resource</b>					
<i>To identify main tree parts and their functions, and to understand that trees are especially valuable because they have many uses.</i>	<p>I can recognise the main parts of a tree and understand their purposes.</p> <p>I can understand that trees have many different uses in our world.</p>	<p>Brainstorm using spider diagrams or bubble maps to establish the children's initial awareness of tree parts, purposes and uses. Could be small group or paired activity on whiteboards or paper. Pool information with whole group gathered collecting onto one large sheet. Keep the record in 'child speak' and include any random 'uses' of wood they offer - all are valid, as the object of the exercise is to establish how very useful trees are.</p> <p>Everyone to draw on neutral sugar paper a detailed picture of their favourite tree (20-30 cm tall). Draw attention to variety of tree shapes, branches, leaves and colours. Colour, cut out and keep.</p> <p>Ask children to individually compose a simple tree poem by following a simple writing frame, e.g. My favourite tree smells like, My favourite tree feels like, looks like, sounds like, tastes like, etc. This could help the children to develop a sense of 'ownership' of local trees. Make a book of redrafted/illustrated versions of these poems or write up, mount and display next to 'Trees' wall display which will 'build' over following lessons.</p>	<p>Use this drawing exercise as an opportunity to recognise and possibly record the variety of trees in the school grounds on a simple table - possibly by collecting then identifying different available leaves.</p> <p><b>Or</b> - 'map' on a plan of the grounds/local area the biggest trees around the school and by rough calculations of height/circumference and so on, estimate their ages.</p>	<p>Children will be able to draw a tree with main parts labelled and will be able to list many of its varied uses.</p> <p>Children will have become more aware of specific trees in their school grounds /immediate locality.</p> <p>Children might have explored trees with their senses and become more aware of their aesthetic qualities.</p>	<p>Pictures of different types of tree from WWW or books, or real examples to copy from school grounds.</p> <p>Drawing pencils and coloured pencils.</p> <p>Neutral sugar paper rectangles @30x20cm</p> <p>Writing frame for tree poetry</p>
<b>(2) Global Warming &amp; Climate Change</b>					
<i>To understand simply the causes and impacts of global warming and that this leads to climate</i>	I can explain what global warming means and why it is happening.	<p>Ask the children what they understand by 'Global Warming'. Brainstorm and then pool initial findings as before and keep.</p> <p><b>Show Chapter 1: Introduction of A Convenient Truth? DVD</b></p>	If time allows, 'Climate Change' could be studied in greater detail with the whole class.	Children will be able to draw a flow diagram detailing the stages of global warming,	<p><b>Beginning of 'A Convenient Truth' DVD - up to 'We have a Problem'</b></p> <p>Climate Change for Kids</p>

<p><i>change, but that we can help to slow down or even reverse the changes by taking action.</i></p>	<p>I can explain what greenhouse gases are and where they come from.</p> <p>I can understand that climate change is an unavoidable outcome if we do not take enough action to stop it.</p>	<p><b>NOTE:</b> Teacher may need to supplement the commentary with a simpler version – and/or supplement with other examples on <a href="http://tiki.oneworld.net/global_warming/climate_home.html">http://tiki.oneworld.net/global_warming/climate_home.html</a> to explain clearly and discuss. (This link is worth exploring thoroughly and clips used appropriately to reinforce elements of this unit, for plenary etc.)</p> <p>Children then each to draw examples of contributors to greenhouse gases/producers of carbon dioxide (CO<sub>2</sub>), e.g. factories/ power stations/houses/vehicles etc. Sugar paper and charcoal to achieve smoky, polluted effect. Early finishers could also draw various shapes and sizes of people 10-20cm tall, in pencil, coloured and detailed, also to cut out and keep.</p> <p>During drawing, groups of children in rotation to take turns painting with thick brushes a 'background' sky of stippled mixed random blue and white the length of a display board/area (on back of a roll of wallpaper or joined pieces of sugar paper). Then another background, half green/brown and half blue sea stippled - for the bottom half of the wall display. Also paint a large angry looking yellow/orange stippled sun. Do not expect neat 'works of art' – random, uneven applications will produce effective results! Keep</p> <p>Begin to assemble display. Sky, land, trees (grouped together to one side), polluting buildings/chimneys/vehicles (grouped to the other side with further smudged charcoal added and charcoal streaked angry sun above in one</p>		<p>demonstrating how we all contribute to it (and all have a part to play in resolving it).</p>	<p>website: <a href="http://tiki.oneworld.net/global_warming/climate_home.html">http://tiki.oneworld.net/global_warming/climate_home.html</a></p> <p>Neutral sugar paper rectangles @30x20cm Drawing charcoal</p> <p>Large rectangles of paper for background of wall display/mural to fit chosen area (sky and forest/sea). White/ blue then separately green and red paint on palettes (to mix as they paint different shades of blue, green and brown).</p> <p>Thick stiff paintbrushes</p>
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		corner). People gathered stranded on an' island' in the sea because sea level has risen.			
<b>(3) The Carbon Cycle</b>					
<i>To understand in a simple way 'The Carbon Cycle' and begin to relate this to global warming and climate change.</i>	<p>I can explain how trees can help to reduce the damage caused by global warming.</p> <p>I can describe 'The Carbon Cycle'.</p> <p>I can understand how 'managing' tree planting, even on a small, local scale, can be beneficial.</p>	<p>Recap previous activity on 'greenhouse gases' and focus on CO<sub>2</sub>. Refer to 'The Carbon Cycle' and discuss why increased CO<sub>2</sub> in the atmosphere from human's activities is damaging and that it must be reduced.</p> <p>Ask the children how we could do this. Show 'Chapter 2: Schematic and Chapter 3: A vital carbon sink sections of the DVD', pausing to take a closer look at the annotated tree diagram and compare the picture to their bubble diagram from the first activity.</p> <p>For a simpler explanation see also <a href="http://www.epa.gov/globalwarming/kids/carbon_cycle_version2.html">www.epa.gov/globalwarming/kids/carbon_cycle_version2.html</a></p> <p>Afterwards, ask the children to recall the main points and consider how they can add this information to the wall display, e.g. with arrows, labels, explanatory sentences, speech bubbles. They could in pairs/small groups draw on an A4/A3 sheet their understanding of a tree as a Carbon Sink and its place in the Carbon Cycle. Provide a list of useful words to start them off but also encourage clear extra information, including key words/phrases wherever possible and encourage humour to further engage their interest.</p> <p>Add the best of these ideas to the wall display to illustrate 'The Carbon Cycle'. Choose and add a suitable title to the developing display. Ask the children what else they could add (more drawings, speech bubbles to the 'people' on the</p>	<p>More able children to view <a href="http://www.coolkidsforacoolclimate.com/Take%20Action/TreePlanting.htm">http://www.coolkidsforacoolclimate.com/Take%20Action/TreePlanting.htm</a> 'Tree planting' and 'tree calculator'. These consider lifestyles and estimates over a period of time how many trees we would need to plant to offset using different amounts of energy.</p> <p>Research different circumstances over a year/month/week and feedback findings. They could look at their own family or if feeling confident, work out how many trees would need to be planted to offset the journeys to school of all of the children in their class over the last month.</p> <p>Devise and make a</p>	<p>Children will appreciate more fully the negative impact of deforestation and the potentially positive impact of planting trees. They will be able to explain this simply.</p>	<p>'Chapter 2: Schematic and Chapter 3: A Vital Carbon Sink' sections of video.</p> <p>Carbon Cycle websites: <a href="http://www.epa.gov/globalwarming/kids/carbon_cycle_version2.html">www.epa.gov/globalwarming/kids/carbon_cycle_version2.html</a> <a href="http://www.coolkidsforacoolclimate.com">www.coolkidsforacoolclimate.com</a></p> <p>A4 or A3 sheets of paper and drawing/colouring pencils.</p>

		display, labels, notes) to help illustrate global warming, climate change, the carbon cycle, the importance of trees. Add a border all around the edge to finish off. Display tree poems nearby.	table, collect information, total findings and check outcomes on website. Feedback to class. Can they plant that many trees?		
<b>(4) Preparing to Plant...</b>					
<p><i>To recognise a range of tree seeds and understand how they can be encouraged to grow.</i></p> <p><i>To appreciate that it doesn't take long for a tree to be cut down but it takes years for a tree to become mature - so we must plant for the future.</i></p>	<p>I can recognise different tree seeds and know how to nurture the seeds to help a new tree to grow.</p> <p>I can prepare seeds and grow seedlings to plant in my own locality.</p>	<p>Having established the benefits of trees, consider how we can help the planet combat global warming and its repercussions. Consider where trees come from and where we can find the seeds. Could begin with a seed collection activity and allow the children to handle and compare.</p> <p>Make a collection of simple newspaper biodegradable 'plant pots'. (reinforce 3R's). Plant seeds using compost from school compost bins or non-peat-based compost from garden centre. Label and nurture in a suitable place, recording their progress on an ongoing basis.</p> <p>Add related captions (written by the children) to wall display scene linking seed types to trees.</p> <p>Discuss the saying, <i>'Use the tree your father planted, plant the tree your child will need'</i>. Type up, mount and display near the assembled wall display.</p>	<p>More able children could research further seed planting/germinating tips.</p> <p>They could also research the notion of 'indigenous trees' and feedback with specific examples.</p>	<p>Children could turn their global warming flow diagram (from previous activity) into a 'cycle' by including the positive actions we can all take to reduce / reverse the problem.</p>	<p>Examples of tree seeds the children may already be familiar with, e.g. conkers, acorns, ash keys, apple, pear and orange pips etc. collected from fruity snacks, school grounds, outside of school, pine cones with seeds - to be displayed and handled.</p> <p>Pictures of seeds for comparison</p> <p>Newspapers for making biodegradable plant pots</p> <p>Compost</p>
<b>(5) 'Seeds for Schools' Challenge</b>					
<p><i>To understand 'deforestation', the need to reverse it, and to appreciate the</i></p>	<p>I can explain what deforestation means and why it's important.</p>	<p>Watch 'The Global Situation' and 'A Changing Situation' on the 'A Convenient Truth' DVD and supplement commentary where necessary.</p>	<p>More able children could research deforestation around the world beginning</p>	<p>Children will successfully plant seeds, label and nurture and be able</p>	<p>'A Convenient Truth' DVD - 'The Global Situation' and 'A Changing Situation'</p>

<p><i>'Seeds for Schools' challenge to plant 1 million tree seeds.</i></p>	<p>I can begin to counteract deforestation by planting more seeds and looking after them.</p>	<p>Include a 'deforested' area on their wall display with related arrows to show CO<sub>2</sub> rising into atmosphere, label/speech bubble to explain.</p> <p>Introduce the 'Seeds for Schools' challenge to plant one million trees. Ask the children if they're up for the challenge! Look at pictures of Alder, Scots Pine and Silver Birch and discuss why these seeds have been chosen.</p> <p><b>Sort seeds, and plant into your pots as advised.</b> (See also suggested extra atlas activity in 'extension' column to keep children usefully engaged while 'planting' with one group at a time).</p> <p>Read and discuss <i>Brother Eagle, Sister Sky</i> a message Chief Seattle, a respected and peaceful leader of one of the Northwest Indian Nations, who, over 150 years ago delivered a compelling message to the US government who wanted to buy his people's land - an inspirationally illustrated and powerful plea for conservation with graphic illustrations of deforestation.</p>	<p>with Google Earth and atlases. They could research/link this to the plight of the giant panda then feedback findings to whole class.</p> <p>Name the continents, labelling on their own A4 maps, using a simple key to add forested areas, indicating also deforestation danger zones.</p> <p><b>This atlas work could be ongoing during the lesson while one group at a time plants/makes pots, in rotation.</b></p> <p>Consider the implications from deforestation for animals from these areas, e.g. food chains.</p> <p>Research and feedback on 'Seeds for Schools' challenge and ask the children to write their version of Chief</p>	<p>to explain why this is an important, useful step in conservation and also in fighting against climate change.</p>	<p>Seeds for Schools packet</p> <p>Pictures showing grown silver birch, Scots pine and alder trees</p> <p><i>Brother Eagle, Sister Sky</i> by Susan Jeffers ISBN 0-14-054514-X Published by the Penguin Group</p> <p>World atlases and/or Google Earth (forests of the world)</p>
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			Seattle's speech in their own words.		
<b>(6) Summing-up and Sharing Our Learning</b>					
<p><i>To show what they have learned by informing others of 'the reasons for' and 'how to help' using tree planting to combat global warming and climate change.</i></p>	<p>I can demonstrate to others all I have learned by making a tree video/ mural/ or by performing a tree assembly.</p> <p>I can encourage others to plant a tree to help our planet.</p>	<p><b>Watch chapters 6 to end of "A convenient truth" and pause/supplement commentary as necessary.</b></p> <p><b>Note:</b> If you consider this resource is too advanced for the children, read a story such as <i>Gas Trees and Car Turds: Kids' Guide to the Roots of Global Warming</i> by Kirk Johnson. Also watch and discuss: <a href="http://www.nationalgeographic.com/video/player/kids/weird-wacky-kids/guinness-world-records/trees-guinness-kids.html">www.nationalgeographic.com/video/player/kids/weird-wacky-kids/guinness-world-records/trees-guinness-kids.html</a> for a fun tree planting 'Guinness Book of Records' world challenge to reinforce the message.</p> <p>Ask children to consider what they've learned and the main points they need to remember. Invite the children's ideas. Possibly print off some in speech bubbles to add to display or on wall.</p> <p>Distribute simple 'people' shapes (like cut-out dolls, boys and girls cut from old birthday or Christmas cards so one side is blank - again emphasise 3R's) to the children and ask them to write their own 'trees can help' slogan or fact with neat, detailed illustration, to display. Possibly choose 'winners' to reward with 'recycled' notebooks/pencils.</p> <p>Thought for the week... <i>'We have enough for the world's need, but not enough for the World's greed'.</i> Display and discuss. What else could this apply to?</p>	<p>MA could prepare a slideshow of the various stages of the module, using photos taken of the children busy at each stage supplemented by pictures of forests, deforestation, sustainable planting, their own seedlings, their display and so on.</p>	<p>Children will share their knowledge with others.</p>	<p><b>A Convenient Truth' DVD - watch to end.</b></p> <p>Recycled Christmas or birthday cards cut out into simple girl or boy shapes with one white, plain side.</p> <p>ICT hardware to make a slideshow or possibly a video of learning covered. <i>Gas Trees and Car Turds: Kids Guide to the Roots of Global Warming</i> by Kirk Johnson Fulcrum Publishing ISBN-10: 155591666X ISBN-13: 978-1555916664</p> <p><a href="http://www.nationalgeographic.com/video/player/kids/weird-wacky-kids/guinness-world-records/trees-guinness-kids.html">www.nationalgeographic.com/video/player/kids/weird-wacky-kids/guinness-world-records/trees-guinness-kids.html</a></p>

		<p>Consider how to spread the word.</p> <p>Class presentation to parents, another class or even the whole school.</p> <p>Collate information/learning into a newsletter or illustrated poetry book. Plan it and do it involving as many children from the class as possible.</p>			
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Last reviewed: 30/03/09