

TROPICAL DILEMMAS

4-5TH GRADE
LANGUAGE ARTS, SCIENCE,
SOCIAL STUDIES

Learning Goals: Students understand how their purchases and choices can impact environments in other countries—either positively or negatively. They understand that conservation issues are complex and that solving today’s conservation issues requires creative solutions.

Students will be able to:

- Identify threats to tropical forests in Madagascar
- Describe how their purchases and other actions can either help or harm tropical forests

LESSON DESCRIPTION

Working in small groups, students discuss dilemmas facing rainforests in Madagascar and other tropical regions. Students decide how they would solve the dilemmas and learn how individual actions can create environmental problems as well as solutions.

- Understand the role that individuals can play in conservation problems and solutions
- Understand that conservation issues are complex and often require creative solutions
- Understand that people value tropical forests and wildlife in different ways
- Understand that conservation solutions must address a variety of viewpoints

Materials needed:

- Tropical Dilemma Cards-1 set per group of four students

1 HOUR

MAKING A DIFFERENCE FOR LEMURS

READ AND DISCUSS

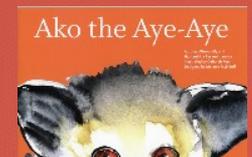
Read *Ako the Aye-Aye* to the class or instruct students to read the book independently. During the story, students should read/listen to the varying viewpoints of the forester, the villager and the tourist.

Pose the following questions to the class. How did each of the human characters in the story feel about seeing an aye-aye? Were they positive or negative? Why were their feelings and viewpoints so different? Were their viewpoints based on fact or fiction? How did they feel about aye-eyes once they saw a real aye-aye (Ako) in the forest?

FOR BACKGROUND
INFORMATION SEE:

*MAKING A DIFFERENCE
FOR LEMURS*

*EXPLORING LEMUR
HABITATS*



FEATURED BOOK:
AKO THE AYE-AYE

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Explain that like the characters in the story, viewpoints about the environment vary depending on each individual's experiences, needs, values and beliefs. These varied viewpoints can make solving conservation issues very complex.

ACTIVITY

1. Divide students into groups of 4.
2. Give each group a stack of dilemma cards, placed face down. Tell the first person in each group to draw a card and study the situation for one minute.
3. Explain that when the first person is ready, he or she should read the card aloud to the group, give a decision and explain his or her reasons. Encourage students to create their own solutions. Other group members should comment on the dilemma and explain what they would decide.
4. Continue the process so that each member has at least one chance to draw a card from the set.

WRAP-UP

After completing the activity lead a classroom discussion that includes the following questions:

- Was it easy or hard for you to decide and agree on solutions?
- Which was the most difficult dilemma to solve?
- Were any of the dilemmas easy to solve?
- What did you base your decisions on?
- Do you think dilemmas like these could happen in real-life?
- What types of choices might affect local habitats and wildlife?

ANALYTICAL WRITING

Humans are clearing natural habitats to build new places. Think about what you can do to protect the wildlife and the natural habitats of an animal that you like. What can you do to increase the support for protecting this animal and its habitat?

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- Do you think there are any items we use that might affect habitats or wildlife?
- What can we do to lessen our impact?

Remind students that everything we use comes from and impacts habitats around the world. The food we eat, clothes we wear, transportation we use, and many of the materials that make up our homes all started from something in nature. Although we need some of these things to survive, we can lessen our impact by using less, wasting less, choosing reusable items, recycling, and selecting items grown and harvested on a sustainable basis. The following information can help guide you as you discuss each scenario:

TROPICAL DILEMMA CARD ANSWERS

Scenario #1: Best Answer - D: Since humans and wildlife both depend on healthy forests, seeking a strategy that prevents deforestation and supports local people is always the best option. In this case eco-tourism, selecting crops that can grow within the existing forest (such as shade-grown coffee) and multi-cropping (growing multiple crops on the same plot of land) are just some of the options. In some tropical regions bananas, cloves, peppers and vanilla are grown under and around coconut trees, producing more revenue per acre. On some coconut plantations cattle and goats graze among the trees, acting as living “weed eaters” while also providing meat, milk and fertilizer.

Scenario #2: Best Answer - B: Every purchase, no matter how small, is an opportunity to make a difference! Selecting sustainably grown products ensures that your purchase has a smaller impact on habitats and wildlife. When it comes to wood products, choosing those certified by the Forest Stewardship Council (FSC) is your best option. This non-profit organization sets standards that ensure forests are managed and harvested in an environmentally and socially responsible manner and that water quality, soil, wildlife habitat and indigenous peoples are protected.

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Scenario #3: Best Answer - B, C or D: Conservation issues are complex and this is especially true when it comes to palm oil. Because it is both inexpensive and versatile, palm oil is used in everything from fast food to shampoo to cleaning agents. Unfortunately palm oil plantations are responsible for extensive deforestation in tropical Asia, Africa and South America. Everybody does not agree on the solution. Some feel that choosing palm-oil free products is the only option because of the harm palm oil plantations cause to tropical forests. Others feel that buying sustainably grown palm oil products is best because palm oil trees are more productive than other oil producing plants (like soy or canola) and require less land, and therefore sustainably grown palm oil is more environmentally friendly. Other organizations are focusing on developing new criteria that prohibits deforestation. Of course, as a consumer, expressing your concerns via a letter, email or phone call (answer B) is always a worthy option.

Scenario #4: Best Answer - B: While questioning your local plant center about the origin of their plants is a great step, symbolically adopting an acre of forest from a recognized conservation organization is the best way to ensure that your gift helps rather than harms wildlife habitat.

Scenario #5: Best Answer - A-E: Any of these are worthy options. However with so many organizations seeking funds it pays to do your research! Here are some things to consider before donating to a conservation organization: How much of their money is spent on conservation projects vs. administration and fundraising? How much do their CEO's and high-level manager's make? These are important questions that will determine the real impact of your donations. Are local and indigenous people involved in decisions and programs? Projects should benefit local communities as well as the environment. Without local support, most conservation initiatives are doomed to failure. Do you agree with the organization's mission and goals? Many large organizations are multifaceted and names can be deceiving. Read the group's mission statement, vision and goals to ensure your money is spent on projects that you support. Do they have a record of past success? Results matter! If the organization is new, don't expect a long track record, however if the organization is forty years old and has done little

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to meet their goals, consider supporting a more effective organization.

Scenario #6: Best Answer - C: Owning any pet is a lifelong commitment. Therefore it's always essential to do your research before you purchase or adopt. Whether wild-caught or bred in captivity, wild animals like lemurs never make good pets. They are unsafe, may be illegal to own in your area and often are difficult to feed and care for. Every purchase of a wild pet, plant or product provides a market and an incentive for poachers and illegal traffickers. See the Buyer Beware Activity within this curriculum for more information on pet ownership. Every year millions of wonderful dogs and cats wind up in local shelters and rescue organizations searching for a forever home. If you are willing and able to provide proper long-term care for a pet, adopting a dog, cat or other domestic species is always the best option.

EXTENSION #1

Tell the groups to debate their answers in an attempt to reach a consensus (an answer that everyone agrees with). To start, have each member write down his or her answer. The person who picked the card then gives an answer and the reasoning behind it to persuade the others. After a brief discussion, individuals should again write down a choice from the answers. Keep a tally of the number of students that agree for each dilemma. Ask them to decide which method is easier, consensus or majority rule. Then divide students into research teams to find similar wildlife issues taking place in their own community and develop solutions.

EXTENSION #2

Brainstorm positive actions that the class could do to help local wildlife. This might include creating a backyard or schoolyard habitat for birds or butterflies or running a bake sale to raise funds for a local conservation organization. Contact the Department of Natural Resources in your state to learn about

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habitat restoration projects in your area. With permission, organize a class field trip to participate in one of these projects. Participating in a river, lake or wetlands clean-up, removing invasive species or planting natives are all great ways to help local habitats and wildlife.

EXTENSION #3

Have students bring empty boxes or containers from products recently consumed. Read the ingredients lists together. Identify the ingredients that you can recognize and those that you don't. Research the ingredients that are unfamiliar and help students identify palm oil and its derivatives which contribute to deforestation in tropical areas. Although packaging may not state palm oil specifically, other words to look for include Palm Kernel, Palmate, Palmolein, Glyceryl, Stearate, Stearic Acid, Elaeis Guineensis, Palmitic Acid, Palm Stearine, Palmitoyl Oxostearamide, Sodium Laureth Sulfate, Sodium Kernelate, Hyrated Palm Glycerides, Etyl Palmitate, Octyl Palmitate, Palmityl Alcohol which are all derivatives of palm oil. Ask students how they feel about this and decide if this is acceptable or not. In the case that it is not, the class or students can contact the companies by writing letters to ask for more information about the source and if there are alternatives to using palm oil.

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EVALUATION

Have each student research a wildlife issue taking place in their own community.
Evaluate students' ability to identify multiple viewpoints and help find a solution.

THIS ACTIVITY MEETS THE FOLLOWING NATIONAL AND FLORIDA EDUCATION STANDARDS

FLORIDA STATE STANDARDS

4th Grade Science

SC.4.E.6.3
SC.4.L.17.4
SC.4.N.1.1
SC.4.N.1.7

4th Grade Social Studies

SS.4.C.2.1
SS.4.C.2.2
SS.4.FL.2.6

5th Grade Science

SC.5.L.15.1
SC.5.N.1.6
SC.5.N.1.1

5th Grade Social Studies

SS.5.C.2.4

4th Grade Language Arts

LAFS.4.SL.1.1
LAFS.4.W.1.1

5th Grade Language Arts

LAFS.5.SL.1.1
LAFS.5.SL.2.4
LAFS.5.W.1.2

NATIONAL SCIENCE STANDARDS

4th Grade

Organisms and environments
Abilities necessary to do scientific inquiry
Understandings about scientific inquiry
Characteristics and changes in populations
Types of resources
Changes in environments

5th Grade

Structure and function in living systems
Populations and ecosystems
Diversity and adaptations of organisms
Populations, resources and environments
Natural Hazards
Risks and Benefits

NEXT GENERATION SCIENCE STANDARDS

4th Grade: Earth's Systems: Processes that Shape the Earth (4-ESS3-2)

5th Grade: Earth's Systems (5-ESS3-1)

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Cut out and distribute to the teams

You are the president of a company that grows coconuts in Madagascar. Due to increased demand you need to cut down more tropical forest to expand your coconut plantation. The forest is home to many rare plants and animals including lemurs. Cutting down the forest will destroy their home, but will provide additional jobs for local workers. Should you:

- A. Cut down the forest and expand your coconut plantation
 - B. Cancel the expansion and not hire any new workers
 - C. Cut down the forest, but donate money to conservation groups that are working to save tropical forests
 - D. Offer eco-tours through the forest instead. Hire local workers as guides
- Other

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You learn that your school is ordering desks and chairs for their offices that are made from tropical hardwood trees harvested from Madagascar. Should you:

- A. Forget about it. After all it's just a few tables and chairs. How much a difference could it make?
- B. Meet with the school principal and ask he/she to order furniture that is made from sustainable wood grown and harvested in the United States
- C. Call the local television station and newspaper with the story and tell them that your school is helping to destroy tropical forests
- D. Other

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You recently discovered your favorite brand of chocolate is made with palm oil. You know that tropical forests in many countries including Madagascar have been cleared to make way for palm oil plantations. You found a brand made with sustainably harvested palm oil. However it costs twice as much. Do you:

- A. Keep eating your favorite brand. After all you don't eat enough to make a difference.
- B. Send a letter to the chocolate company, asking them to use sustainably grown palm oil instead.
- C. Pay more for the chocolate made with sustainably grown palm oil.
- D. Switch to a brand of chocolate that doesn't use palm oil.
- E. Other

3

Mother's Day is approaching and you and your sister have decided to buy a present together. Your sister thinks the perfect gift for your Mom (an avid plant hobbyist) would be a rare plant from Madagascar she saw at the garden Store. Should you

- A. Say nothing and buy the plant. After all you know your Mom would love it
- B. Go to the garden center to find out whether the plant was grown in a local greenhouse or taken from the wild
- C. Adopt an acre of rainforest and give that as a gift instead
- D. Purchase the plant but donate some of your allowance to an organization that is protecting Madagascar's forests
- E. Other

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Your class has been recycling to raise money to save tropical forests in Madagascar. Should you:

- A. Give it to an international organization that educates people about the forests of Madagascar
- B. Give it to a zoo or botanical garden that raises and protects Malagasy animals and plants and teaches people about them
- C. Buy and protect five acres of tropical forest on Madagascar
- D. Send it to an organization that is researching better ways to grow crops in the forests of Madagascar
- E. Help sponsor a forest research project on Madagascar

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Recently a popular celebrity appeared on TV with her newest exotic pet—a beautiful ring-tailed lemur! Now you and your friends can't wait to buy one, too! You've even found one for sale online. When you called the lemur's owner (who raises ring-tailed lemurs for the pet trade,) she said her lemurs were easy to care for and made wonderful pets. Yet during a visit to your local zoo, you heard a zoo educator say that lemurs were becoming rare in the wild, were difficult to properly care for, and not suited as a pet. Should you:

- A. Move forward with your plans to buy a lemur. After all the lemur's owner would know if it made a good pet. Besides, she said it didn't come from the wild
- B. Give up your plans to buy a lemur. Instead buy another exotic pet that might be easier to care for
- C. Adopt a cat from your local shelter
- D. Fill your need for a unique pet by buying a dog that's an unusual breed from the local pet store
- E. Other

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