



*Sandy Garrett, State Superintendent of Public Instruction*

Oklahoma State Department of Education

# Focus on Family Health: A Study in Similarities and Choices

AREA OF SERVICE	Education, Health & Public Safety
COMMUNITY NEED	Health Education
TYPE OF SERVICE	Indirect, Advocacy
SUBJECT AREA/LEVEL	Health, Math, Science/6-8
CONCEPT	Similarities



## SERVICE-LEARNING PROJECT SUMMARY

This middle school project uses student learning from a study of health, math, and science to address a community problem or need for health education. As a result students will organize and implement an exercise or nutrition program for community participants.

## LEARNING STANDARDS

*Oklahoma Priority Academic Student Skills*

### ***Health and Nutrition***

Standard 1.13 Explain the relationship between caloric intake and level of activity in weight management and describe safe methods of weight control.

Standard 3.6 Interpret physical and mental consequences of a poorly balanced diet and explain how diet choices may provide inadequate nourishment and cause health problems.

Standard 3.7 Describe the effects various diseases (e.g. cancer, diabetes) have on body systems.

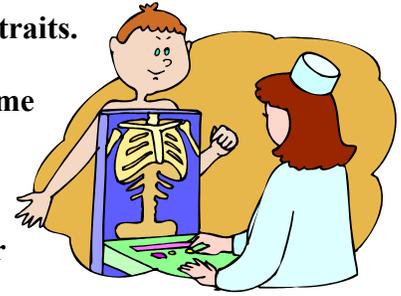
Standard 3.10 Identify the role exercise and nutrition play in basic personal needs.

### ***Life Science***

Standard 3: Reproduction and Heredity – Reproduction is the process by which organisms give rise to offspring. Heredity is the passing of traits to offspring. All organisms must be able to grow, reproduce, and maintain stable internal conditions while living in a constantly changing external environment.

## Focus on Family Health Implementation Outline

1. Under teacher direction, students will play a game about inherited traits.
2. Under teacher direction, students will discuss and analyze the game from the previous activity.
3. Under teacher direction, students will consider the difference between traits that are inherited and personal choices to develop their understanding of the concept of genetic similarities and differences.
4. Teacher will provide instruction on health and nutrition, heredity, and disease prevention.
5. Under teacher direction, students will practice and demonstrate their new learning and understanding of topics outlined in #4.
6. Students will identify a need in their community and design service project(s) that utilize the knowledge and skills developed in #4 and #5.
7. Students will refine their service project(s), identify any local, state, or national laws, agencies, or policies related to the identified community need and their proposed service, and articulate the civic and public meaning of their service.
8. Students will implement their service project and share their accomplishments with the community.



## TEACHER'S GUIDE Focus on Family Health

### *Teacher's Note*

Using the concept of “similarities” the teacher will engage students in an active unit of study of health, nutrition, exercise, heredity, and disease prevention to address a student-identified community problem related to health education and disease prevention

1. Under teacher direction, students will play a game about inherited traits.



Activity 1: Play game “If you Have, If you Can.” For example, if you have blue eyes, stand here, if you have brown eyes, stand there; if you can roll your tongue stand here, if you cannot roll your tongue stand here, if you have blonde hair, black hair, curly or straight hair, if your earlobes are attached or not, etc. Explain that these characteristics are inherited. If appropriate ask students to discuss inherited traits or characteristics with their families and to report back the next class period. To further the idea of inheritance students may also bring inherited objects to show to the class in a “show and tell” format.



**2. Under teacher direction, students will discuss and analyze the game from the previous activity.**

Activity 1: Lead a discussion with the students about the identifying traits used in the game, then ask students to identify five traits and/or objects that they have inherited from their family. Discuss the multiple meanings of inheritance.

Activity 2: Students will write a paragraph or journal entry reflecting on five inherited traits and/or objects. Students will explain from whom the trait or object was inherited (i.e. brown hair was inherited from mother, or I inherited this necklace from my grandmother.) Students will examine the significance of each trait or object.

**3. Under teacher direction, students will consider the difference between traits that are inherited and personal choices to develop their understanding of the concept of genetic similarities and differences.**

Activity 1: Divide students into groups of four or five. Distribute the game, Life®, to each group. Ask each group to read the instructions for playing the game and begin to play. When the groups have completed the game, ask students to share the choices that they had to make in the game. Ask the students to reflect on how their choices impacted the game. Discuss with students the difference between inherited traits and personal choices.

Activity 2: Instruct students to draw a picture of their family. Then ask students to create a Venn diagram that shows some personal traits that the family members share. Ask them to create a second Venn diagram that describes the similarities in choices about health and disease prevention that family members have made, (ex. smoking, not smoking, exercises, doesn't exercise.)

**4. Teacher will provide instruction on health and nutrition, heredity, and disease prevention.**

Activity 1: Teacher will provide regular instruction on the above topics according to the local and state academic framework and standards.

Activity 2: Teacher will engage students in a discussion about inherited traits and inherited diseases. Ask students if they know of a family member who has an inherited disease. Explain that while some diseases are inherited, the effects of that disease may be lessened or heightened based on some personal choices. Ask students to identify some possible life choices that a person could make to lessen the effects of an inherited disease? Proper diet, exercise, regular medical check-ups are possible answers.

Activity 3: Describe the effects that disease can have on body systems. Discuss diseases that are related to poor choices rather than heredity. Discuss diseases that are related to poor nutrition and lack of exercise. Explain the relationship between caloric intake and level of activity in weight management and describe safe methods of weight control. Interpret physical and mental consequences of a poorly balanced diet and explain how diet choices, based upon fads, may provide inadequate nourishment and cause health problems. Identify the role exercise, nutrition, hygiene, and relationships play in disease prevention and management.



Activity 4: Introduce the topic of diabetes (or another disease previously discussed by the class in this unit) as an inherited disease that can be moderated through personal choices. Provide specific definition and characteristics of diabetes. Explain the difference between Type 1 and Type 2 diabetes. Examine the effect of diabetes on body systems. Explain the relationship between caloric intake and level of activity in weight management and describe safe methods of weight control with regard to diabetes prevention and maintenance. Identify consequences of a poorly balanced diet and inadequate exercise. Explain how diet choices cause health problems regarding diabetes. Discuss the role of heredity related to diabetes. Identify the role of exercise in diabetes prevention and maintenance.

**5. Under teacher direction, students will practice and demonstrate their new learning and understanding of the topics outlined in #4.**

Activity 1: Students will complete all assignments and activities developed in Step 4.

Activity 2: Students will demonstrate knowledge and understanding of the concepts and skills through relevant standard materials including worksheets, text problems, workbooks, exercises, quizzes, and tests.

Activity 3: Provide hands on, multi-modal activities that allow students to test their knowledge of heredity, disease prevention and management, and laws that contribute to related policies. Divide class into groups and instruct them to design and make a Life® style board game that reflects the objective content. Provide time for students to create and then play the game with others in the class.

**6. Students will identify a need in their community and design service project(s) that utilize the knowledge and skills developed in #4 and #5.**

Activity 1: Students may identify a need in their community related to health and nutrition, heredity or disease prevention to design a service project that utilizes their knowledge and skills of the topics. For assistance in designing a service or action project refer to the resources listed at the end of this unit.

Activity 2: Students will organize a school wide “Weight Off/ Walk Off” program using materials from the National Diabetes Foundation.

Activity 3: Students will collect recipes for diabetic desserts and plan for appropriate and creative dissemination of the recipes for use in the community.

Activity 4: Students will organize a class fitness competition event using activities from the Oklahoma State Department of Education Lifetime Health and Fitness curriculum.

Activity 5: Students will plan and organize a Fitness Fair for elementary students using the 4-H Youth Development Program “Kicks 4 Kids” program.

Activity 6: Students will conduct Internet research on the effect diabetes has on different cultural groups (i.e. Native American, African American, etc.). Students will develop a multimedia presentation that reflects their research.



Activity 7: Students will locate, study, and analyze legislation and judicial rulings related to diabetes for a feature story for a special edition publication on community health and fitness.

Activity 8: Students will plan and organize a bicycle rodeo or other sporting event to promote the importance of exercise in disease prevention and management.

Activity 9: Students will plan, promote, and organize a Diabetes Expo for the community.

Activity 10: Students will plan and promote a “Schools Walk for Diabetes” campaign.

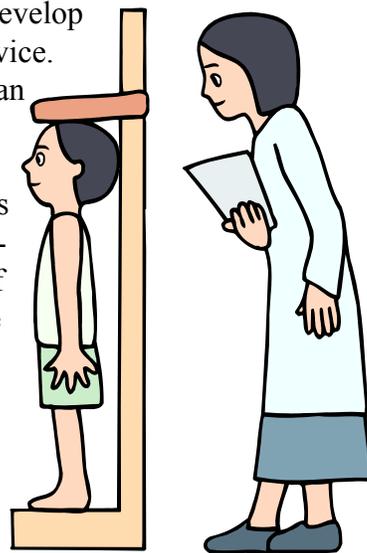
## **7. Students will refine their service project(s), and examine any public policies designed to address the community problem they have selected to address through their service project.**

Activity 1: Students will analyze and refine their project design and develop a rubric for assessing the personal and community impact of their service. In small groups, students will take turns leading a session that critiques an assignment or a solution to the community problem that they identify.

Activity 2: Students will explore the deeper civic and public meanings of their service and consider any formal or informal government agencies, non-profit organizations, or laws related to the causes or effects of the community need addressed in their project. Students will explore the role of community members from the government, business, media, and non-profits related to the issue. Students will examine possible policy options and evaluate the costs and benefits of each.

Activity 3: Students will write a paragraph, essay, or journal entry that reflects their understanding of the concept of similarities as it relates to disease prevention and health.

Activity 4: Students will develop a cause and effect chart related to the community need then discuss any questions raised by the chart relative to their own lives and the welfare of their community.



## **8. Students will implement the service project and share their accomplishments with the community.**

Activity 1: Students will implement their project(s).

Activity 2: Guide students to discuss what they learned through the service-learning project and to identify any personal or communal impact or change that occurred through the project. Teachers may use any number of reflection exercises, oral or written, formal or informal, to assist students in determining, discussing, and documenting the value of their experience.

Activity 3: Students will document their learning and their service in a reflective report or other manner appropriate for the public.

## INTERNET and OTHER RESOURCES

***For information about designing a service or action project:***

<http://www.crf-usa.org/act/act.html>

<http://www.crf-usa.org/cityyouth/cityyouth.html>

[http://www.projectwild.org/materials/taking\\_action.htm](http://www.projectwild.org/materials/taking_action.htm)

[http://www.civiced.org/project\\_citizen.php?link=curriculum](http://www.civiced.org/project_citizen.php?link=curriculum)

<http://www.cns.org>

***To learn more about diabetes:***

[www.diabetes.org](http://www.diabetes.org)

[www.novonordisk.com](http://www.novonordisk.com)

[www.health.discovery.com/centers/diabetes/diabetes.html](http://www.health.discovery.com/centers/diabetes/diabetes.html)

***United States Health and Human Services***

<http://www.hhs.gov/>

***Disease Prevention and Health Promotion***

<http://www.cdc.gov/mmwr/preview/mmwrhtml/00033729.htm>

***Steps to a Healthier US (Steps)*** — Steps is Secretary Thompson’s bold new initiative to advance the President’s Healthier US goal of helping Americans live longer, better, and healthier lives. It will identify and promote programs that foster healthy behaviors and prevention. Priority areas for the Steps initiative are diabetes, obesity, asthma, heart disease, stroke, and cancer; also included are poor nutrition, physical inactivity, tobacco use, and youth risk taking. Visit [www.healthierus.gov/steps](http://www.healthierus.gov/steps).

***Healthy People 2010*** — Healthy People 2010 presents a comprehensive set of disease prevention and health promotion objectives developed to improve the health of all people in the United States during the first decade of the 21st century. Visit <http://www.healthypeople.gov/>.

***Dietary Guidelines for Americans*** — Published jointly with the U.S. Department of Agriculture every 5 years since 1980, this publication is the statutorily mandated basis for Federal nutrition education activities. Visit <http://www.health.gov/dietaryguidelines/>.

***National Health Information Infrastructure (NHII)*** — The NHII encompasses information and communication technologies to advance personal health, population health, prevention, and health care. The goal is to ensure that all health decision makers, including consumers and patients, have the information they need, when and where they need it. The NHII provides the framework for public and private policies and programs. Visit <http://ncvhs.hhs.gov/nhiilayo.pdf>.

The ***President’s Challenge*** is a program that encourages all Americans to make being active part of their everyday lives. No matter what your activity and fitness level, the President’s Challenge can help motivate you to improve. Visit <http://www.presidentschallenge.org/>.

***Interactive games and activities for heredity and genetics***

[http://www.svsu.edu/mathsci-center/mLS\\_Heredity.htm](http://www.svsu.edu/mathsci-center/mLS_Heredity.htm)

***Lesson Plans about heredity***

<http://sciconn.mcb.arizona.edu/heredity/heredity.html>