

King Cotton

Utah Social Studies

Materials

- ◆ Cotton Boll kits, available through Utah Agriculture in the Classroom (www.agclassroom.org/UT)
- ◆ Hand lenses

Background

If you ask someone “What was the cause of the Civil War?” Chances are they will answer “slavery.” True, but why did the south want or need slaves? Cotton. By examining this important crop your students will grasp and be able to relate how cotton influenced the slave trade, slave culture, economic policies, the Civil War, and the industrial revolution.

Cotton picking was a job for healthy adult slaves. Generally, these slaves would hand pick cotton in the fields all day, and then by candlelight they would join the elderly, infirm, or children to gin the cotton by hand. Ginning cotton means removing the lint or fiber from the seed. It is important to remember that the more lint one removed from the seed the more profit from each boll. It would have been important for slaves to remove as much lint as possible from each seed. Your students may have anywhere from 12-42 seeds per boll, as did the slaves. A slave could gin one pound of cotton a day. After completing the following classroom activity, your students will be able to determine how many bolls of cotton they would need to make one pair of jeans. In fact, 120 ginned cotton bolls weigh only one pound.

Eli Whitney is generally credited with the invention of the cotton gin. His idea for this machine came while he was watching a cat try to catch a chicken in the barnyard. The cat’s unsuccessful attempt left him with a claw-full of feathers and no chicken (more specific detail about Eli Whitney’s machine can be found in the book “Guns, Germs and Steel” by Jared Diamond). Whitney decided to try a similar approach with cotton. He basically wanted to “rake” the seeds from the fiber. His machine, operated by a hand-crank, revolutionized the production of cotton. With the invention of the cotton gin, one slave could gin 50 pounds of cotton per day. Did this mean plantation owners needed fewer slaves? No, this machine meant cotton was a more economically profitable crop. Plantation owners needed more slaves to produce more cotton. This was important to southerners because their “production only” economy was in a slump. They had virtually no manufacturing. Factories for making fabric (textiles) were primarily in the North and in England.

Unlike wool, which has a very long and scale-like fiber, cotton is a short and smooth fiber. These physical differences make wool easier to spin into thread than cotton, either by hand or machine. Spinning cotton by hand is time consuming and difficult. Wool, and to some extent linen, was the fabric of choice until machine technology made cotton thread production viable. However, cotton production in the South was only economical or possible with the manufacturing industry in the North.

Today, the United States produces 43 million tons of cotton annually. The largest cotton producing states are Texas, Mississippi, and Georgia. Cotton is even an important crop in the West. Arizona and California are well-known for their Pima cotton, which is a finer, more expensive cotton fiber. Cotton is not grown in Utah because it requires much more water than is available in this environment. Cotton gins are now very large machines that do the work much faster than when it was done using Eli Whitney’s simple machine. And what do we do with the literally mountains of cottonseed after it is ginned? Most of those fuzzy seeds are fed to dairy cattle or processed into cottonseed oil, which can be found in nearly every kind of snack food including chocolate candy bars.



Time: 1 hour

Grade Level: 5

Standard 1 - Students will understand how the exploration and colonization of North America transformed human history.

Objective 2 – Assess the global impact of cultural and economic diffusion as a result of colonization.

Indicator a - Describe the cultural and economic impacts that occurred as a result of trade between North America and other markets (e.g., arts, language, ideas, the beginning and expansion of the slave trade, new agricultural markets).

Objective 3 – Distinguish between the rights and responsibilities held by different groups of people during the colonial period.

Indicator a – Compare the varying degrees of freedom held by different groups of people (e.g. American Indians, landowners, women, indentured servants, enslaved people).

Standard 4 – Students will understand that the 19th century was a time of incredible change for the United States including geographic expansion, constitutional crisis, and economic growth.

Objective 2 - Assess the geographic, cultural, political and economic divisions between regions that contributed to the Civil War.

Indicator a – Describe the impact of physical geography on the cultures of the northern and southern regions (e.g. industrial resources, agriculture, climate).

Indicator b – Compare how cultural and economic differences of the North and South led to tensions.



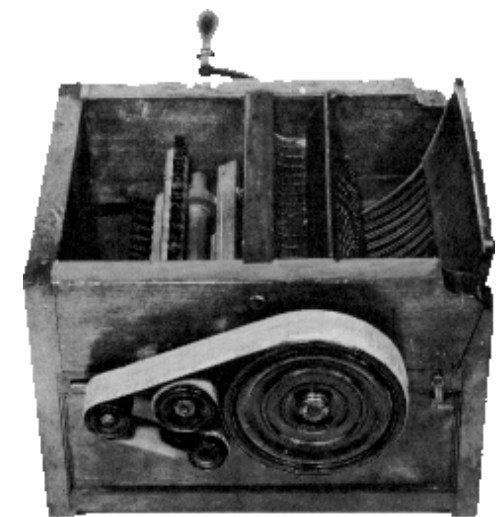
Activity Procedures

1. Contact Utah AITC and order Cotton Boll kits. The cotton in these kits has a longer fiber than the cotton harvested in the 1800s.
2. Share the background information about cotton and slavery.
3. Give each student or group of students one cotton boll.
4. Have your students examine the woody stem of the cotton boll. Ask students if they can understand why it was so painful to pick this plant by hand. Would gloves have been available? What may slaves have used to protect their hands from getting cut?
5. Share the background information about slaves and cotton ginning. Have your students predict how many seeds are in each boll, and then ask them to compare it to the actual number of seeds after ginning.
6. It can also be fun for students to listen to songs sung by slaves while they performed this tedious work. Many Negro spirituals can be downloaded from www.negrosprituals.com. What cultural differences may be expressed by this music? Do we still use music to pass the time while we work? What does the kind of music we listen to say about our cultural heritage?
7. Have your students weigh their fibers from one boll, and then compare it to the weight of a pair of jeans. A pair of jeans would be nearly 100% cotton (minus a zipper and a button).
8. Ask students to consider how many cotton bolls are needed to produce a pair of jeans.
9. Have your students examine the fiber under a hand lens or simple magnification lens. They will notice that these short fibers have almost a silky appearance.
10. Discuss the invention of the cotton gin. Ask your students how many years passed after the invention of the cotton gin until the beginning of the Civil War. Did the tension between the Northern and Southern states escalate after this important invention?

Additional Activity: What's Next?

1. Ask your students to listen to or read some of the arguments for ending slavery. Can they also identify why slavery would have been seen as a problem for those farmers who were trying to grow the crop? What would have to be done differently without the use of slaves on a cotton farm? What did a general farm laborer earn in the 1800s?
2. After completing the activities, follow up with the book [Working Cotton](#) by Sherley Anne Williams. This book has fantastic African American dialect and can also be a great language arts integration for discussing regional dialects and cultural differences. Other resources to share may include, [Roll of Thunder, Hear My Cry](#) by Mildred D. Taylor or the video (available from the Utah AITC loan library) "Cotton, the Perennial Patriot."
3. For a discussion on modern cotton farming, share with the class an excellent online slide show: "Cotton: From Field to Fabric in Forty Frames." This presentation describes the major steps involved in producing and processing cotton. It has great pictures and easy to read captions. As the teacher, you have control over the speed of the presentation which allows as much time as needed for commentary or questions. Download free from the National Cotton Council at www.cotton.org/pubs/cottoncounts/resources.cfm.

Teacher Notes:

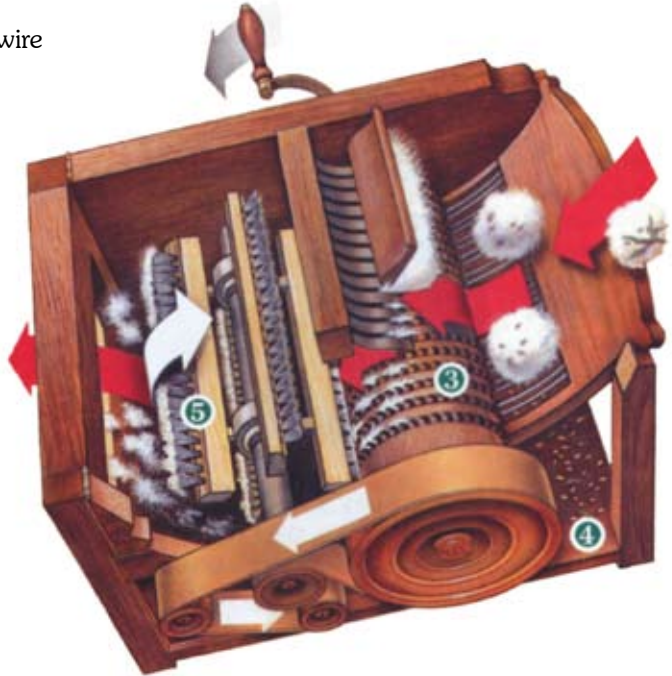


Eli Whitney's cotton gin

Linking History and Technology

Understanding the Cotton Gin

1. Cotton bolls, made up of fiber and seeds, are fed into the cotton gin. The dark arrows show the path of the cotton through the gin.
2. As the handle is turned, the cylinder and brushes rotate.
3. Wire teeth catch the cotton bolls and pull them through narrow wire slots.
4. The seeds are too large to pass through the slots. They fall to the bottom of the gin.
5. Rotating brushes pull cleaned cotton fiber from the wire teeth and sweep it out of the gin.



What can you make from a bale of cotton?

One bale of cotton weighs about 480 pounds and is about the size of your refrigerator.

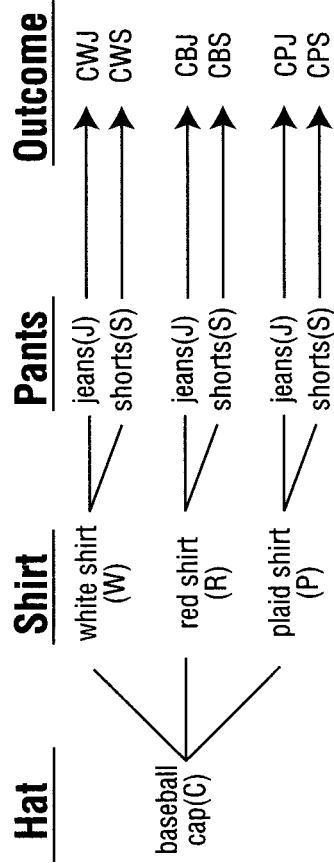
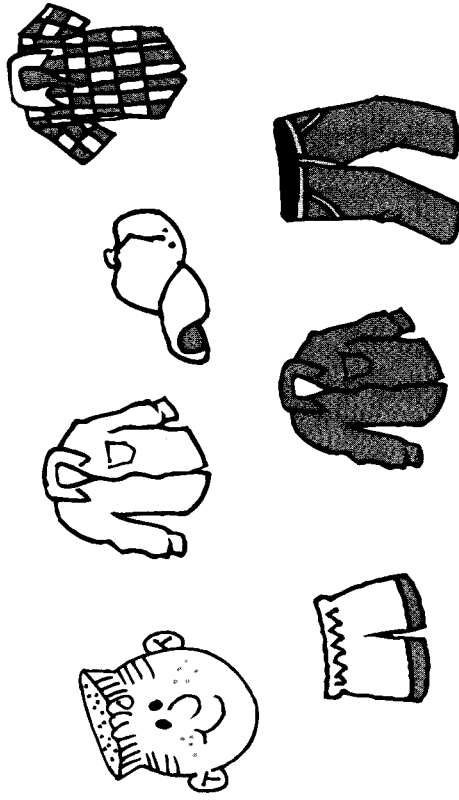
From that bale, you can make:

215	Pairs of Jeans
409	Men's Sport Shirts
690	Terry Bath Towels
765	Men's Dress Shirts
1,217	Men's T-shirts
3,085	Diapers
4,321	Mid-Calf Socks
313,600	\$100 Bills



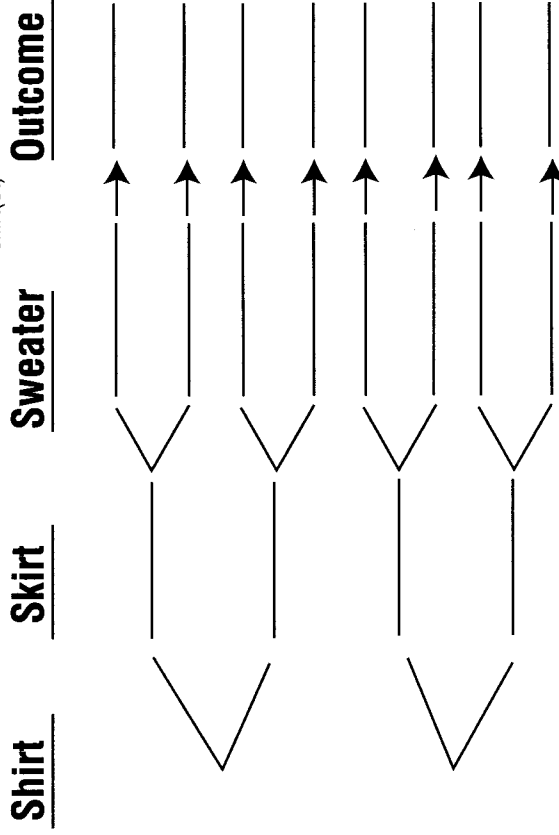
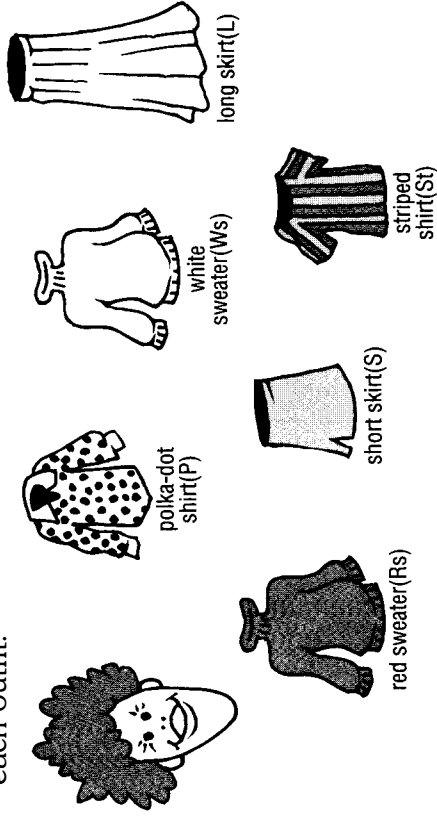
Cotton Clothes & Combos

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? _____