

# Indiana Academic Standards

Grades 7, 8 and 9-12

## **Health Education: Grade 7**

### **Standard 1:**

*Students develop knowledge of the importance of assuming personal responsibility for health behaviors, the relationship between health behaviors and health, interrelationships between the dimensions of health, interrelationships between health behaviors and the functioning body systems and health, the influence of external factors on health, causes of disease, ways to prevent injury and illness among adolescents, the role of appropriate health care, and key health terms and concepts*

7.1.1 Explain the importance of assuming responsibility for personal health behaviors.

7.1.4 Explain the interrelationships between behaviors, the functioning of body systems, and overall health.

7.1.8 Describe how pathogens, family history, and other risk factors are related to the cause or prevention of disease and other health problems.

7.1.9 Explain key health terms and concepts.

### **Standard 7:**

*Students will analyze ways to communicate accurate health information and ideas. Students will also develop skills to express information and opinions about health issues and work cooperatively to influence and support others to engage in healthy behaviors.*

7.7.1 Analyze various communication methods to accurately express health information and ideas.

7.7.2 Demonstrate the ability to express information and opinions about health issues.

7.7.3 Demonstrate the ability to influence and support others in making positive health choices.

## **Science: Grade 7**

### **Standard 4: The Living Environment**

*Students begin to trace the flow of matter and energy through ecosystems. They recognize the fundamental difference between plants and animals and understand its basis at the cellular level. Students distinguish species, particularly through an examination of internal structures and functions. They use microscopes to observe cells and recognize that cells function in similar ways in all organisms.*

7.4.14 Explain that the environment may contain dangerous levels of substances that are harmful to human beings. Understand, therefore, that the good health of individuals requires monitoring the soil, air, and water as well as taking steps to keep them safe.

## **Health Education: Grade 8**

**Students will comprehend concepts related to health promotion and disease prevention.**

### **Standard 1**

*Students will develop skills to analyze the validity of health information, products, and services; use sources of valid health information; explain how media influences the selection of health information, products, and services; locate health products and services; compare health products; and develop guidelines for the use of professional health services.*

8.1.1 Explain the importance of assuming responsibility for personal health behaviors.

8.1.8 Describe how pathogens, family history, and other risk factors are related to the cause or prevention of disease and other health problems.

8.1.9 Explain key health terms and concepts.

## **Science: Grade 8**

### **Standard 2: Scientific Thinking**

*Students use computers to organize and compare information. They perform calculations and determine the appropriate units for the answers. They weigh the evidence for or against an argument, as well as the logic of the conclusions.*

8.2.8

Use tables, charts, and graphs in making arguments and claims in, for example, oral and written presentations about lab or fieldwork.

#### **Standard 4: The Living Environment**

*Students trace the flow of matter and energy through ecosystems. They understand that the total amount of matter remains constant and that almost all food energy has its origin in sunlight.*

8.4.8

Describe how environmental conditions affect the survival of individual organisms and how entire species may prosper in spite of the poor survivability or bad fortune of individuals

### **Health, Grades 9-12 Basic:**

#### **Standard 1**

*Students develop advanced knowledge of personal responsibility for health behaviors, the relationship between health behaviors and health promotion and disease prevention, interrelationships between the dimensions of health, interrelationships between health behaviors and the functioning body systems and health, the influence of external factors on health, ways to prevent injury and illness throughout the life span, advances in medicine and the prevention and control of health problems, and complex health terms and concepts.*

9.1.1 Analyzes the role of individual responsibility for enhancing health.

9.1.2 Analyze how behavior can impact health maintenance and disease prevention.

9.1.5 Analyze how environment influences personal and community health.

9.1.6 Describe how to delay the onset of and reduce risks related to potential health problems during adulthood.

#### **Standard 7**

*Students will evaluate ways to communicate accurate health information and ideas. Students will also develop advanced skills to express information and opinions about health issues, use strategies to overcome barriers to advocating about health, and work cooperatively to influence and support others to engage in healthy behaviors.*

9.7.5 Demonstrate the ability to work cooperatively when advocating for healthy families, schools, and communities.

## **Health, Grades 9-12 Advanced:**

### **Standard 1**

*Students will develop sophisticated knowledge of personal responsibility for health, the relationship between health behaviors and health promotion and disease prevention, interrelationships between the dimensions of health (mental, emotional, social, and physical) throughout life, the influence of external factors on health and growth and development, ways to prevent injury and illness throughout the life span, care by families for the very young and the very old, worldwide health issues, and complex health terms and concepts.*

10.1.2 Analyze how behavior can impact health maintenance and disease prevention.

10.1.6 Describe how to delay onset of and reduce risks related to potential health problems throughout the life span.

10.7.1 Research and evaluate the effectiveness of communication methods for accurately expressing health information and ideas.

## **High School Science: Grades 9-12**

### **Biology 1:**

#### **Standard 1: Principles of Biology**

*Students work with the concepts, principles, and theories that enable them to understand the living environment. They recognize that living organisms are made of cells or cell products that consist of the same components as all other matter, involve the same kinds of transformations of energy, and move using the same kinds of basic forces. Students investigate, through laboratories and fieldwork, how living things function and how they interact with one another and their environment.*

#### **Genetics:**

##### **B.1.24**

Explain that gene mutations can be caused by such things as radiation and chemicals. Understand that when they occur in sex cells, the mutations can be passed on to offspring; if they occur in other cells, they can be passed on to descendant cells only.

**B.1.25**

Explain that gene mutation in a cell can result in uncontrolled cell division, called cancer. Also know that exposure of cells to certain chemicals and radiation increases mutations and thus increases the chance of cancer.

**Ecology:****B.1.37**

Explain that the amount of life any environment can support is limited by the available energy, water, oxygen, and minerals, and by the ability of ecosystems to recycle the residue of dead organic materials. Recognize, therefore, that human activities and technology can change the flow and reduce the fertility of the land.

**B.1.43**

Understand that and describe how organisms are influenced by a particular combination of living and nonliving components of the environment.

**B.1.45**

Recognize that and describe how the physical or chemical environment may influence the rate, extent, and nature of the way organisms develop within ecosystems

**Environmental Science, Advanced:****Standard 1: Principles of Environmental Science**

*Students investigate, through laboratory and fieldwork, the concepts of environmental systems, populations, natural resources, and environmental hazards.*

ENV.1.4 Understand and explain that human beings are part of Earth's ecosystems and give examples of how human activities can, deliberately or inadvertently, alter ecosystems.

ENV.1.10 Identify and measure biological, chemical, and physical factors within an ecosystem.

ENV.1.29 Recognize and describe important environmental legislation, such as the Clean Air Act and the Clean Water Act.

ENV.1.34 Differentiate between natural pollution and pollution caused by humans and give examples of each.

ENV.1.35 Compare and contrast the beneficial and harmful effects of an environmental stressor, such as herbicides and pesticides, on plants and animals. Give examples of secondary effects on other environmental components.

