artsNOW
Integrated learning solutions

UNIT: ECO-EXPRESSIONS
ECOSYSTEM ROLES IN MOTION
Grade Band: 4-5
Content Focus: Dance & Science



LEARNING DESCRIPTION

In this lesson, students will investigate the roles of producers, consumers, and decomposers in an ecosystem. They will begin by participating in the "Shape, Move, Wonder" thinking activity. Working in groups, students will analyze an informational text about one of the roles, highlighting key facts. Using this information, they will create a movement sequence. The lesson will conclude with an exit ticket to check for understanding.

LEARNING TARGETS

Essential Questions	"I Can" Statements
How do the different roles in an ecosystem interact to maintain balance?	I can examine a text to explain the roles within an ecosystem and create a movement sequence to represent those roles.

How can movement be used to represent the roles, relationships, and functions of different organisms within an ecosystem?	I can identify consumers, producers, decomposers and their energy sources. I can analyze the relationships of the different roles in the ecosystem.

GEORGIA STANDARDS

Curriculum Standards	Arts Standards
Grade 4: S4L1. Obtain, evaluate, and communicate information about the roles of organisms and the flow of energy within an ecosystem. a. Develop a model to describe the roles of producers, consumers, and decomposers in a community. b. Develop simple models to illustrate the flow of energy through a food web/food chain beginning with sunlight and including producers, consumers, and decomposers. c. Design a scenario to demonstrate the effect of a change on an ecosystem. d. Use printed and digital data to develop a model illustrating and describing changes to the flow of energy in an ecosystem when plants or animals become scarce, extinct or overabundant.	**Grade 4:** ESD4.CR.1 Demonstrate an understanding of the choreographic process. ESD4.RE.1 Demonstrate critical and creative thinking in dance. ESD4.CN.3 Integrate dance into other areas of knowledge.

SOUTH CAROLINA STANDARDS

Curriculum Standards	Arts Standards
Grade 5: 5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	**Anchor Standard 1:** I can use movement exploration to discover and create artistic ideas and works. **Anchor Standard 2:** I can choreograph a dance. **Anchor Standard 7:** I can relate dance to other arts disciplines, content areas, and careers.

KEY VOCABULARY

Content Vocabulary	Arts Vocabulary

- Bacteria - Microorganisms that can make you sick, but also can help you digest food; found everywhere in nature
- Carnivore - An animal that eats only other animals
- Camouflage - Process of animals changing their colors, patterns, and shapes to disguise themselves from predators or prey
- Community - All the organisms in an ecosystem
- Consumer - An animal that gets its energy by eating plants or other animals
- Decay - To break down into simpler materials
- Decomposers - A living thing that breaks down the remains of dead organisms
- Ecology - The study of how living and nonliving factors interact
- Ecosystem - A system made up of an ecological community of living things interacting with their environment especially under natural conditions
- Energy source - A source from which useful energy can be extracted or recovered either directly or by means of a conversion or transformation process (e.g. solid fuels, liquid fuels, solar energy, biomass, etc.)
- Extinct - A species that is gone forever because all of its kind have died
- Food chain/web - The path of energy in an ecosystem from plants to animals (from producers to consumers)

- Movement sequence - A series of movements; a short dance
- Levels - One of the aspects of movement (there are three basic levels in dance: high, middle, and low)
- Body shape - Refers to an interesting and interrelated arrangement of body parts of one dancer; the visual makeup or molding of the body parts of a singular dancer; the overall visible appearance of a group of dancers (they may be curved/angular, symmetrical/asymmetrical, positive/negative)
- Locomotor movement - A movement that travels through space (e.g. walk, jump, hop, roll, gallop, skip, crawl & more)
- Non-locomotor movement - A movement that does not travel through space
- Movement qualities - Types of energy used to perform a movement (sustained, percussive, swinging, suspended, and vibratory)

• Habitat - The place where an animal or plant lives • Herbivore - An animal that eats plants • Hibernate - When animals go into a deep sleep • Interdependence - When living things in an ecosystem need each other to meet their needs • Microorganisms - Very small living things • Omnivore - An animal that eats both plants and animals • Organism - A living thing • Photosynthesis - Process through which plants make food • Plankton - Small organisms in water that are producers and give off oxygen • Producer - A living thing (such as a green plant) that makes its food from simple inorganic substances (such as carbon dioxide and nitrogen) and many of which are food sources for other organisms • Informational Text - A type of writing that gives facts and details about a topic.	

MATERIALS

- Images from various types of ecosystems
- Informational text on the role of producer, consumer, and decomposer (one to two paragraphs on each role is ideal)
- Graphic organizer for students to record one role in the ecosystem and key details about the role

INSTRUCTIONAL DESIGN

Opening/Activating Strategy

Shape, Move, Wonder

- Display one of the ecosystem images.
- Allow time for students to look at the image.
- Shape: Instruct students to create a body shape of something they see in the image.
    - Countdown from five and have students freeze in their body shape by the time the teacher reaches one.
- Move: Instruct students to create a non-locomotor movement of something they think is happening in the image.
- Wonder: Have students verbally share their wonderings about the image.
- Repeat with the other images.

Work Session

- Place students in small groups of three to four.
- Give each group an informational text paragraph on one of the ecosystem roles (producer, consumer, or decomposer).
- Review group work requirements and expectations.
- In their groups, students will complete and create the following:
    - Students will examine the text.
        - Read the assigned paragraph on their ecosystem role.
        - Identify the role and three important details about that particular role.
    - Students will create a movement sequence.
        - Based on their informational text and identified role, students will create a movement sequence that includes:
            - A movement that expresses **each** important detail of the ecosystem's role (three movements)
            - At least two non-locomotor movements
            - At least one locomotor movement
            - At least two levels (high, middle, low)
            - One movement quality (sustained, percussive, swinging, suspended, and vibratory)
    - After work time, allow all groups to have a “dress rehearsal”. (All groups will perform at the same time during the dress rehearsal.)
    - Prior to performances, review audience etiquette: Still, silent, and supportive.
    - Invite groups to share their sequence with the whole class.
        - If time is limited, try to have at least one group for each role (producer, consumer, and decomposer).
    - After each group shares, invite the class to guess which role is expressed identifying which movement(s) led them to that conclusion.

Closing/Reflection

- Have students complete the following exit ticket:
    - Have students describe the role of a producer, consumer, and decomposer in an ecosystem.
    - Students should then explain how the movements in their sequence demonstrated the role.

ASSESSMENTS

Formative

- "Shape, Move, Wonder": Pre-assess student knowledge of ecosystems through responses
- Individual group check-ins during group work time
- Exit Ticket

Summative

- Checklist for movement sequence:
  - Students have identified three details from the assigned text that explain the role of their part of the ecosystem.
  - The movement sequence expresses the three important details that fit the ecosystem role.
  - The sequence includes at least one non-locomotor movement.
  - The movement sequence includes at least one locomotor movement.
  - The movement sequence includes two levels (low, middle, high).
  - The movement sequence includes one movement quality.

DIFFERENTIATION

Acceleration:

- Students explain their movement choices and assigned roles after their performances.
- Students choose instrumental music that fits the mood of their movement sequence.
- Students record their movement sequence and add music or narration.

Remediation:

- Reduce the number of important details students are required to find.
- Read each text together as a class and identify important details together.
- Reduce the requirements for the movement sequence.

ADDITIONAL RESOURCES

CREDITS

U.S. Department of Education- STEM + the Art of Integrated Learning
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**This integrated lesson provides differentiated ideas and activities for educators that are aligned to a sampling of standards. Standards referenced at the time of publishing may differ based on each state's adoption of new standards.*

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