



5th Grade Ag in the Classroom Presentation

Exploring STEM Careers

Presenter Lesson Plan

Objectives

1. Students will be able to define the term “agriculture” (see definition in lesson below).
2. Students will describe ways in which their own lives depend on agriculture.
3. Students will be able to name and describe at least three agricultural careers.

Materials

Leave in classroom

- Tootsie Rolls (1/student)
- Career Bingo cards (1/student)
- Corn kernels (for Bingo markers)
- Ag in the Classroom pencils (1/student)
- Career *Ag Mags* (1/student)
- STEM Career lists (1/student)
- STEM Career Bingo clue card master
- Agricultural Careers poster
- Card with Teacher Evaluation link

Return to Farm Bureau

- **STEM Careers mini-posters** (set of 30)
- **Agriculture definition poster**
- Any leftover supplies

Procedure

When you schedule the presentation or before you begin on the day of the presentation, mention to the teacher that you will be giving the students Tootsie Rolls and make sure none of the students have allergies to any of the candy's ingredients.

1. Introduce yourself by sharing your name, where you're from, and what you do (your career). Tell the students that you are going to help them learn about agriculture and careers. Establish an understanding of each by asking:
 - “What is a career?”
 - “What do you think of when you hear the word ‘agriculture,’ or its abbreviation ‘ag’?”
2. Distribute Tootsie Rolls to each student. Invite them to go ahead and (quietly!) eat their candy if they would like. As you distribute the candy, remind/ask the class:
 - “Okay, I just said I was here to talk about agriculture and careers. Let's start with agriculture. What do you think your Tootsie Roll has to do with agriculture?”

Discuss the fact that all of the candy ingredients are farm/agricultural products. (Point out to students that the ingredients are printed on each wrapper.) Examples:

- Corn syrup is a sweetener manufactured from field corn.
- Soybean oil comes from soybeans, as does soy lecithin, which is an emulsifier/stabilizer used in chocolate.
- Chocolate comes from cocoa beans grown in places like Brazil.
- Milk is obtained from dairy cattle.

3. Move the discussion to the subject of careers.

“What is a career, and what do you think your Tootsie Roll has to do with careers?”

Allow several students to respond. Help students understand that it took people in many different careers to make the candy possible, from the farmers who raised the raw food products to the grocers who sold the candy.

Show the class the ag definition poster, which reads: *“The science of growing crops and raising livestock to produce food, clothing, and other products useful and necessary to mankind. Agriculture includes farming, land & water conservation, and the processing, marketing, and distribution of agricultural products.”*

Point out the key parts of the definition. “Agriculture includes what?” Explain that agriculture is not just farming; it’s an entire industry that includes research, processing or making items from the raw farm products, marketing or selling the items, and distributing or transporting raw and finished products.

4. Discuss what STEM means: Science, Technology, Engineering, and Math. Explain that many agricultural careers involve STEM in some way. Some people like to talk about “STEAM” instead of STEM, because many careers also require or benefit from Art. (For example, food packages and wrappers—like the Tootsie Roll wrapper—are designed by special artists known as graphic designers. A candy commercial may involve music.)
5. Introduce the idea that each part of the industry is dependent upon the others. For example, “What career would a dairy farmer depend on if one of her cows was very sick?” (A veterinarian.) And, “What career does the Tootsie Roll manufacturer depend on to make sure the corn syrup gets to the factory?” (A truck driver.)
6. Talk about your own agriculturally-related career:

“Does anybody remember where I said I worked?”

“Good! And what did I say I do in my career?”

“Right. I’d like to tell you about what I do, why I chose to do it, and how I got there.”

Here are some ideas of what you might share with the class: (be somewhat brief to keep the kids engaged and save time for the rest of the lesson).

- How your career fits within the agricultural industry... who depends on you to do your job well?

- The main tasks involved in your job: What are you most often doing when you're working?
 - The skills you need to have to do your job well, e.g. writing skills, math skills, ability to communicate with people on a one-on-one basis, etc. How do you use STEM (science, technology, engineering, and math) in your work?
 - What you most/least enjoy about your job.
 - How did you get to this job? What is your educational background? Have you held other jobs that might have led to this opportunity?
 - Other job details... Do you travel for work? Speak a second language? What is the funniest/strangest thing that has ever happened to you at work?
 - How your own particular interests and skills led you to this career.
7. Ask the teacher to help you organize the class into teams of four or five students each. (If they are already seated in groups, they will stay with their current group. Otherwise, students should move their chairs or desks together so they can talk as a small group.)
 8. Tell the class that you are going to give each student a career mini-poster, and that each poster illustrates a different career in agriculture. Each student will also receive a Bingo card which has questions on the other side. Once they receive their poster and card, each student should:
 - a. Read the career description and look at the photo.
 - b. Show their poster to the rest of their team and read the description.
 - c. Working with their team, discuss each of the questions on the card as it relates to each career.

Tell students that each team will be asked to report back to the rest of the class by describing at least one of the careers they discussed.

9. Pass out the career mini-posters and STEM Careers Bingo cards. (Ask for help from the teacher or call on students to assist if needed.)
10. Give students time to read and discuss their career posters with their teams.
11. Once the teams have had time to work, regain students' attention and call on someone from each team to share what they learned about one of their careers with the rest of the class. (If it's a small class and time allows, each team may share more than one career.)
12. Collect the career posters. Have students turn over their cards to play the Bingo game.
13. Give each student a heaping spoonful of corn kernels (about 25 kernels/student). Play a few rounds of Agricultural Career Bingo!

Remind students how the game is played. Specify that they can complete horizontal, vertical or diagonal rows, or four outside corners (if you wish).

Draw career posters one at a time at random. Read the career name and description, and hold up the poster so students can see the photo. Repeat the career

name. Set aside the careers you have drawn.

When students call 'Bingo,' ask them to read the careers in the rows they have filled. If they are careers you have drawn and set aside, award an Ag in the Classroom pencil to the student and continue the game.

14. End the game several minutes before you are scheduled to leave the classroom.

"Because Bingo is partially a game of luck, and all of you worked hard to create your Bingo card and to learn about careers, I am going to give everyone a pencil."
Distribute pencils to remaining students.

Have volunteers collect the corn and Bingo cards and give them to the teacher.

Ask for additional volunteers to pass out the Careers Ag Mags and STEM careers lists to each student. (If you are running short on time, you may leave these items with the teacher to distribute later.)

15. Share concluding facts and information:

- "Today you've heard about 20-30 agricultural careers. But there are many, many more careers in the agriculture industry. Look at the front page of your *Ag Mag* and raise your hand when you can tell me how many career areas there are in the industry." (Point to the first article, titled 'Agriculture – The Science of Farming.')
- "That's right, there are over 250 career areas within agriculture!"
- "Looking at your *Ag Mag*, can you tell me how many people in our nation work in agriculture-related jobs?" (The answer is found in the same article mentioned above: approximately 23 million people.) "That's right; 23 million people in the United States are working in an agricultural job. There's a good chance YOU could someday work in the agriculture industry!"
- "You may keep your *Ag Mags* to use in class and take home to share with your families. I'm also going to leave the Bingo cards and the corn with your teacher so that if you have time later, you can play the game again."
- "I've also given you a list of the 30 careers which were included in our Bingo game. For your classroom, I'm leaving this poster which shows the different categories of agricultural careers and a website you can visit to learn more about careers."
- Thank the class and teacher for inviting you.

16. **Before leaving, encourage the teacher to complete and submit the online survey by sharing the evaluation link. Also, leave behind the Agricultural Careers poster and Bingo game materials (corn, Bingo cards, and Bingo clues master copy).**

*Thank you for volunteering to teach students about agriculture and careers!
Please take a few moments to complete the Presenter Evaluation found here:*

<http://bit.ly/2qi9F5s>

You may use a smartphone, tablet, or computer to access this simple form.