**Barataria-Terrebonne Estuary Bird Curriculum**

**Lesson Correlations to the**

**Louisiana Student Standards for Science (LSSS, 2017)**

**Louisiana Student Standards for Math (LSSM, 2016)**

**Louisiana Student Standards for Social Studies (LSSSS, 2011)**

**All standards can be found at** [**https://www.louisianabelieves.com/resources/library/academic-standards**](https://www.louisianabelieves.com/resources/library/academic-standards)

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| **1** | **Eagle Nests and Eggs** |
| LSSS | 1-LS1-2 Read grade-appropriate texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.  1-LA3-1 Make observations to construct an evidence-based account that young plants and animals are similar, but not exactly like, their parents. |
| LSSM | K.MD.A.2 Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference.  K.MD.B.3 Classify objects into given categories based on their attributes; count the numbers of objects in each category and sort the categories by count |
| **2** | **What’s for Lunch? The Swallow-tailed Kite’s diet** |
| LSSS | K-LS1-1 Use observations to describe patterns of what plants & animals (including humans) need to survive. |
| LSSM | 1.MD.C.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.  2.MD.D.10 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.  3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.* |
| **3** | **Wood Duck Houses** |
| LSSS | K-LS1-1 Use observations to describe patterns of what plants & animals (including humans) need to survive.  1-LS1-2 Read grade-appropriate texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.  1-LA3-1 Make observations to construct an evidence-based account that young plants and animals are similar, but not exactly like, their parents. |
| LSSM | none |
| **4** | **Bird Families: Baby Birds and Their Parents** |
| LSSS | 1-LA3-1 Make observations to construct an evidence-based account that young plants and animals are similar, but not exactly like, their parents. |
| LSSM | none |
| **5** | **Wingspans: How Big is an Eagle?** |
| LSSS | none |
| LSSM | 2.MD.A.1 Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.  2.MD.A.4 Measure to determine how much longer one object is than another, expressing the difference in a standard length unit.  2.MD.D.10 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. |
| **6** | **Hummer Heartbeats** |
| LSSS | 4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. |
| LSSM | 3.MD.B.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.  3.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. |
| **7** | **Homeward Bound** |
| LSSS | 3-LS4-4 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.  4-LS1-2 Construct an explanation to describe how animals receive different types of information through their senses, process the information in their brains, and respond to the information in different ways.  5-ESS3-1 Generate and compare multiple solutions about ways individual communities can use science to protect the Earth’s resources and environment.  6-MS-LS2-1 Analyze and interpret data to provide evidence for the effects of re  7-MS-LS2-4 Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations. |
| LSSM | none |
| **8** | **Who Lives Here?** |
| LSSS | 3-LS4-3 Construct and support an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all. (5:GLE29)  4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. **(4:GLE41)** |
| LSSM | none |
| **9** | **At the Top: A Look at the Bald Eagle’s diet** |
| LSSS | 4-LS1-2 Construct an explanation to describe how animals receive different types of information through their senses, process the information in their brains, and respond to the information in different ways.  5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.  6-MS-LS2-2 Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems. |
| LSSM | 7.SP.A.1 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.  7.SP.A.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. |
| **10** | **American Robin Migration** |
| LSSS | 6-MS-LS2-2 Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.  HS-LS2-1 Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity, biodiversity and populations of ecosystems at different scales. |
| LSSM | none |
| LSSSS | 8.3.2 Use maps, charts, and diagrams to ask and answer questions about Louisiana’s geographic features  8.3.3 Apply knowledge of geography skills and terms to:  • create maps and diagrams  • plot latitude and longitudinal coordinates  • read and interpret a map  8.5.1 Describe how natural phenomena impact the physical environment of Louisiana |
| **11** | **LA Wader Jeop-birdy** |
| LSSS | none |
| LSSM | none |
| **12** | **Songbird Migration** |
| LSSS | 3-LS1-1 Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.  HS-EVS1-1 Analyze and interpret data to identify the factors that affect sustainable development and natural resource management in Louisiana.  HS-EVS2-3 Use multiple lines of evidence to construct an argument addressing the negative impacts that introduced organisms have on Louisiana’s native species. |
| LSSM | 6.NS.B.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.  6.RP.A.3.b Solve unit rate problems including those involving unit pricing and constant speed. |
| LSSSS  (HS Geography) | WG.1.2 Explain Earth’s grid system, using latitude and longitude to locate key places and to answer geographic questions about that place  WG.6.1 Describe technological advances that have allowed humans to modify the environment and analyze the impact of these advances on the environment |
| **13** | **Operation Eagle** |
| LSSS | HS-LS2-6 Evaluate the claims, evidence and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.  HS-LS2-7 Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.  HS-EVS2-2 Use a model to predict the effects that pollution as a limiting factor has on an organism’s population density.  HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on natural systems. |
| LSSM | none |
| LSSSS  (HS Geography) | WG.1.2 Explain Earth’s grid system, using latitude and longitude to locate key places and to answer geographic questions about that place  WG.6.1 Describe technological advances that have allowed humans to modify the environment and analyze the impact of these advances on the environment  WG.6.4 Assess the role of government and business in preserving or consuming natural resources and protecting or destroying the physical environment |
| **14** | **Google Mapping Bird Migration** |
| LSSS | none |
| LSSM | none |
| LSSSS  (HS Geography) | WG.1.2 Explain Earth’s grid system, using latitude and longitude to locate key places and to answer geographic questions about that place  WG.6.1 Describe technological advances that have allowed humans to modify the environment and analyze the impact of these advances on the environment |
| **15** | **Climate Change and Birds** |
| LSSS | HS-LS2-1 Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity, biodiversity and populations of ecosystems at different scales.  HS-LS2-6 Evaluate the claims, evidence and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.  HS-LS4-2 Construct an explanation based on evidence that biological diversity is influenced by (1) the potential for a species to increase in number, (2) the heritable genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the environment.  HS-LS4-5 Evaluate evidence supporting claims that changes in environmental conditions can affect the distribution of traits in a population causing: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.  HS-ESS3-5 Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.  HS-ESS3-6 Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity. |
| LSSM | none |
| **16** | **Birdwatching with Radar** |
| LSSS | 8-MS-LS1-4 Construct and use argument(s) based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of survival and successful reproduction of animals and plants respectively. |
| LSSM | none |
| **17** | **The Eagle Soars Again** |
| LSSS | HS-EVS1-3 Analyze and interpret data about the consequences of environmental decisions to determine the risk-benefit values of actions and practices implemented for selected issues.  HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.  HS-LS2-1 Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity, biodiversity and populations of ecosystems at different scales.  HS-LS2-6 Evaluate the claims, evidence and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.  HS-LS2-7 Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity. |
| LSSM | 6.SP.B.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots. |
| **18** | **Humming Along** |
| LSSS | none |
| LSSM | none |
| **19** | **What’s in the Food Chain** |
| LSSS | 6-MS-LS2-3 Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.  8-MS-ESS3-3 Apply scientific principles to design a method for monitoring and minimizing human impact on the environment.  HS-LS2-4 Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.  HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.  HS-EVS2-2 Use a model to predict the effects that pollution as a limiting factor has on an organism’s population density. |
| LSSM | none |
| **20** | **The Cowbird** |
| LSSS | HS-LS2-7 Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.  HS-EVS2-3 Use multiple lines of evidence to construct an argument addressing the negative impacts that introduced organisms have on Louisiana’s native species. |
| LSSM | none |