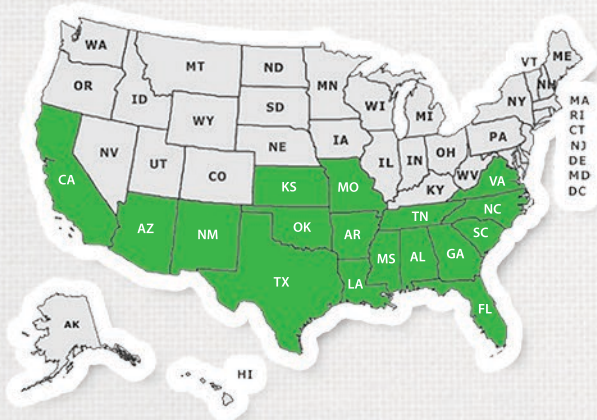


What is the history of cotton?

The oldest cotton fibers and boll fragments, dated from around 5000 B.C., were discovered in Mexico. Cotton has been worn in India and Egypt for over 5,000 years. Native Americans grew cotton as early as 1500. American colonists were able to grow lots of cotton, but processing was difficult. It was not until the 1700s that the cotton industry flourished in the United States. It was then that Samuel Slater, an Englishman, built the first American cotton mill. These mills converted cotton fibers into yarn and cloth. In 1793, Eli Whitney developed the cotton gin, which mechanically separates the seed from the lint fiber. Whitney named his machine a "gin," short for the word "engine" that could do the work 10 times faster than by hand. Technology has improved over the past centuries making cotton growth and production much more efficient.

Where is cotton grown?

Cotton is grown in USA, China, India, Pakistan, Brazil, Uzbekistan, Turkey, Greece, Australia and several other countries. Cotton is a major cash crop nationally, ranking just behind corn, soybeans, wheat and hay. Cotton grows in USA in 17 states called the Cotton Belt comprising of Alabama, Arizona, Arkansas, California, Florida, Georgia, Kansas, Louisiana, Mississippi, Missouri, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia.

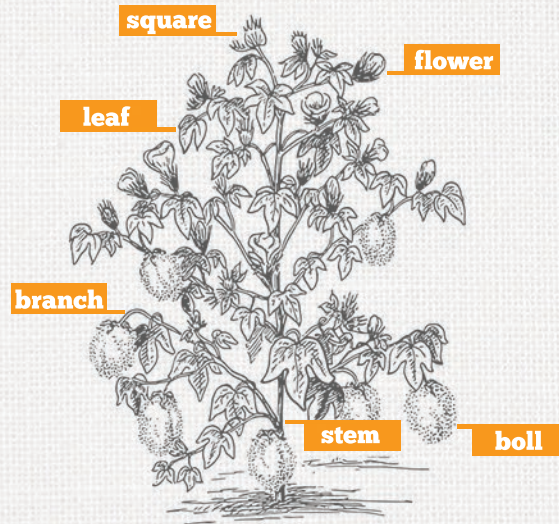


Cotton Belt

The Cotton Belt spans the southern half of the United States, from Virginia to California across 17 states

How does cotton grow?

Cotton grows best on fertile, well drained soils. There are many species of cotton, but the most popular ones grown in USA are Upland Cotton (*Gossypium hirsutum*) followed by Pima Cotton (*Gossypium barbadense*). In Southeast Asia, the Asiatic Cotton (*Gossypium herbaceum* and *Gossypium arboreum*) is grown in some regions. Today, the United States produces approximately 18 million bales of cotton annually from 11 million acres planted. The largest cotton producing states are Texas, Mississippi and Georgia. Arizona and California are well-known for their Pima cotton, which is a finer, more expensive cotton fiber.



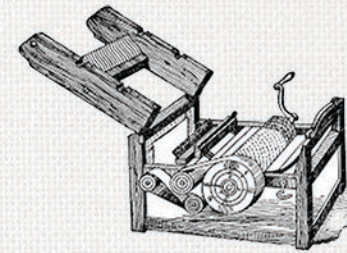
Cotton is planted in spring when temperatures are above 60 degrees Fahrenheit. Seeds germinate in 7-10 days. The bud, also known as a "square," appears about five to seven weeks after planting which forms flowers. The white blossoms become pollinated, turn light pink and then wither producing green bolls. The green bolls mature into cotton bolls with the white fluffy fibers. Plants are irrigated, fertilized and weeded, as needed, during the growing cycle.

How is cotton made into cloth?

Cotton is defoliated a process in which the leaves are removed and then cotton harvested and compressed into truckload sized "modules" and sent to the cotton gins. The gin separates the cotton fibers from the seeds. Saw gin is mainly used to process Upland cotton and roller gin is used for Pima cotton. Gins separate the seed and the lint is packed into 500 pound bales are sent out to textile mills to make yarn. A standard bale of cotton is 55" tall, 28" wide and 21" thick. The cotton is carded or combed, making all of the fibers run parallel, and then spun into thread. The cottonseed at the gin is used as animal feed, garden fertilizer, and oil extracted from cottonseed is used in firearm and pharmaceutical industries.

What is cotton used for?

Like lumber, cotton comes in many varieties and qualities, each suitable for different purposes. The long lint fibers are used for many things, most of which begin with a thread, yarn or cotton fabric. Clothing and bedding items are common products. The smaller cotton fibers, known as linters, are removed from the seed and are used as stuffing for furniture and components of linoleum, plastics and insulation. Cotton seed oil is used in foods and cosmetics. Cotton seed hulls are eaten by cattle.



Eli Whitney Cotton Gin



Cotton Bale



Cotton T-shirt

What can one bale of cotton make?

- 215 Jeans
- 249 Bed Sheets
- 690 Terry Bath Towels
- 765 Men's Dress Shirts
- 1,217 Men's T-Shirts
- 1,256 Pillowcases
- 3,085 Diapers
- 4,321 Mid-Calf Socks
- 21,960 Women's Handkerchiefs

LESSON PLAN IDEAS FOR SCHOOLS

- Discuss the origins of cotton. Create a list of products that are derived from cotton.
- Read labels on clothing. How many of the clothes contain cotton? Discuss how cotton is grown and processed into fabric.
- Discuss the history of American cotton and the key events.
- Write biographical essays on Eli Whitney and Samuel Slater.
- Create a model of a universal density bale, whose dimensions are 55" x 21" x 26". Determine its volume and density if a standard bale is 500 pounds.

EDUCATIONAL ACTIVITIES FOR GRADES 1 TO 8

1. Give each student or group of students one cotton boll. Have your students examine the cotton fiber under a magnifying lens. They will notice that these short fibers have almost a silky appearance.
2. Have students grow 3 to 5 cotton seeds in a pot and watch it germinate in 10 days. Discuss different parts of the plant and the life cycle of cotton plant.
3. Share the background information about cotton picking and cotton ginning. Have students actually remove cotton from the boll and separate seeds from the cotton boll using a roller gin.
4. Have your students weigh their fibers from one boll, and then compare it to the weight of a pair of jeans. Ask students to consider how many cotton bolls are needed to produce a pair of jeans.
5. Discuss the invention of the cotton gin and its significance in history and cotton production in United States. Demonstrate the roller gin to show how it separates seeds from fiber.

COTTON FACTS

How much does a bale of cotton weigh, on average?

A universal density bale weighs between 480 and 500 pounds

What do cotton gins do?

They separate the seeds from the lint fibers

Who invented the first cotton gin?

Eli Whitney

How can one tell when a cotton flower has been pollinated?

The petals turn from white to light pink

What state plants the most cotton?

Texas

What kind of places convert cotton fibers to yarn?

Textile mills

How many pairs of jeans can be made from one bale of cotton?

325

COTTON EDUCATION KIT

COTTON SEEDS FOR PLANTING – UPLAND COTTON



Have students grow 3 to 5 cotton seeds in a pot and watch them germinate within 7 to 10 days. Ask them to identify leaves, stem, roots, flowers and other parts of the plant.

Seed packets with Non-GMO, untreated cotton seeds. Growing instructions included.

COTTON SEEDS FOR PLANTING – PIMA COTTON

Have students grow 3 to 5 cotton seeds in a pot and watch them germinate within 10 days. Ask them to identify leaves, stem, roots, flowers and other parts of

Seed packets with Non-GMO, untreated cotton seeds. Growing instructions included.



COTTON BOLLS



Give each student or groups of students one cotton boll. Have them examine the cotton fiber under a magnifying lens and ask them to note their observations.

Fluffy White Large Cotton Bolls

ELI WHITNEY COTTON GIN MODEL

Discuss the invention of the cotton gin by Eli Whitney. Show students the mechanism that separates cotton seeds from the cotton fibers.

Simplified Model of Eli Whitney Cotton Gin. Assembles within minutes.



SPINNING WHEEL



Demonstrate how yarn is made from cotton fibers on a spinning wheel. Discuss how much yarn is required to make a shirt.

Spinning wheel includes spindles, cotton drive band and a skeiner. Everything folds up nicely into a book like case.

Cotton in the Classroom

Learn all about cotton

History, Production, Uses and Significance of Cotton

Lesson Plans and Activities for Grades 1 to 8



**Where does cotton come from?
Where is cotton grown?
Who invented the cotton gin?**

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