

Full Circle Advertising: A Look at Teen Alcohol Use and Fetal Alcohol Syndrome

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This lesson introduces students to one consequence of alcohol abuse, Fetal Alcohol Syndrome (FAS). Students will also investigate alcohol advertisements and determine the impact these advertisements have on their behavior. Finally, the students will use what they have learned about advertising to develop new advertisements aimed at preventing FAS.

This would be an excellent lesson to include in the alcohol/drug unit in a biology class. It shows students that their decisions not only affect themselves but could potentially change the lives of others through birth defects like FAS.

Disclaimer: The findings and conclusions in this report are those of the author(s) and do not necessarily represent the views of the Centers for Disease Control and Prevention.

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Summary

This lesson introduces students to one consequence of alcohol abuse, fetal alcohol syndrome (FAS). Students will also investigate alcohol advertisements and determine the impact that these advertisements have on their behavior. Finally, students will use what they have learned about advertising to develop new advertisements aimed at preventing FAS.

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Learning Outcomes

- Students will analyze media advertisements and epidemiologic data on alcohol consumption and form opinions.
- Students will learn about the behavioral and physiological effects of alcohol.
- Students will learn about FAS through self-guided, web-based research.

Materials

1. Magazines
2. 5x7 note cards
3. Tape
4. Computer with Internet access
5. LCD projector
6. Media for production of public service announcement (art supplies, video equipment, digital cameras, tape player, television, etc.)

Total Duration

6 hours, 30 minutes

Procedures

Teacher Preparation

Ask students to bring in alcohol advertisements from home. You can supplement what students bring into class by collecting magazines for students who may not have access to magazines at home. In addition, you can tape television or radio advertisements like the "Real Men of Genius" or the Budweiser frogs as examples. Make printouts of the "Alcohol Advertising and Youth" website. This site contains surprising facts about alcohol advertising and adolescents and could be printed out for use in class discussion. The "Fetal Alcohol Syndrome Worksheet" should also be printed. Review the websites on FAS to become familiar with this birth defect before assigning work to students. Download the "Alcohol PowerPoint" presentation and review notes and associated websites. Ensure that students have access to supplies that might be needed to complete the public service announcement they will be asked to develop in the conclusion.

Web Resource

Title: Alcohol Advertising and Youth

URL: <http://camy.org/factsheets/index.php?FactsheetID=1>

Description: This website discusses the impact of alcohol advertising on youth. The site contains surprising facts about alcohol advertising and adolescents and could be printed out for use in class discussion.

Step 1: Introduction

Duration: 1 hour

Give the students advance notice, possibly 2–3 days, to locate an advertisement for an alcohol product. Each student should come to class with his or her advertisement on alcohol. These may be cut out of a magazine, taped from the radio or television, or any other format they can find. Allow students to share their advertisements with the class. If it is in paper form, have them tape it to the front wall or board. After everyone has shared, have students look for patterns in the advertisements. List the patterns on the board and try to group the advertisements into categories. After discussing the advertisements, have students read facts from the "Alcohol Advertising and Youth" website. The site includes facts and statistics that may be interesting and/or unbelievable to students. Ask students, "Are these statistics new information to you?" Ask students what they think is the cause of increased alcohol consumption rates among teenagers. Continue with the discussion as long as students have comments or questions.

Web Resource

Title: Alcohol Advertising and Youth

URL: <http://camy.org/factsheets/index.php?FactsheetID=1>

Description: This website discusses the impact of alcohol advertising on youth.

Step 2

Duration: 1 hour

Now that students have looked at sample alcohol advertisements and have discussed some of the research surrounding the marketing of alcohol to youth, use the PowerPoint presentation to help the class learn about the effects of alcohol on the human body. The lecture covers a range of topics, including the definition of drinking, short- and long-term effects of alcohol, the determination of blood alcohol levels, and an introduction to FAS. At this point, hand out "Fetal Alcohol Syndrome Pretest" to test the students' knowledge on the subject before the lesson is implemented. Students continue to explore FAS in the next activity of this lesson plan.

Web Resources

Title: Alcohol Advertising and Youth

URL: <http://camy.org/factsheets/index.php?FactsheetID=1>

Description: This website discusses the impact of alcohol advertising on youth.

Title: Understanding Alcohol—Information about Alcohol

URL: <http://science.education.nih.gov/supplements/nih3/alcohol/guide/info-alcohol.htm>

Description: This website has a wealth of information about alcohol use, effects, abuse, and statistics.

Supplemental Document

Title: Alcohol: Effects on the Body and Behavior

File Name: Alcohol PowerPoint.ppt

Description: This PowerPoint presentation guides students through the physiological effects of alcohol. It also discusses blood alcohol levels and FAS.

Title: Fetal Alcohol Syndrome Pretest

File Name: FASPretest.doc

Description: This document includes questions on FAS to test the students' knowledge before and after this lesson is implemented.

Title: Fetal Alcohol Syndrome Pretest Answers

File Name: FASPretestAnswers.doc

Description: This document provides the answers to the "Fetal Alcohol Syndrome Pretest."

Step 3

Duration: 1 hour

Step 3 begins with a pretest on Fetal Alcohol Syndrome. This short true/false quiz allows students to begin relating to FAS. This test should be given again at the end of Step 3 exploration.

Students continue to explore the effects of alcohol on the human body by researching FAS through guided Internet research. Using the websites provided, students explore physical characteristics as well as emotional aspects of this birth defect. As they go through the websites, they will summarize their findings in the "Fetal Alcohol Syndrome Worksheet." This worksheet can be used as a reference as students begin the next activity.

Students will encounter many acronyms as they work through these websites. Review the differences in these acronyms before the exploration begins. A brief list from the CDC follows:

FAS (fetal alcohol syndrome): This acronym is associated with full fetal alcohol syndrome. FAS is characterized by abnormal facial features, growth deficiencies, and central nervous system problems. People with FAS may also have learning disabilities and social problems. This is the only condition that may be officially diagnosed.

FASD (fetal alcohol spectrum disorders): This is the umbrella term used to group all prenatal alcohol conditions together. People with FASD may look normal but still have learning disabilities and social problems.

FAE (fetal alcohol effects): Describes children who have all of the diagnostic features of FAS, but at mild or less severe levels. This term was replaced with ARBD and ARND in 1996.

ARBD (alcohol-related birth defects): Describes children that may have problems with the heart, kidneys, bones, and/or hearing due to prenatal alcohol exposure.

ARND (alcohol-related neurodevelopment disorder): Describes children with functional or mental problems linked to prenatal alcohol exposure. These may be cognitive or behavioral problems such as learning difficulties, poor school performance, and poor impulse control.

Web Resources

Title: Fetal Alcohol Spectrum Disorders Information, Support and Communications Link

URL: www.acbr.com/fas/fasmain.htm

Description: This website reviews the physical, social, and financial aspects of FAS.

Title: National Center on Birth Defects and Developmental Disabilities: Fetal Alcohol Syndrome

URL: www.cdc.gov/ncbddd/fas

Description: This website offers a definition of FAS and related birth defects, along with characteristics and prevention of FAS.

Title: National Organization on Fetal Alcohol Syndrome

URL: www.nofas.org/faqs.aspx

Description: This website answers frequently asked questions about FAS.

Title: SAMHSA Fetal Alcohol Spectrum Disorders

URL: www.fascenter.samhsa.gov/

Description: This website offers a description of FAS as well as a slide show on the basics (at www.fascenter.samhsa.gov/whatsnew/FASDTheBasic.cfm).

Supplemental Documents

Title: Fetal Alcohol Syndrome Pretest

File Name: Fetal Alcohol Syndrome Pretest.doc

Description: This document includes questions on FAS to test students' knowledge before and after this lesson is implemented.

Title: Fetal Alcohol Syndrome Pretest Answers

File Name: Fetal Alcohol Syndrome Pretest Answers.doc

Description: This document provides the answers to the "Fetal Alcohol Syndrome Pretest."

Title: Fetal Alcohol Syndrome Worksheet

File Name: Fetal Alcohol Syndrome Worksheet.doc

Description: Guided practice worksheet for students to use as they research FAS.

Title: Fetal Alcohol Syndrome Answer sheet

File Name: Fetal Alcohol Syndrome Worksheet Answer Sheet.doc

Description: This document provides sample answers to the "Fetal Alcohol Syndrome Worksheet."

Conclusion

Duration: 3 hours, 30 minutes

Now that the students have studied how advertising affects their behavior and how their actions can affect their lives and the lives of others, they will create a public service announcement (PSA) aimed at preventing FAS. The PSA may be in the form of a radio or television ad, brochure, poster, or any other format. The PSA should be original, accurate, and targeted directly to women who are pregnant or could become pregnant in order to encourage them to avoid alcohol use. Students should include at least four quality sources of information in their PSA. For example, they may want to cite statistics as a part of their product. Students are encouraged to review the alcohol advertisements

that were brought into class to develop PSAs that are tailored to their target audience. Students can use the “Fetal Alcohol Syndrome Worksheet” as a reference when developing their PSAs. The new advertisement will be presented in class. The oral presentation will be a part of the grade. Students must be prepared and show confidence in discussing how their PSA is different from the advertisements evaluated at the beginning of the lesson. They must discuss how their advertisement will help prevent FAS. The advertisement and presentation may be graded with the rubric that follows or may be graded more subjectively.

Supplemental Document

Title: Public Awareness Campaign: Full Circle Advertising

File Name: Public_awareness.xls

Description: Excel rubric document used to assess student advertisements.

Assessment

Students are graded using the rubric in the conclusion.

Modifications

Extension

You may wish to have all students do advertisements as television commercials and present them to the middle school or elementary science teachers to show in class. This will allow students to share their work, as well as become role models for the younger students in the school.

Education Standards

National Science Education Standards

LIFE SCIENCE, CONTENT STANDARD C:

As a result of their activities in grades 9–12, all students should develop understanding of

- The cell
- Molecular basis of heredity
- Biological evolution
- Interdependence of organisms
- Matter, energy, and organization in living systems
- **Behavior of organisms**

SCIENCE IN PERSONAL AND SOCIAL PERSPECTIVES, CONTENT STANDARD F:

As a result of activities in grades 9–12, all students should develop understanding of

- **Personal and community health**
- Population growth
- Natural resources
- Environmental quality
- **Natural and human-induced hazards**
- Science and technology in local, national, and global challenges

Fetal Alcohol Syndrome Pretest

Full Circle Advertising
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Sherri Garcia, CDC's 2005 Science Ambassador Program

The following questions offer good insight into your current knowledge of fetal alcohol syndrome (FAS). Answer the questions to the best of your knowledge. This test will be given again after you research fetal alcohol syndrome.

True or False:

1. It is not dangerous to drink beer while you are pregnant because hard liquor is the only danger to the fetus.
2. FAS appears in about 1 in 10 live births in the United States.
3. Children with FAS may have problems with learning, memory, attention, problem solving, social skills, and behavior.
4. A child born with FAS will have normal facial features.
5. FAS may be less likely to occur if other family members are not drinking around the pregnant mother.
6. Secondary conditions in children with FAS, such as difficulty in school, may be prevented or be less severe if children are placed in appropriate educational classes early in life.
7. FAS is not a permanent condition and children usually grow out of it with time.
8. Children with FAS may have growth deficiencies.
9. Poor school performance is always related to FAS.
10. There is no known safe amount of alcohol that may be consumed during pregnancy.

Reference:

NCBDDD, CDC. Fetal Alcohol Information. [online]. 2005. [cited 2005 July 22]. Available from URL: <http://www.cdc.gov/ncbddd/fas/fasask.htm>.

Fetal Alcohol Syndrome Pretest Answers

Full Circle Advertising
A Look at Teen Alcohol Use and Fetal Alcohol Syndrome
Sherri Garcia, CDC's 2005 Science Ambassador Program

This document provides answers for "Fetal Alcohol Syndrome Pretest."

True or False:

1. It is not dangerous to drink beer while you are pregnant because hard liquor is the only danger to the fetus.
False. Any type of alcoholic beverage is dangerous and may result in FAS.
2. FAS appears in about 1 in 10 live births in the United States.
False. CDC studies show FAS rates ranging from 0.2 to 1.5 per 1,000 live births in different areas of the United States.
3. Children with FAS may have problems with learning, memory, attention, problem solving, social skills, and behavior.
True.
4. A child born with FAS will have normal facial features.
False. Children born with FAS have facial abnormalities such as small eye openings and other characteristics.
5. FAS may be less likely to occur if other family members are not drinking around the pregnant mother.
True. CDC encourages family members not to drink around a pregnant mother. This will discourage her from drinking as well.
6. Secondary conditions in children with FAS, such as difficulty in school, may be prevented or be less severe if children are placed in appropriate educational classes early in life.
True.
7. FAS is not a permanent condition and children usually grow out of it with time.
False. Although there are services that will help children with FAS overcome secondary conditions, it is a permanent condition.
8. Children with FAS may have growth deficiencies.
True.
9. Poor school performance is always related to FAS.
False. Although FAS is associated with poor school performance, it is not the only cause.
10. There is no known safe amount of alcohol that may be consumed during pregnancy.
True.

Reference:

NCBDDD, CDC. Fetal Alcohol Information. [online]. 2005. [cited 2005 July 22]. Available from URL: <http://www.cdc.gov/ncbddd/fas/fasask.htm>.

Fetal Alcohol Syndrome Worksheet

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The following websites offer a wealth of information about fetal alcohol syndrome (FAS). Your task is to summarize all of the parts in the chart below.

Fetal Alcohol Spectrum Disorders Information, Support and Communications Link.
www.acbr.com/fas/fasmain.htm (This website contains a wealth of information about FAS; however, some information may be sensitive).

National Center on Birth Defects and Developmental Disabilities: Fetal Alcohol Syndrome. www.cdc.gov/ncbddd/fas

National Organization on Fetal Alcohol Syndrome. www.nofas.org/faqs.aspx

SAMHSA Fetal Alcohol Spectrum Disorders. www.fascenter.samhsa.gov/

Answers will vary because the focus of the information presented within the websites is different.

Fetal Alcohol Syndrome Summary

List some of the physical characteristics of FAS	
Compare the sizes of the brain with FAS and the brain without FAS. What areas of the brain are affected? What functions are affected?	
What is the prevalence of FAS?	
How can FAS be prevented?	

Fetal Alcohol Syndrome Worksheet Answers

Full Circle Advertising
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The following websites offer a wealth of information about Fetal Alcohol Syndrome (FAS). Your task is to summarize all of the parts in the chart below.

¹ Fetal Alcohol Spectrum Disorders Information, Support and Communications Link www.acbr.com/fas/fasmain.htm (This website contains a wealth of information about FAS; however, some information may be sensitive).

² National Center on Birth Defects and Developmental Disabilities: Fetal Alcohol Syndrome. www.cdc.gov/ncbddd/fas

³ National Organization on Fetal Alcohol Syndrome. www.nofas.org

⁴ SAMHSA Fetal Alcohol Spectrum Disorders. www.fascenter.samhsa.gov/

Answers will vary because the focus of the information presented within the websites is different.

Fetal Alcohol Syndrome Summary

<p>List some of the physical characteristics of FAS</p>	<p>Microcephaly (small head) ⁽¹⁾ Short palpebral fissures (small eyes) ⁽²⁾ Folds on inner eye ⁽³⁾ Ear anomalies ⁽³⁾ Micrognathia (small chin) ⁽³⁾ Small for their age ⁽⁴⁾ Central nervous system defects ⁽⁴⁾ Flat midface ⁽³⁾ Indistinct philtrum (ridge above lip) ⁽³⁾ Thin upper lip ⁽¹⁾ Low nasal bridge ⁽⁴⁾ Short nose ⁽¹⁾</p> <p>Note: this is not a complete list, nor does FAS imply that any or all of these things will happen.</p> <p>Note: Some of these are required for an FAS diagnosis – smooth philtrum, thin upper lip, small palpebral fissures (all 3 of these facial abnormalities), plus documentation of growth deficits, plus documentation of central nervous system abnormalities.</p>
<p>Compare the sizes of the brain with FAS and the brain without FAS. What areas of the brain are affected? What functions are affected?</p>	<p>The brain with FAS is much smaller than the brain without FAS. It also has fewer folds and an incomplete separation. ⁽¹⁾ Frontal Lobes: judgment, inhibition, self-control, conscience, personality, and emotion ⁽¹⁾ Left: language, logical interpretation, math, abstract reasoning, facts and rules ⁽¹⁾ Right: holistic-memory, visual, auditory and spatial ⁽¹⁾ Corpus Callosum: communicates between hemispheres ⁽¹⁾</p> <p>Note: this is not a complete list, nor does FAS imply that any or all of</p>

	these things will happen.
What is the prevalence of FAS?	0.2 to 1.5 per 1,000 live births in different areas of the United States.⁽²⁾
How can FAS be prevented?	FAS is 100% preventable if women do not drink any alcohol during pregnancy.⁽⁴⁾

References:

1. Ritchie, B. FAS Link: Introduction to Fetal Alcohol Spectrum Disorders [online]. 2005. [cited 2005 July 6]. Available from URL: <http://www.acbr.com/fas/fasmain.htm>
2. Information, Fetal Alcohol Syndrome, NCBDDD, CDC [online]. 2005. [cited 2005 July 6]. Available from URL: <http://www.cdc.gov/ncbddd/fas/fasask.htm>
3. National Organization on Fetal Alcohol Syndrome [online]. 2004. [cited 2005 July 13]. Available from URL: <http://www.nofas.org>
4. SAMHSA Fetal Alcohol Spectrum Disorders [online]. 2005. [cited 2005 July 13]. Available from URL: <http://www.fascenter.samhsa.gov/>

Public Awareness Campaign: Full Circle Advertising Public Service Announcement

Student Name: _____

CATEGORY	4	3	2	1
Campaign/product	Student creates an original, accurate and interesting product that adequately addresses the issue.	Student creates an accurate product that adequately addresses the issue.	Student creates an accurate product but it does not adequately address the issue.	The product is not accurate.
Sources - Number and quality	Student includes 4 or more high-quality sources.	Student includes 2-3 high-quality sources.	Student includes 2-3 sources but some are of questionable quality.	Student includes fewer than 2 sources.
Enthusiasm while presenting	Facial expressions and body language generate a strong interest and enthusiasm about the topic in others.	Facial expressions and body language sometimes generate a strong interest and enthusiasm about the topic in others.	Facial expressions and body language are used to try to generate enthusiasm, but seem somewhat forced.	Facial expressions and body language are not used to enhance the presentation.
Preparedness	Student is completely prepared and has obviously rehearsed.	Student seems pretty prepared but might have needed a couple more rehearsals.	The student is somewhat prepared, but it is clear that rehearsal was lacking.	Student does not seem at all prepared to present.
Posture and eye contact	Student stands up straight, looks relaxed and confident. Establishes eye contact with everyone in the room during the presentation.	Student stands up straight and establishes eye contact with everyone in the room during the presentation.	Student sometimes stands up straight and establishes eye contact.	Student slouches and/or does not look at people during the presentation.

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