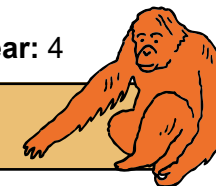# Sustainable palm oil

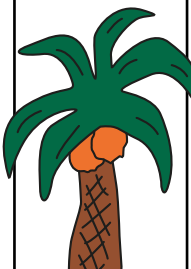**Conservation**   **Term:** Autumn   **Subject:** Science/ Geography / English   **Topic:** To understand the impact of deforestation on animals and plants in the rainforest.   **Year:** 4

	National Curriculum Links	Overview	Assessment / Questions	Resources
LESSON	**Science:** **Living Things and their Habitats** • Recognise environments can change and that this can sometimes pose dangers to living things • Pupils should explore examples of human impact (both positive and negative) on environments, for example, the positive effects of nature reserves, ecologically planned parks, or garden ponds, and the negative effects of population and development, litter or deforestation. **Geography:** **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** • To describe and understand key aspects of human geography, including: types of settlement and land use, economic activity including energy, food, minerals and water in the context of rainforests. **English:** **Reading Comprehension** • Retrieve and record information from non-fiction In using non-fiction, pupils should know what information they need to look for before they begin and	**Prior learning** Previous Science lessons should involve the children learning about: • Changes to environments that are natural i.e. weather/ climate, tides, seasons, day and night, volcanoes etc. • The consequence of expected changes to the environment i.e. adaptations of animals to changing conditions. • The consequence of extreme changes to the environment and how these changes can affect the wildlife population and deplete numbers. • E.g. extreme temperatures in Australia have caused forest fires and many plants and animals have not survived. • The effect of humans on the environment. See lessons: 'Human impact on the environment' and 'The reasons why deforestation occurs and its impact.' **Introduction** The Power Point: 'The impact of deforestation on plants and animals' shall be used to guide this lesson. Introduce the learning objective on slide 2. Explain to the children that they will be exploring the impact of deforestation on an animal from Borneo or Malaysia, in South-east Asia and/ or an animal in South-America. They will be using the knowledge gained about deforestation in the previous lesson along with fact files about specific endangered animals to write about how deforestation affects a specific endangered animal. *'Can you give an example(s) of how deforestation affects animals?'* Responses by the children can be written on the board. Introduce slide 2. Encourage the children to read one or two Chester Zoo fact files about endangered animals. The children should choose an animal to write about. Demonstrate how to use the fact file about this specific animal and the information on the class mind map created in the previous lesson to write down how the chosen	• Can you give an example(s) of how deforestation affects animals? • How does deforestation specifically affect the chosen animal? • How did you include your general knowledge about deforestation to explain the effect of deforestation on this animal? • How could the situation be improved for the animal? • What information did you learn from other sources (not the fact files)?	• Power Point: 'The impact of deforestation on plants and animals'. • Chester Zoo fact files on endangered animals. Focus on the animals in South East Asia and South America. www.chesterzoo.org/schools/resources/ palm-oil-animal-fact-file-collection/ • The children's mind maps from the lesson: The reasons why deforestation occurs and its impact'. (The work may have been written on the worksheet: 'The reasons for and against deforestation'). • Paper, pens and pencils.

be clear about the task.

Learning Objective(s)
• To understand the impact of deforestation on animals and plants.

Success Criteria
• Write how deforestation affects a specific animal.
• Include other information about how deforestation affects animals and plants.
• Include information from my own research.

rainforest animal is affected by deforestation. N.B. The children should use their own mind maps from the previous lesson: 'The reasons why deforestation occurs and its impact'. (The mind map may have been written on the worksheet: 'The reasons for and against deforestation').

Show slide 3 as an example outcome. The children will be drawing a picture of their animal in the centre of the page. Around the outside, show how the animal itself can explain how it is affected using different points in speech bubbles. These can be specifically taken from:

- the fact file e.g.

'I need the rainforest for camouflage since I have brown fur and white stripes and spots. Without camouflage my predators can spot me!'

- knowledge learned in the previous session relating to deforestation e.g.

'There will not be as much rain. Plants and animals like me may not have enough water to survive.'

The children can be told they can work as follows:

All: Use information learned about deforestation and the factfile to support your work.
* You may plan your writing in pairs.

***If possible, use further research about your chosen wild animal.

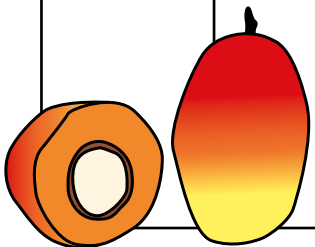Introduce the success criteria.

Plenary
See slide 4. Following the activity, refer to the learning objective and success criteria.

The children could share their writing with another child or pair of children. Ask the children:

'How does deforestation specifically affect the chosen animal?'

The children should feedback what they have learned from someone else's work.

Ask differentiated questions related to the children's own work e.g.:
'How does deforestation affect the animal you researched?'

'How did you include your general knowledge about deforestation to explain the effect of deforestation on this animal?'

'How could the situation be improved for the animal?'

'What information did you learn from other sources (not the fact files)?'

If time allows:

Introduce slide 5 that shows some of the major animals that are endangered in South-east Asia and also in South America (in the Amazon rainforest).

Using slide 6, re-inforce the importance of sustainable farming that only uses land previously deforested. Explain how sustainable oil palm plantations have wildlife corridors (of rainforest) that enable animals to pass through plantations to connect to other regions of rainforest.

Possible ongoing work
In Science, the children should be taught to recognise that living things can be grouped in a variety of ways. This could include categorising the animals of the rainforests: vertebrate animals into groups such as fish, amphibians, reptiles, birds, and mammals; and invertebrates into snails and slugs, worms, spiders, and insects.

The children could further investigate the animals affected by deforestation in a chosen region e.g. Ecuador, in South America. Investigate the cause and consequence of deforestation In the region. See Chester Zoo videos: 'What does Chester Zoo do in the rainforest of Ecuador?' (See Geography).

The children can explore the animals and plants that live in e.g. Ecuador or Guatemala and compare to those that are found in the rainforest in Borneo and possibly Africa. They could create a memory card game, matching the animal species with which rainforest it is found in the world. (See Geography).

The work from this specific lesson and the deforestation lesson can be used for the writing of a newspaper report about the effect of deforestation on the animals. (See English).

• The children could write an explanation text on what is the effect of unsustainable palm oil production on rainforest animals and the environment. (See English)