Unit 3: Ecosystems: Interactions, Energy and Dynamics

Content Area: **Science**
Course(s):
Time Period: **Generic Time Period**
Length: **3 weeks**
Status: **Published**

Disciplinary Core Ideas

Social Interactions and Group Behavior

- Being part of a group helps animals obtain food, defend themselves, and cope with changes. Groups may serve different functions and vary dramatically in size *(Note: Moved from K–2)*. (3-LS2-1)

LA.3.W.3.1	Write opinion pieces on topics or texts, supporting a point of view with reasons.
MA.K-12.4	Model with mathematics.
MA.3.3.NBT	Number and Operations in Base Ten
3-LS2	Ecosystems: Interactions, Energy, and Dynamics
3-LS2-1	Construct an argument that some animals form groups that help members survive.
LA.3.RI.3.1	Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
LA.3.RI.3.3	Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.

Essential Questions

Essential Unit Questions:

Why don’t we see alligators in the arctic?

Objectives:

Construct an argument that some animals form groups that help members survive.

Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

Concepts that will be taught:

• Cause-and-effect relationships are routinely identified and used to explain change.

• Knowledge of relevant scientific concepts and research findings is important in engineering.

• For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all.

• Organisms and their habitat make up a system in which the parts depend on each other.

Students will be able to:

• Identify cause-and-effect relationships in order to explain change.

• Construct an argument with evidence.

• Construct an argument with evidence (e.g., needs and characteristics of the organisms and habitats involved) that in a particular habitat, some organisms can survive well, some can survive less well, and some cannot survive at all.

Activities

Textbook:

1. Read textbook pages B 4-11, B 28-29, B40-45, B50-57

2. Complete Interpret Illustrations page 76

3. Have students design an animal that could do well in the environment of our classroom.

Animals should be able to camoflauge and survive well in the particular environment.

Mystery Science: Animals Through Time

Mystery #1: (Habitats and environmental change)In this Mystery, students will explore the idea that the rock under our feet sometimes contains fossils. These fossils reveal how habitats have changed through time.

Mystery #2: (Structures and adaptation, fossil evidence and classification) In this Mystery, students will learn how we can infer what the outside of an animal looked like, by using clues about their skeleton.

Mystery #3: (Fossil evidence and behavior) In this Mystery, students will learn how a dinosaur's footprints reveal how quickly a dinosaur was running.

Mystery #4:(Heredity, variation and selection)In this Mystery, students learn how people create new breeds of animals by mating (selecting) individuals with desirable traits

Mystery #5: (Heredity, variation and selection) In this Mystery, students will play a simulation based on a real-life experiment called "Lizard Island." The simulation shows an example of how nature, not human beings, can slowly change the appearance of an animal using the process of selection.

Materials & Resources

www.mysteryscience.com

Textbook:

Construction paper, crayons, cotton balls, yarn, scissors, tape, textbook, Worksheets

Mystery Science:

Mystery #1:

Each student will need:

- a What Habitat?
- a pen or pencil

Mystery #2

Each student will need:

- a copy of the four-page handout, What Do These Animals Eat?
- a pen or pencil

Mystery #3

For the racetrack, you will need:

- Print out the instructions and tracks for making the raceway
- a clear area of floor that's at least 8 feet long and 4 feet wide
- masking tape
- a measuring tape or yardstick
- a pen that will write on masking tape

For the activity, each student will need:

- a copy of the two-page student handout
- a pen or pencil
- a ruler or straight edge

Mystery #4

Each student will need:

- a two-page Designer Dogs worksheet
- a pen or pencil

Mystery #5

How many students do you have?	Print these
	• 6 sets of Adopt A Lizard printouts (18 pages)
15 to 18	• 9 sets of Baby Lizard pages (14 pages)
	• 1 copy per student of How Many Lizards printout • 7 sets of Adopt A Lizard printouts (21 pages)
19 to 21	• 10 sets of Baby Lizard pages (14 pages)
	• 1 copy per student of How Many Lizards printout • 8 sets of Adopt A Lizard printouts (24 pages)
22 to 24	• 10 sets of Baby Lizard pages (14 pages)
	• 1 copy per student of How Many Lizards printout • 9 sets of Adopt A Lizard printouts (27 pages)
24 to 27	• 12 sets of Baby Lizard pages (14 pages)
	• 1 copy per student of How Many Lizards printout • 10 sets of Adopt A Lizard printouts (30 pages)
	• 14 sets of Baby Lizard pages (14 pages)
27 to 30	• 1 copy per student of How Many Lizards printout •
	•

Assessment

Interpret Illustrations page 76

Chapter 4 review (Page B 68)

Chapter vocabulary (p. 103 workbook)

Chapter Test (p. 17 assessment book)

Mystery Science:

Mystery Assessments

Summative Assessment

Accommodations & Modifications

- Large print textbooks
- Additional time for assignments
- Review of directions
- Have student restate information
- Provision of notes or outlines
- Concrete examples
- Adaptive writing utensils
- Support auditory presentations with visuals
- Weekly home-school communication tools (notebook, daily log, phone calls or email messages)
- Space for movement or breaks
- Extra visual and verbal cues and prompts
- Books on tape
- Graphic organizers
- Quiet corner or room to calm down and relax when anxious
- Preferential seating
- Alteration of the classroom arrangement

- Reduction of distractions
- Answers to be dictated
- Hands-on activities
- Use of Manipulatives
- Follow a routine/schedule
- Alternate quiet and active time
- Teach time management skills
- Rest breaks
- Verbal and visual cues regarding directions and staying on task
- Daily check-in special education teacher
- Visual daily schedule
- Varied reinforcement procedures
- Immediate feedback
- Personalized examples