

Cotton Life Cycle

Standards of Learning

Science K.7, K.9, 1.4, 2.4, 2.8, 3.8, 4.4, 4.9

Objective

Students will:

- Investigate the lifecycle of plants and change over time
- Investigate plant parts and life needs
- Identify plants as natural resources

Materials

- White paper plates (two per student)
- Cotton phase templates (handouts provided)
 - ❖ Either copy patterns onto cardstock for kids to cut out or create templates for students to trace.
- Construction paper (brown, green, pink, and white)
- Scissors (1 for each student)
- Hole punch
- Yarn (1 arm-length piece per student)
- Glue
- Cotton balls (5 or 6 per student)



Background Knowledge

This lesson focuses on the structural parts of a cotton plant and the process of gathering cotton from the fields to manufacturing clothing products. Cotton is planted in rows during the spring; about two months later, flowers develop from the buds. When the flowers die and fall off, they leave behind pods called bolls. After the bolls ripen and break open, the cotton fibers emerge. After the cotton is picked, it goes through a long process of cleaning and sewing before it can be used to make blue jeans.

In this lesson, students will create a model for the growth cycle of cotton. In order to facilitate this lesson, you will want to create your own before class, so that you can model it for students.

Procedure

1. Brainstorm as a class the topic "What We Know About Cotton".
2. Read the book *From Plant to Blue Jeans* by Arthur John L'Hommedieu.
3. After reading, go back to brainstorming list and add newly learned information.
4. Discuss with the students the importance of cotton.
5. Ask students if they can recall the phases a cotton plant goes through as it grows (record answers on the board).
6. Tell them they will be making a model of the cotton plant life cycle.
7. Hand out the templates and construction paper to the students.
8. Tell the students to trace and cut out the five patterns onto the correct color construction paper: Seed- brown; Leaf- green; Bud- green; Flower- pink; Boll- white.
9. Ask them to punch holes in their cotton parts at the "X" located on the patterns.
10. Ask the students to decorate and label their cotton plant parts.



11. Hand out two paper plates to each student.
12. Tell the students to put the plates together, with the top sides facing inward, and staple halfway around the plates.
13. Tell the students to punch a hole in the top of one of the plates.
14. Hand out string to each student.
15. Ask the students to get their cotton parts and weave the string through the holes in the pieces of the cotton cycle together in the following order: seed, leaf, bud, flower, boll.
16. Attach pieces of cotton cycle to paper plate by tying the yarn to the plates using the hole that was punched in the plate earlier.
17. Ask the students to use the triangle template to trace and cut out four triangles from brown construction paper.
18. Tell the students to glue or staple the bottom of the triangles along the bottom edge of the paper plate.
19. Tell the students to fold back the top half of the triangles so they stick out from the plate.
20. Give each student five cotton balls.
21. Ask the students to glue the cotton balls to the plate, directly above the folded back triangles.
22. Tell the students that this depicts what a cotton boll looks like after it has opened.
23. After all the cotton cycle models are completed, tell the students to place all the cotton parts in the open space between the two plates.
24. Demonstrate to the students how this model shows the life cycle of a cotton plant:
 - a. Pull out the seed part and tell the students that a cotton plant begins as a seed.
 - b. Pull out the attached part, the leaf, and tell the students that the cotton plant then develops leaves.
 - c. Pull out the attached part, the bud, and tell the students that the cotton plant then develops buds.
 - d. Pull out the attached part, the flower, and tell the students that the buds develop into flowers.
 - e. Pull out the last part, the boll, and tell the students that the flowers die and bolls are formed.
 - f. Point to the cotton boll on the front of the plate and tell the students that the bolls open up and the cotton can now be seen.
25. Ask the students to demonstrate the cotton life cycle to a partner using their newly made models.
26. Ask the students the following review questions:
 - What are the parts of the cotton life cycle from the beginning to end?
 - Why is cotton important?

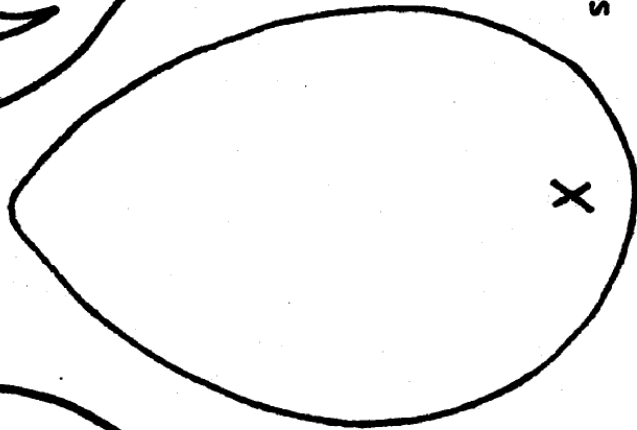
Extension

- Ask students to research which counties in Virginia grow cotton and how many acres these counties harvested last year. (This information can be found in the Virginia Agricultural Statistics Bulletin & Resource Directory you received at your AITC workshop.)
- Bring in a sample cotton boll for students to look at and feel. (These can be found in the cotton kit you received from the AITC workshop.)

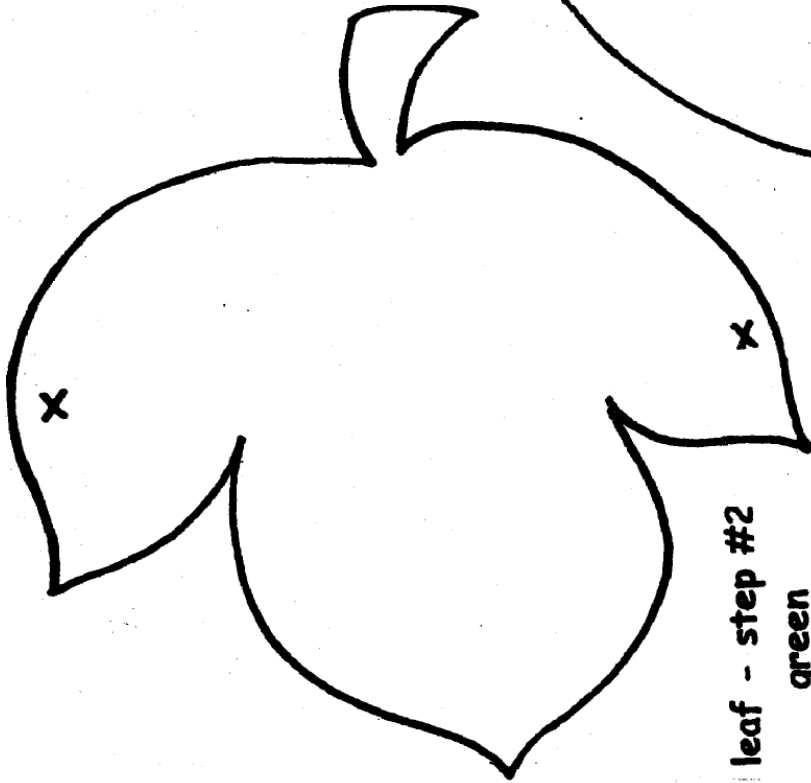




bud - step #3
green

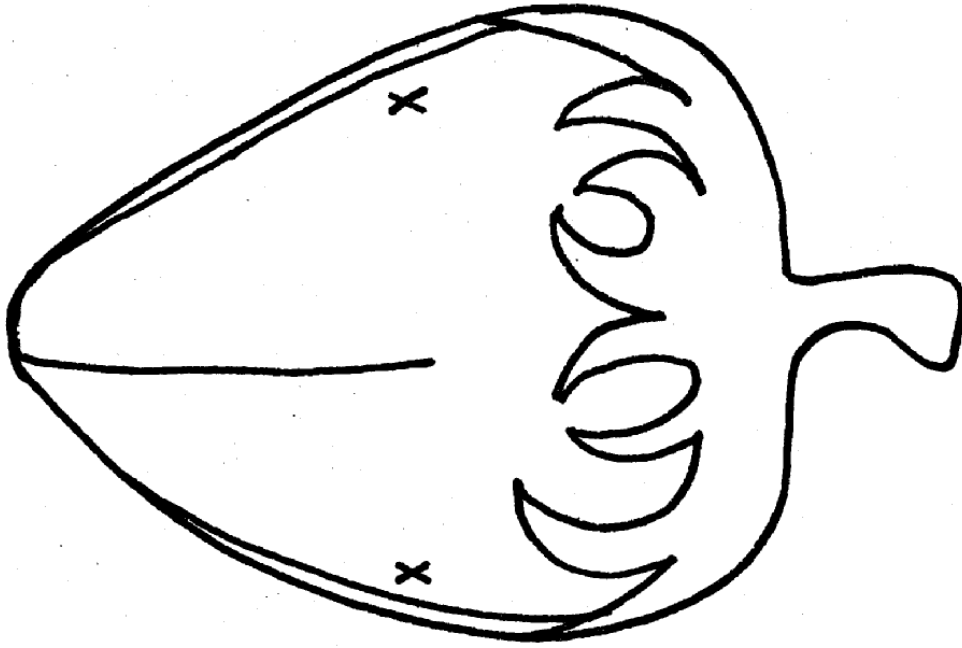


seed - step #1
brown

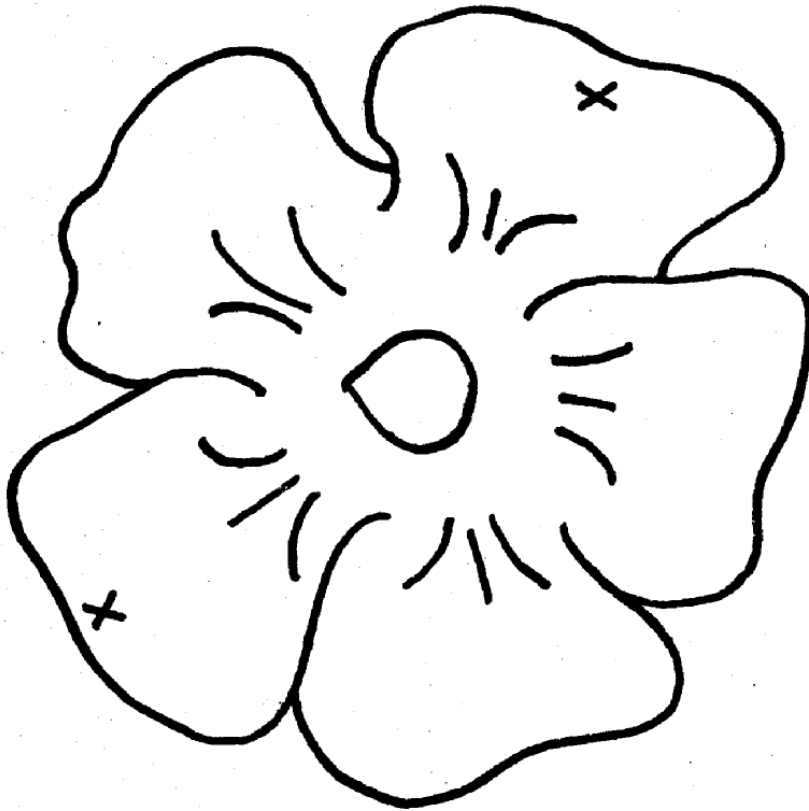


leaf - step #2
green





boll - step #5
green



flower - step #4
creamy white

