



Assignment Discovery Lesson Plan Your Genes: Your Future

Subject

Human Body

Grade level

6-8

Duration

Two class periods

Objectives

Students will

- review healthy behaviors;
- choose one of their own behaviors they'd like to change or improve; and
- write a letter to themselves pledging to make that change, detailing why it's important to their health and outlining how they might enact the change.

Materials

- Computer with Internet access
- Print and online resources about healthy behaviors (exercise) and dangerous and unhealthy behaviors (smoking, taking drugs, drinking alcohol)

Procedures

1. After watching the video, ask students: How would you describe a healthy person? Write their answers on the board. Possible answers include
 - exercises often,
 - eats healthy foods,
 - doesn't eat a lot of junk food,
 - doesn't do drugs, and
 - talks about their problems with someone.
2. Ask students to write down an aspect of their lifestyle that they'd like to change or improve—for example, "eat a healthier diet" or "get more exercise." Then, have them to list one or two specific ways they could make that change—for example, "eat five fruits and vegetables every day" or "take walks after school, at least three times a week."

3. Explain that they're going to research the lifestyle aspect they'd like to change and then create an action plan in the form of a letter to themselves.
4. Once students have chosen a lifestyle aspect to change, give them this list of questions to address in their letter:
 - What aspect of your health would you like to improve?
 - Why is this change important to your health? What could happen if you don't make this change?
 - What behavior do you need to modify? Explain one or two specific behavior changes you can make.
 - Imagine how changing this habit would improve your life.
5. Have students use print and online resources in their research. These Web sites contain helpful information:

Food and Fitness

- TeensHealth: Food and Fitness
http://websrv01.kidshealth.org/teen/food_fitness/
- Discovery Health: Nutrition Center
<http://health.discovery.com/centers/nutrition/nutrition.html>
- USDA: The Food Guide Pyramid
<http://www.nal.usda.gov:8001/py/pmap.htm>
- FDA: Guidance on How to Understand and Use the Nutrition Facts Panel on Food Labels
<http://vm.cfsan.fda.gov/~dms/foodlab.html>
- Dole: 5 a Day
<http://www.dole5aday.com/index.jsp>

Smoking, Drugs and Alcohol

- TeensHealth: Drugs and Alcohol
http://websrv01.kidshealth.org/teen/drug_alcohol/
- Campaign for Tobacco-Free Kids
<http://www.tobaccofreekids.org/>
- National Council on Alcoholism and Drug Dependency: Facts and Information
<http://www.ncadd.org/facts/youdir.html>
- The Addiction Cycle
<http://www.angelfire.com/biz2/TheRecoveryPage/Addcycle.html>
- Scholastic: Real News about Drugs and Your Body
<http://teacher.scholastic.com/scholasticnews/indepth/headsup/index.htm>

Depression

- Discovery Health: Diseases and Conditions Encyclopedia: Depression
<http://health.discovery.com/diseasesandcond/encyclopedia/2847.html>
- Teen Health: Depression
http://www.kidshealth.org/teen/your_mind/mental_health/depression.html
- Depression and Bipolar Support Alliance: Depression

<http://www.dbsalliance.org/Info/depression.html>

6. Because students' letters may be personal, you shouldn't share them with the class. Instead, ask students to pull a few lines or a short paragraph that they believe might motivate another student wishing to change the same habit. Tell them that these quotes will be anonymously posted on a "healthy habits" board.

Extensions

- What do different cells really look like? Have students find close-up images of cells in books and online and then create their own "mystery cell" challenge. Students should write five clues to help players guess the answer.
- Review the double-helix structure of DNA. Explain how the rungs of the ladder are made of four bases: adenine (A), thymine (T), cytosine (C), and guanine (G), and that when DNA forms, A always hooks up with T and C always hooks up with G. Then, challenge students make their own DNA model. Working in pairs, give students toothpicks or Q-tips to use as the rungs of the ladder and construction paper or pipe cleaner to use as the sides. Have them color the steps to represent the four bases.
- After watching the video, review with the class some of the dangers of alcohol and nicotine. Then, discuss some of the reasons why teens smoke and drink. Have students work in groups to write and perform a skit that shows a teen pressured to drink alcohol or smoke but deciding against it.

Evaluation

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

3 points: Students were highly engaged in class discussions; wrote a detailed, thorough letter answering all of the questions provided.

2 points: Students participated in class discussions; wrote a satisfactory letter answering most of the questions provided.

1 point: Students participated minimally in class discussions; wrote a simplistic letter answering few or none of the questions provided.

Vocabulary **addiction**

Definition: Physiological dependence on a drug

Context: An addiction to drugs, alcohol, or cigarettes can be very dangerous and difficult to treat.

depression

Definition: A medical condition that leads to intense, prolonged feelings of sadness or despair

Context: A person suffering from depression may lose interest in things they enjoy, feel tired or irritable, or experience a change in appetite.

diet

Definition: The food and drink that a person consumes; a balanced diet is based on the scientific principles that healthful foods and appropriate nutrients must be consumed each day.

Context: Fruits and vegetables are an important part of a healthy diet.

drugs

Definition: Substances, such as alcohol, nicotine, marijuana, and cocaine, which are unhealthy, often illegal, and can lead to addiction

Context: Although alcohol and nicotine are legal drugs, they can be just as dangerous as illegal drugs like marijuana and heroin.

Food Guide Pyramid

Definition: A visual representation of the number of recommended daily servings in each of the six food groups

Context: According to the Food Guide Pyramid, people should eat two to three servings of dairy foods, like milk or cheese, every day.

nutrients

Definition: Substances, including proteins, carbohydrates, vitamins, and minerals, found in foods that people need to stay healthy

Context: Eat a variety of foods to get the nutrients you need to stay healthy.

nicotine

Definition: A poisonous substance derived from tobacco; the substance that causes addiction to cigarettes

Context: When people smoke cigarettes, nicotine enters their bloodstream.

tobacco

Definition: The dried leaves of the plant *Nicotiana tabacum* or related species

Context: Tobacco, used in cigarettes and chew, contains the poisonous substance nicotine.

Academic Standards

This lesson plan addresses the following science education standards created by the National Academy of Sciences:

- Science as Inquiry: Abilities necessary to do scientific inquiry
- Life Science: Structure and function in living systems; Regulation and behavior
- Science in Personal and Social Perspectives: Personal health; Risks and benefits

Credit

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