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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 gas exchange. It covers the structure and function of the respiratory and circulatory systems. | | **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 gas exchange including the levels of organization of the respiratory and circulatory systems. It covers the structure and function both of these systems including cells, tissues, and organs. | | **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 gas exchange. It describes changes in blood flow and blood pressure due to internal stimuli. | | **B.10C** Analyze the levels of organization in biological systems and relate the levels to each other and to the whole system | This unit describes how the body exchanges gases and transports those gases to other parts of the body. This looks at two organ systems and relates them the to function of the entire human organism. It also discusses the individual organs (lungs, heart, blood vessels) and relates their function to their respective organ system. |  |  |  | | --- | --- | | **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 gas exchange. 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 gas exchange are 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 gas exchange. 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 gas exchange are discussed. | |