Green Habits, Brighter Future
March 2025 Lesson Plan: High School

Grade Level: 9-12
Duration: 45-60 minutes

Objective

Students will analyze the concept of sustainability by examining their ecological footprint. They will evaluate their daily habits, discuss the global impact of resource consumption, and develop action plans to promote sustainability in their community.

Key Vocabulary

- **Ecological Footprint** – The impact of an individual or community on the environment, expressed as the amount of land required to sustain their use of natural resources.
- **Carbon Footprint** – The total amount of greenhouse gases produced by human activities, typically measured in equivalent tons of carbon dioxide (CO2).
- **Sustainability** – Meeting present needs without compromising the ability of future generations to meet their own needs.
- **Renewable vs. Nonrenewable Resources** – Resources that replenish naturally over time (e.g., solar energy) versus those that are finite (e.g., fossil fuels).
- **Life Cycle Assessment (LCA)** – A technique to assess the environmental impact of a product from raw material extraction to disposal.

Materials Needed

- Eco-Footprint Analysis Worksheet (tailored for high school level)
- Online carbon footprint calculators (e.g., EPA or Global Footprint Network)
- Projector or whiteboard for group discussions
- Internet access for research

Lesson Outline

1. Introduction (10 minutes)

- Begin with the question: *What does it mean to "go green"?*
- Discuss real-world examples of sustainability efforts, such as carbon neutrality goals of companies and governments.
- Introduce key vocabulary and concepts.

2. Eco-Footprint Analysis (20 minutes)

- Distribute the **Eco-Footprint Analysis Worksheet**.
- Have students calculate their personal ecological footprint using an online calculator.
- In pairs, discuss surprising findings and identify the biggest contributors to their footprint.

3. Group Discussion & Critical Thinking (15 minutes)

- **Discussion Questions:**
  - What habits contribute most to your ecological footprint?
  - How do individual choices scale up to a global impact?
  - What are barriers to sustainability in your community or lifestyle?
- Introduce the concept of **Life Cycle Assessment (LCA)** by analyzing a common item (e.g., a plastic bottle) and discussing its environmental impact from production to disposal.

4. Eco-Challenge: Community Sustainability Initiative (15 minutes)

- **Task:** Students will design a sustainability initiative to reduce their school's or community's ecological footprint.
- **Examples of projects:**
  - Implementing a school-wide composting or recycling program.
  - Advocating for a "Meatless Monday" campaign to reduce food-related emissions.
  - Conducting an energy audit to reduce electricity waste in school buildings.
- Groups will create a brief proposal outlining the issue, solution, and implementation steps.

5. Reflection & Wrap-Up (5 minutes)

- Students will share one action they commit to taking this month to reduce their ecological footprint.
- Discuss how small changes, when multiplied, create meaningful environmental impact.
- Homework (optional): Research and write a short report on a sustainability initiative from another country and how it could be applied locally.

Assessment & Extensions

- **Formative Assessment:** Participation in discussion and worksheet completion.
- **Summative Assessment:** Sustainability initiative proposal.
- **Extension Activity:** Students create a digital infographic showcasing ways to reduce their ecological footprint and present it to the class.

Conclusion: By making informed choices and taking collective action, students can play a crucial role in building a more sustainable future.