

Chapter 112: Science

Subchapter B: Middle School Science

§112.19 Grade 7 Knowledge and Skills

b.3 Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to examine models of the human body systems; and, identify advantages and limitations of the models.

b.11 Organisms and environments. The student knows that populations and species demonstrate variation and inherit many of their unique traits through gradual processes over many generations. The student is expected to examine organisms or their structures for identification; and, explain variation within a population or species by comparing external features, or physiology of organisms that enhance their survival.

b.12 Organisms and environments. The student knows that living systems at all levels of organization demonstrate the complementary nature of structure and function. The student is expected to identify the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, excretory, reproductive, integumentary, nervous, and endocrine systems;

b.14 Organisms and environments. The student knows that reproduction is a characteristic of living organisms and that the instructions for traits are governed in the genetic material. The student is expected to compare the results of uniform or diverse offspring from sexual reproduction.

§112.20 Grade 8 Knowledge and Skills

b.3 Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to examine models of the human body systems; and, identify advantages and limitations of the models.

Subchapter C: High School Science

§112.34 Biology Knowledge and Skills

c.3 Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to apply scientific information extracted from various sources such as field trips; and evaluate models according to their limitations in representing biological objects.

c.4 Science concepts. The student knows that cells are the basic structures of all living things with specialized parts that perform specific functions and are different from cells. The

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student is expected to investigate cellular processes; and compare the structures of viruses to cells, describe viral reproduction, and describe the role of viruses in causing diseases.

c.5 Science concepts. The student knows how an organism grows and the importance of cell differentiation. The student is expected to examine specialized cells; and recognize that disruptions of the cell cycle lead to diseases such as cancer.

c.10 Science concepts. The student knows that biological systems are composed of multiple levels. The student is expected to describe the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in humans; and analyze the levels of organization in biological systems and relate the levels to each other and to the whole system.

Subchapter D: Other Science Courses

§112.62. Advanced Placement (AP) Biology

§112.67. International Baccalaureate Biology (IB)

Chapter 115: Health Education

Subchapter B: Middle School Health Education

§115.22 Grade 6 Knowledge and Skills

b.1 Health information. The student comprehends ways to enhance and maintain personal health throughout the life span. The student is expected to analyze healthy and unhealthy dietary practices; explain the importance of a personal dietary and exercise plan; and compare immediate and long-range effects of personal health care choices.

b.2 Health information. The student recognizes ways that body structure and function relate to personal health throughout the life span. The student is expected to analyze the relationships among the body systems; describe changes in male and female anatomy and physiology during puberty; and describe menstrual health and identify the relationship to reproduction.

b.3 Health information. The student comprehends and utilizes concepts relating to health promotion and disease prevention. The student is expected to compare healthy cell growth to cell growth in the disease process.

§115.23 Grades 7 and 8 Knowledge and Skills

b.1 Health information. The student comprehends ways to enhance and maintain personal health throughout the life span. The student is expected to analyze the interrelationships of physical, mental, and social health; describe the life cycle of human beings including birth, dying, and death.

b.2 Health information. The student recognizes ways that body structure and function relate to personal health throughout the life span. The student is expected to explain how differences in growth patterns among adolescents such as onset of puberty may affect personal health; describe the influence of the endocrine system on growth and development; compare and contrast changes in males and females;

b.3 Health information. The student comprehends and utilizes concepts relating to health promotion and disease prevention throughout the life span. The student is expected to explain the role of preventive health measures in disease prevention; distinguish risk factors associated with communicable and non-communicable diseases.

b.5 Health behaviors. The student engages in behaviors that reduce health risks throughout the life span. The student is expected to see and understand the impact of chemical dependency and addiction to tobacco, alcohol, drugs and other substances; and relate medicine and other drug use to communicable disease, prenatal health, health problems in later life, and other adverse consequences;

Subchapter C: High School Health Education

§115.32 Grades 9 and 10 Knowledge and Skills

b.1 Health information. The student analyzes health information and applies strategies for enhancing and maintaining personal health throughout the life span. The student is expected to examine the relationship among body composition, diet, and fitness; explain the relationship between nutrition, quality of life, and disease; discuss health-related social issues such as organ donation; describe the importance of taking responsibility for establishing and implementing health maintenance for individuals and family members of all ages.

b.3 Health information. The student recognizes the importance and significance of the reproductive process as it relates to the health of future generations. The student is expected to see fetal development from conception through pregnancy and birth; analyze the harmful effects of certain substances on the fetus.

b.6 Health behaviors. The student assesses the relationship between body structure and function and personal health throughout the life span. The student is expected to see the effects of health behaviors on body systems; and appraise the significance of body changes occurring during adolescence.

b.7 Health behaviors. The student analyzes the relationship between unsafe behaviors and personal health and develops strategies to promote resiliency throughout the life span. The student is expected to see the harmful effects of alcohol, tobacco, drugs, and other substances;

§115.33 Advanced Health, Grades 11 and 12

b.3 Health information. The student investigates the importance and significance of the reproductive process as it relates to the health of future generations. The student is expected to analyze problems during various stages of fetal development; describe the harmful effects of certain substances on the fetus.

Chapter 116: Physical Education

Subchapter B: Middle School Physical Education

§116.21 Grades 6 through 8 Knowledge and Skills

a.2 In Grades 6-8, students understand in greater detail the function of the body.

Subchapter C: High School Physical Education

§116.52 Foundation of Personal Fitness, Grades 9 through 12

b.1 In Physical Education, students acquire the knowledge and skills for movement.

c.4 Physical activity and health. Fitness principles during a personal fitness program. The student is expected to learn the relationship between physical fitness and health; and understand the skill-related components of physical fitness such as agility, balance, coordination, and power.

c.5 Physical activity and health. The student comprehends practices that impact daily performance, physical activity, and health. The student is expected to investigate positive and negative attitudes towards exercise and physical activities; analyze the relationship between sound nutritional practices and physical activity; and identify changeable risk factors such as inactivity, smoking, nutrition, and stress that affect physical activity and health.