

Exploring Nature Through STEM & Art: A 7-Week Learning Series with Mark

Instructions:

Check out this sample lesson plan and activity ideas for inspiration, ideas, and more. Feel free to edit, delete, or highlight to make it your own! These notes are yours to customize. They will not be published anywhere such that you're held to teaching exactly what's here.

Topics

Using numbers, technology, art, and science to better understand the world around us

Lesson Ideas

Lesson Title

Exploring Nature Through STEM & Art: Week 1 - The Science of Trees

Duration

1 Hour

Lesson Plan

- Introduction (10 minutes)
 - Welcome students to the learning series and introduce the theme: Exploring the Science of Trees.
 - Brief discussion on how trees are vital to our ecosystem, mentioning their roles in oxygen production, habitat, and climate regulation.
- Tree Measurement Activity (20 minutes)
 - Explain the concept of measuring tree circumference and estimating age.

GRASSHOPPER

- Demonstrate how to measure the circumference of a tree using tape measures and record the data.
- In pairs, students measure the circumference of several trees and use a formula to estimate their age.
- Technology Integration (10 minutes)
 - Show students how to use a tree identification app to identify different tree species in the area.
 - Students take turns identifying at least two types of trees using the app.
- Art and Reflection Activity (15 minutes)
 - Provide students with sketchpads and pencils.
 - Ask students to choose a tree to sketch, focusing on its unique features like leaves, bark, and branches.
 - Encourage them to reflect on why they chose that specific tree and share with the group.
- Conclusion and Q&A (5 minutes)
 - Recap what was learned about trees, numbers, and technology.
 - Open the floor for any questions and introduce the theme for next week.

Materials List

- Tape measures
- Device with a tree identification app
- Sketchpads
- Pencils

Adaptations for Different Ages

- Younger children can focus on just measuring tree circumference and making simple sketches.
- Older children can compute the approximate age of the trees and write a short paragraph about their chosen tree's ecological role.

Movement Break

GRASSHOPPER

- Nature Scavenger Hunt (5 minutes): Have students find specific natural items such as a piece of bark, a certain type of leaf, or a pinecone to get them moving and engaging with nature.

Bonus Activities

- Create a leaf rubbing artwork using paper and crayons as a take-home project.
- Introduce a nature journal for students to note observations and collect leaf samples throughout the 7-week series.

Series Outline

****Week 1: Introduction to Nature and Observation Skills****

- Nature walk with notebooks for observation and sketching.
- Create a nature journal with thoughts and drawings.
- Teach basic photography to capture details of plants and insects.

****Week 2: The Science of Plants****

- Plant seeds in small pots and track growth over time.
- Explore the process of photosynthesis with simple experiments.
- Create leaf rubbings and discuss plant anatomy.

****Week 3: Weather Patterns and Technology****

- Build simple weather instruments like a rain gauge or wind vane.
- Use apps or online tools to track weather patterns.
- Create a weather-inspired art project using watercolors.

****Week 4: Exploring Ecosystems****

- Create a mini-ecosystem in a bottle or terrarium.
- Discuss various ecosystems and their unique features.
- Build food chain models with craft materials.

****Week 5: Animal Adaptations and Art****

- Study how animals adapt to their environments.
- Create clay models or drawings of animals highlighting adaptations.
- Design and perform an interactive play showing these adaptations.

GRASSHOPPER

****Week 6: The Mathematics of Nature****

- Explore symmetry and patterns in nature with nature mandalas.
- Create Fibonacci sequence art using shells or pinecones.
- Measure tree heights and calculate age with simple math.

****Week 7: Human Impact and Conservation****

- Discuss pollution and brainstorm ways to reduce waste.
- Organize a cleanup project in a local park.
- Create recycled art projects to emphasize conservation.

For additional support, reference this [experience outline template](#) which includes tips and prompts to help you develop and lead an excellent Grasshopper Kids experience.

Note: This lesson plan outline was drafted by Hopper. If you would like to see different results, you can [submit another idea](#), or text us with feedback so we can work to make the algorithm better. We built this tool to help save you time in bringing more kids enrichment experience ideas to life!

