



4-H Grab and Go: *Life Cycle Analysis*

Concept:

Life Cycle Analysis.

Age Level:

Middle School: Grades 6-8

Education Standard:

NS.5-8.6 Personal and Social Perspectives: Populations, Resources, and Environments

SET Ability:

Predict, Hypothesize, Collect Data, Infer, Question, Plan Investigation, Summarize, Communicate

Life Skill:

Critical Thinking, Wise Use of Resources, Self-Responsibility, Communication

Success Indicator:

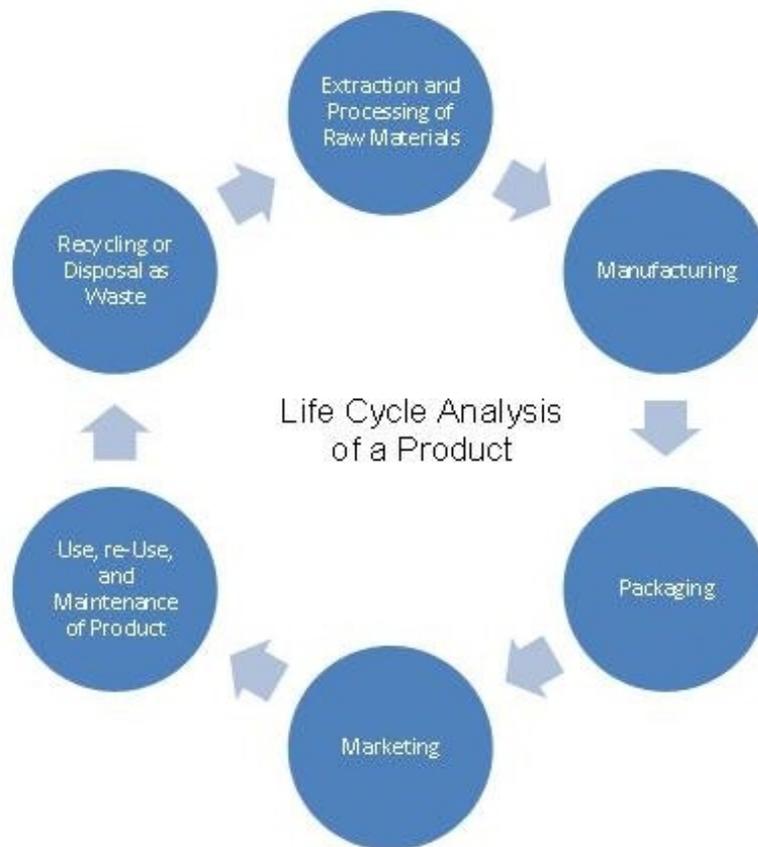
Youth will be able to apply the life cycle analysis to manufactured goods that they use to become better stewards of their environment.

4-H Curriculum:

Exploring Your Environment (www.4-H.org/curriculum/environment)

Background Information:

Life cycle analysis is the **analysis or cycle design** of a product that looks at or design a product or material from the beginning to the end of its life to assess the environmental standards and the impact had on the environment. A typical lifecycle is: raw material, manufacture, end product, use, reuse, recycling and disposal. The phrase – from the cradle to the grave – is commonly used to describe this cycle.

**PREPARATION**

Time: 20 minutes

Space:

Classroom with computer and Internet access

Materials:

- Items to analyze – light bulb, tennis shoe, plastic bag and newspaper. Other items that youth can analyze can be items they find in classroom or on their person.
- Pencils/pens
- Notebook paper

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Life Cycle Analysis

YOUTH DEVELOPMENT TIP

When asking questions, recognize all possible solutions / answers.

Respond with additional questions to probe for deeper learning and stimulate dialogue.

Checkpoint:

Provide a model for the life cycle analysis, allowing opportunities for discussion and for students to further research their product.

Open Ended Questions:

- Why is life cycle analysis an important aspect of earth stewardship?
- How does the analysis of a product's life cycle lead to a greater understanding of business practices?

Instructions:

1. Ask youth to choose an item to analyze.
2. Present the life cycle analysis chart to the youth.
3. Have youth develop and write several questions in their notebook that they can use to answer to complete an analysis of the product. Examples are:
 - a. Where was the item manufactured?
 - b. Where was the packaging made?
 - c. What is the product and packaging made of?
 - d. What materials are in the product and packaging?
 - e. How is the product marketed?
 - f. To who is the product marketed?
 - g. Are the materials biodegradable?
 - h. What happens to the product when we are done using it?
 - i. Can any parts or whole of the product be reused?
 - j. Where is the product disposed?
4. Use internet resources and the item packaging to investigate and complete the life cycle analysis chart.
5. Have youth present their findings to the group. This can be done through a written description, demonstration, poster presentation, chart, PowerPoint, art medium, creative performance, vodcast, etc.
6. Gather students to discuss the activity:
 - a. Why is it important to do this activity?
 - b. What did you learn by doing the life cycle analysis?
 - c. What was challenging about the activity?
 - d. How does this increase environmental awareness?
 - e. What would you want to learn more about the product?
 - f. How will you use what you learned in everyday life?
 - g. How can you use what you learned in this activity to analyze other products?