

Project 2: Ecosystem Puppet Show

Ecosystem • Habitat • Consumers/
Producers/Decomposers/Energy Source



Project Essential Questions

- Why are producers/consumers/decomposers an important part of the ecosystem?
- What happens when you have an increase or decrease of producers/consumers/decomposers in an ecosystem?
- What are examples of energy sources in an ecosystem?
- What are biotic/abiotic factors in an environment?

PROJECT DESCRIPTION

In this project, students will work in small groups to design and construct a habitat using shoe boxes and art materials. These shoe box dioramas will serve as the backdrop and stage for an ecosystem puppet show that students will write and perform. Within each ecosystem, students will create a cast of puppet characters: producers, consumers, decomposers, and an energy source. Then students will bring the puppets to life in a scripted performance! This is an engaging and creative way to bring these ecosystem concepts to life for students.

LEARNING TARGETS

“I Can...”

- Identify and explain the roles of consumers, producers, decomposers, and energy sources
- Create a habitat that includes all of the different ecosystem roles
- Develop a script that explains how all of the roles are related to one another

www.artsnowlearning.org

Units provide differentiated ideas and activities aligned to a sampling of standards.

The units do not necessarily imply mastery of standards, but are intended to inspire and equip educators.

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Cherokee County (GA) School District and ArtsNow, Inc.

DURATION: 3-5 days

Project Description	Learning Targets
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ESSENTIAL QUESTIONS

<ul style="list-style-type: none"> ● Why are producers an important part of the ecosystem? ● What happens when you have an increase or decrease of producers in an ecosystem? ● Why are consumers an important part of the ecosystem? ● What happens when you have an increase or decrease of consumers in an ecosystem? ● Why are decomposers an important part of the ecosystem? ● What happens when you have an increase or decrease of decomposers in an ecosystem? ● What are examples of energy sources in an ecosystem? ● What are abiotic factors in an environment? ● What are biotic factors in an environment?
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STANDARDS

Curriculum Standards	Arts Standards
<p>S4L1. Students will describe the roles of organisms and the flow of energy within an ecosystem</p> <p>a. Identify the roles of producers, consumers, and decomposers in a community</p> <p>d. Predict effects on a population if some of the plants or animals in the community are scarce or if there are too many</p>	<p>VA4PR.3 Understands and applies media, techniques, and processes of three-dimensional works of art (ceramics, sculpture, crafts, and mixed-media) using tools and materials in a safe and appropriate manner to develop skills.</p> <p>a. Creates 3-D artwork that demonstrates a design concept: open or closed form, proportion, balance, color scheme, and movement</p> <p>VA4MC.1 Engages in the creative process to generate and visualize ideas.</p> <p>a. Creates a series of thumbnail sketches to alter visual images (e.g., magnifying, reducing, repeating, or combining them in unusual ways) to change how they are perceived and interpreted.</p> <p>b. Formulates visual ideas by using a variety of resources (e.g., books, magazines, Internet)</p> <p>TAES4.2 Developing scripts through improvisation and other theatrical methods</p>

	<p>a. Uses the playwriting process: pre-write/pre-play; prepare to write/plan dramatization; write/dramatize; reflect and edit; re-write/play; publish/perform</p> <p>b. Analyzes the elements of a well-written script</p> <p>TAES4.3 Acting by developing, communicating, and sustaining roles within a variety of situations and environments</p> <p>a. Uses articulation, volume and vocal variety to communicate thoughts, emotions and actions of a character</p> <p>d. Collaborates with an ensemble to create theatre</p> <p>e. Dramatizes literature and original scripts through various dramatic forms such as story drama, pantomime, process drama, puppetry, improvisation, and readers' theatre</p>
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KEY VOCABULARY

Content Vocabulary	Arts Vocabulary
<ul style="list-style-type: none"> ● Ecosystem ● Biotic ● Abiotic ● Consumer ● Producer ● Decomposer ● Energy source ● Habitat ● Vegetation ● Landforms 	<ul style="list-style-type: none"> ● Background/foreground ● Color/line ● Emphasis ● Texture ● Setting ● Diorama ● Stage ● Upstage/downstage ● Stage left/stage right ● Puppet ● Characters ● Cast ● Voice (pitch, volume, tempo) ● Playwriting ● Script

TECHNOLOGY INTEGRATION

<p>Suggested websites for shared research on Animal Habitats:</p> <ul style="list-style-type: none"> ● http://environment.nationalgeographic.com/environment/habitats/ ● http://kids.nationalgeographic.com/ ● https://www.pebblego.com/login/

ASSESSMENTS

Formative	Summative
<ul style="list-style-type: none"> Teacher can make observations for class participation during all of the class discussions. First draft of student-written ecosystem plays Student explanations of habitat design 	<ul style="list-style-type: none"> Student-written Ecosystem Script Small Group Puppet Performance Diorama of Habitat including ecosystem characters Reflection Questions (see Downloads)

MATERIALS

<ul style="list-style-type: none"> Shoe boxes (include a variety of different dimensions/sizes) Art materials: markers, crayons, paints, colored pencils, paint brushes, glue, scissors Construction paper, tissue paper Suggested additional materials for dioramas: cotton balls, pom-poms, sand, leaves, flowers, vines <p>Suggestions for puppets:</p> <ul style="list-style-type: none"> Stick puppets: popsicle sticks, markers, adhesive colored foam, googly eyes <p>http://www.parents.com/fun/arts-crafts/kid/make-with-craft-sticks/#page=2 http://www.easypeasyandfun.com/easter-craft-stick-puppets/ https://craftulate.com/2016/02/mini-craft-stick-animal-puppets.html?utm_content=buffer236de&utm_medium=social&utm_source=pinterest.com&utm_campaign=buffer</p> <ul style="list-style-type: none"> Finger puppet examples: <p>http://onelittleproject.com/pipe-cleaner-finger-puppets/ http://mollymooecrafts.com/rubber-glove-finger-puppets/ http://iheartcraftythings.com/polar-bear-kids-craft-finger-puppets.html http://iheartcraftythings.com/chick-finger-puppets.html</p>
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Activating Strategy
<p>Research/Brainstorm:</p> <ul style="list-style-type: none"> Place students in a small groups (of 3-5 students) for this project. Explain that in your groups, students will agree upon a habitat diorama to design and create using art materials and a shoe box. Make sure students know that within their habitat they design, they must envision potential inhabitants including consumers, producers, decomposers, and an energy source. Conduct some shared research (suggested websites listed above) before designing. You can show the class some Examples of Dioramas (see Downloads) before they begin brainstorming together.
Main Activity
<p>Part 1: <u>Research:</u> Students will design and construct their habitat by researching the following things:</p> <ol style="list-style-type: none"> 1) <i>What type of vegetation would be found in my habitat?</i> 2) <i>What sort of water source would be found in my habitat?</i> 3) <i>What type of landform would be evident?</i>

- 4) *Where is the energy source in relationship to the vegetation?*
- 5) *What animals might I include? What plants?*
- 6) *What biotic and abiotic factors do we need to include in this habitat?*
- 7) *What should we design in the background, in the distance versus the foreground close up? What do we want to emphasize?*

Part 2:

Create Habitat & Characters:

- As a small group, use construction paper to line a shoe box and begin layering the backdrop with different media and textures. Ask students to address all of their research questions as they are constructing their diorama together.
- Create puppets for each of the different types of roles represented in an ecosystem: producers, consumers, decomposers, and energy source. Make sure your cast includes at least one of each role.

Part 3:

Develop Ecosystem Puppet Show Script:

- As a small group, brainstorm a story that could occur in this particular habitat that would model and explain the ecosystem.
- Determine which group member is going to play which particular role(s).
- Create dialogue for your characters in the form of a script.
- Make sure that the story explains the different roles and how they relate to one another. (Ex: The sun (energy source) is needed to make a plant grow (producer). And the rabbit (consumer) needs the plant to eat and survive/thrive in the ecosystem.)

Part 4:

Rehearse & Perform:

- Students will determine an actor's voice for each puppet they are operating.
- Direct students to use pitch, volume and tempo to make vocal choices for their character.
- Students will rehearse their puppet stories in their small groups.
- Students will perform their stories to the class (or another visiting class) for peer feedback.
- Audience members should be directed to identify the various roles in the ecosystem and to clearly see how they work together to thrive in this particular habitat.

REFLECTION

Reflective Strategies

Students will answer the following **Reflection Questions** (see Downloads) using complete sentences:

1. Describe how your particular habitat depicted its ecosystem and the various roles present?
2. Is there a "most important" role in the ecosystem (producer, or consumer, or decomposer, or energy source)? Defend why you think there is or isn't a most important role.
3. What was most successful about this project? What would you change next time?

DIFFERENTIATION

Below Grade Level/EL Students:

- Students would benefit from a template for writing their script. This template can help prompt and guide them along in the playwriting process. Sentence frames may also be effective in the writing.

Above Grade Level:

- Consider asking your above level students to create a play that not only describes the roles of different organisms in a balanced ecosystem, but perhaps dramatizes a story where for some reason the ecosystem is NOT balanced. How does the imbalance affect the different characters? What dangers are faced by the ecosystem and what possible solutions or precautions should be advised.

ADDITIONAL RESOURCES

- <http://www.teachmag.com/archives/5618>

APPENDIX (see Downloads)

- **Ecosystem Puppet Show Rubric**
- **Written Reflection Sheet**
- **Examples of Dioramas**

CREDITS

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