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| **Life Science: Animals Two by Two** | | |
| **Content Area: Science** | | |
| **Unit Title:** Life Science – Animals Two by Two | | |
| **Target Course/Grade Level: Kindergarten** | | |
| **Unit Summary**  The Animals Two by Two Module provides early-childhood students with close and personal interaction with some common land and water animals. Students observe and describe the structures of fish, birds, snails, earthworms, and isopods. | | |
| **Primary interdisciplinary connections:**  **ELA/Literacy**  RF 2: Demonstrate understanding of spoken words, syllables, and sounds.  RI 1: Ask and answer questions about key details.  RI 2: Identify main topic and retell key details.  RI 3: Describe the connection between two ideas.  RI 4:Ask and answer questions about unknown  words.  RI 7: Describe the relationship between  illustrations and the text.  RI 8: Identify the reasons an author gives to support points.  RI 9: Identify similarities in and differences  between two texts on the same topic.  RI 10: Actively engage in group reading activities  with purpose and understanding.  W 2: Write informative/explanatory text.  W 5: Strengthen writing.  W 8: Gather information to answer a question.  SL 1: Participate in collaborative conversations.  SL 2: Ask and answer questions about key details  and request clarification.  SL 3: Ask and answer questions to seek help,  information, or to clarify.  SL 4: Describe with details  SL 6: Speak audibly, express clearly.  L 1: Use question words; expand complete  sentences in shared language activities.  L 5a: Sort objects into categories.  RL 2: Retell stories, including key details.  **Math**  Reason abstractly and quantitatively. (K-ESS2-1),(K-2-ETS1-1) MP.2  Model with mathematics. (K-ESS2-1),(K-ESS3-2),(K-2-ETS1-1) MP.4  Use appropriate tools strategically. (K-2-ETS1-1) MP.5  Counting and Cardinality (K-ESS3-2) K.CC  Know number names and the count sequence. (K-ESS2-1) K.CC.A  Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. (K-ESS2-1) K.MD.A.1  Classify objects into given categories; count the number of objects in each category and sort the categories by count. (K-ESS2-1) K.MD.B.3  Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. (K-2-ETS1-1) 2.MD.D.10 | | |
| **21st century themes:**  Digital media will be used incorporated in project presentations. This module will develop students’ abilities to do and understand scientific inquiry. Students will identify questions, design and conduct scientific investigations to answer those questions, employ tools to gather, analyze, and interpret data. They will use data to construct reasonable explanations, develop and communicate investigations and evidence and understand that scientists use different kinds of investigations and tools to develop explanations using evidence and knowledge. This module will develop and extend students’ understandings about science and technology. Students will work collaboratively in teams and use tools and scientific techniques to make better observations. | | |
| **Unit Rationale**  Appropriate classroom habitats are established, and students learn to care for the animals. In four investigations, animals are studied in pairs. Students observe and care for one animal over time, and then they are introduced to another animal similar to the first but with differences in structure and behavior.  Students learn what animals need to survive and the relationship between their needs and where they live. The firsthand experiences are enriched with close-up photos of animals, some related to animals that students have observed in class and some to animals that are new. This process enhances observation, communication, and comparison. | | |
| **Learning Targets** | | |
| **Disciplinary Core Ideas:**  **LS1.A: Structure and function All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. (from Grade 1)  LS1.C: Organization for matter and energy flow in organisms All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow.**  **ESS2.E: Biogeology Plants and animals can change their environment.  ESS3.A: Natural resources Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do.** | | |
| **PE #** | **Performance Expectations** | |
| **K-LS1-1** | **Use observations to describe patterns of what plants and animals (including humans) need to survive.** | |
| **K-ESS2-2** | **Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.** | |
| **K-ESS3-1** | **Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.** | |
| **Unit Essential Questions**   * What structures help organism live and grow? * What do animals need to live? * How to organisms differ? | | **Unit Enduring Understandings**  **Goldfish and Guppies**   * Fish are animals and have basic needs. * Fish have structures that help them live and grow. Different kinds of fish have similar but different structures and behaviors. * Birds are animals that have basic needs. * Different kinds of birds have similar but different structures and behaviors.   **Water and Land Snails**   * Different kinds of snails have some structures and behaviors that are the same and some that are different. * Snails are animals and have basic needs—water, air, food, and space with shelter. * There is great diversity among snails. * Shells differ in size, shape, pattern, and texture. * Snails have senses.   **Big and Little Worms**   * Worms are animals and have basic needs. * Worms have identifiable structures. * Different kinds of worms have similar structures and behaviors; they also have differences (size, color). * Worm behavior is influenced by conditions in the environment. * Worms change plant material into soil.   **Bugs and Sow Bugs**   * Isopods are animals and have basic needs—water, air, food, and space with shelter. * Different kinds of isopods have some structures and behaviors that are the same and some that are different. * There is great diversity among isopods. * Isopod behavior is influenced by conditions in the environment. |
| **Unit Learning Targets**  *Students will ...*  engage in science and engineering practices by asking questions, participating in collaborative investigations, observing, recording, and interpreting data to build explanations, and obtaining information from photographs. Students gain experiences that will contribute to an understanding of the crosscutting concepts of patterns; cause and effect; systems and system models; and structure and function. | | |
| **Evidence of Learning** | | |
| **Embedded Assessments:**   * **Response Sheets** * **Performance Assessments** * **Science Notebook Entries**   **Benchmark Assessments:**   * **Investigation I-Checks** * **Surveys** | | |
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