

LESSON:

Population Growth: Get the Word Out

Summary: Students create a health communication campaign to encourage behaviors that help protect the environment from the effects of population growth and over-consumption. Lesson Type: Integrated Lesson.

EHP Article: "Population Equation: Balancing What We Need With What We Have"
EHP Student Edition, December 2005, p. A598–A605
<http://ehp.niehs.nih.gov/members/2005/113-9/focus.html>

Objectives: By the end of this lesson students should be able to:

1. describe the major ways population growth impacts human health and the environment;
2. apply basic principles of communications theory to promote beneficial behaviors for a specified population;
3. choose an appropriate approach to market the ideas of sustainable development, use of health services, and poverty reduction to various audiences; and
4. create visually appealing and compelling health communication materials.

Class Time: 1-3 class periods with some homework

Grade Level: 10–12

Subjects Addressed: Environmental Health, Environmental Science, Public Health, Communications, Social Studies

►Prepping the Lesson (30 minutes)

INSTRUCTIONS:

1. Obtain a class set of *EHP Student Edition*, December 2005, or download the article "Population Equation: Balancing What We Need With What We Have" at <http://ehp.niehs.nih.gov/members/2005/113-9/focus.html>.
2. Read the article and the Background Information section of the lesson.
3. Make copies of the Student Instructions.
4. Prepare a brief introduction to the health communication campaign concept based on the Background Information material.
5. Decide whether students will be creating their campaigns in small groups (2–4 people) or individually.
6. (Optional) Teachers may want to download examples of health communication materials by visiting the Health Communication Materials Clearinghouse or ordering free materials from the Centers for Disease Control and Prevention (CDC).

MATERIALS (per student):

- 1 copy of *EHP Student Edition*, December 2005, or 1 copy of "Population Equation: Balancing What We Need With What We Have"
- 1 copy of the Student Instructions
- access to computers if students choose to present using PowerPoint or other software
- art supplies (as necessary) to create hard copies of student health communication campaigns, if desired
- pens, colored pencils
- poster board
- collage supplies, clip art



VOCABULARY:

- contraception
- deforestation
- demography
- fertility rate
- fishery
- globalization
- greenhouse gas
- malnutrition
- overconsumption
- sprawl

BACKGROUND INFORMATION:

The article “Population Equation: Balancing What We Need With What We Have” presents a comprehensive assessment of the range of potential effects of global overpopulation. What remains unexplored is how to influence people’s behaviors now and in the future to prevent environmental damage. Public health educators use a variety of approaches to promote healthy behaviors and ultimately improve quality of life. The most widespread type of public health education effort today is referred to as “health communication.” Health communication campaigns have been used effectively to influence people’s knowledge, beliefs, and attitudes toward health behaviors such as HIV/AIDS screening, tobacco use, and physical activity (1). Students might be familiar with some of these efforts such as the “Truth” campaign against teen smoking, and the “VERB” campaign promoting physical activity from the CDC. These campaigns employ the traditional tools of advertising such as TV and radio ads to market positive health behaviors. Because the expectations of society (social “norms”) play a large role in individual health choices, these public health campaigns aim to change the social climate to allow people to make healthy choices without feeling judged or pressured by peers or family. A dominant theory behind health communication efforts is the concept of “social marketing.” Social marketing is the use of commercial marketing knowledge and techniques to “sell” ideas and services that promote the social good rather than consumer products. There are many examples of how health educators have done this around the world, including efforts aimed at reducing overpopulation and improving standards of living.

An example of an effective health communication campaign targeting population issues is the “Smiling Sun” campaign in Bangladesh. This campaign identified the lack of regular health care for families as a major factor influencing high birth rates and infant mortality. To address this problem, the campaign developed a 16-part TV miniseries using a female family health clinic worker as a main character. By setting the show in the clinic the producers were able to explore many family planning issues and promote the use of new local family health centers, which had been recently opened in the target region. The TV show was heavily promoted in print ads and billboards. The show was able to generate a lot of discussion of family health issues and increased utilization of the local clinics (2). The successes of other campaigns are described in the article. Information on additional campaigns both in the United States and abroad are listed in the Resources section.

Health educators create a campaign using the following steps:

1. Identify the targeted problem by assessing available data.
2. Determine the underlying factors that cause the problem.
3. Choose a population at particular risk for the problem.
4. Design a communications effort that supports clearly defined objectives addressing the following factors:
 - Product—What the consumer is asked to do or “buy.” The product can be a behavior, a physical product, or a service; must be a solution to the problem that is relevant to the targeted population. Questions to consider include whether the message is acceptable within the target culture and whether the alternative behavior is easily accomplished by individuals.
 - Price—What the consumer must do or give up in order to obtain the product. The cost of adopting the product could be time, money, risk of embarrassment, or disapproval.
 - Place—How and where the product reaches the consumer. For physical products, this refers to how the product is distributed. For intangible products it could be the channels of communication used to reach the consumers such as doctors’ offices, shopping malls, mass media, or in-home demonstrations. Questions to consider include whether the place reaches the specific population you are targeting and what the advantages and limitations are to the place.
 - Promotion—How interest in the product is maintained using advertising, public relations, promotion, or media. This could include public service announcements, ads, coupons, media events, editorials, or in-store displays. Questions to consider include whether local people, politicians, and business leaders will support the effort, how people will



remember your message, and how you will make people feel good about the message.

5. Evaluate the outcome of the campaign to determine if the objectives are achieved.

Changing people's "hearts and minds" about overconsumption and global economic inequality will be an important part of creating a sustainable environmental future. The first step in this effort will be to create an awareness of the finite resources we all depend on for our health and happiness, and of the steps we can take now to protect those resources for all of us.

REFERENCES:

1. *Making Health Communications Work*, National Cancer Institute, 2002, <http://www.cancer.gov/pinkbook>
2. Health Communication Partnership, "Evaluating the Smiling Sun Campaign," <http://www.comminit.com/healthcomm/case-studies.php?showdetails=154>

RESOURCES:

- Health Communication Materials Media/Materials Clearinghouse, <http://www.m-mc.org/>
- Department of Health and Human Services, Office of Population Affairs Clearinghouse, <http://opa.osophs.dhhs.gov/pubs/publications.html>
- World Overpopulation Awareness, "Sustainability, Carrying Capacity and Overconsumption," <http://www.overpopulation.org/solutions.html>
- Negative Population Growth, <http://www.npg.org>
- Population Connection, <http://www.populationconnection.org>
- Affluenza* (PBS program on the epidemic of overconsumption), <http://www.pbs.org/kcts/affluenza/>

► Implementing the Lesson

INSTRUCTIONS:

1. Hand out the Student Instructions and have students read "Population Equation: Balancing What We Need With What We Have."
2. Lead a discussion about how scientists, policy makers, and health educators can encourage behavior change to prevent continued overpopulation and overconsumption of scarce global resources.
3. Introduce the concept of "health communication" and read Steps 2–4 on the Student Instructions as a class.
4. Assign students a timeline for completion of each step and a final presentation date.

NOTES & HELPFUL HINTS:

- Students can work in small groups (2–4 people) or individually. Allow one class period for group presentations, two class periods for individual presentations. Alternately, students could post their campaigns for display only.
- Consider giving students an opportunity to grade each other during the presentations using the rubric included on the Student Instructions.
- Health communication campaigns make great classroom decorations. Many campaigns provide free materials geared toward the health concerns of teens, including posters, giveaways (jelly bracelets, pens, notebook covers), and guides on how to incorporate themes into standard curricula. See the Resources section for websites. You could redecorate the classroom in advance of this exercise to generate student ideas.
- The issue of population control is one fraught with controversy. Students navigating the Internet who "google" the term will be immediately inundated with a variety of positions. It is best to direct students to specific websites, provide copied materials, or lead a discussion on the ethical perils of population control efforts before students begin to research the topic.
- This is not a lesson on contraception or sexual health. As tempting as it will be for students to exploit the connection of contraception to controlling overpopulation, stress the various other factors involved as mentioned in the article. Head off students' impulse to use sexually suggestive or explicit themes or messages in their campaigns.

► Aligning with Standards

SKILLS USED OR DEVELOPED:

- Communication (note taking, oral, written—including summarization)
- Comprehension (listening, reading)
- Critical thinking and response



SPECIFIC CONTENT ADDRESSED:**Life Science Standard**

- Interdependence of organisms
- Behavior of organisms

Science in Personal and Social Perspectives Standard

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

History and Nature of Science Standard

- Science as a human endeavor
- Nature of scientific knowledge
- Historical perspectives

▶Assessing the Lesson

Assign points for the following components of the communication campaign:

0 = Did not complete

1 = Minimally addressed

2 = Adequately addressed

3 = Thoroughly addressed

1. Was the objective(s) of the campaign clear and appropriate for the target population?
2. Was the handout and presentation easy to read and effective at communicating the facts and the recommendations?
3. Were clear, appropriate, and meaningful pictures, tables, or illustrations used?
4. Were science terms used properly?
5. Was each group member actively involved in the presentation?
6. Did the group report its sources?

▶Authors and Reviewers

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Step 1: Read the article “Population Equation: Balancing What We Need With What We Have.”

Step 2: A major part of preventing future environmental problems relating to overpopulation and overconsumption will be changing people’s knowledge, attitudes, and beliefs. One way to do this is by actively promoting behaviors necessary to protect the environment. You are familiar with advertising campaigns marketing all sorts of consumer products and maybe even some health ideas. Your assignment is to design a campaign to encourage people to take action that is protective of the planet. Follow these steps to create your health communication campaign:

1. Choose one of the following general goals:
 - Fight Poverty
 - Utilize Family Planning and Health Services
 - Reduce Consumption
 - Protect Environmental Resources
2. Identify the objectives of your campaign. What behavior or action do you want people to take? Why will your campaign make a difference? What attitudes, social norms, and knowledge are you trying to influence?
3. One message is rarely convincing to everyone, so identify the population you want to target: American or foreign? Young or old? Developed or developing? Rich or poor? Individuals or political leaders? Groups can be segmented in many different ways. Research your population.
4. What is your message or slogan? Remember, it must be clear, simple, and catchy!
5. Choose your channel, or means, of distributing your message. Will it be a billboard, a TV commercial, a magazine ad? A brochure, video, webpage, rap/song, poem, play, or poster? Maybe a series of concerts to promote your message? Make sure your channel reaches your population.

Step 3: Create sample visual materials to illustrate your “pitch” to the class. Make a poster, billboard, or even a T-shirt with your message boldly stated. Use bright colors and attractive graphics.

Step 4: Pitch your campaign to your classmates. Sell your idea to save the planet!

Guidelines and Grading Rubric

Guidelines:

1. Decide what facts are important to include in support of the recommended intervention.
2. Design a handout that summarizes this information along with sample campaign material.
3. Practice and keep the presentation within the time allotted.
4. Each group member should help develop the campaign and take part in the presentation.
5. Each group member should answer at least one question from the audience at the end of the final presentation.

Grading Rubric:

Assign points for the following components of the communication campaign:

0 = Did not complete

1 = Minimally addressed

2 = Adequately addressed

3 = Thoroughly addressed

1. Was the objective(s) of the campaign clear and appropriate for the target population?
2. Was the handout and presentation easy to read and effective at communicating the facts and the recommendations?
3. Were clear, appropriate, and meaningful pictures, tables, or illustrations used?
4. Were science terms used properly?
5. Was each group member actively involved in the presentation?
6. Did the group report its sources?

