Title: Cotton vs. Other Fibers

PO:
Given a web site to review, compare cotton fiber to other fibers. As a minimum you must attain a score of 7 of 10 points to pass.

<table>
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<tr>
<th>Content</th>
<th>Activities</th>
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<tr>
<td>Introduction:</td>
<td>Show Ppt.-1 and 2, Objective</td>
</tr>
<tr>
<td>State the PO</td>
<td>Pass out the Pre-test and have students complete it.</td>
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<tr>
<td>Check for understanding</td>
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<tr>
<td>Explain WHY?</td>
<td></td>
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<tr>
<td>Check for prior knowledge or skill</td>
<td></td>
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Body:

Common Fibers Examples:

- Natural fibers
  - Cotton
  - Flax (linen cloth)
  - Bamboo

- Animal Fibers
  - Wool
  - Silk
  - Mohair
  - Cashmere
  - Alpaca

- Man-made Fibers
  - Polyester
  - Rayon
  - Spandex
  - Olefin

Cotton has significant environmental and performance advantages over other fibers. A few examples:

- Cotton uses sunlight and converts it directly to a fiber without intermediate processing steps. That’s increasingly important, since processing other fibers, even those from biological sources, require a large amount of energy to produce fiber.

- Wool requires four times more land than does cotton to produce fiber. Silk requires 20 times the land to produce the equivalent amount of silk fiber.

- Fibers that are based on corn and bamboo also require intermediate processing and additional chemicals to create a rayon-type fiber, which is still not a direct plant-based production of fiber.

- As a natural, renewable fiber, cotton has obvious environmental and sustainability advantages over
petroleum-based synthetic fibers. Unlike petroleum-based fibers, cotton is energy self-sustaining, and does not contribute to net greenhouse gas emissions.

<table>
<thead>
<tr>
<th>Summary:</th>
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<tbody>
<tr>
<td>Emphasize that cotton is a more environmental and sustainability fiber than competing natural, animal, and man-made fibers.</td>
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<tr>
<th>Evaluation:</th>
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<tr>
<td>Pass out the Posttest and have students complete it. Then need to score 7 out of 10 points to pass.</td>
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<tr>
<th>Conclusion:</th>
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<tbody>
<tr>
<td>Review the main items of the lecture. Encourage the students to use these main points when they interview for a future job. Explain that the next lesson will be over &quot;Follow-up on the Job Interview.&quot; Don't leave any doubt that you're finished with the lecture.</td>
</tr>
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<tr>
<td><a href="http://cottontoday.cottoninc.com/sustainability-about/cotton-vs-other-fibers/">http://cottontoday.cottoninc.com/sustainability-about/cotton-vs-other-fibers/</a></td>
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<th>Training aids:</th>
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<tr>
<td>The activity requires the class to move to the computer lab. Students will need to know how to log onto the lab computers and search the Internet.</td>
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| Notes: |
Cotton vs. Other Fiber

Performance Objective
Given a web site to review, compare cotton fiber to other fibers. As a minimum you must attain a score of ___ of ___ points to pass.

Fiber Examples -- Natural Fibers
- Cotton
- Flax
- Bamboo

Fiber Examples -- Animal Fibers
- Wool
- Silk
- Mohair
- Cashmere
- Alpaca

Fiber Examples -- Man Made Fibers
- Polyester
- Rayon
- Spandex
- Olefin

Energy Requirement
- Cotton uses sunlight and converts it directly to a fiber without intermediate processing steps.
- That’s increasingly important, since processing other fibers, even those from biological sources, require a large amount of energy to produce fiber.
Land Requirement

- Wool requires four times more land than does cotton to produce fiber.
- Silk requires 20 times the land to produce the equivalent amount of silk fiber.

Processing and Chemicals

- Fibers that are based on corn and bamboo also require intermediate processing and additional chemicals to create a rayon-type fiber, which is still not a direct plant-based production of fiber.

Cotton has Environmental and Sustainability Advantages

- As a natural, renewable fiber, cotton has obvious environmental and sustainability advantages over petroleum-based synthetic fibers.
- Unlike petroleum-based fibers, cotton is energy self-sustaining, and does not contribute to net greenhouse gas emissions.
Activity Sheet

Cotton vs. Other Fibers

Cotton has significant environmental and performance advantages over other fibers.

While you are in the computer lab, log on and find the following web page:

http://cottontoday.cottoninc.com/sustainability-about/cotton-vs-other-fibers/

Read the material on that web page and then find the answers to the following questions:

1. What does cotton use to covert it directly to a fiber without any intermediate processing?

2. Are there any other fibers, natural, animal, or man-made that convert their fibers without any intermediate processing?

3. Which requires the least land to produce its fibers, wool, silk, or cotton?

4. What is the difference in land requirement between wool and cotton?

5. What is the difference in land requirement between silk and cotton?

6. What natural fibers require more chemicals than cotton?

7. Which contributes more green house gases polyester or cotton?

8. How about Spandex, does it produce more green house gasses than cotton?
Pre-Test
Cotton vs. Other Fibers

Name: _______________________

The following statements may be True or False. Indicate the correct answer by putting a clear T for True or a clear F for False in front of the statement.

1. Wool does not need intermediate processing to turn it into wool fiber.
2. Cotton does need some intermediate processing to turn its raw product into cotton fiber.
3. Bamboo, a natural fiber, does not need any intermediate processing to turn it into bamboo fiber.
4. Silk takes the least amount of land to produce its fiber.
5. Cotton needs less land to produce the same amount of fiber as does wool.
6. Flax needs more chemicals to produce its plants than does cotton.
7. Cotton needs more chemicals that bamboo when growing the plants for their fiber.
8. The making of flax for linen creates more green house gasses than does the making of cotton fibers.
9. Polyester contributes more green house gases than cotton?
10. Cotton contributes more green house gases than Spandex.
Pre-Test Answer sheet

Cotton vs. Other Fibers

Name: _______________________

The following statements may be True or False. Indicate the correct answer by putting a clear T for True or a clear F for False in front of the statement.

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9. Polyester contributes more green house gases than cotton?
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Pre-Test Answer Sheet
Cotton vs. Other Fibers

1. Wool **does not need** intermediate processing to turn it into wool fiber.
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9. Polyester contributes more green house gases than cotton?
10. Cotton contributes more green house gases than Spandex.

**To pass the students must get 7 right.**
# Posttest

## Cotton vs. Other Fibers

Name: _____________________________

The following statements may be True or False. Indicate the correct answer by putting a clear T for True or a clear F for False in front of the statement.

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<tbody>
<tr>
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<td>Wool <strong>needs more</strong> intermediate processing to turn it into wool fiber than does cotton to make cotton fiber.</td>
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<td>Cotton <strong>does not need</strong> intermediate processing to turn its raw product into cotton fiber.</td>
</tr>
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<td>4.</td>
<td>Bamboo, a natural fiber, <strong>does need</strong> more intermediate processing to turn it into bamboo fiber than does cotton to turn itself into a fiber.</td>
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<td>Silk takes the <strong>most amount of land</strong> to produce its fiber.</td>
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