

STEAMS Wangari Maathai Project-Based Lesson Plan (K-12)

Objective: The primary objective of this lesson plan is to immerse students in an interdisciplinary exploration of Wangari Maathai's life and her significant contributions to environmental conservation, social justice, and women's empowerment. By integrating STEAMS components, students will delve into various aspects of Wangari Maathai's story, including science, technology, engineering, arts, mathematics, and social studies. Through this exploration, students will develop critical thinking skills, empathy, and an understanding of the interconnectedness between environmental sustainability, social activism, and human rights.

Key Components

Science (S):	Topics: <ul style="list-style-type: none">❖ Investigate the scientific principles underlying environmental conservation and sustainability.❖ Explore the ecological impact of deforestation and the importance of reforestation initiatives.
Technology (T):	Topics: <ul style="list-style-type: none">❖ Utilize digital tools to research Wangari Maathai's biography, her initiatives such as the Green Belt Movement, and the use of technology in environmental activism.❖ Analyze data related to environmental degradation and the effectiveness of conservation efforts.
Engineering (E):	Topics: <ul style="list-style-type: none">❖ Engage in an engineering design challenge inspired by Maathai's reforestation efforts.❖ Design and build models or prototypes of sustainable solutions

	for addressing environmental challenges in local communities.
Arts (A):	<p>Topics:</p> <ul style="list-style-type: none"> ❖ Explore the artistic representations of Wangari Maathai's life and activism through literature, visual arts, and music. ❖ Create original artwork or performances inspired by Maathai's environmental legacy and the beauty of nature.
Math (M):	<p>Topics:</p> <ul style="list-style-type: none"> ❖ Apply mathematical concepts to analyze data on deforestation rates, biodiversity loss, and the impact of climate change. ❖ Explore mathematical modeling to understand the dynamics of ecosystems and the benefits of reforestation.
Social Studies (SS):	<p>Topics:</p> <ul style="list-style-type: none"> ❖ Delve into the social and historical context of Wangari Maathai's life, including her upbringing in Kenya and the political landscape of the time. ❖ Discuss Maathai's advocacy for human rights, democracy, and the intersectionality of environmental and social justice.

Project Phases and Timeline:

Day 1: Science	<ul style="list-style-type: none"> ❖ Introduction to Wangari Maathai and her environmental activism. ❖ Discussion on the scientific principles underlying environmental
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	conservation.
Day 2: Technology	<ul style="list-style-type: none"> ❖ Research Wangari Maathai's biography and the technological tools utilized in environmental activism. ❖ Utilize digital platforms to explore Maathai's initiatives and their impact.
Day 3: Engineering	<ul style="list-style-type: none"> ❖ Engage in an engineering design challenge inspired by Maathai's reforestation efforts. ❖ Design and construct models or prototypes of sustainable solutions for environmental challenges.
Day 4: Arts	<ul style="list-style-type: none"> ❖ Explore artistic representations of Wangari Maathai's life and activism. ❖ Create original artwork or performances inspired by Maathai's environmental legacy.
Day 5: Math	<ul style="list-style-type: none"> ❖ Apply mathematical concepts to analyze data related to environmental degradation and conservation efforts. ❖ Explore mathematical modeling to understand the dynamics of ecosystems.
Day 6: Social Studies	<ul style="list-style-type: none"> ❖ Delve into the social and historical context of Wangari Maathai's life and activism. ❖ Discuss Maathai's advocacy for human rights, democracy, and environmental justice.

Assessment Criteria

Students will be assessed based on their participation in discussions, completion of assignments and projects, creativity in design challenges and artwork, and understanding of Wangari Maathai's life and her contributions to environmental conservation and social justice. Assessment will be ongoing throughout the lesson plan, with opportunities for both formative and summative evaluation.