Reality Matters: Smoke Signals: Teacher’s Guide

Program Description
Record numbers of adolescents are hooked on tobacco, from cigarettes to smokeless tobacco to bidis. Through interviews with students, parents, doctors, and teachers, the program explores important themes: the selling of tobacco to a new generation of savvy adolescents, the rise in tobacco sales, and the battle to get kids to stop using tobacco.

Discussion Questions
Before watching the video
- What are your perceptions of tobacco and smoking? Think about the influence parents, teachers, and friends have on your decisions about smoking.
- Recall tobacco ad campaigns and the appeals they try to make. Consider the reasons that young people might choose to smoke despite the known dangers.

After watching the video
- Driver’s education classes often show videos of car crashes to encourage safe driving. Would showing videos of the consequences of smoking influence potential teenage smokers? Why or why not?
- If you were addicted to tobacco, would watching a video help you stop smoking?

Lesson Plan

Student Objectives
- Examine the long- and short-term effects of smoking.
- Develop a persuasive argument against smoking.

Materials
- Regular drinking straws (one for each student)
- Thinner straws, such as “coffee-stirrers” (one for each student)
• Newsprint and markers
• Timer or timepiece with second hand
• Colored balloons (optional)
• Computers with Internet access (optional but very helpful)

**Procedures**

1. Begin the lesson by giving each student a drinking straw. [Note: Students who have asthma should not participate in this activity.] Ask them to place the straws in their mouths and breathe only through the straw for 30 seconds. You will time them. It may help students to hold their noses. Be sure to let them know they can stop the activity if breathing becomes very difficult or if they feel dizzy. After 30 seconds, ask students to write their reactions. Some students may say their breathing felt normal; others may say it was difficult.

2. Then hand out the thinner straws. Repeat the activity, having each student breathe through a straw for 20 seconds. This may be difficult for some students, so encourage them to stop if necessary. Ask students to write how the activity made them feel.

3. Ask students if they know what these activities illustrate. (The first one simulates breathing for a smoker, and it affects people in different ways. The second simulates what it feels like to breathe with chronic lung disease.)

4. Explain that chronic lung disease is one of several dangerous, long-term effects of smoking. Others include heart disease, lung cancer, and other cancers. Define the two types of chronic lung disease:
   - **Chronic bronchitis**: In the lung are many bronchial tubes. In a smoker’s lungs, the chemicals from tobacco build up in these tubes, blocking or narrowing the airways. This makes it difficult to breathe and get oxygen into the lungs.
   - **Emphysema**: At the end of these tubes are alveoli, or tiny air sacs. When you breathe, air fills the sacs and releases oxygen into the blood. The same dangerous tobacco chemicals that block the bronchial tubes can also destroy the alveoli. With fewer sacs to fill, your lungs do not get enough oxygen.

5. To demonstrate the mechanics of emphysema, tie together a bunch of balloons. Tell students that the balloons represent the alveoli. What do they think happens to the air sacs of a smoker? (Answer: The alveoli are destroyed; indicate this by popping the balloons one by one.)

6. Ask students to brainstorm the short-term effects of smoking. Write their ideas on the board; they may include smelly hair and clothes, bad breath, stained teeth, difficulty breathing, faster heart rate, wrinkles near the eyes and mouth, stained fingers, getting winded after walking or exercising, negative reaction from friends and family, and waste of money spent on cigarettes.

7. Finally, ask students to write a persuasive argument against smoking. They may want to write a journal entry or a letter to a friend or sibling. They should use what they’ve learned in class and the following facts to write their argument. (You may want to share these facts as printouts or on an overhead projector.)
More Than Just Smoke Statistics (sources: Centers for Disease Control, American Cancer Society)

- Cigarette smoking is the single most preventable cause of premature death in the United States. Each year, more than 400,000 Americans die from the effects of cigarette smoking. One in every five deaths in the U.S. is related to smoking.

- Cigarettes are responsible for more deaths in America than alcohol, car accidents, suicide, AIDS, homicide, and illegal drugs put together.

- On average, someone who smokes a pack or more of cigarettes each day lives seven years less than someone who never smokes.

- In a survey of U.S. teens, 65 percent said they strongly disliked being around smokers; 86 percent said they’d rather date people who don’t smoke.

- Although only 5 percent of daily smokers surveyed in high school said they would definitely be smoking five years later, close to 75 percent were smoking seven to nine years later.

- Of the almost 3,000 young people who become regular smokers each day, nearly a thousand of them will have their lives shortened from tobacco-related diseases.

- The likelihood of smoking-related cancers increases the longer a person has been smoking.

Bad for Your Body

- Inhaling cigarette smoke reduces the amount of oxygen in the bloodstream.

- Smoking increases your heart rate because your heart must work harder to get oxygen to the rest of your body.

- Nicotine, a chemical found in tobacco, makes your blood vessels smaller, so your heart must work harder to pump blood throughout the body.

- The tar found in tobacco sticks to the insides of your lungs, where it can cause cancer.

- Cigarette smoke contains more than 40 carcinogens, or chemicals that cause cancer.

Assessment

Use the following three-point rubric to evaluate students’ work during this lesson.

- **3 points:** Students participated actively in class experiment and discussion; demonstrated a good understanding of effects of smoking; showed strong writing and research skills; developed a complete, thoughtful writing assignment that demonstrates a thorough understanding of the dangers and physical effects of smoking.

- **2 points:** Students participated somewhat in class experiment and discussion; demonstrated on-level understanding of effects of smoking; showed average writing and research skills; developed a writing assignment showing some thought that included a few specific dangers and physical effects of smoking.
1 point: Students participated little in class experiment and discussion; demonstrated a below-average understanding of the effects of smoking; showed weak writing and research skills; developed an incomplete writing assignment that does not demonstrate a thorough understanding of the dangers and physical effects of smoking.

Vocabulary

alveoli
Definition: Tiny air sacs in the lungs
Context: Dangerous chemicals in cigarette smoke may cause emphysema by destroying alveoli.

bronchial tubes
Definition: Tubes or air passages in the lungs
Context: With chronic bronchitis, chemicals deposited in the bronchial tubes cause them to narrow.

carcinogen
Definition: A chemical that causes cancer
Context: Cigarettes contain many carcinogens, including carbon monoxide.

chronic bronchitis
Definition: A lung disease in which the airways are blocked or narrowed
Context: People with chronic bronchitis have difficulty breathing because their lungs contain cigarette chemicals.

emphysema
Definition: An incurable chronic lung disease in which the alveoli are damaged and breathing is restricted
Context: Heavy smokers are at great risk of suffering from emphysema.

nicotine
Definition: A poisonous chemical found in tobacco
Context: Nicotine is the addictive substance found in cigarettes.

Academic Standards

National Academy of Sciences
The National Science Education Standards provide guidelines for teaching science as well as a coherent vision of what it means to be scientifically literate for students in grades K-12. To view the standards, visit http://books.nap.edu.

This lesson plan addresses the following science standards:

- Science in Personal and Social Perspectives: Personal health; Risks and benefits

Mid-continent Research for Education and Learning (McREL)
McREL's Content Knowledge: A Compendium of Standards and Benchmarks for K-12 Education addresses 14 content areas. To view the standards and benchmarks, visit http://www.mcrel.org/.
This lesson plan addresses the following national standards:

- Language Arts—Viewing: Uses viewing skills and strategies to understand and interpret visual media; Writing: Uses the general skills and strategies of the writing process, Uses grammatical and mechanical conventions in written compositions, Gathers and uses information for research purposes

Support Materials

Develop custom worksheets, educational puzzles, online quizzes, and more with the free teaching tools offered on the DiscoverySchool.com Web site. Create and print support materials, or save them to a Custom Classroom account for future use. To learn more, visit

- http://school.discovery.com/teachingtools/teachingtools.html

DVD Content

This program is available in an interactive DVD format. The following information and activities are specific to the DVD version.

How To Use the DVD

The DVD starting screen has the following options:

Play Video—This plays the video from start to finish. There are no programmed stops, except by using a remote control. With a computer, depending on the particular software player, a pause button is included with the other video controls.

Video Index—Here the video is divided into four parts (see below), indicated by video thumbnail icons. Watching all parts in sequence is similar to watching the video from start to finish. Brief descriptions and total running times are noted for each part. To play a particular segment, press Enter on the remote for TV playback; on a computer, click once to highlight a thumbnail and read the accompanying text description and click again to start the video.

Curriculum Units—These are specially edited video segments pulled from different sections of the video (see below). These nonlinear segments align with key ideas in the unit of instruction. They include onscreen pre- and post-viewing questions, reproduced below in this Teacher’s Guide. Total running times for these segments are noted. To play a particular segment, press Enter on the TV remote or click once on the Curriculum Unit title on a computer.

Standards Link—Selecting this option displays a single screen that lists the national academic standards the video addresses.

Teacher Resources—This screen gives the technical support number and Web site address.
**Video Index**

I. Crystal Ball (6 min.)

Pam Laffin describes how it feels to be dying from emphysema. Diseased lungs and medical information about smoke-related diseases are featured. Students and Laffin talk about the reasons they started smoking.

II. Don’t Be Fooled (7 min.)

Lavale Lassiter, age 20, describes how tobacco affected him and why he joined a movement to counteract ads that target youth. Experts explain the long-term effects of smoking.

III. Tobacco Facts (4 min.)

The harmful effects of smokeless tobacco and bidis, popular alternatives to cigarettes, are presented with graphic visuals of oral cancer. A college athletic trainer discusses the use of spit tobacco among athletes.

IV. Decision Time (4 min.)

Teens and doctors discuss the difficulties in giving up smoking. Information and suggestions about how to quit smoking are presented.

**Curriculum Units**

1. Emphysema

*Pre-viewing question*

Q: What do you think emphysema is?
A: Accept students’ ideas and encourage them to compare their ideas to what they see on the video.

*Post-viewing question*

Q: What are the symptoms of emphysema?
A: A person suffering from emphysema has trouble breathing; it can feel like constantly holding your breath. Lack of oxygen weakens muscles, which can make it very difficult to walk, even a short distance.

2. Health Risks

*Pre-viewing question*

Q: In addition to emphysema, what are other risks of smoking?
A: Record students’ ideas and compare them to answers after viewing the video.

*Post-viewing question*

Q: What are the long-term risks of smoking?
A: Smoking is addictive, and it can cause lung disease, heart attacks, and death.
3. Why Start Smoking?

**Pre-viewing question**
Q: Why do you think kids start smoking?
A: Answers will vary based on peer groups and experiences.

**Post-viewing question**
Q: How do Pam Laffin’s daughters suffer more than she does?
A: They have to take care of her as they watch her die.

4. Addiction

**Pre-viewing question**
Q: What is addiction?
A: Answers will vary, but they should include needing or craving a substance.

**Post-viewing question**
Q: In what ways is smoking addictive?
A: Smoking is addictive socially, emotionally, and physically. Smokers feel that cigarettes can help regulate their stress, eating, and sleeping; their bodies need nicotine to function.

5. Tobacco and Athletic Performance

**Pre-viewing question**
Q: Why do you suppose athletes use tobacco?
A: Answers will vary, but the reasons are usually the same as for any teen. They use tobacco to fit in and look cool.

**Post-viewing question**
Q: Why do many athletes use smokeless tobacco?
A: They think that it will not harm them the way cigarettes do. They also might be imitating older athletes who chew tobacco.

6. Tobacco Advertisements

**Pre-viewing question**
Q: Who do you think is the target of tobacco advertisements? Why?
A: Students may think advertisements are aimed at college students or young adults.

**Post-viewing question**
Q: In what ways is smoking not glamorous?
A: It looks bad, smells bad, and tastes bad. It also can make you very sick and eventually unable to care for yourself.

7. Risks to Youth

**Pre-viewing question**
Q: Do you think the age at which a person starts smoking makes any difference?
A: Students most likely will not know; use this question as a focus question for the segment.
Post-viewing question
Q: Why does the age when a person starts to smoke make a difference?
A: The earlier you start, the more severe the consequences. It’s most dangerous for pre-teens and teens because their bodies are still growing, and smoke permanently damages the DNA in their lungs.

8. Smokeless Tobacco

Pre-viewing question
Q: What are the health risks of using smokeless tobacco?
A: Answers will vary, and some students may not think there are any. Compare their comments before watching with their comments after watching the video. Answers include addiction, inability to complete a game without tobacco, oral cancer, and heart disease.

Post-viewing question
Q: Why do kids use smokeless or spit tobacco?
A: Students may use it in places where smoking is not allowed; it is associated with baseball; and they may believe it is safer than smoking cigarettes.

9. Oral Cancer

Pre-viewing question
Q: What is oral cancer?
A: Students should know that it is cancer in the mouth.

Post-viewing question
Q: Do you think seeing pictures of oral cancer would stop kids from using smokeless tobacco?
A: Answers will vary. Encourage discussion, and point out that oral cancer may cause someone to lose teeth, lips, and part of the mouth. It will affect the way a person looks, eats, and talks.

10. Bidis

Pre-viewing question
Q: Do you think there are safe tobacco alternatives to cigarettes?
A: Encourage students to share their ideas and note if any mention bidis or smokeless tobacco.

Post-viewing question
Q: Why are bidis a health risk?
A: Bidis contain more tobacco and toxic substances than cigarettes—up to five times the amount of tar and nicotine as regular cigarettes.

11. Stopping the Habit

Pre-viewing question
Q: Many smokers think they can quit anytime they want. What do you think?
A: Answers will vary, but students who smoke tend to think that stopping is easy.
Post-viewing question
Q: Where can a teen get help to stop smoking?
A: Teens can ask parents or a school counselor for help, or they can go to a hospital nicotine-treatment program.

12. Secondhand Smoke

Pre-viewing question
Q: Does a smoker hurt anyone besides himself or herself?
A: Encourage students to share their experiences of being around someone who smokes. Use this as an introduction to this final segment.

Post-viewing question
Q: Why is secondhand smoke a problem?
A: Secondhand smoke contains tar and nicotine, which can damage the lungs of anyone who breathes it. Children of smokers have a greater risk of developing respiratory problems.