ArtsNow®
Teaching and Learning Across the Curriculum

GRADE 2 Project Overview

Terrarium Time!

Project Essential Questions

- How can I use an observation log and sketching to record the life cycle of a plant?
- How can I create and care for an environment that supports healthy plant growth?
- Can I compare and contrast the different plant environments? (successful vs. not successful)

PROJECT DESCRIPTION

In this hands-on project, students will choose whether they want to grow grass, beans, or sunflowers. Each group will have two terrariums. One terrarium will be cared for appropriately, while the other terrarium will be neglected and polluted in some way. Students will also be sketching their observations in a log provided by the teacher to record the changes in their terrariums over time. This project, although focused upon plant life cycles, also has a strong connection to preserving and caring for our environment.

LEARNING TARGETS

"I Can…"

- Create two terrariums; one that receives proper care for plant growth and the other that is neglected and polluted in some way
- Complete an observation log of my terrarium changes using sketches and writing
- Summarize, at project completion, my scientific findings of the differences between the two terrariums

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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.

Produced through the U.S. Department of Education: Arts in Education—Model Development and Dissemination Grants Program
Cherokee County (GA) School District and ArtsNow, Inc.

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ESSENTIAL QUESTIONS

- How can I use an observation log and sketching to record the life cycle of a plant?
- How can I create and care for an environment that supports healthy plant growth?
- Can I compare and contrast the different plant environments? (successful vs. not successful)

STANDARDS

Curriculum Standards	Arts Standards
S2L1 Students will investigate the life cycles of different living organisms. **c.** Investigate the life cycle of plant by growing a plant from a seed and by recording changes over a period of time. **ELAGSE2W7** Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). **S2CS4** Students will use the ideas of system, model, change, and scale in exploring scientific and technological matters. **c.** Describe changes in the size, weight, color, or movement of things, and note which of their other qualities remain the same during a specific change. **S2CS5** Students will communicate scientific ideas and activities clearly. **a.** Describe and compare things in terms of number, shape, texture, size, weight, color, and motion. **b.** Draw pictures (grade level appropriate) that correctly portray features of the thing being described.	**VA2PR.1** Creates artworks based on personal experience and selected themes. **a.** Creates artworks to express individual ideas, thoughts, and feelings from memory, imagination, and observation.

KEY VOCABULARY

Content Vocabulary
• Terrarium • Life Cycle • Fungus/fungi • Observation log • Prediction • Pollution/pollutant • Environment • Successful/Non Successful • Seeds • Investigate • Recording
Arts Vocabulary
• Subject Matter: refers to the things that are represented in a work of art such as people, buildings and trees • Proportion: refers to the relationships of the size of objects in a body of work. Proportion gives a sense of size seen as a relationship of objects, such as smallness or largeness • Space: refers to the distance or area between, around, above or within things. It can be a description for both 2 and 3 dimensional • Texture: refers to the surface quality or "feel" of an object, such as roughness, smoothness, or softness. Actual texture can be felt while simulated textures are implied by the way the artist renders areas of the picture

TECHNOLOGY INTEGRATION

- Brain Pop video "Going Through Plant Life Cycle": https://jr.brainpop.com/science/plants/
- YouTube video: "DIY Terrarium for Kids": https://www.youtube.com/watch?v=PB93Mj7IhdE

ASSESSMENTS

Formative	Summative
• Teacher will check for understanding by reviewing student observation logs to make sure they have recorded daily changes in their terrarium. • Teacher will also use observation log to see if the students can distinguish differences in the polluted and healthy environments.	• **Terrarium Time Rubric** (see Downloads) • Terrariums and logs that accompany them

MATERIALS

- Observation log
- 6 Terrariums per class
- Sunflower seeds
- Grass seeds
- Bean seeds
- Colored pencils
- Soil
- Water

- Light source (natural light)
- Teacher chosen terrarium pollutant for unsuccessful environment (see examples in Part 2)
- 9x12 sketching paper

Activating Strategy (5-10 min)

- Brain Pop: https://jr.brainpop.com/science/plants/

Main Activity

PROCESS: In this project, students can choose whether they want to grow grass, beans, or sunflowers. Each group will have two terrariums, one will be cared for appropriately while the other will be neglected and polluted in some way. Students will also be sketching their observations in a log provided by the teacher to record the changes in their terrariums over time. If one of the polluted terrariums produces some sort of fungi, the teacher will help students to identify that as fungus.

PART 1

- Teacher will use https://www.youtube.com/watch?v=PB93Mj7lhdE to explore how to create a DIY Terrarium for Kids.
- Students take notes on the video so that afterwards they can assemble their own terrariums.
- Students will choose, or teacher will assign to groups, grass, beans or sunflower seeds. (Groups will be formed based on their decision.)
- Students will plant chosen seeds in both terrariums.
- Students will sketch beginning stage of the plant life cycle log in their observation log.

PART 2 (based on plant growth)

- As time progresses, students will track plant growth in both terrariums.
- Students will chose one terrarium to introduce teacher chosen pollutant to that terrarium (do this after the plant has begun to sprout or show signs of growth).
    - Examples of pollutants: styrofoam, plastic, spritz of bug repellant (pesticide), engine oil,
- Label the polluted terrarium “polluted” so students can use that information in their observation log.
- Over the next few weeks, students will record changes they observe, while comparing and contrasting the two terrariums in their observation logs.
- After an extended period of time, teacher will use their own judgement to decide when it’s time for students to complete their overall project summary and final sketches.
- Teacher will provide each group with 9X12 drawing paper for the students to complete final sketches of plant life cycle.

REFLECTION

Reflection Questions

- Students will write a summary comparing and contrasting the impact of the environment throughout the life cycle of the plants in the two terrariums.
- *What can we do to help prevent pollutants from interacting with plants?*
- *Why is it important that we help prevent pollutants from impacting plant growth?*

DIFFERENTIATION

Accelerated:

- Advanced students could use black and white colors to sketch their observations of the polluted terrariums and colored utensils to sketch their observations of the non-polluted terrariums.
- Advanced students could compose a song to accompany the different stages of growth, for example high sounds as plants get taller, and low sounds for low growth or no growth.
- Advanced students could design a Candyland type game, where cards should reflect advancing on the board if the card has items that help plant growth. (Your plant got sunshine – advance 2 spaces) or regressing if the drawn card has items that would be a detriment to growth (Go back 3 spaces because your plant didn't get water).

Remedial/EL Students:

- Guided Writing with below grade level/ELs
- Writing template for the guided writing
- Other Writing modifications:
    - Small group
    - Guided writing
    - Sentence starters
    - Graphic organizers
    - Word bank based on vocabulary
    - Paragraph frame
    - Modify length/writing assignment based on needs

ADDITIONAL RESOURCES

- Brainpop JR: https://jr.brainpop.com/science/plants/
- DIY Terrariums for Kids: https://www.youtube.com/watch?v=PB93Mj7IhdE

APPENDIX (see Downloads)

- **Terrarium Time Rubric**

CREDITS

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Terrarium Time Rubric

CHECKLIST			
Teacher observed appropriate care of successful plant terrarium and polluted terrarium.	I appropriately provided all the essential elements to create a successful plant environment.	I provided some of the essential elements that a plant needs to survive.	I provided no elements for a successful plant environment.
My group appropriately divided responsibilities of caring for the terrariums.	My group worked together to appropriately take care of our plant terrariums.	My group needed some redirection in order to appropriately work together in caring for the terrariums.	My group needed constant redirection in order to work together.
My observation log is completed daily with sketches and a summary of observations which document changes in my terrarium.	My log has all entries and sketches complete.	My log had some entries and sketches complete.	My log shows minimal observations and completed sketches.
My final sketch of the project summary shows understanding of a successful plant life cycle environment vs. a non-successful plant life cycle environment	My sketch is complete.	My sketch has some elements it needs to be complete.	My sketch has no elements it needs to be complete.

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