



# The Book Planter



## Ag in the Classroom

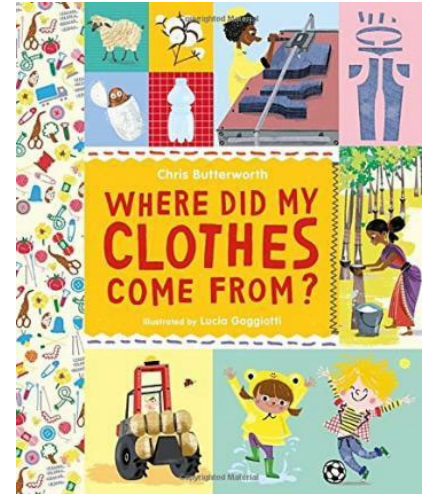
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*Where Did My Clothes Come From?*

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Did you know that the cotton for your jeans was picked from a plant? How did the colorful wool in your sweater get from a sheep's back to a ball of yarn? Where did your soccer uniform, your rain boots, and your fleece jacket come from? And what does recycling plastic bottles have to do with anything? This book will take you to visit farms, forests, and factories all over the world to find out how everything you wear has a story behind it. The fabrics covered include denim, wool, synthetics, and suggestions on how to recycle or repurpose old clothes are also provided.



### Fun Facts

- **Fiber** is the word farmers and ranchers use to describe the raw product for fabric. The two most commonly used farm-produced fibers are **wool** and **cotton**.<sup>1</sup>
- More than 24 million American workers (17 percent of the total US workforce) process and sell the nation's food and fiber.<sup>1</sup>
- Wool is naturally fire resistant.<sup>2</sup>
- Cotton has been cultivated and used to make fabrics for at least 7,000 years.<sup>3</sup>
- Today, US cotton is entirely machine harvested. Some of today's high-capacity gins can turn out as much as 30,000 pounds of clean, cotton fiber in one hour.<sup>3</sup>
- The first North Carolina cotton mill was established in 1815 near Lincolnton and operated until 1819.<sup>4</sup>
- Fiber from cotton is used to manufacture textiles while the cottonseed is crushed to produce cooking oil and animal feed.<sup>4</sup>
- North Carolina produced enough cotton in 2019 to make over 160,000,000 pairs of jeans.<sup>5</sup>

### KWL Charts

In the book, *Where Did My Clothes Come From?*, the students will learn how we get fiber from plants and animals, and how certain pieces of clothing are made. Write the following categories on the board: Jeans, Sweater, Party Dress, Soccer Uniform, Fleece Jacket, and Rubber Boots. Have the students create KWL (What I Know, What I Want to Know, and What I Learned) charts for each category. Before reading the book, have the students write what they know about where each category starts (for example, from a plant or animal) and how it's made in the appropriate column. Then, ask the students to fill out the What I Want to Know Column. Next, read *Where Did My Clothes Come From?* Tell students to jot down notes on

note paper about the processes for each category. After reading (and/or after completing the activities below), tell the students to write what they learned for each category in the final column using their notes. Encourage the students to write in complete sentences. See the example chart.

Category	What I Know	What I Want to Learn	What I Learned
Jeans			
Sweater			
Party Dress			
Soccer Uniform			
Fleece Jacket			
Rubber Boots			

### Dyeing, Spinning, and Weaving Wool<sup>6</sup>

#### Materials

- Carded wool
- Wool spinning hooks
- Vinegar
- Glass bowl
- Microwave
- Kool-Aid
- Weaving Instructions (see **Links** section)
- Cardboard
- String



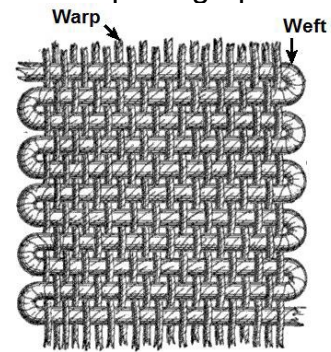
Note: Carded wool and spinning hooks can be purchased in a Wool Spinning Kit from [agclassroomstore.com](http://agclassroomstore.com) (see **Links** section)

1. Explain to the students that they will have an opportunity to dye, spin, and weave wool.
2. Dyeing Wool
  - a. In a glass bowl, combine 1 package of Kool-Aid, 1 cup of water, and 1 tablespoon of vinegar. Stir until the Kool-Aid completely dissolves.
  - b. Completely immerse an arm's length of wool into the Kool-Aid mixture.
  - c. Place the bowl of wool and Kool-Aid mixture into a microwave. Heat on high for two minutes.
  - d. Remove the bowl from the microwave and allow cooling. **BE CAREFUL, IT'S HOT!**
  - e. After the mixture has cooled, rinse the wool in cold water and allow to dry.
3. Spinning Wool
  - a. Give each student a piece of wool approximately ¼" wide and 14" long. Fold about ½" of wool over the end of the spinning hook and begin spinning.
  - b. Back your non-spinning hand out as the wool is spun; this is called **drafting**.

- c. Draft out the wool so that the spun wool is taut, but not “bumpy.” If you get twisted bumps in your spun yarn, draft (or let out) more unspun wool. When you have twisted the entire length of the wool, don’t let go—it will unspin. You are now ready to ply your yarn.
- d. **Plying** the yarn will keep it from unspinning and make it stronger. Plying is the twisting together of two single strands of spun wool. Have someone hold the center of the twisted wool while you hold the ends.
- e. Bring the ends of the wool together in one hand so that there are two strands side-by-side. Have your helper let go, and let the wool twist together. It should spring into a twisted strand. The double strand is now called plied yarn.

#### 4. Weaving Wool

- a. Note: Refer to the Weaving Instructions (Links section) to view photographs of each step of the weaving process.
- b. Cut a rectangular piece of cardboard to your desired size. We used a 5” x 5” piece. This will become your loom.
- c. Use scissors to cut ¼” slits that are ½” apart along two opposite ends of the cardboard.
- d. To create the warp on the loom, tape one end of the string to the back of the cardboard. Then string it through the first notch, around the front of the cardboard piece from top to bottom and into the opposite notch. Continue until all of the notches have been filled. Tape the second end of the string to the back of the cardboard.
- e. Tie several strands of the spun and plied wool from step three to make one long piece.
- f. Use the spinning hook from the kit as your shed stick. Feed the shed stick over and under the warp with every second string being raised.
- g. Weave the yarn across the loom following the pattern of the shed stick. This yarn is known as the **weft**. To weave the second row, feed the shed stick in the opposite over under pattern from the previous row and follow the pattern with the yarn. Use the shed stick to gently push each row together.  
Repeat this process until the weaving is finished.
- h. When the weaving is finished, insert a twig or dowel above and below the woven piece.
- i. Detach the string from the cardboard notches and tie the loose ends to the twigs. An extra piece of yarn can be tied to the top twig for hanging.



## Wool Then and Now<sup>6</sup>

1. Ask the students how the process of dyeing, spinning and weaving wool is explained in *Where Did My Clothes Come From?* and how it differs from the processes they completed in the last activity.
2. Lead a discussion with the students about the continued importance of wool today. Explain that they will be viewing two short movies about how wool cloth was made in colonial times and how it is made today.
3. Show the students the following videos
  - a. 18<sup>th</sup> Century Wool Production <https://www.youtube.com/watch?v=HYIVOqZFFqA>
  - b. How It's Made Wool <https://www.youtube.com/watch?v=FsRxMsBGuFs>
4. As a class, compare and contrast the processes used then and now for shearing, cleaning, carding, dyeing, spinning, and weaving wool.
5. Discuss the modern advances in technology that allow for more efficient wool processing.

## Cotton Research

Have students answer the following questions either by researching on the internet (using viable sources) or printed materials about cotton. Some of the questions can be answered by the book, *Where Did My Clothes Come From?*

1. How much does a bale of cotton weigh, on average? (Usually between 480 and 500 pounds)
  - a. Bonus question, ask the students how many jeans could be produced from one bale of cotton. They will have to research to get a few more figures for their math problem. Tell them to show how they got their answer by showing their work.
2. What are cotton gins for? (They separate the seeds from the lint fibers)
3. Who invented the first cotton gin? (Eli Whitney)
4. How can one tell when a cotton flower has been pollinated? (The petals turn from white to light pink)
5. What state plants the most cotton? (Texas)
6. What kinds of places convert cotton fibers to yarn? (textile mills)

## Cotton Clothes and Combos (worksheet attached)<sup>7</sup>

Students will determine possible combinations of their favorite cotton clothes.

## Links

- Weaving Instructions  
[https://naitc-api.usu.edu/media/uploads/2016/02/25/weaving\\_instructions\\_1.pdf](https://naitc-api.usu.edu/media/uploads/2016/02/25/weaving_instructions_1.pdf)
- Wool Spinning Kit  
<https://agclassroomstore.com/wool-spinning/>
- Wool Spinning Tutorial (video)  
<https://www.youtube.com/watch?v=xwnx1dIMSYo>

## Sources

1. <https://www.agclassroom.org/teacher/matrix/lessonplan.cfm?lpid=5>
2. <https://www.agclassroom.org/teacher/matrix/lessonplan.cfm?lpid=230>
3. <https://www.agclassroom.org/teacher/matrix/lessonplan.cfm?lpid=111>
4. <https://www.ncfieldfamily.org/farm/farm-facts-cotton/4/>
5. [https://www.nass.usda.gov/Quick\\_Stats/Aq\\_Overview/stateOverview.php?state=NORTH%20CAROLINA](https://www.nass.usda.gov/Quick_Stats/Aq_Overview/stateOverview.php?state=NORTH%20CAROLINA)
6. <https://www.agclassroom.org/teacher/matrix/lessonplan.cfm?lpid=412>
7. [https://naitc-api.usu.edu/media/uploads/2015/09/03/Cotton\\_Clothes\\_and\\_Combos\\_Activity\\_Sheet\\_1.pdf](https://naitc-api.usu.edu/media/uploads/2015/09/03/Cotton_Clothes_and_Combos_Activity_Sheet_1.pdf)

## K-5 Subject Areas

Reading, Speaking and Listening, Science, and Social Studies

### Common Core/Essential Standards

#### Reading

- **RL.K.1** With prompting and support, ask and answer questions about key details in a text.
- **RL.1.1** Ask and answer questions about key details in a text.
- **RL.2.1** Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of **key** details in a text.
- **RL.3.1** Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the **basis for** the answers.
- **RL.4.1** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
- **RL.5.1** Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
- **RL.K.10** Actively engage in group reading activities with purpose and understanding.
- **RL.1.10** With prompting and support, read and understand literature of appropriate complexity for grade 1 for sustained periods of time.
- **RL.2.10** By the end of grade 2, read and understand literature within the 2-3 text complexity band proficiently and independently for sustained periods of time. Connect prior knowledge and experiences to text.
- **RL.3.10** By the end of grade 3, read and understand literature at the high end of the 2-3 text complexity band proficiently and independently for sustained periods of time. Connect prior knowledge and experiences to text.
- **RL.4.10** By the end of grade 4, read and understand literature within the 4-5 text complexity band proficiently and independently for sustained periods of time. Connect prior knowledge and experiences to text.
- **RL.5.10** By the end of grade 5, read and understand literature at the high end of the 4-5 text complexity band proficiently and independently for sustained periods of time. Connect prior knowledge and experiences to text.
- **RI.K.1** With prompting and support, ask and answer questions about key details in a text.
- **RI.1.1** Ask and answer questions about key details in a text.
- **RI.2.1** Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
- **RI.3.1** Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- **RI.4.1** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
- **RI.5.1** Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

#### Speaking and Listening

- **SL.K.2** Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.
- **SL.1.2** Ask and answer questions about key details in a text read aloud or information presented orally or through other media.



- **SL.2.2** Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.
- **SL.3.2** Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
- **SL.4.2** Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
- **SL.5.2** Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
- **SL.K.4** Speak audibly and express thoughts, feelings, and ideas clearly.
- **SL.1.4** Produce complete sentences to describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.
- **SL.2.4** Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent and complete sentences.
- **SL.3.4** Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly in complete sentences at an understandable pace.
- **SL.4.4** Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; adjust speech as appropriate to formal and informal discourse.
- **SL.5.4** Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; adapt speech to a variety of contexts and tasks.

#### Writing

- **W.K.2** Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.
- **W.1.2** Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide closure.
- **W.2.2** Write informative /explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.
- **W.3.2** Write informative /explanatory texts to examine a topic and convey ideas and information clearly.
- **W.4.2** Write informative /explanatory texts to examine a topic and convey ideas and information clearly.
- **W.5.2** Write informative /explanatory texts to examine a topic and convey ideas and information clearly.
- **W.K.6** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
- **W.1.6** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
- **W.2.6** Recall information from experiences or gather information from provided sources to answer a question.
- **W.3.6** Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.
- **W.4.6** Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.
- **W.5.6** Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.

#### Science

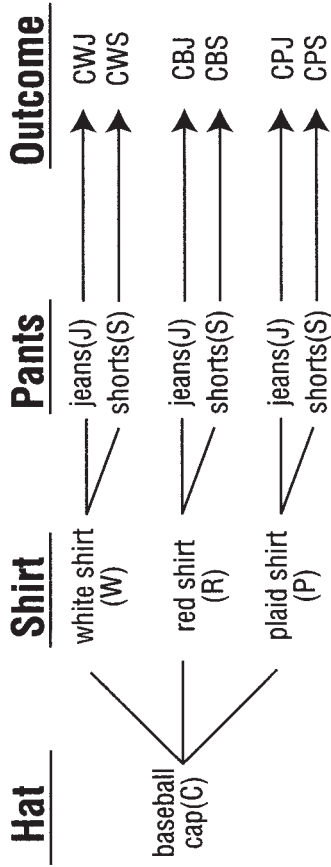
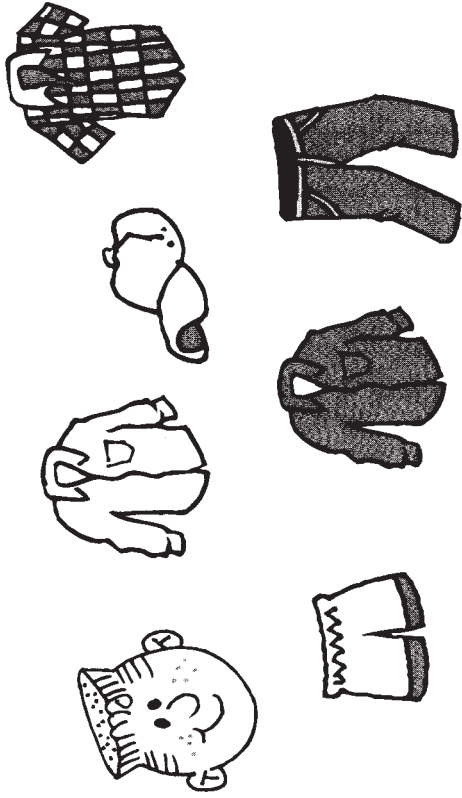
- **K.P.2.2** Compare the observable physical properties of different kinds of materials (clay, wood, cloth, paper, etc) from which objects are made and how they are used.
- **4.P.2.1** Compare the physical properties of samples of matter (strength, hardness, flexibility, ability to conduct heat, ability to conduct electricity, ability to be attracted by magnets, reactions to water and fire).
- **5.P.2.3** Summarize properties of original materials, and the new material(s) formed, to demonstrate that a change has occurred.

#### Social Studies

- **K.G.2.2** Explain ways people use environmental resources to meet basic needs and wants (shelter, food, clothing, etc.).
- **1.G.2.2** Explain how people use natural resources in the community.
- **2.G.2.1** Give examples of ways in which people depend on the physical environment and natural resources to meet basic needs.

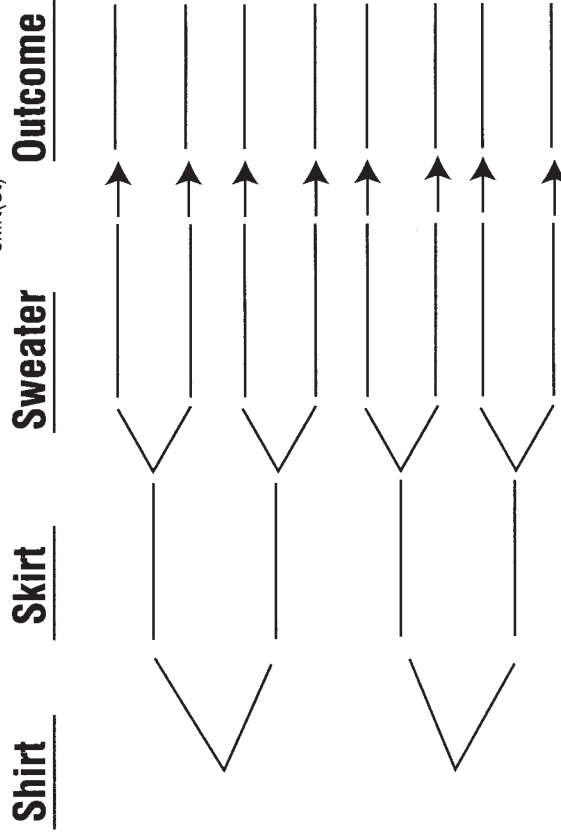
# Cotton Clothes & Combos

A tree diagram can help you determine possible combinations of your favorite cotton clothes. For example, you have: one baseball cap, three shirts, and two pairs of pants. If you choose one hat, one shirt, and one pair of pants for each outfit, how many outfits can you make?



- Shorts are included in how many of your outfits? \_\_\_\_\_
- A plaid shirt is included in how many of your outfits? \_\_\_\_\_
- A baseball cap is included in how many of your outfits? \_\_\_\_\_

Fill in this tree diagram to find out which combinations are possible with one shirt, one skirt, and one sweater for each outfit.



- A short skirt is included in how many outfits? \_\_\_\_\_
- A white sweater is included in how many outfits? \_\_\_\_\_
- A striped shirt is included in how many outfits? \_\_\_\_\_