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| |  | | --- | | https://peer.tamu.edu/curriculum_modules/Water_Quality/images/teach.jpg |  |  |  | | --- | --- | | **TEKS for Middle School Science and High School Biology** | **How the TEKS are Integrated into the Lesson** | | **6.1A, 7.1A, 8.1A, B.1A** Demonstrate safe practices during laboratory and field investigations as outlined in Texas Education Agency approved safety standards | During the **Activities,** students will be required to use safe practices. | | **6.1B, 7.1B, 8.1B, B.1B** Practice appropriate use and conservation of resources, including disposal, reuse, or recycling of materials | During the **Activities,** students will practice appropriate use and conservation of resources. | | **6.2A, 7.2A, 8.2A, B.2E** Plan and implement comparative and descriptive investigations by making observations, asking well defined questions, and using appropriate equipment and technology | During the **Activities,** students will implement comparative and descriptive investigations. | | **6.2C, 7.2C, 8.2C, B.2F** Collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | During the **Activities,** students will collect and record data. | | **6.2E, 7.2E, 8.2E, B.2G** Analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends | During the **Activities,** students will analyze data. | | **6.3A, 7.3A, 8.3A** Analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, so as to encourage critical thinking by the student. | In the **How We Find Out** section of this unit**,**students will learn scientific explanations including the hypotheses, quoted along with examples. They will be asked to analyze and evaluate those explanations by the use of questions embedded in the unit. | | **6.3D, 7.3D, 8.3D, B.3D, B.3F** Relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content | Throughout the unit and in the **Story Time** section, the history of science and contributions of scientists as related to the content is presented. | | **6.4A,B, 7.4A,B, 8.4A,B, B.2F** The student knows how to use a variety of tools. The student will use preventative safety equipment. | Throughout the **Activities,** students will use laboratory tools and safety equipment as needed. | | **6.12 A U**nderstand that all organisms are composed of one or more cells | Throughout the lesson, various specialized cells are presented along with their structure and function. | | **7.12 B I**dentify the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, excretory, reproductive, integumentary, nervous, and endocrine systems | This unit describes the process of detoxification. It covers the structure and function of the liver, kidneys, lungs, skin, and digestive system as they relate to detoxification. | | **7.12 C R**ecognize levels of organization in plants and animals, including cells, tissues, organs, organ systems, and organisms | This unit describes the process of detoxification including the levels of organization of several body systems. It covers the structure and function of the liver, kidneys, lungs, skin, and digestive system as they relate to detoxification. | | **7.13 B D**escribe and relate responses in organisms that may result from internal stimuli such as wilting in plants and fever or vomiting in animals that allow them to maintain balance | This unit describes the process of detoxification, which is largely based on responses to internal stimuli. | | **B.10A** Describe the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals | This unit describes how the body detoxifies itself and how that defends itself from illness. In the Common Hazards section, it also discusses common illnesses and exposure to heavy metals, and their prevention and treatment. | | **B.11A S**ummarize the role of microorganisms in both maintaining and disrupting the health of both organisms and ecosystems | In the **Common Hazards** section, hepatitis is presented and the disease-causing agents that cause it are discussed. The mechanism for infection and treatment are discussed as well. |  |  |  | | --- | --- | | **Next Generation Science Standards**  **Disciplinary Core Ideas** | **How the NGSS are Integrated** **into the Lesson** | | **MS-LS1.A:** **Structure and Function**  **MS-LS1-3** In multicellular organisms, the body is a system of multiple interacting subsystems. These subsystems are groups of cells that work together to form tissues and organs that are specialized for particular body functions. | This unit describes the process of detoxification. It covers the structure and function of several body organs and systems. Types of specialized cells are presented and their function as it relates to detoxification is discussed. | | **HS-LS1.A:** **Structure and Function**  **HS-LS1-1** Systems of specialized cells within organisms help them perform the essential functions of life.  **HS-LS1-2** Multicellular organisms have a hierarchical structural organization, in which any one system is made up of numerous parts and is itself a component of the next level. | This unit describes the process of detoxification. It covers the structure and function of several body organs and systems. Types of specialized cells are presented and their function as it relates to detoxification is discussed. | |