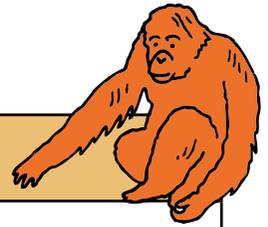
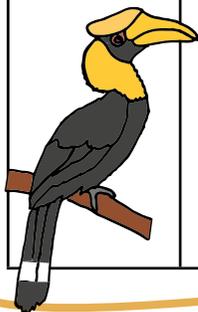


# Sustainable palm oil

Conservation Term: Autumn Subject: Science 1 Topic: Animal nutrition Year: 3



	National Curriculum Links	Overview	Assessment / Questions	Resources
LESSON	<p><b>Animals, including humans -</b></p> <ul style="list-style-type: none"> <li>Identify that animals, including humans, need the right types and amount of nutrients, and that they cannot make their own food; they get nutrients from what they eat.</li> </ul> <p><b>Working Scientifically</b></p> <ul style="list-style-type: none"> <li>Comparing and contrasting animals and deciding ways of categorising (grouping) them.</li> </ul> <p><b>Learning Objective(s)</b></p> <ul style="list-style-type: none"> <li>To understand animals need a wide source of food for good nutrition.</li> </ul> <p><b>Success Criteria</b></p> <ul style="list-style-type: none"> <li>I can investigate and write a food chain.</li> <li>I can investigate alternative sources of food for an animal.</li> <li>I can explain how an animal can obtain a diverse food source.</li> </ul>	<p><b>Prior learning</b></p> <p>Children may have learnt about how animals obtain their food from plants and other animals in their habitat, using the idea of a simple food chain and naming different sources of food.</p> <p><b>Introduction</b></p> <p>Introduce the following cards to the children:</p> <p>'Cards of Sumatra rainforest habitat for food webs'</p> <p>The children should look at the cards given, answering the question:</p> <p><i>How might you group plants and animals?</i></p> <p>The children should be given a few minutes to decide and to group the cards.</p> <p>Review ideas and give the children credit for their ideas. Some children may have grouped the animals and plants according to whether they are plants (producers), they only eat plants (herbivores) or whether they eat plants and meat (omnivores). Discuss how this is a good way of grouping animals and plants, according to what they eat. If necessary, give the children time to explore this method of grouping the animals.</p> <p><i>e.g. How do plants obtain their food?</i></p> <p><i>Do you know an example of an animal that will only eat plants? Only eat meat? Eat plants and meat?</i></p> <p><i>What is a food chain?</i></p> <p>Show BBC Bitesize: KS1: 'What types of food do animals eat?'</p> <p><a href="http://www.bbc.co.uk/bitesize/topics/z6882hv/articles/z96vb9q">www.bbc.co.uk/bitesize/topics/z6882hv/articles/z96vb9q</a></p> <p>BBC Bitesize: KS1: 'What is a food chain?'</p> <p><a href="http://www.bbc.co.uk/bitesize/topics/zx882hv/articles/z3c2xnb">www.bbc.co.uk/bitesize/topics/zx882hv/articles/z3c2xnb</a></p> <p>More able learners could be shown the following video</p>	<ul style="list-style-type: none"> <li>How might you group plants and animals?</li> <li>How do plants obtain their food?</li> <li>Do you know an example of an animal that will only eat plants?/ meat?/ plants and meat?</li> <li>Can you give an example of a food chain?</li> <li>Why is it important for animals to have a range of different food sources?</li> <li>Can you name any producers? Omnivores? Carnivores?</li> <li>Can you describe how an orangutan is helped to reach a wider range of food in a sustainable palm oil plantation?</li> </ul>	<p><b>Resources:</b></p> <ul style="list-style-type: none"> <li>'Cards of Sumatran rainforest habitat for food webs'</li> <li>Sumatran food web</li> <li>Sumatran food web blank sheet</li> <li>Digital camera to record food chains made from the cards</li> <li>A3 paper to record own food webs upon</li> <li>Chester Zoo resource: Sustainable Palm Oil Campaign Booklet. <a href="https://www.chesterzoo.org/schools/resources/sustainable-palm-oil-campaign-booklet/">https://www.chesterzoo.org/schools/resources/sustainable-palm-oil-campaign-booklet/</a></li> <li>BBC Bitesize: KS1: 'What types of food do animals eat?' <a href="http://www.bbc.co.uk/bitesize/topics/z6882hv/articles/z96vb9q">www.bbc.co.uk/bitesize/topics/z6882hv/articles/z96vb9q</a></li> <li>BBC Bitesize: KS1: 'What is a food chain?' <a href="http://www.bbc.co.uk/bitesize/topics/z6882hv/articles/z96vb9q">www.bbc.co.uk/bitesize/topics/z6882hv/articles/z96vb9q</a></li> <li>Chester Zoo video on animal nutrition: <a href="https://youtu.be/aEvk9rb1NXA">youtu.be/aEvk9rb1NXA</a></li> </ul>



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[chesterzoo.org/learning](http://chesterzoo.org/learning)

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about the diet of animals at Chester Zoo:  
[youtu.be/aEvk9rb1NXA](https://youtu.be/aEvk9rb1NXA)

Assess children's knowledge and understanding of food chains by asking: *Can you give an example of a food chain?*

The following can be used as an example. Revisit or introduce the terms, producer, herbivore and omnivore:

grass (producer) > cow (herbivore) > human (omnivore)

Explain that a herbivore is a primary consumer, because it is an animal that only eats plants, a human in the above example is a secondary consumer because it eats cows that eat plants.

The children could be asked: *Can you name any producers? Omnivores? Carnivores?*

#### **Activities**

The children should use the following cards again:

'Cards of Sumatra rainforest habitat for food webs'

They should sort the cards into food chains. If necessary, remind them of the order of a food chain:

producer > primary consumer > secondary consumer

#### **Mini plenary**

Review some of the food chains created and discuss whether they are plausible. Ask the children: *What would happen if food from these food chains is not available?*

Discuss the fact that generally alternative animals can be eaten in a diet. Show the alternative food that specific animals could have eaten on the cards.

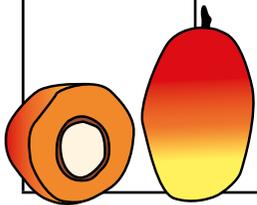
Introduce the idea of food webs by either:  
Showing a completed food web for Sumatra using resource 'Sumatran food web'

or

Using the 'Cards for Sumatran rainforest habitat for food webs' ask children to make simple food webs.

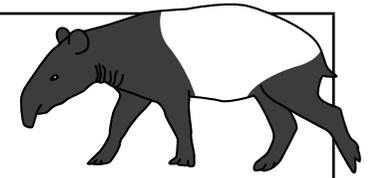
or

Asking children to create a Sumatran food web using the 'Sumatran food web blank sheet' and 'Cards for Sumatran rainforest habitat for food webs'.



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### Mini plenary

Ask the children: *What might happen if there was only one type of food to eat? How might this affect the animal?*

Discuss the importance of animals eating a range of different types of food with a range of nutrients. Compare and contrast the food groups for humans with that of monkeys and dogs.

Introduce the Chester Zoo sustainable palm oil campaign booklet. Briefly discuss the issues facing the orangutan in Sumatra and Borneo. Discuss the fact that orangutans are only found in the wild in these particular rainforests in the world. Discuss the implications of the biodiverse rainforests being replaced by oil palm monocultures for orangutan nutrition.

### Plenary

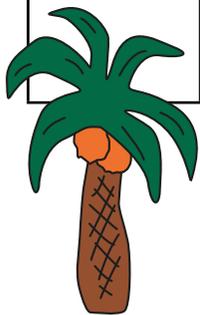
Review the learning objective and success criteria. Review learning through differentiated questions, e.g. *Can you give an example of a food chain? Do you know an alternative predator of the orangutan? Is this animal a herbivore, an omnivore or a carnivore? Can you name any other carnivores? Why is it important for the animals to have a range of different food sources? What might happen if this were not the case? Can you describe how an orangutan is helped to reach a wider range of food in a sustainable palm oil plantation?*

### Possible ongoing work

Writing a non-chronological report about an endangered animal affected by the unsustainable palm oil production in Borneo and Sumatra. (See lesson plan).

Writing a non-chronological report about the rights of the orangutan in the rainforest of Borneo, including their right to the right types and amount of nutrients. (See lesson plan).

Further work on sustainable palm oil production - see other suggestions listed in Chester Zoo's Palm Oil Conservation Toolkit topic web and progression overviews.



*Additional notes:*

**CHESTER ZOO MONSOON RAINFOREST**

[www.chesterzoo.org/whats-here/monsoon-forest/](http://www.chesterzoo.org/whats-here/monsoon-forest/)

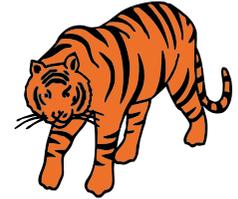
Explore the dense jungles of **South East Asia** and **immerse** yourself in the **sights, sounds and smells** of the **Monsoon Forest**. Discover **meat eating plants, ancient gharials, rare and colourful birds, a family of orangutans**, and lots of other **weird and wonderful species**, all native to these islands.\*

If you look above you, you'll hear the **beautiful melody** of some of South East Asia's rarest bird's, in our free flight area of the rainforest. For our bird enthusiasts, bring along your binoculars and spot the **bright and colourful** tropical birds nestled amongst the jungle's dense plant life.

For our intrepid explorers, stop by our **Tripa Forest Research Station** and learn all about the incredible projects we work with in South East Asia. **PLUS**, you can get close to some of our most unique amphibians and reptiles, including the **tentacled snake** and **vampire crabs!**

The conditions in Monsoon Forest are **hot and humid**, and you may also experience the monsoon rains during your visit, so be prepared for some damp jungle conditions!

*\* Some of these species may change or be off-show, based around zoo opening, licensing works, campaigns work and other projects.*



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