

# Unit 04: Animal Adventures: Animal Biodiversity

Content Area: **Template**  
Course(s):  
Time Period: **Full Year**  
Length: **FY**  
Status: **Published**

## Standards Alignment

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### New Jersey Student Learning Standards

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#### LS4: Biological Evolution: Unity and Diversity

##### LS4.D: Biodiversity and Humans

There are many different kinds of living things in any area, and they exist in different places on land and in water. (2-LS4-1)

#### ETS1: Engineering Design

##### ETS1.A: Defining and Delimiting an Engineering Problem

A situation that people want to change or create can be approached as a problem to be solved through engineering. Such problems may have many acceptable solutions. (K-2-ETS1-1) (secondary to KPS2-2)

Asking questions, making observations, and gathering information are helpful in thinking about problems. (K-2-ETS1-1) (secondary to K-ESS3-2)

Before beginning to design a solution, it is important to clearly understand the problem. (K-2-ETS1-1)

##### ETS1.B: Developing Possible Solutions

Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. (K-2-ETS1-1) (secondary to K-ESS3-3) (secondary to 2-LS2-2)

##### ETS1.C: Optimizing the Design Solution

Because there is always more than one possible solution to a problem, it is useful to compare and test designs. (K-2-ETS1-1) (secondary to 2-ESS2-1)

SCI.2-LS2	Ecosystems: Interactions, Energy, and Dynamics
SCI.2.ETS1.B	Developing Possible Solutions
SCI.2.LS4.D	Biodiversity and Humans
SCI.2.ETS1.C	Optimizing the Design Solution
2-LS4	Biological Evolution: Unity and Diversity
2-LS4-1	Make observations of plants and animals to compare the diversity of life in different habitats.
3-5-ETS1	Engineering Design
3-5-ETS1-1.ETS1.A	Defining and Delimiting Engineering Problems

## **Integration of Career Readiness, Life Literacies and Key Skills**

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CRP.K-12.CRP1	Act as a responsible and contributing citizen and employee.
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP3	Attend to personal health and financial well-being.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP5	Consider the environmental, social and economic impacts of decisions.
CRP.K-12.CRP6	Demonstrate creativity and innovation.
CRP.K-12.CRP7	Employ valid and reliable research strategies.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP9	Model integrity, ethical leadership and effective management.
CRP.K-12.CRP10	Plan education and career paths aligned to personal goals.
CRP.K-12.CRP11	Use technology to enhance productivity.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.

## **Technology / Integration of Computer Science and Design Thinking**

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TECH.8.1.2	Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
TECH.8.1.2.E	Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
TECH.8.1.2.E.1	Use digital tools and online resources to explore a problem or issue.

## **Interdisciplinary Connections: NJSLs for ELA, Social Studies, Science and/or Math Section**

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LA.RL.2	Reading Literature Text Key Ideas and Details
LA.RL.2.1	Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
LA.K-12.NJSLSA.R1	Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text. Craft and Structure
LA.K-12.NJSLSA.R4	Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
LA.RL.2.4	Describe how words and phrases (e.g., regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning in a story, poem, or song.
LA.K-12.NJSLSA.W	Writing Craft and Structure
LA.K-12.NJSLSA.W2	Write informative/explanatory texts to examine and convey complex ideas and

information clearly and accurately through the effective selection, organization, and analysis of content.

LA.K-12.NJSLSA.SL

Speaking and Listening

Comprehension and Collaboration

LA.K-12.NJSLSA.SL1

Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

LA.SL.2.1

Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.

LA.SL.2.1.A

Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).

LA.SL.2.1.B

Build on others' talk in conversations by linking their explicit comments to the remarks of others.

LA.SL.2.1.C

Ask for clarification and further explanation as needed about the topics and texts under discussion.

ELA.W.IW.2.2

Write informative/explanatory texts to examine a topic and convey ideas and information.

## **Integration of Diversity, Equity and Inclusion; Climate Change; Informational and Media LiteracyNew Section**

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see Crosswalks

## **21st Century Life and Careers**

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### **Stage I: Desired Results**

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### **Transfer/Overview/Rationale**

#### **Transfer / Overview / Rationale**

Unit Rationale

The purpose of this unit...

**Students develop a sense of wonder for biodiversity: the sheer range and variety of animals found on earth.**

## **Meaning**

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### **Essential Questions**

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#### Essential Questions

How many different kinds of animals are there?

Why do frogs say ribbit?

How could you get more birds to visit a birdfeeder?

### **Enduring Understanding/Indicators of Understanding**

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#### Enduring Understanding/Indicators of Understanding

1. There are many different kinds of animals, some of which we have not yet discovered.
2. There can be many different species within one habitat.
3. Each frog species has a unique call.
4. The variety of frog species in a habitat depends on the amount of resources a habitat has.
5. Bird feeders come in all shapes, sizes, and colors--they even hold different types of food.
6. Different bird feeders attract different bird species.

### **Acquisition (Student Learning Objectives)**

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### **Knowledge**

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#### Knowledge

Students will know...

- Animals have characteristics and traits
- Animal classifications: mammals, birds, fish, reptiles, amphibians
- Frogs have different kinds of frog calls
- Biodiversity is the variety of living things within a habitat
- Habitats vary in characteristics and biodiversity
- Different birds like different kinds of bird feeders

## **Skills**

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### Skills

Student will be skilled at ...

- evaluating and sorting animals based on their traits
- classifying animals
- analyzing animal sounds
- identifying patterns in frog calls
- identifying strengths and weaknesses to birdfeeder designs
- constructing arguments from evidence
- defining a problem
- conducting investigations
- analyzing data
- designing probable solutions
- developing a model

## **Stage 3: Learning Plan**

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## **Resource and Mentor Texts**

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Resources and Mentor Texts

[www.mysteryscience.com](http://www.mysteryscience.com)

[www.brainpop.com](http://www.brainpop.com)

## Mentor Text/Read Alouds

Ward, J. (2009). *The busy tree*.

Fredericks, A. (2001). *Under one rock: Bugs, slugs and other ughs*.

Fleming, D. (1998). *In the small, small pond*.

Guiberson, B. (1991). *Cactus hotel*.

## Notebook Section Cover

## **Formative Assessment Strategies**

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### Formative Assessment Strategies

- Participation in class discussions (thumbs up, thumbs down, turn & talk)
- Science notebooks
- Written responses to discussion questions within each mystery
- Teacher observation during discussion groups
- Prepared written quizzes
- Exit Tickets
- Content check-ins using Kahoot, Nearpod, Quizizz
- Graphic Organizers

## **Learning Activities/Unit of Study**

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### Learning Activities/Unit of Study

Lesson Structure:

- Connection
- Teach (text/video/lecture)
- Active Engagement (discussion groups, labs/learning activity, whole class discussion, independent activity, research)

The learning activities for this unit are directly linked to Mystery Science. The attachments provided are the lesson plans for each mystery. All worksheets and materials for each mystery are provided via link to Mystery Science within each lesson plan.

[Animals - Mystery1](#)

[Animals - Mystery2](#)

[Animals - Mystery3](#)

## **Modifications and/or Accommodations**

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### **Suggested Modifications (ELL, Sp. Ed, Gifted, At-risk of Failure)**

#### **English Language Learners**

**Native language support:** The teacher provides auditory or written content to students in their native language.

**Adjusted Speech:** The teacher changes speech patterns to increase student comprehension. This could include facing the students, paraphrasing, clearly indicating the most important ideas, and speaking more slowly.

**Visuals:** The teacher uses graphics, pictures, visuals, and manipulatives. This helps ELL students better understand and comprehend the subjects at hand.

**Front-Loading Vocabulary:** The teacher front loads vocabulary. This means providing students with a list of important vocabulary words they will need to know for a book, lesson, etc. prior to the lesson being taught. Including pictures to go with the vocabulary words is also very beneficial for the

students.

## **Special Education Students**

**Chunking:** The teacher presents information in a way that makes it easy for students to understand and remember. Chunking is based on the presumption that our working memory is easily overloaded by excessive detail. The best way to deliver information is to organize it into meaningful units. Because students with special needs get overloaded easily, chunking is an effective strategy to use with them.

**Checking for Understanding:** It is important to constantly check for understanding, especially for students who have accommodations. Teachers want to make sure students understand the concepts being covered in a way that makes sense to them.

**Extra time:** The teacher provides students with special needs extra time to complete work or answer questions. It is important to give students enough time to process their thoughts.

**Oral Reading:** The teacher will read work orally to students. Class work such as tests and literature circles may need to be read aloud to the student.

**Timers:** The teacher will use timers as an instructional tool. The use of timers is beneficial for students who have trouble completing tasks. Timers can be helpful so the student is aware of how much time they have to complete an assignment.

## **Students with 504 Plans**

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## **Gifted & Talented Strategies**

**Extensions/Enrichments:** Teachers will provide gifted and talented students with extension/enrichment projects. Students will be challenged to further their understanding, to apply acquired knowledge, and/or to produce something in reference to acquired knowledge.

**Modify/Change Activities:** Teachers will monitor and modify activities to accommodate those

students who need to be challenged further. Additional reading, problem-solving, writing, or project work is necessary for those students who are ready to move on at a rate more accelerated than their peers. In this way, G & T students are provided the same opportunity for support as special needs students.

## Students at Risk of School Failure

**Directions or Instructions:** Make sure directions and/or instructions are given in limited numbers. Give directions/instructions verbally and in simple written format. Ask students to repeat the instructions or directions to ensure understanding occurs. Check back with the student to ensure he/she hasn't forgotten.

**Peer Support:** Peers can help build confidence in other students by assisting in peer learning. Many teachers use the 'ask 3 before me' approach. This is fine, however, a student at risk may have to have a specific student or two to ask. Set this up for the student so he/she knows who to ask for clarification before going to you.

**Alternate or Modified Assignments:** Always ask yourself, "How can I modify this assignment to ensure the students at risk are able to complete it?" Sometimes you'll simplify the task, reduce the length of the assignment or allow for a different mode of delivery. For instance, many students may hand something in, the at-risk student may jot notes and give you the information verbally. Or, it just may be that you will need to assign an alternate assignment.

**Increase One to One Time:** When other students are working, always touch base with your students at risk and find out if they're on track or needing some additional support. A few minutes here and there will go a long way to intervene as the need presents itself.

**Contracts:** It helps to have a working contract between you and your students at risk. This helps prioritize the tasks that need to be done and ensure completion happens. Each day write down what needs to be completed, as the tasks are done, provide a checkmark or happy face. The goal of using contracts is to eventually have the student come to you for completion sign-offs.

**Hands On:** As much as possible, think in concrete terms and provide hands-on tasks. This means a child doing math may require a calculator or counters. The child may need to tape record comprehension activities instead of writing them. A child may have to listen to a story being read instead of reading it him/herself.

**Tests/Assessments:** Tests can be done orally if need be. Break tests down in smaller increments by having a portion of the test in the morning, another portion after lunch and the final part the next day.

**Seating:** Seat students near a helping peer or with quick access to the teacher. Those with hearing or sight issues need to be close to the instruction which often means near the front.