

Tobacco

OVERVIEW:

In this activity, students will compare the lungs of someone who smoked and someone who did not smoke. Students will also study tobacco advertisements to see how tobacco companies target different groups (age, gender, race etc.) and write their own advertisements based upon smoking statistics.

CONCEPTS:

National Science Foundation Standard

Standard F: Science in Personal and Social Perspectives

Personal Health

- Consequences of tobacco use.

Benchmark 6: The Human Organism

E: Physical Health

- Toxic substances, dietary habits, and personal behaviors may be dire for one's health. Some effects are visible right away while others may not appear for many years. Avoiding toxic substances, such as tobacco, and changing dietary habits to reduce the intake of such things as animal fat, increases the chance of living longer.

Benchmark 7: Human Society

D: Social Trade-Offs

- There are trade-offs that each person must consider when making choices which may include: popularity, health, family relations, and education, that often have life-long consequences.
- Trade-offs are not always between desirable possibilities. Sometimes social and personal trade-offs require accepting an unwelcome outcome to avoid some other unwanted one.

Benchmark 12: Habits of Mind

E: Critical Response Skills

- Questions and claims based on vague attributions or on statements made by celebrities or others outside the area of their particular expertise.
- Be aware that there may be more than one good way to interpret a given set of findings.
- Notice and criticize the reasoning in arguments in which
 - (1) Fact and opinion are intermingled or the conclusions do not follow logically from the evidence given
 - (2) An analogy is not apt
 - (3) No mention is made of whether the control groups are very much like the experimental group
 - (4) All members of a group are implied to have nearly identical characteristics that differ from those of other groups.

OBJECTIVES:**Students will:**

- Identify the effects of smoking on the body.
- Identify and infer the hidden message(s) in tobacco advertisements.
- Compare and contrast a healthy lung vs. an unhealthy lung
- Develop a tobacco advertisement using smoking statistics

PROCEDURES:

- Allow 1 hour to present the background information and to complete the activity.
- Present the background information.
- Complete the activities: (Part A.) “Tobacco Advertisements” and Pig Lung Demonstration
- Follow up activity with discussion questions (see Part B.). These questions may be used for assessment purposes

MATERIALS:

- Background information: Smoking Statistics and Advertisements
- Handout: Tobacco Advertisement
- Tobacco Advertisements

BACKGROUND:

Smoking is responsible for approximately one in five deaths in the United States and is the most preventable cause of premature death in our society. It is a major cause of cancer, heart disease, aneurysms, bronchitis, emphysema, and stroke. It also contributes to the severity of pneumonia and asthma. Cigarette ads appear to play a role in a teenager's decision to begin smoking. Tobacco companies advertise in magazines with high youth readership, including Sports Illustrated, People, Rolling Stone, and other popular magazines. All have youth readership (12 to 17 years old) totaling more than two million or more than 15 % of the magazine's overall readership. Tobacco ads are created to get kids to think smoking will make them: independent, tough, strong, popular, happy, cool, and attractive. When you look at the following ads, ask yourself what kind of image is personified? Who is the target (audience)? If the models are rugged, happy, thin, cool, or attractive, the company wants you to think that if you smoke their cigarettes you will be rugged, happy, thin, cool, or attractive - like the people in the ad.

Statistics about Smoking

1. Cigarette smoking is the number 1 cause of preventable death in the U.S.
2. Cigarettes kill more Americans than alcohol, drugs, suicides, homicides, and accidents.
3. Approximately 90% of smokers begin before the age of 21.
4. Tobacco use in adolescents is associated with other risky behavior: fights, carrying weapons, high risk sexual activity, and accidents.
5. Cigarette smoke narrows airways
6. Smoking puts carbon monoxide into your blood.
7. Smoking reduces life expectancy.
8. Smoking also causes cancers: - mouth, esophagus, lungs, stomach, and pancreas.
9. Smoking also causes arteriosclerosis, gum disease; premature aging of skin, high cholesterol, yellow teeth, premature menopause,
10. Smoking is expensive

ACTIVITY:

Part A:

Activity 1: Tobacco Advertisement

Directions:

- Pass tobacco advertisements around the room to the students.
- List the ads and study the message.
- Identify the audience that is being targeted.
- Describe/explain the message the ad is trying to send.
- Have students write their own ads using statistics about smoking
- Share and display them.

Advertisements: (An example of this activity with the students)

(The Teacher) When watching television, have you ever stopped to count how many commercial you see in between your favorite program? What is the purpose behind these ads? Who are they targeting? Walk outside and look at all the billboards you see, whom are they targeting, what gender, age group, or style of person?

(Observation from the activity) The ads passed around the room all had different people they were targeting, but the baseline of the matter was that they all were encouraging smoking. Most made smoking seem to the lay person, among other things sexy, happy, and social; and all these people also looked very healthy and were having fun. If we stop and think through this, is it what we know for sure to be the truth as far as smoking is concerned? The truth of the matter is that people fall sick and die from complications brought about by inhaling of smoke from cigarettes.

Activity 2: Healthy and Unhealthy Lungs (Pig Lung Demonstration)

Materials:

- Background: Lung Anatomy
- Lung Transparency
- Pig lungs from a healthy pig
- Pig lungs from a smoking pig
- Handout: “Lung Observation”

Background: Lung Anatomy:

When you breathe in, air comes in your mouth and nose, goes down your throat into the *trachea* or windpipe. From the trachea it goes down to the *bronchi*. All air pipes branch in the lungs into smaller pipes until they are called *bronchioles*. At the end of the bronchioles are the *alveoli*, which are air sacs that look like a bunch of grapes. Then the oxygen contacts one of the three vessels (*capillaries*), and it gets into the bloodstream. Oxygen in the blood goes to the heart which pumps oxygenated blood to the body. During expiration, carbon dioxide leaves the blood in the capillaries and enters the alveoli. As we breathe air in, we use the muscles of our rib cage and especially the major muscle called the *diaphragm* to pull air into our lungs. As we breathe air in, the diaphragm contracts or tightens and flattens, allowing air to be sucked into the lungs.

Directions:

- Examine the two different pairs of lungs. One is from a healthy non-smoking pig, and the other from a smoking pig. (Pig lungs are representative in size to those of a 150 lb man.)
- Describe the lungs,
 - How do they look?
 - How do they feel?
 - What color are they?
 - Do you notice any difference between the two different lungs?
- Write your responses on the Lung Observations worksheet.

Name _____



Lung Observations



Healthy Deflated	Healthy Inflated

Smoker's Lungs Deflated	Smoker's Lungs Inflated

Answers to Lung Observations:

Healthy Lungs:

Bright red

Soft

When inflated took 25 seconds for the lungs to deflate.

Smoker's Lungs (represent a man smoking for 20 years):

Black

Hard from the tar

Hard tumor inside lung

Not as soft as a healthy lung

One lung does not inflate because the tumor is blocking the airway

Deflation takes 12 seconds

Part B:

Ask the following questions and allow time for discussion.

Share:

What are some of the harmful effects of smoking on the human body?

Process:

How does smoking harm the body?

Generalize:

What is a common theme (hidden message) in the tobacco advertisements?

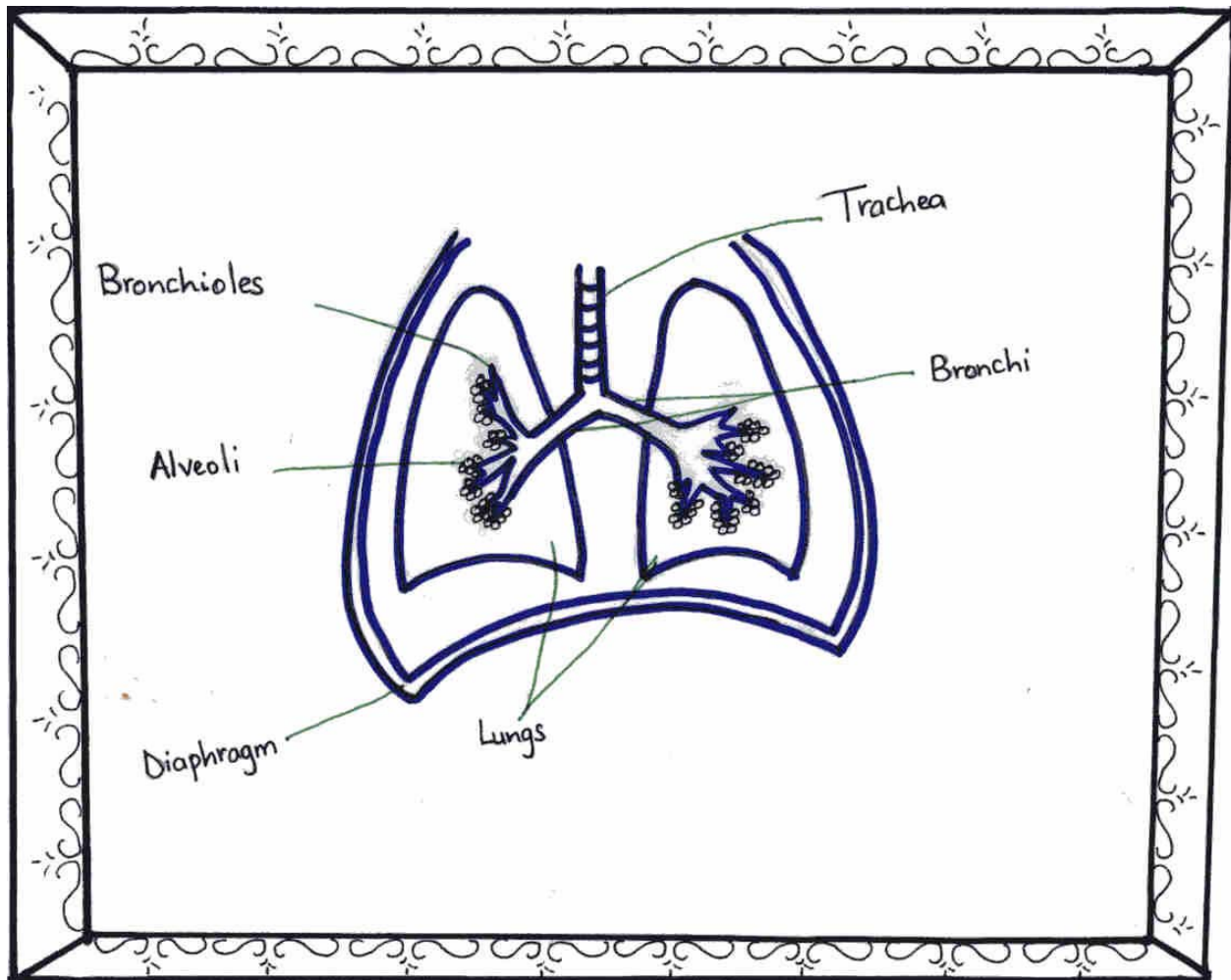
Apply:

If someone you cared about smoked, what could you do to get them to stop?

Note to tell the students: Think about this, how many people have you encouraged to quit smoking? Always remember, do not nag them because smoking is very addictive. You should encourage them to quit and support them. Also, *NEVER START SMOKING*

Transparency:

LUNGS



Additional Resources:

Save the Children: Children Opposed to Smoking Tobacco.

<http://www.costkids.org/resources/resourcesframeset.htm>