

The Cotton Chapter

Ag in 10 Minutes a Day!

Just like most of us, you probably got out of bed this morning, took a shower, brushed your teeth, and got dressed for the day. How many cotton products did you use? Chances are, your sheets and blanket are made of cotton, your towel and washcloth, your underwear, socks, jeans, and t-shirt are probably cotton as well. But you may have used even more cotton than that! Cotton is finding its way into many different products that we use every day.

What is Cotton?

Cotton is a soft fluffy fiber that grows on a plant. Cotton grows best in warm climates. India, China, and the United States are the top cotton producers.

In the U.S., cotton grows in the southern states, especially Texas. Farmers plant the seeds, and the plants will **germinate** in 5-10 days. The plants will grow to about 5 feet tall. Eventually, they begin to flower; first white, then yellow, pink and red.



Once the red flowers fall off, a green **boll** is left behind. Inside the boll, thousands of fibers are growing. The boll will continue to grow and turn brown. Once the fibers have finished growing, they will pop out of the boll, and the white cotton fiber will appear. After the fibers are separated from the seeds, the cotton can be processed into many different products.

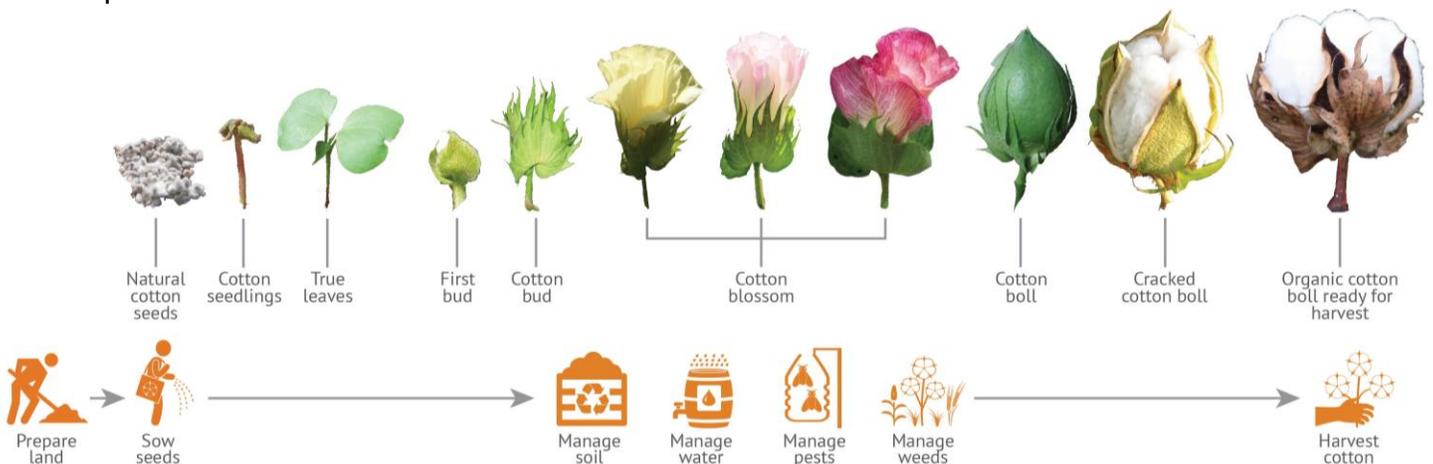


Image from aboutorganiccotton.com

How did Cotton Affect History?

Humans have used cotton fiber since ancient times. Artifacts have shown that the soft fibers were woven into fabrics thousands of years ago. The problem with cotton was that it was very **tedious** work getting the fluffy fiber to come away from the seeds. It took

Name _____

Date _____

one person an entire day to clean just one pound of cotton. Many African people were enslaved by cotton plantation owners to complete this laborious task day in and day out under perilous conditions.

In 1794, a man named Eli Whitney patented a simple machine called a **cotton gin**. This machine made the job of cleaning cotton much easier. It just required the user to put the cotton in and turn a crank so that the fibers were caught on a series of saw teeth and the seeds were released below. The hope was that the machine would help put an end to slavery, since it was able to do the work of ten people every day.

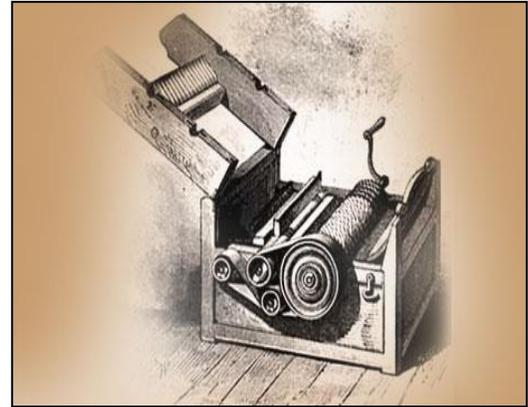


Image from The American Society of Mechanical Engineers

Unfortunately, it had the opposite effect, as demand for cotton increased and cotton farmers enslaved even more people to help with the planting and harvesting. Many historians believe that this simple invention was a primary cause of the Civil War.

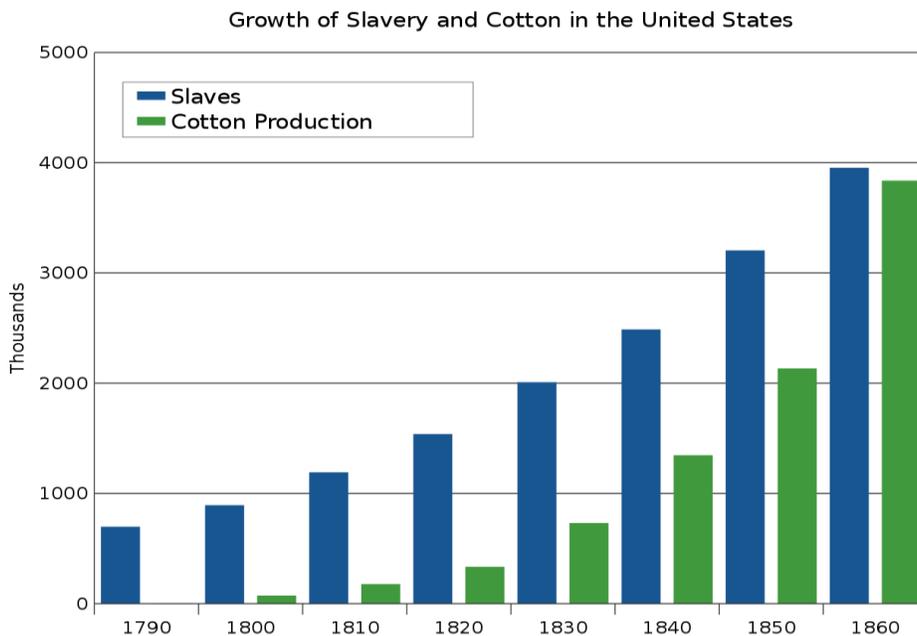


Image from [Growth of Slavery and Cotton in America.svg - Wikimedia Commons](#)

Where Will You Find Cotton Today?

Cotton is a product that has almost no waste. Cotton today is processed in giant cotton gins and formed into bales. The cotton is graded by the quality and the length of fibers and sent to textile mills based on their grade. The fibers are made into all types of fabrics, yarns, and threads.

But cotton is also used in bookbinding, medical supplies, diapers, wipes, and wallpaper. Those dollar bills in your wallet? They are made of 75% cotton fibers. Cotton seeds are pressed to make cottonseed oil, which is used to fry some foods, and is frequently added to others. Cottonseed oil can be found in salad dressings, mayonnaise, margarine, baked goods, cereals, and many snack foods. Cotton seeds are also used as a high-quality cattle feed. Cotton by products are used in the making of some paints, pesticides, x ray films, compost, and mulch. You can also find them in cosmetics, shampoos, soaps, lotions, and even toothpaste! So, how many cotton products have you used today?

The Cotton Contingent – Reading Passage

Directions: Read each question and fill in the best answer.

1. Where would you most likely **NOT** find a cotton farm?

- A. China
- B. Texas
- C. North Dakota
- D. India

2. Which part of the cotton plant is filled with cotton fibers?

- A. White flower
- B. Boll
- C. Seed
- D. Red flower

3. Which word means the **OPPOSITE** of **tedious**?

- A. Simple
- B. Tiring
- C. Difficult
- D. Boring

4. When did Eli Whitney invent the cotton gin?

- A. 1974
- B. 1874
- C. 1794
- D. 1894

Name _____

Date _____

5. What effect did the cotton gin have on the United States?

- A. Increased demand
- B. Increased slavery
- C. Civil War
- D. ALL of the above

6. How many thousand bales of cotton did the U.S. produce in 1830

- A. About 2000
- B. About 800
- C. About 400
- D. About 4000

Extended Response: Use details from your own experience and information from the article in your response.

The cotton gin is one example of how an invention can have a major impact on our lives both negatively and positively. Explain about how your life would be different if something you use everyday was never invented.

Cotton Facts

Cotton is measured in bales. A bale of cotton is approximately 55" X 21" X 26" and weighs about 500 lbs.

One bale of cotton can make about 215 pairs of jeans, 680 bath towels, 1200 T-shirts, 3,085 diapers, or 313,000 \$1.00 bills.

The cotton plant is closely related to hibiscus and okra.

Every acre of cotton produces around 825 lbs of cotton.



A FUN SCIENCE EXPERIMENT TO TRY

(ASK AN ADULT FIRST!)

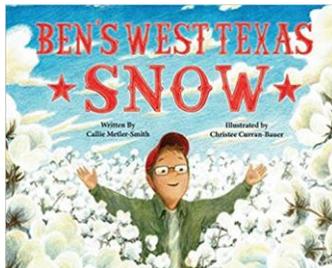
How Absorbent is Cotton?

You'll need: 2 identical clear cups or glasses, cotton balls (100% cotton) and water

1. Fill one cup to the top with water, and an identical cup to the top with cotton balls.
2. Predict: How many cotton balls can you add to the water glass without the water spilling over the top? _____
3. One by one, carefully add cotton balls to the water until it overflows. How close were you to your prediction?



CHECK OUT THESE BOOKS:

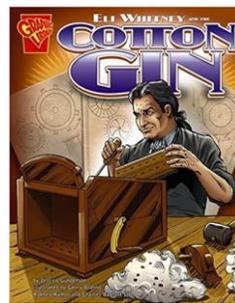


BEN'S WEST TEXAS SNOW

BY CALLIE METLER-SMITH

Ben has always wanted to see snow. But he lives in Texas.

He visits his grandfather's cotton farm and gets to experience "snow" for the first time.



ELI WHITNEY AND THE COTTON GIN

BY LISL H. DETLEFSEN

A graphic novel telling the story of Eli Whitney and his most famous invention, the cotton gin.