



The Environmental Costs of Palm Oil Production- Lesson Plan

Written by Gigi Finn

What We'll Cover

- What is rainforest?
- Where is rainforest?
- What is deforestation and why does it occur?
- What is palm oil?
- What is palm oil used in?
- Why is palm oil production a problem?
- What can you do to help save the rainforest?

Plan

- ① Rainforest
- ② Article
- ③ Article Questions
- ④ Deforestation
- ⑤ Video
- ⑥ Conservation
- ⑦ Questions
- ⑧ Research

Vocabulary

Rainforest	A warm and wet forest
Deforestation	Destruction of forests
Palm oil	An oil made from palm fruit
Derivative	Something that can be made from another substance
Orangutan	A type of great ape which shares 97% DNA with humans
Conservation	Protection and preservation of natural areas and species

Other Information

Please print pages 4-5 on **the front and back of one sheet of paper** for each student's use. The idea for this is that paper is made from trees, so the assignment itself can save the rainforest by using less paper. A link for the video is provided on page 2. Slides can be found on www.orangutangang.org/tutelage.



① Rainforest

Begin by discussing what a rainforest is, where it can be found, and what lives there with those sitting next to you, then go into details discussing as a class. Use the slides provided for guidance.

② Article

Pass out the worksheets. Have the students read the article and then answer the article questions. If a student asks whether the questions are open book, reply that the students may look at the article while answering the questions. Move on when everyone is done.

③ Article Questions

The students can trade papers to grade each others' work. They should then write the number of correct answers at the top of the page and circle it. Read aloud the answers. The answer key is below on page 6.

④ Deforestation

Start by having small groups discuss what deforestation is and why it might occur, then move on to discussing as a class. Use slides for guidance.

⑤ Video

Show the short video, which can be found on the slides or at <https://www.youtube.com/watch?v=yam5sh9w7UE>.

⑥ Conservation

*We covered three points in the video- **avoiding palm oil, pressing for sustainability, and spreading the word**. But what does each of these points really mean in detail? Let tables discuss what these points may mean, then use the slides to discuss as a class.*

⑦ Questions

Answers for reference if these questions are asked by a student at any time.

Q: What if we have a product in the house that contains palm oil? Should we throw it out?

A: No, because that would be wasting (insert type of product). *e. g. that would be wasting shampoo.* Next time, look for something different.

Q: Why do they put palm oil in food?

A: Palm oil doesn't contain unhealthy trans fats, and it's also relatively cheap. Food companies buy it in order to make their products look healthier and to save money.

Q: Why can't the orangutans just live somewhere else?

A: Orangutans are arboreal- they live in trees- and they especially need the type of climate found on Sumatra and Borneo. Orangutans actually used to live in China and Java, but the Chinese orangutan went extinct long ago and the Javan orangutan also went extinct due to deforestation.

Q: What will the workers do if there are no palm oil plantations for them to work on?

A: Workers could find employment in ecotourism, national parks, rainforest restoration, or wildlife rehabilitation.

Q: Is palm fruit oil/palmitate the same thing as palm oil?

A: Yes. Anything with the words “palm”, “cetyl”, “glyc”, “olei”, or “stear” in it may be a derivative of palm oil, as well as sodium laureth/lauryl sulfate, linoleic acid, and cetearyl alcohol. This is why it can be helpful to download PalmSmart, the barcode scanner app, as I haven’t even mentioned all of the derivatives!

Q: Is coconut oil the same thing as palm oil?

A: No. Coconuts and palm fruit come from two different types of tree.

Q: Why can’t orangutans live on palm oil plantations?

A: Orangutans have a wide-ranging, fruit-based diet, and oil palm trees do not provide the fruit and nesting materials that they need to survive.

Q: Why don’t they put the plantations somewhere else?

A: Native Indonesians and Malaysians need jobs, and the palm oil industry often seems to be a promising occupation. This is why the palm oil industry developed there in the first place.

Q: Why should we avoid palm oil?

A: If a lot of people avoid or contact a certain company that uses palm oil, that company will lose money, and may recognize that it needs to change its ingredients. This means that the palm oil transport industry will, in turn, lose money and will possibly begin transport from plantations elsewhere. This decreases palm oil demand from Borneo and Sumatra, and workers can make do with the land they are already using. Less rainforest is destroyed, just because you made a good choice at the grocery store!

Q: Why don’t they grow rainforest somewhere else?

A: Rainforest requires specific soil and climate conditions. When we defined a rainforest, we said it was a warm and wet forest generally found around the equator. If the climate isn’t warm, wet, or equatorial, then there’s no point trying to grow rainforest plants there because it won’t be the rainforest the orangutans need.

Q: Where can I get more information?

A: You can find some reliable websites on your homework.



The Intelligent Orangutan

Name _____

by Gigi Finn

Orangutans are an extremely intelligent, critically endangered type of great ape. They are arboreal- they live in trees- and just like humans, they know how to make and use tools.



Orangutan means “forest person” in Malaysian. However, this isn’t the only way they are like humans. Orangutans in captivity seem to like watching movies and music videos. They also enjoy perfume, and some use an app called “Tinder for Orangutans” to find their mates. A few orangutans have even learned sign language and can communicate well with their keepers.

In the wild, orangutans live only on the East Asian islands of Borneo and Sumatra, in lush, tropical rainforest. These wild populations are our main concern. They are frugivorous- they eat mostly fruit- and they build nests to sleep in at night. Orangutan mothers have the longest parenthood of all great apes except humans; male babies stay with their mothers until they are seven or eight, and females until eleven, so that they can watch their mother bring up their



younger sibling. At about 15 years of age, males begin to develop cheek pouches for “long calls” and females may have their first baby. Females generally have three or four babies in their lifetime.

These “red apes” use tools for many purposes- branches and leaves can become makeshift umbrellas and sticks can be used to collect unreachable items, fend off bees, and even as backscratchers. There is even a story of a mother orangutan “borrowing” a canoe to enjoy some blossoms downriver with her son. Orangutans will, over time, learn to copy what humans do, as seen at rehabilitation centers, where they have been known to use soap and untie knots.

Because baby orangutans are so cute, locals often capture babies to sell as pets on the black market. Babies need their mothers and often do not survive being held captive. Efforts on the part of organizations like the Orangutan Foundation International find these babies and take them to rehabilitation centers, where they learn to survive and eventually are released back into the wild.

The pet trade is not the only problem orangutans face. Their habitat is also being destroyed for pulp-and-paper development, logging, and palm oil plantations. We should all help save these incredible primates and their habitat. After all, we share 96% DNA! 🐼

Questions

Where do orangutans live? _____

What do orangutans eat? _____

What does the word orangutan mean? _____

Why do orangutans need our help? _____

Why do you think we should save orangutans? _____



Palm Oil Research

To answer these questions, you can use websites like www.theorangutanproject.org, www.orangutan.org, www.redapes.org, www.theproblemwithpalmoil.org, and www.orangutangang.org.

What is palm oil harvested from? _____

Name three other ingredients that are actually palm oil, but don't contain the word "palm": _____,
_____, and _____.

Name two reasons why palm oil is bad for the environment: _____
_____ and _____.

What are four animals that live in Borneo or Sumatra? _____,
_____, and _____.

Is palm oil good for your heart? _____. Why or why not? _____

What is sustainable palm oil? _____

Palm Oil Investigation

Find five things in your house that have palm oil in them and write them in the left column. Go online and find similar products that don't use palm oil. Write these products on the right.

e. g. Ritz Crackers	Town House Crackers



The Intelligent Orangutan

Name Answer Key

by Gigi Finn

Orangutans are an extremely intelligent, critically endangered type of great ape. They are arboreal- they live in trees- and just like humans, they know how to make and use tools.



Orangutan means “forest person” in Malaysian. However, this isn’t the only way they are like humans. Orangutans in captivity seem to like watching movies and music videos. They also enjoy perfume, and some use an app called “Tinder for Orangutans” to find their mates. A few orangutans have even learned sign language and can communicate well with their keepers.

In the wild, orangutans live only on the East Asian islands of Borneo and Sumatra, in lush, tropical rainforest. These wild populations are our main concern. They are frugivorous- they eat mostly fruit- and they build nests to sleep in at night. Orangutan mothers have the longest parenthood of all great apes except humans; male babies stay with their mothers until they are seven or eight, and females until eleven, so that they can watch their mother bring up their younger sibling. At about 15 years of age, males begin to develop cheek pouches for “long calls” and females may have their first baby. Females generally have three or four babies in their lifetime.



These “red apes” use tools for many purposes- branches and leaves can become makeshift umbrellas and sticks can be used to collect unreachable items, fend off bees, and even as backscratchers. There is even a story of a mother orangutan “borrowing” a canoe to enjoy some blossoms downriver with her son. Orangutans will, over time, learn to copy what humans do, as seen at rehabilitation centers, where they have been known to use soap and untie knots.

Because baby orangutans are so cute, locals often capture babies to sell as pets on the black market. Babies need their mothers and often do not survive being held captive. Efforts on the part of organizations like the Orangutan Foundation International find these babies and take them to rehabilitation centers, where they learn to survive and eventually are released back into the wild.

The pet trade is not the only problem orangutans face. Their habitat is also being destroyed for pulp-and-paper development, logging, and palm oil plantations. We should all help save these incredible primates and their habitat. After all, we share 96% DNA! 🐼

Questions

Where do orangutans live? In rainforest on the East Asian islands of Sumatra and Borneo

What do orangutans eat? Mostly fruit

What does the word orangutan mean? Forest person

Why do orangutans need help? We are destroying their home for pulp-and-paper, logging, and oil palm plantations.

Why do you think we should save orangutans? Answers vary



Palm Oil Research

To answer these questions, you can use websites like www.theorangutanproject.org, www.orangutan.org, www.redapes.org, www.theproblemwithpalmoil.org, and www.orangutangang.org.

What is palm oil harvested from? _____ The fruit of the oil palm tree _____

Name three other ingredients that are actually palm oil, but don't contain the word "palm": _____,

See Q: Is palm fruit oil/palmitate the same thing as palm oil? _____, and _____.

Name two reasons why palm oil is bad for the environment: _____ It contributes to climate change _____
_____ and _____ It fuels rainforest destruction _____.

What are four animals that live in Borneo or Sumatra? _____ tigers _____, _____ elephants _____,
_____ orangutans _____, and _____ rhinos _____.

Is palm oil good for your heart? no Why or why not? _____ it contains saturated fats _____

What is sustainable palm oil? _____ palm oil grown without threat to valuable habitat _____

Palm Oil Investigation

Find five things in your house that have palm oil in them and write them in the left column. Go online and find similar products that don't use palm oil. Write these products on the right.

e. g. Ritz Crackers	Town House Crackers
Answers vary.	



⑧ Research

Pass out the worksheets again and assign the back of each student's worksheet for homework. Both assignments should be turned in the next school day. The answer key can be found on page 7.

Information is from the Orangutan Gang and the Orangutan Project. Images are courtesy of Ann Arbor, BBC Earth, Google Earth, the Nature Conservancy, the Orangutan Gang, Orangutan Odysseys, Rainforest Action Network, S&S Worldwide, Say No to Palm Oil, Teach for America, Verywell Family, VideoBlocks, WeAreTeachers, What's on TV, and the World Wildlife Fund. Fonts used are Times New Roman and Happy Monkey.

