

Name:

Class:

Date:

## Activity 13.6A: Simulated Cotton Ginning

### Materials Needed

- Jumbo cotton balls (3 per group)
- Paper plates (1 per group)
- Small sugar crystal candy sprinkles
- Tweezers
- Timer
- Toothbrushes (1 per group)
- Water (small cup or spray bottle)

### Step One: Prepare the Simulated Cotton Bolls

1. Stretch all three of the cotton balls until they are about twice their original size.
2. Over the paper plate, sprinkle each cotton ball with the candy sprinkles.
3. Roll the cotton balls between your palms to condense the cotton.
4. How does the simulated cotton boll resemble an actual cotton boll?

Answer:

### Step Two: Seed Removal

*Prior to the invention of the cotton gin, cotton seeds had to be removed from the bolls by hand. In this step, you will be using tweezers to remove the simulated seeds.*

1. Set the timer for one minute.
2. Pick up one of the cotton balls and the tweezers.
3. Start the timer and begin removing the candy sprinkles using only the tweezers. Set the sprinkles in a pile as you remove them from the boll.
4. How many sprinkles were you able to remove with the tweezers in one minute?

Answer:

5. How does this relate to the removal of cotton seeds prior to the invention of the cotton gin?

Answer:

### Step Three: Ginning Cotton

*Cotton gins pull the cotton fibers in one direction from the boll. You will be using a toothbrush as a cotton gin to remove the simulated seeds from one of the simulated bolls.*

1. Set your timer for one minute.
2. Using a toothbrush, brush the cotton boll in one direction for one minute over a piece of paper or an empty paper plate.
3. Count the sprinkles you were able to remove using the toothbrush. How many sprinkles were you able to remove in one minute?

Answer:

4. How does this relate to the removal of cotton seeds with a cotton gin?

Answer:

### Step Four: Importance of Dry Cotton

*In this step of the lab, you will be using a toothbrush to remove seeds from a wet cotton boll.*

1. Set your timer for one minute.
2. Wet the third simulated cotton boll by quickly dipping it in water or spraying it with a water bottle.
3. Using a toothbrush, brush the cotton boll in one direction for one minute over a piece of paper or an empty paper plate.
4. Count the sprinkles you were able to remove from the wet cotton boll. How many sprinkles were you able to remove in one minute?

Answer:

5. Was it more difficult to remove the simulated seeds from the wet cotton than from the dry cotton? Explain your answer.

Answer:

6. Why is it important to keep cotton dry before and during the ginning process?

Answer: