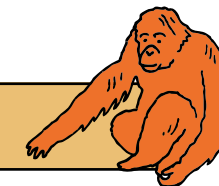
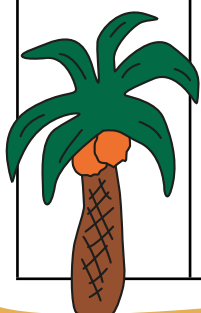


# Sustainable palm oil

**Conservation**    **Term:** Autumn    **Subject:** Science    **Topic:** Human impact on the environment    **Year:** 4



	National Curriculum Links	Overview	Assessment / Questions	Resources
<b>LESSON</b>  <b>Living Things and their Habitats</b> <ul style="list-style-type: none"> <li>Recognise environments can change and that this can sometimes pose dangers to living things</li> </ul> <b>Working Scientifically</b> <ul style="list-style-type: none"> <li>Reporting on findings from enquiries, including oral and written explanations.</li> </ul> <b>Learning Objective(s)</b> <ul style="list-style-type: none"> <li>To understand that humans can have a positive and negative impact on the environment.</li> </ul> <b>Success Criteria</b> <ul style="list-style-type: none"> <li>I can name at least one positive and negative impact of humans on the environment.</li> <li>I can sort environmental changes into positive and negative impacts of humans.</li> <li>I can research a positive or negative impact of humans on the environment.</li> </ul>	<b>Living Things and their Habitats</b> <ul style="list-style-type: none"> <li>Recognise environments can change and that this can sometimes pose dangers to living things</li> </ul> <b>Working Scientifically</b> <ul style="list-style-type: none"> <li>Reporting on findings from enquiries, including oral and written explanations.</li> </ul> <b>Learning Objective(s)</b> <ul style="list-style-type: none"> <li>To understand that humans can have a positive and negative impact on the environment.</li> </ul> <b>Success Criteria</b> <ul style="list-style-type: none"> <li>I can name at least one positive and negative impact of humans on the environment.</li> <li>I can sort environmental changes into positive and negative impacts of humans.</li> <li>I can research a positive or negative impact of humans on the environment.</li> </ul>	<b>Prior learning</b> The children may have undertaken a KS2 KWL (Know, Want Learn) impact activity sheet in which they would have discussed or recorded what they already knew about how environments can change.  Previous lessons should involve the children learning about: <ul style="list-style-type: none"> <li>Changes to environments that are natural i.e. weather/ climate, tides, seasons, day and night, volcanoes etc.</li> <li>The consequence of expected changes to the environment i.e. adaptations of animals to changing conditions.</li> <li>The consequence of extreme changes to the environment and how these changes can affect the wildlife population and deplete numbers.</li> <li>e.g. extreme temperatures in Australia have caused forest fires and many plants and animals have not survived.</li> </ul> <b>Introduction</b> Clip from 'Our Planet' series on forests and jungles: <a href="http://www.ourplanet.com/en/video/biome-tour-of-our-forests/">www.ourplanet.com/en/video/biome-tour-of-our-forests/</a> <a href="http://www.ourplanet.com/en/video/biome-tour-of-our-jungles/">www.ourplanet.com/en/video/biome-tour-of-our-jungles/</a>  Ask the question:  <i>'Are changes to the environment always caused by humans?'</i>  Hopefully, the children will be able to recognise that there are natural changes to environments (particularly if they have undergone lessons described above (see 'Prior Learning')). Assessment of this understanding can occur through asking:  <i>'What sort of environmental changes occur naturally?'</i>  The children can write down examples on their whiteboards and feedback to the class.  BBC Bitesize video clip: Humans and the Environment:	<ul style="list-style-type: none"> <li>'Are changes to the environment always caused by humans?'</li> <li>'What sort of environmental changes occur naturally?'</li> <li>'How do human beings affect their environment?'</li> <li>'Why does this picture show a positive/ negative impact by humans?'</li> <li>'Why is it a positive/ negative impact? What was the situation like before? How could the situation improve in the future?/ What needs to be done to improve the situation in the future?'</li> <li>'What example of positive or negative impact by humans did you write a sentence about? Why is this a positive/ negative impact?'</li> <li>Can you explain why you chose your example of positive or negative impact of humans on the environment? What is its impact? What was the situation like before? How might the situation improve in the future?'</li> <li>What should we be doing to ensure that we do not impact the environment in a negative way?</li> </ul>	<b>Prior learning resources:</b> <ul style="list-style-type: none"> <li>KS2 KWL (Know, Want Learn) impact activity sheet</li> </ul> <b>For lesson:</b> <ul style="list-style-type: none"> <li>Worksheet / cards: 'How do human beings affect the environment?'</li> <li>Worksheet: 'Human Impact on the Environment'</li> <li>Clip from 'Our Planet' series on forests and jungles: <a href="http://www.ourplanet.com/en/video/biome-tour-of-our-forests/">www.ourplanet.com/en/video/biome-tour-of-our-forests/</a>  <a href="http://www.ourplanet.com/en/video/biome-tour-of-our-jungles/">www.ourplanet.com/en/video/biome-tour-of-our-jungles/</a></li> <li>BBC Bitesize video clip: Humans and the Environment: <a href="http://www.bbc.co.uk/bitesize/topics/zp22pv4/articles/z2md82p">www.bbc.co.uk/bitesize/topics/zp22pv4/articles/z2md82p</a></li> <li>David Attenborough: 'Our Planet: A reason for hope'. <a href="http://www.ourplanet.com/en/video/a-reason-for-hope">www.ourplanet.com/en/video/a-reason-for-hope</a></li> <li>See also Chester Zoo's webpages on sustainable palm oil:</li> <li>Chester Zoo: 'Sustainable palm oil: Act today to protect wildlife': <a href="http://www.chesterzoo.org/what-you-can-do/our-campaigns/sustainable-palm-oil/">www.chesterzoo.org/what-you-can-do/our-campaigns/sustainable-palm-oil/</a></li> <li>Chester Zoo: Our Position on Palm Oil: <a href="http://www.chesterzoo.org/what-you-can-do/our-campaigns/sustainable-palm-oil/our-position-on-palm-oil/">www.chesterzoo.org/what-you-can-do/our-campaigns/sustainable-palm-oil/our-position-on-palm-oil/</a></li> </ul>



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[www.bbc.co.uk/bitesize/topics/zp22pv4/articles/z2md82p](http://www.bbc.co.uk/bitesize/topics/zp22pv4/articles/z2md82p)

Explain that an ecosystem is a community of organisms (plants and animals) that live together and interact in the same environment. Generally, human action can have a positive and/ or a negative impact on these ecosystems. Ask the children:

*'How do human beings affect their environment?'*

The children should work in pairs and write the titles 'positive impact' and 'negative impact' on a shared whiteboard. They should be given about three minutes to list ways humans impact the environment under these headings. After this, they will be encouraged to share their ideas with the children in their group (about six). Each group will feedback to the class.

#### **Activities**

In pairs/ small groups the children will sort pictures (possibly on card) into positive impact of humans/ negative impact of humans. (See worksheet: 'How do human beings affect the environment?')

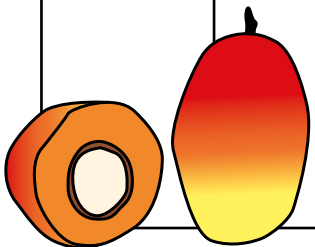
#### **Mini Plenary**

Review how the children have sorted the pictures. Ask the following question in relation to chosen pictures to assess understanding:

*'Why does this picture show a positive/ negative impact by humans?'*

Emphasise the information under specific pictures that relate to Chester Zoo, to show how the staff at Chester Zoo are having a positive impact on the environment. In particular, discuss the work they are doing to promote the use of sustainable practices in oil palm plantations and their local and global campaign to promote the use of sustainable palm oil products. (See information about Chester Zoo becoming the first sustainable palm oil city and its campaign for other cities to do the same. See resources).

Discuss also the importance of sustainable palm oil. This means that deforestation and 'slash and burn' clearing of vegetation has not occurred. The practices are better, safer, have better working conditions for the local workforce and fewer animals and plants are affected (and biodiversity is preserved). For instance, it is important for



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the orangutan whose numbers are decreasing rapidly in Malaysia and Indonesia through deforestation.

Chester Zoo supports various schemes as well as doing its own conservation work abroad. For instance, it supports a scheme to protect the orangutans through the blocking of ditches that had been dug to drain the forest. The ditches refill with water, re-wet the peat soil underlying the forest and the forest is prevented from drying out, stopping uncontrolled fires that destroy the habitat for orangutans and other wildlife.

Differentiated follow up:

\* The children can stick the pictures under the headings 'Positive impact of humans' and 'Negative impact of humans'. They can write a sentence giving a local or global example under each set of pictures.

\*\* / \*\*\*The children can choose (possibly from a restricted number of pictures) an example of either the positive impact of humans or the negative impact of humans. They should use their own local knowledge, the internet or other local information to write information linked to their choice. (They may use the picture from the worksheet, 'How do human beings affect the environment?' or may draw their own).

\*\*The children could be given a worksheet labelled: 'Human Impact on the Environment' to structure their work. N.B. There are two worksheets with the above title; one focuses on the negative impact of humans on the environment and the other focuses on the positive impact of humans on the environment. The questions below are on these sheets to support the children, for the children to answer, if possible.

\*\*\*The children should write up the report, including answers to the following questions:

**\*For human negative impact:**

*What type of impact is it? (e.g. Deforestation/ Air pollution)*

*Why is it a negative impact?*

*What was the situation like before? What needs to be done to improve the situation?*

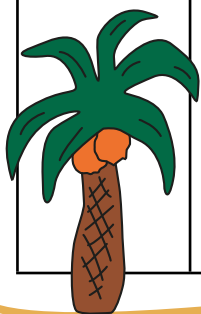
**For human positive impact:**

*Describe the positive impact to the environment (e.g. conservation area/ pond) Why is it a positive impact?*

*What was the situation like before?*

*How could the situation improve in the future?*





### Mini Plenary

\*Review local/ global examples given for the positive and negative impact of humans. (See above).

\*\*/ \*\*\* Check the children are including the correct type of information within the reports i.e. by asking them for information given to answer the questions listed above \*.

### Plenary

Review the learning objective and success criteria.

Show the images on the Power Point: 'The impact of humans on the environment'. The children are to write down on whiteboards which of the pictures show a positive impact on the environment by humans and which show a negative impact. They are to show their whiteboards (for assessment by the teacher). Ask differentiated questions:

*\*What example of positive or negative impact by humans did you write a sentence about? Why is this a positive/ negative impact?'*

*\*\*Can you explain why you chose your example of positive or negative impact of humans on the environment? What is its impact? What was the situation like before? How might the situation improve in the future?*

*\*\*\*What should we be doing to ensure that we do not impact the environment in a negative way?*

If time allows, show the video clip:

David Attenborough: 'Our Planet: A reason for hope'.  
[www.ourplanet.com/en/video/a-reason-for-hope](http://www.ourplanet.com/en/video/a-reason-for-hope)

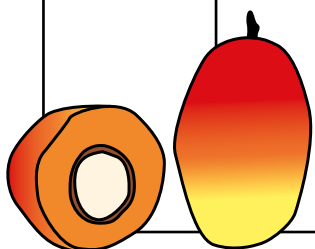
### Possible ongoing work

The children are to find out about local changes to the environment e.g. new builds on farmland, development of brownfield sites, local nature reserves etc.

The children could visit Chester Zoo and visit the nature reserve to encourage wildlife to grow in a safe environment and how it can be protected.

This lesson could be followed up by exploring the negative impact of humans on the environment through learning about the deforestation of rainforests in Borneo because of unsustainable palm oil plantations and comparing it to the positive impact when the plantations are sustainably farmed.

See also cross-curricular work on sustainable palm oil,  
such as geography and English persuasive letter.



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