

Alligator Egg Hunt Activity



4th & 5th Grade
Curriculum

Reading Exercise
Background Material
Alligator Egg Collection

Alligators used to be an endangered species, but now alligators are a thriving species in Louisiana. The alligator population has increased from less than 100,000 to around 2 million in the past 30 years. When alligators were listed as endangered, the government stopped all alligator hunting, allowing the wild population to stabilize. During this time, scientists studied alligator biology to determine the ideal conditions to breed, hatch and raise alligators. After the wild alligator population was stable, controlled hunting was allowed in certain areas of high alligator population and an alligator ranching program was developed. This ranching program provides economic incentive to the landowners to protect the alligator's habitat.

In July and August, landowners and ranchers pick up alligator eggs out of the nests in the marsh. These alligators are hatched on ranches. On the ranches, they are raised under ideal conditions, so that they grow faster (4 feet in 12-18 months) than they do in the wild (4 feet in 4 to 5 years). Every year, the ranchers return 14% of their healthy, four foot plus alligators to the wild. Only 10-20% of the wild alligators ever reach 4 feet in the wild, because birds, snakes, raccoons, and other wetland animals like to eat them when they're small. So, the ranchers are returning alligators, which are too large to be prey to birds and raccoons.



Ranchers or landowners fly over the marshes in a helicopter to look for the nests. When they find one, they throw a pole down, so that they can spot it later from an airboat. They also mark the spot, where they saw the nest, on the map. Then they go out in airboats to collect the eggs. The man pictured on the left is studying the map. Then he spots the pole on the right.





Here, the egg collector has just found a nest. He will open the nest and then mark each egg with a magic marker across the top. Because of the way the baby alligator's placenta attaches to the egg, if the egg is rolled over the alligator will drown in the egg. So, the eggs are marked carefully and then set gently into a bucket and covered with grass.

After the eggs are collected, the ranchers buy the eggs from the landowners. The landowners use money, that they get from selling the eggs, to protect the wetlands. The wetlands have been eroding, and seawater has been seeping in. Much of the wildlife living in the wetlands, including alligators, cannot live there if the water is too salty. So the landowners build land barriers between the wetlands and the sea and plant grasses to protect the area from erosion and saltwater.

The Louisiana Department of Wildlife and Fisheries determines the number of alligators that ranchers must returned to the wild each year. It also controls the number of alligators allowed to be hunted and in which areas hunting is allowed. The Department believes that the alligator hunting and ranching programs are a model of wise environmental management and are supported by extensive scientific data. It also believes that the utilization of this renewable natural resource helps maintain Louisiana's cultural heritage.

Questions

1. What is the main idea in the reading passage above?

2. Put the following events in the correct order.

- Scientists study alligators.
- Government started an alligator ranching program.
- Alligators determined to be endangered.
- Alligators determined to no longer be endangered.
- Government banned alligator hunting.
- Government allowed alligator hunting.

3. Order the steps of alligator ranching.

Ranchers return 14% of their healthy alligators to the wild.

Ranchers buy alligator eggs from land owners.

Ranchers mark the alligator nests coordinates on a map.

Landowners use the money from egg sales to build land barriers.

Ranchers go by airboat to collect alligator eggs.

Ranchers fly over the marsh in helicopters to spot alligator nests.

Alligator eggs are hatched on the ranches.

4. What is the author's purpose for writing this passage?

5. Identify the things below as natural resources, human resources or capital resources.

Airboat

Helicopter

Rancher

Marsh

Scientist

Alligator

6. Name an economic activity mentioned in the passage above related to one of Louisiana's natural resources.

7. Describe an ecosystem important to maintaining an alligator industry.

8. Which government agency works with alligator ranchers to answer the four basic questions all producers must answer? (What will be produced? How will it be produced? For whom will it be produced? How much will be produced?) Which of the four basic questions does the government have the most control over? Which does the government have the least control over?

9. What is the economic benefit to increasing scientific knowledge about alligator biology?

10. What size of alligator is a common prey?

11. Name two predators that feed on small alligators.

12. Predict possible outcomes for the following scenarios.

- a. Ranchers no longer buy alligator eggs from landowners.
- b. The government does not control the number of alligators hunted.
- c. Ranchers are not required to return any alligators to the wild.

13. How does the marsh ecosystem change when the salt content of the water increases?

14. Name a possible concern of removing small alligators from the wild.

15. Has the removal of small alligators from the food web had a significant effect on the population of birds, raccoons, snakes and other predators?

Alligator Egg Hunt

Teachers:

- Hide nests of eggs on the school grounds.
- Draw a map of the area.
- Have half of the students play the role of the helicopter pilots. They should locate the eggs and draw the location on the map.
- Have the other half of the students play the role of the air boat operators and collect the eggs, using group one's map.
- Bring the students together to "hatch" the eggs. What percentage hatched? (85%-88% is typical statewide)
- Have the students determine the number of alligators they will have to return to the wild. (14% **of the hatched alligators** is the actual amount required by Louisiana law. You may opt to round down to 10% for an easier math exercise).
- Have the students create a pie chart showing the number of eggs collected. Use the following categories to divide the chart.

Number (or percentage) of empty eggs

Number (or percentage) of alligators kept by the ranchers

Number (or percentage) of alligators returned to the wild

Corresponding Curriculum

Grade 4 English Language Arts Unit 4: Information Detectives

Time Frame: Approximately four weeks

This unit focuses on locating, gathering, and interpreting information from a variety of sources. Teachers guide students in choosing a topic and appropriate resources to complete a research project. They assist students in reading, interpreting, and organizing information from timelines, tables, graphs, charts, and maps. Through a series of mini-lessons, teachers assist students in developing the necessary skills for each step of project development.

Student Understandings

Students gather, interpret, and organize information from a variety of media, reference, and technological sources. They develop skill in evaluating information, taking notes, and writing citations for references used. Students organize information and use available technology to publish and present their projects to the class.

Guiding Questions

1. Can students determine which resources are appropriate for a specific purpose?
2. Can students locate, read, and interpret information on timelines, charts, graphs, diagrams, schedules, tables, and maps?
3. Can students paraphrase information and take notes from multiple sources?
4. Can students produce a bibliography?
5. Can students use available technology to publish a variety of works?

Grade Level Expectations

- 14a. Demonstrate understanding of information in grade-appropriate texts by sequencing events and steps in a process (ELA-7-E1)
- 14f. Demonstrate understanding of information in grade-appropriate texts by identifying stated main ideas and supporting details (ELA-7-E1)

Grade 5
English Language Arts
Unit 1: Informational Articles/Reports

Time Frame: Approximately five weeks

This unit emphasizes reading strategies for gathering information from nonfiction articles and reports. The characteristics of high-quality informational texts are identified, and the activities focus on the different styles and ways of organizing texts used for different subjects. Writing and presenting an article and a report provide opportunities for editing and analysis of form. Vocabulary development and grammar instruction occur within the context of the selections.

Student Understandings

Informational texts provide factual information that assists with everything from being an informed consumer and citizen to providing pleasurable reading on a wide variety of topics. The primary purpose of informational texts is to communicate information, and the reader uses the text's organization, language, and visual features to derive meaning.

Guiding Questions

1. Can students identify the characteristics of articles and reports that are appropriate for various audiences?
2. Can students effectively integrate technology, accessing information on the Internet and using other informational resources in research?
3. Can students use the structure of the article to find information they need?
4. Can students effectively compose a response to an article written for a varied audience?
5. Can students use the writing process to compose an article?
6. Can students evaluate the advantages of reading for information in a selected format?

Grade Level Expectations

- 07b. Answer literal and inferential questions in oral and written responses about ideas and information in grade-appropriate texts, including nonfiction (ELA-1-M3)
15. Explain an author's purpose for writing (e.g., to explain, to entertain, to persuade, to inform, to express personal attitudes or beliefs) (ELA-7-M3)

Grade 4
Social Studies
Unit 5: The Movement of Goods and Resources

Time Frame: Approximately four weeks

This unit focuses on the economy. The unit examines how natural resources are used in the local region, the state, and the nation and how economic activities affect people living in the United States today. The unit demonstrates how people exchange goods and services and explores the characteristics of buyers and sellers.

Student Understandings

Students will understand the United States economy. Students will locate economic activities that use natural resources and describe the importance of the activities to those areas. They will also describe how markets work.

Guiding Questions

1. Can students demonstrate a basic understanding of the economy, the role of markets, and ways of transporting goods?
2. Can students identify the significance of natural resources to people and the economy?
3. Can students identify and use key vocabulary to define basic economic concepts?
4. Can students demonstrate a basic understanding of the cyclical economic relationship among individuals, households, businesses, and governments?

Grade Level Expectations

Places and Regions

1. Interpret different kinds of maps using a map key/legend, compass rose, cardinal and intermediate directions, and distance scale (G-1A-E1)
14. Locate economic activities that use natural resources in the local region, state, and nation and describe the importance of the activities to these areas (G-1C-E5)

Fundamental Economic Concepts

38. Identify the four basic questions all producers must answer (i.e., What will be produced? How will it be produced? For whom will it be produced? How much will be produced?) (E-1A-E5)
39. Describe the combination of natural, human, and capital resources needed to produce a given good (e.g., a candy bar) or a given service (e.g., recycling paper) (E-1A-E6)
41. Describe the benefits of increasing one's skill/knowledge and various ways to do so (E-1A-E8)

**Grade 4
Science
Unit 5: Ecosystems**

Time Frame: Approximately five weeks

This unit builds on the previous unit “Living Organisms” by undertaking a deeper study of ecosystems. The unit provides opportunities to construct and care for a model ecosystem as well as to research and report on actual ecosystems in Louisiana and around the world.

Student Understandings

Students will understand that ecosystems include a number of components. Students will explore how organisms connect to support and compete for the essentials of life. An awareness and understanding of complex interactions and the flow of energy within the systems helps explain the dynamics of a living ecosystem. Investigations of Louisiana plants and animals will deepen the students’ understanding of changes that occur in our ecosystems in addition to the concept of extinction and the impact of man’s actions on these organisms.

Guiding Questions

1. Can students describe an ecosystem and why it is important?
2. Can students describe how plants and animals depend on each other in an ecosystem?
3. Can students describe how habitats are different from each other?
4. Can students explain how endangered animals can make a comeback?

Grade Level Expectations

Science as Inquiry

4. Predict and anticipate possible outcomes (SI-E-A2)

Science and the Environment

72. Predict and describe consequences of the removal of one component in a balanced ecosystem (e.g., consumer, herbivores, nonliving component) (SE-E-A2)

**Grade 5
Science
Unit 5: Ecosystems**

Time Frame: Approximately 5 weeks

This unit provides a foundation for establishing an understanding of cycles and systems through a study of various ecosystems. Adaptations of organisms that enable them to survive are emphasized. The impact of physical events and chemical processes on the carrying capacity of an ecosystem are investigated.

Student Understandings

Students develop an understanding of several fundamental concepts e.g., food webs, decomposition, carrying capacity. The students will gain insight and an awareness of the interaction of populations in ecosystem communities. Students will describe the results of some human activity as it affects the equilibrium of a system.

Guiding Questions

1. Can students describe a system and state how changes to one part manifest themselves in others?
2. Can students name and describe a variety of ecosystems?
3. Can students identify essential components in a healthy ecosystem?
4. Can students identify the levels of organisms in a food chain and explain the roles of each?
5. Can students identify the adaptations that were necessary for survival by plants and animals for some Louisiana ecosystems?
6. Can students describe the role decomposers play in the cyclical life process?
7. Can students describe what is meant by *carrying capacity*?
8. Can students explain the predator/prey relationship, using an example from one of the Louisiana habitats?
9. Can students describe how changes, such as natural events like wildfires, hurricanes, or introductions of nonnative species, disrupt the populations of various animals in an ecosystem?
10. Can students describe what has happened to local ecosystems because of urban sprawl and continuing development of once-open land for malls, subdivisions, recreation sites, etc.?

Grade Level Expectations

Science as Inquiry

11. Construct, use, and interpret appropriate graphical representations to collect, record, and report data (e.g., tables, charts, circle graphs, bar and line graphs, diagrams, scatter plots, symbols) (SI-M-A4)

Life Science

26. Identify and describe ecosystems of local importance (LS-M-C3)
28. Explain and give examples of predator/prey relationships (LS-M-C4)

