

## Jeans

Name \_\_\_\_\_

### Documenting the Life Cycle of a Pair of Jeans

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#### Objective

Estimate the overall environmental costs throughout the life cycle of a pair of jeans.

#### Questions to Consider in Describing the Life Cycle of a Pair of Jeans

1. How much water is required to grow the cotton needed for the jeans?
2. What are the land acreage requirements for growing the cotton required for the jeans?
3. What are the power needs to run the equipment to make the jeans? Are there special manufacturing processes that require energy?
4. What chemicals and other materials are required to dye the jeans?
5. What are the environmental needs of incorporating various accessories such as buttons, zippers, labels, and rivets into the jeans?

How are the raw materials acquired? Do they need to be mined?

Is any extra material needed to incorporate them into the jeans?

6. What are the possible transportation requirements for the workers driving to and from the factory?

7. What are the transportation requirements to ship the cotton to the location where the jeans are made?

What about the transportation requirements to ship the jeans to the location where they are purchased?

8. What packaging may be required during shipping?

9. Are there environmental needs for the jeans once they are purchased?

How much water and energy are required to wash them after they are worn?

Are any chemicals used when the jeans are washed?

10. What are the environmental costs once the jeans are thrown away?

What are the landfill needs?

11. How would choosing second-hand items or using an item for a longer time affect the environment?

Describe in Words the Overall Environmental Cost Throughout the Life Cycle of a Pair of Jeans

## Glossary of Relevant Topics

*Life Cycle Assessment:* A cradle-to-grave analysis used to assess environmental impacts associated with all the stages of a product's life, which extend from the creation of the raw materials to the processing, manufacturing, distribution, use, and disposal of the materials.

*Chemical:* An element or combination of elements. For example, oxygen in the air is a chemical. Water, which is a combination of two hydrogen atoms bonded to an oxygen atom, is also a chemical.

*Environmental Cost:* The potential or actual deterioration of natural assets and resources (e.g., clean water, clean air, healthy soil, oil, and naturally occurring minerals such as copper, gold, and aluminum) within the environment as a result of human activity.

*Second-Hand:* A piece of personal property that is being purchased by or otherwise transferred to a second or later end user.