



Lungs of the Earth

Subjects: Social Studies/Civics, Science, Communication Arts

Overview:

In this lesson, students learn about the little publicized connection between tobacco production and deforestation, as well as other environmental impacts of smoking. Students then design small media to inform others of what they have learned.

Suggested Time:

1 class session for the initial activity; follow-up time is flexible.

Resources/Materials:

- *Smoking and the Lungs of the Earth* article
- Materials for developing media responses.
- Options include:
 - poster boards & markers for making signs
 - Video camera for making PSAs
 - Paper and pens (or computers) for developing "Letters to the Editor"

OBJECTIVES:



Students will:

1. Learn about the environmental damage caused by tobacco production.
2. Learn about "social marketing" to promote tobacco awareness and action.

Activities/Procedures:

1. Introduce activity by asking the following questions: "Lots of people think smoking is a problem. Why? Let's come up with a list of as many problems associated with smoking as we can." Write on the board the ideas that the class brainstorms. Assuming no one talks about the environmental problems created by tobacco, tell the class that today they are going to study another problem created by tobacco.
2. Pass out the article, *Tobacco and the Lungs of the Earth*, and invite everyone to read it silently. Alternately, have class members volunteer reading paragraphs aloud.

Activities/Procedures:

3. When finished reading the article, ask open-ended questions to check for understanding:
 - a. What is this article talking about? What is its central theme?
 - b. What information in the article surprised you? What did you learn?

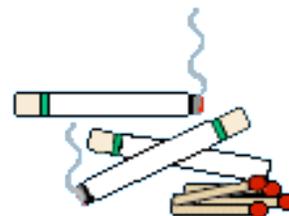
4. Take a class vote: "How many of you were surprised at how many trees are destroyed for tobacco production?"

5. Share with the class other negative environmental consequences of tobacco production and smoking:



- As tobacco farming depletes the soil, the ground becomes much more at-risk for erosion.
- The heavy use of fertilizers, insecticides, and weed-killers releases numerous toxins into the atmosphere and is dangerous to farm workers. In many countries where tobacco is grown, these harmful substances are poorly regulated and where regulations do exist, they are often not enforced.
- Cigarette butts take an average of 25 years to decompose. In the meantime, they clutter the streets and wash through storm drains into rivers, lakes, and oceans. Seabirds, fish, and animals eat them by mistake, often killing them. In the U.S. alone, about 150,000 tons of cigarette butts are thrown away each year.

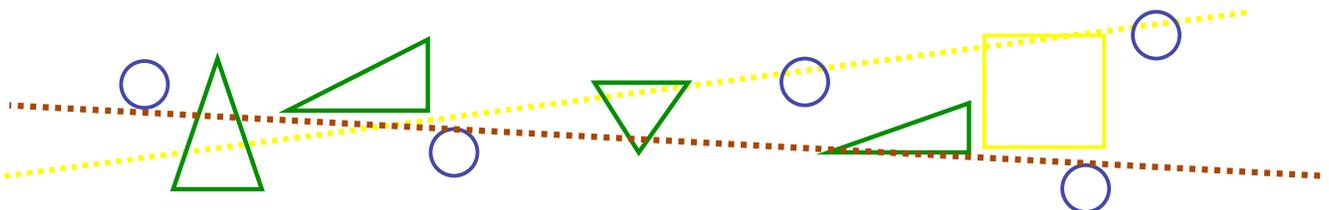
6. You might want to point out, as illustrated by the description of Malawi in the article, that growing tobacco is often done at the expense of growing food. If the land currently used to grow tobacco were used to grow food instead, it could feed up to 20 million people.



7. Point out the sentence in the last paragraph of the article that indicates that tobacco production is probably the least well-known source of deforestation. Remind the class that no one mentioned deforestation during the beginning brainstorm. Ask the class why they think that might be. Who would not want people to know about the role of tobacco in deforestation?
8. Show the video clip, "Trees" as an illustration of an effort to create an educational outreach. Let them know that this was not done by professionals, but by people much like themselves.



9. Challenge the class to design media that will help inform others (other students, parents, the general public, etc.) of the environmental consequences of tobacco production. Depending on your time and resources, this part of the lesson can be relatively brief (e.g., letters to the editor) or more extended (developing PSA's for local radio, TV, etc.). The more you can engage the students in actual efforts to "spread the word," the better.





Lungs of the Earth

Smoking and the Lungs of the Earth

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Forests are the lungs of the earth. While human lungs breathe in oxygen and breathe out carbon dioxide, trees do the opposite. They take in carbon dioxide and they release fresh oxygen back into the atmosphere. Because of the way trees “breathe,” they are essential for all animal life. They replenish the oxygen we all need. Of course, trees are important for many other reasons as well. They provide homes for millions of species of animals, they protect fragile lands from erosion, and they return nutrients to the soil.

When a person smokes, they destroy their own lungs. Smoking is the leading cause of lung cancer. Most likely, you knew that already. But did you know that smoking is also destroying the lungs of the earth? Tobacco production is a major contributor to the loss of forests, a process called *deforestation*.

Most tobacco is grown in relatively poor countries. Tobacco, more than most crops, is hard on the soil. The tobacco plant needs more nutrients than corn, barley, or wheat. As a result, tobacco farmers either need to use large amounts of fertilizer, which can be quite expensive, or they must continually grow their tobacco on new land. In most poor countries, the easiest and cheapest way to obtain new land is to cut down forest. So poor farmers, hoping to eek out a living through tobacco, cut down trees to make room for their land-hungry tobacco crops. That is one way tobacco farming is increasing deforestation. But there is an even more important way.

Before tobacco farmers can sell their tobacco to the large tobacco companies, they must dry the leaves. The process is called *curing*. To cure the tobacco leaves, the farmers build fires that smoke the leaves. It is the need for firewood to cure the tobacco leaves that is a major cause of deforestation. Throughout the poorer regions of the world where most tobacco is grown, one tree is cut down for every 300 cigarettes produced.¹ That’s a lot of trees!

Take Tanzania. This East African country, twice the size of California, is Africa’s third biggest producer of tobacco. Roughly 93% of the wood needed to cure the tobacco is taken from the natural forests and woodlands. In the once forest-rich region of Tabora/Urambo, tobacco farmers now walk more than 6 miles to cut wood. The destruction of trees has led to major changes in the region’s ecosystem, resulting in droughts, irregular rains, and whirlwinds that had been uncommon before.²

Malawi is another African country worth considering.³ It is a desperately poor country of 11 million people. Over three-quarters of its children are underweight or suffer from

stunted growth. Given its mostly rural population, agriculture is widely considered to be the best hope for escaping the chains of poverty. But what to grow? Lured by the promise of cash, many farmers have turned to tobacco. In fact, tobacco has become Malawi's single largest crop and it is exported to more than 60 countries. But one result of tobacco farming is increased deforestation. In fact, Malawi is losing up to 3% of its forests each year. As a result of its shrinking forests, animal species are being lost, soil erosion is increasing, and weather patterns are changing. Moreover, land that is used to grow tobacco cannot be used to grow desperately needed food. While the tobacco companies tell farmers that they can buy food with the money they earn from tobacco, the high costs to the environment are ignored.

Are Tanzania and Malawi unusual? Not really. Throughout tobacco growing regions of the world, deforestation is occurring. Of course, deforestation has many causes, not just tobacco production. But tobacco may be one of the least known causes. And it is far from insignificant. In South Korea, roughly 45% of all deforestation is due to tobacco.⁴ Even in China, the world's largest tobacco producer, almost 20% of total deforestation is due to tobacco.⁵ Worldwide, roughly 760 square miles of forest are lost each year as a direct result of growing and curing tobacco.⁶ That's like cutting down a forest the size of 10 football fields every single day. And it is just to grow a deadly crop. Clearly, just as tobacco is the leading cause of premature death in humans, it is a leading cause of premature death of forests. If we are to stop destroying the lungs of the earth, we must work to fight addiction to tobacco.

Notes

¹ Quoted in R. Hammond, *The Tobacco Industry Impacts on Tanzania*. Presented at San Francisco's Forum on Global Tobacco Control Policies, May 19, 1997. Document available from CorpWatch (www.corpwatch.org).

² J. Waluye. Environmental Impact of Tobacco Growing in Tabora/Urambo, Tanzania. *Tobacco Control*, 1994, 3, 252-4.

³ For the following analysis, see R. Tobin & W. Knausenberger, Dilemmas of Development: Burley Tobacco, the Environment and Economic Growth in Malawi. *Journal of Southern African Studies*, 24, 405-425.

⁴ J. Mackay, M. Eriksen, & O. Shafey. *The Tobacco Atlas*. World Health Organization, 2006.

⁵ Ibid.

⁶ H.J. Geist, Global Assessment of Deforestation Related to Tobacco Farming. *Tobacco Control*, 1999, 8, 18-28.