

LIFE CYCLE ASSESSMENT CHALLENGE



KEYWORDS

Life cycle assessment environmental consulting sustainability analysis
carbon footprint circular economy

Environmental consultants and sustainability analysts help companies understand the full environmental impact of the products they make and sell. They use Life Cycle Assessment (LCA) tools to analyze impacts from raw material extraction, production, transportation, use, and disposal. Their work helps businesses choose better materials, improve designs, and reduce waste and emissions. These green jobs are important because they guide industries to become more sustainable and help consumers make informed choices. As companies and governments focus more on reducing carbon footprints and protecting resources, careers in environmental assessment and consulting are growing worldwide.

AGE RANGE

12-16 years

SMALL GROUPS

(3-4 students)

DURATION

45 minutes

MATERIALS

- Product examples
- LCA worksheets
- Calculators
- Environmental impact data sheets
- Presentation templates



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PROCEDURE

1. Select product for analysis (smartphone, t-shirt, or water bottle)
2. Research and document each lifecycle stage
3. Calculate environmental impacts using provided data
4. Identify three improvement opportunities
5. Compare with alternative product options
6. Present findings in 3-minute summary

INSTRUCTIONAL GUIDELINES FOR FACILITATOR

- Provide pre-researched environmental impact data to save time
- Focus on major lifecycle stages to fit time limit
- Encourage critical thinking about consumption choices
- Connect to environmental consulting careers



LEARNING OUTCOMES

- Understand environmental impact assessment
- Learn about environmental consulting careers
- Practice analytical thinking and data interpretation

EXTENSION SUGGESTIONS

- Analyze personal consumption patterns
- Research companies with strong sustainability practices
- Calculate carbon footprint of daily activities

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