



Introduction to the Product Life Cycle

Read the following introduction and answer the questions that follow:

The product life cycle is a crucial concept that helps us understand the environmental impacts of our daily choices. This worksheet is designed to help students learn about the product life cycle and its significance in promoting sustainability.

1. What is the product life cycle?

2. Why is it important to understand the product life cycle?

Stages of the Product Life Cycle

Match the stages of the product life cycle with their descriptions:

Stage	Description
Extraction	The process of obtaining raw materials from the earth.
Production	The process of manufacturing a product using raw materials.
Distribution	The process of transporting a product from the manufacturer to the consumer.
Use	The process of using a product by the consumer.
Disposal	The process of getting rid of a product at the end of its life cycle.

Environmental Impacts of the Product Life Cycle

Read the following text and answer the questions that follow:

The product life cycle has various environmental impacts, including air pollution, water pollution, and waste generation. The extraction stage can lead to deforestation, soil erosion, and loss of biodiversity. The production stage can result in energy consumption, greenhouse gas emissions, and waste generation. The distribution stage can lead to air pollution, noise pollution, and energy consumption. The use stage can result in waste generation, energy consumption, and pollution. The disposal stage can lead to waste generation, pollution, and environmental degradation.

1. What are some environmental impacts of the extraction stage?

2. How can consumers reduce waste and promote sustainability during the use stage?

Case Study - Mobile Phone

Read the following case study and answer the questions that follow:

A mobile phone is a product that goes through all the stages of the product life cycle. The extraction stage involves the mining of metals and minerals, such as copper, gold, and lithium. The production stage involves the manufacturing of the phone using these materials. The distribution stage involves the transportation of the phone from the manufacturer to the consumer. The use stage involves the consumer using the phone. The disposal stage involves the consumer getting rid of the phone at the end of its life cycle.

1. What are some environmental impacts of the production stage of a mobile phone?

2. How can consumers extend the life cycle of a mobile phone?

Design a Sustainable Product

Design a sustainable product and explain its features:

Consider the following factors when designing your product:

- Energy efficiency
- Waste reduction
- Recyclability

[Space for design and description]

Reduce, Reuse, Recycle

Read the following text and answer the questions that follow:

Reducing, reusing, and recycling are important practices that can help reduce waste and promote sustainability. Consumers can reduce waste by buying in bulk, avoiding single-use products, and using reusable bags. Consumers can reuse products by finding alternative uses for them or by donating them to others. Consumers can recycle products by participating in recycling programs or by composting organic waste.

1. What are some ways to reduce waste?

2. What are some benefits of recycling?

Environmental Impact Analysis

Analyze the environmental impacts of a product of your choice and propose ways to reduce them:

Consider the following factors when analyzing the environmental impacts of your product:

- Energy consumption
- Waste generation
- Pollution

[Space for analysis and proposal]

Sustainable Consumption

Read the following text and answer the questions that follow:

Sustainable consumption involves making choices that reduce waste and promote sustainability. Consumers can promote sustainable consumption by buying sustainable products, reducing waste, and promoting eco-friendly practices. Sustainable consumption can help reduce the environmental impacts of the product life cycle and promote a more sustainable future.

1. What are some benefits of sustainable consumption?

2. How can consumers promote sustainable consumption?

Product Life Cycle Diagram

Create a diagram of the product life cycle and label each stage:

[Space for diagram]

Reflection

Reflect on what you have learned about the product life cycle:

1. What did you learn about the product life cycle?

2. How can you apply what you learned to your daily life?

Conclusion

Conclude what you have learned about the product life cycle:

1. What is the importance of understanding the product life cycle?

2. How can we promote sustainability and reduce waste in our daily lives?

