

# Cotton Cycle

## Objective

Students will:

- Learn about the life cycle of a cotton plant.
- Use cottonseed as a nonstandard unit of measurement.
- Plant cottonseeds in cups and chart their growth.
- Draw the life cycle of a cotton plant with cotton swabs to illustrate books.
- Count by ones and tens using cotton balls

## Background

Cotton farmers plant cotton late in the spring. They use mechanical planters that can plant seed in as many as eight rows at a time. During the growing season scouts go out into the fields to count harmful insects. If there are too many, the farmer will use pesticides to control them.

About two months after planting, flower buds, called squares, appear on the plant. Three weeks later the blossoms open. The petals change colors as they mature. First they are creamy white. Then they turn yellow, then pink, and, finally, dark red. After three days the red flowers wither and fall, leaving green pods called cotton bolls. The boll is shaped like a tiny football. Moist fibers grow and push out from the newly-formed seeds. As the boll ripens, it turns brown. The fibers continue to expand in the warm sun. Finally they split the boll apart, and the fluffy cotton bursts out.

Cotton is harvested in the fall. Most of the cotton is harvested by machine. After the cotton is harvested it is stored at the edge of the field in big mounds or loaded on trailers or trucks and carried to the cotton gin.

## Materials

- cotton bolls (Enlist the help of your county Extension office, a local farmer, farmer's cooperative, etc. Cotton bolls are most likely available during cotton harvest, October-December)
- cotton seeds
- cotton balls
- bowls
- tongs
- plastic cups
- potting medium
- cotton swabs
- paint

## Oklahoma Academic Standards

### GRADE 1

Speaking and Listening:

R.1,2,3,4; W.2. Phonological Awareness: 2. Print Concepts: 2. Foundations: 2. Reading and Writing Process: R.2,3. Critical Reading and Writing: R.4; W.2. Vocabulary: R.1,2. Research: W.1,2

Number & Operations: 1.1,4; 3.2. Geometry and Measurement: 2.1

### GRADE 2

Speaking and Listening:

R.1,2,3,4; W.2. Phonological Awareness: 2. Print Concepts: 2. Foundations: 2. Reading and Writing Process: R.2,3. Critical Reading and Writing: R.4; W.2. Vocabulary: R.1,2. Research: W.1,2

Number & Operations: 1.1,3; 2.6. Geometry & Measurement: 2.1,2

### GRADE 3

Speaking and Listening:

R.1,2,3,4; W.2. Phonological Awareness: 2. Print Concepts: 2. Foundations: 2. Reading and Writing Process: R.2,3. Critical Reading and Writing: R.4; W.2. Vocabulary: R.1,2. Research: W.1,2

Geometry & Measurement: 2.4

## Vocabulary

**fiber**— a slender and very long natural or synthetic unit of material

**germination**— the act of beginning to grow

**harvest**— the gathering of a crop

**life cycle**— the series of stages of form and activity through which a living thing passes from a beginning stage (as an egg) in one individual to the same stage in its offspring

**mature**— fully grown or developed

**mechanical planter**— a machine for planting

**mound**— a small hill or heap of dirt or stone

**pesticide**— a substance used to destroy pests

**plant**— to put or set in the ground to grow

**scout**— to go about and observe in search of information

**seed**— the grains of plants used for sowing

**soil**— the loose surface material of the earth in which plants grow

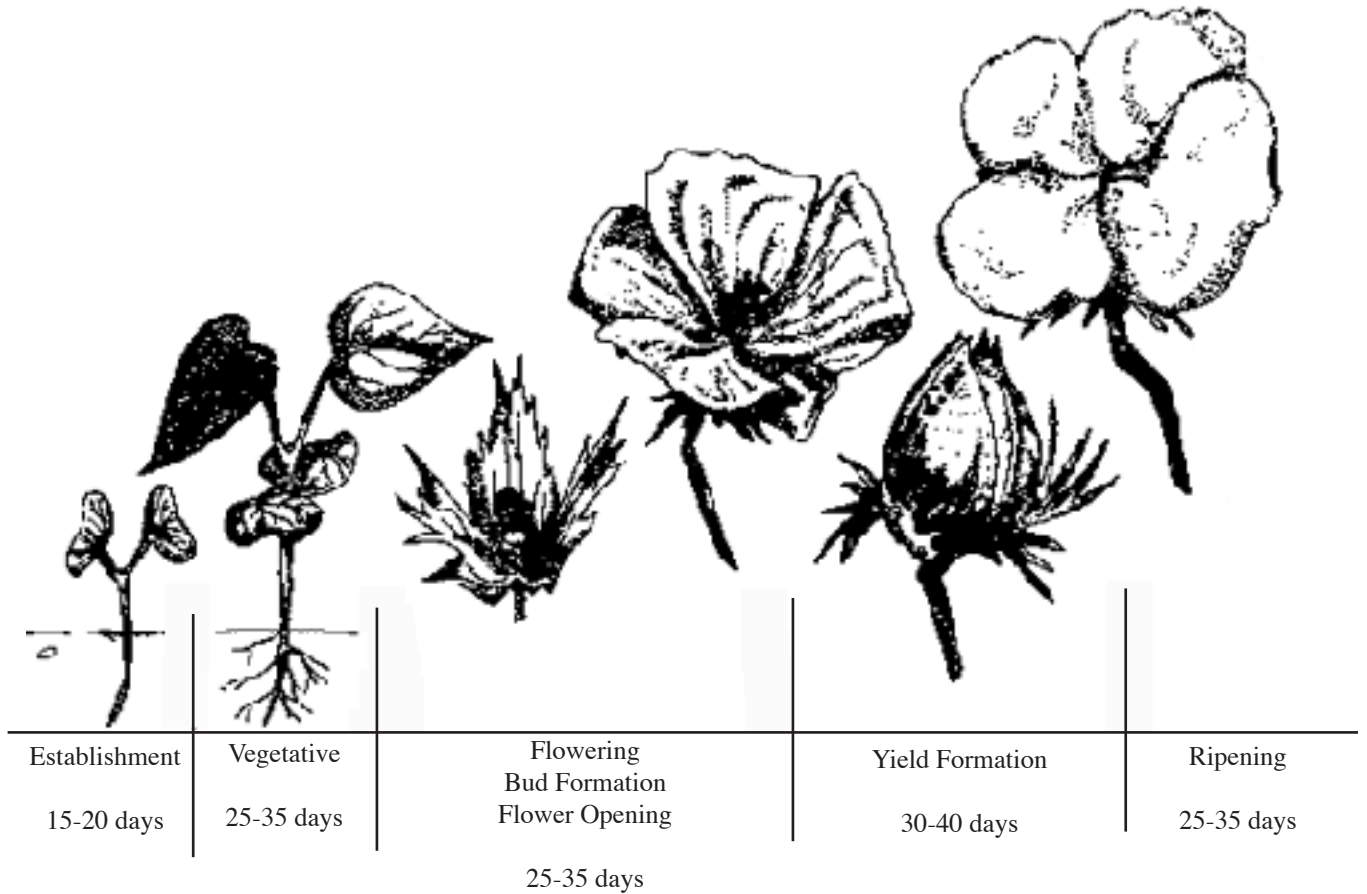
**wither**— to shrivel from or as if from loss of bodily moisture and especially sap

## Procedures

1. If cotton bolls are available, show them to your students.
  - Students will feel the cotton and try to pull the cotton lint from the cotton boll.
  - As a class students will brainstorm to make a list of adjectives that describe the cotton bolls.
2. Show this video from Oklahoma Cotton Council about cotton production: [http://oklahoma4h.okstate.edu/aitc/movie/occ\\_1.html](http://oklahoma4h.okstate.edu/aitc/movie/occ_1.html)
  - Ask students what they want to learn about cotton. List the questions on a question board. Sample questions:
    - How does a cotton seed grow?
    - What is inside a cotton boll?
    - What food is made from cotton?
    - How does the cotton turn into fabric?
    - How do they make a bale?
    - Is cotton candy made from cotton?
  - Ask students how they might get answers to their questions
  - If possible invite a cotton expert to your class to answer students' questions—a cotton farmer, someone from the local coop or feed and seed store, an OSU County Extension educator, a 4-H or FFA member, etc.
3. If available, provide students with cotton seeds.
  - Students will use the cotton seeds as nonstandard units for measuring the items mentioned in the worksheet included with this lesson.
4. Divide students into groups and provide bowls of cotton balls, tongs and the grid provided with this lesson.
  - Students will use the grid to count the cotton balls into groups of ten. Students will count to 100 by counting the groups of ten.
5. Students will plant cotton seeds in plastic cups filled with potting medium.
  - Students will water the plants as needed
  - Students will observe and record plant growth.
6. Provide copies of the “Life Cycle of a Cotton Plant” included with this lesson.
  - Students will create life cycles books based on observation of their plants' growth and what they have learned.
  - Provide cotton swabs and paint for students to paint the life cycle of a cotton plant.

# Life Cycle of a Cotton Plant

---



Name \_\_\_\_\_

# Cotton Seed Measuring Page

1. A book is \_\_\_\_\_ cotton seeds long and \_\_\_\_\_ inches long.
2. A ruler is \_\_\_\_\_ cotton seeds long and \_\_\_\_\_ inches long.
3. A box of crayons is \_\_\_\_\_ cotton seeds long and \_\_\_\_\_ inches long.
4. A folder is \_\_\_\_\_ cotton seeds long and \_\_\_\_\_ inches long.
5. A dice is \_\_\_\_\_ cotton seeds long and \_\_\_\_\_ inches long.
6. My shoe is \_\_\_\_\_ cotton seeds long and \_\_\_\_\_ inches long.
7. A glue stick is \_\_\_\_\_ cotton seeds long and \_\_\_\_\_ inches long.
8. A book is \_\_\_\_\_ cotton seeds long and \_\_\_\_\_ inches long.
9. My name tag is \_\_\_\_\_ cotton seeds long and \_\_\_\_\_ inches long.
10. My pencil is \_\_\_\_\_ cotton seeds long and \_\_\_\_\_ inches long.
11. A marker is \_\_\_\_\_ cotton seeds long and \_\_\_\_\_ inches long.

