

STEAMS Environmental Stewardship Project-Based Lesson Plan (7-12)

Objective: The objective of this lesson plan is to introduce students to the concept of environmental stewardship and its critical role in preserving our planet. Through interdisciplinary STEAMS activities (Science, Technology, Engineering, Arts, Mathematics, and Social Studies), students will explore what it means to be environmental stewards and how they can contribute to sustainability in their local communities. Suitable for grades 9-12, adaptable for middle school students.

Key Components

Science (S):	Topics: <ul style="list-style-type: none">❖ Activity: Investigate local ecosystems and identify how various species interact with their environment. Discuss the impact of environmental changes on these ecosystems.❖ Project: Create a report on one local species and how it contributes to the ecosystem's health, including what threats it may face and how stewardship can protect it.
Technology (T):	Topics: <ul style="list-style-type: none">❖ Activity: Use digital tools to research environmental stewardship practices around the world. Focus on innovative technologies that aid in conservation and sustainability.❖ Project: Develop a digital presentation highlighting different technologies that support environmental stewardship, such as recycling apps, water-saving technologies, and renewable energy sources.

<p>Engineering (E):</p>	<p>Topics:</p> <ul style="list-style-type: none"> ❖ Activity: Explore the engineering design process by brainstorming solutions to a local environmental issue, such as water pollution or habitat destruction. ❖ Project: Design a model of a simple device or system that could help solve the identified environmental issue, using recyclable materials.
<p>Arts (A):</p>	<p>Topics:</p> <ul style="list-style-type: none"> ❖ Activity: Create art pieces that reflect the concept of stewardship and the beauty of the natural world, using recycled or sustainable materials. ❖ Project: Organize an art show in the school or community to display the created artworks and raise awareness about environmental stewardship.
<p>Math (M):</p>	<p>Topics:</p> <ul style="list-style-type: none"> ❖ Activity: Calculate the carbon footprint of the classroom or school and discuss ways to reduce it. ❖ Project: Analyze data on local recycling rates or water usage and create graphs or charts to present findings. Propose mathematical solutions to improve these rates.
<p>Social Studies (SS):</p>	<p>Topics:</p> <ul style="list-style-type: none"> ❖ Activity: Investigate the history of environmental stewardship in your area or a case study of a community that successfully implemented sustainability practices. ❖ Project: Interview local environmental stewards or invite a speaker to class to discuss the importance of

	environmental stewardship in maintaining community well-being.
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Assessment Criteria

Students will be assessed on their engagement in research and project development, creativity and innovation in their solutions or presentations, teamwork and collaboration, and their ability to connect their projects to the broader theme of environmental stewardship. This lesson plan not only educates students about environmental stewardship from an interdisciplinary perspective but also empowers them to take action within their communities, fostering a sense of responsibility and agency in the next generation of environmental stewards.