Lesson Plan by: Emily Bauman

Lesson: Making popcorn-balls Length: 50 minutes

Age/Grade Intended: 4th

Academic Standard(s):
4.1.12 Describe the transformation of Indiana through immigration and through developments in agriculture, industry and transportation.

Performance Objectives: Each student will make a popcorn-ball and correctly identify (by writing) one connection between the recipe and agriculture development during the twentieth century.

Assessment: Each student will complete the popcorn recipe and collect students’ papers that have one connection between the recipe and Indiana agriculture development during the twentieth century.

Advanced Preparation by Teacher: Recipe ingredients (see recipe below), place to cook recipe, Pictures/book of past and present farm equipment (examples below), Internet access and projector, 3 adult volunteers, recipe cards for each student, copy of H is for Hoosier: An Indiana Alphabet.

Procedure

Introduction/Motivation: Tell the students the following fact: Indiana produces the most popcorn of any other state. Show students a picture of Orville Redenbacher. Ask them if they recognize his face. Tell students that Orville was a member of Brazil, Indiana, and without his popcorn passion, our movie theatre experience would not be the same. (Note: Make sure to place a push pin on the interactive bulletin board for Brazil and tack explanation up) Go to http://www.orville.com/ourhistory.jsp and show kids history of Orville Redenbacher. Explain to the children that they will be making popcorn balls to commemorate Indiana’s staple crop. (Gardner’s: Visual/Spatial)

Step-By-Step Plan:

1. Give each student a recipe card.
2. Divide students into four groups. Each group will be given enough ingredients to make recipe. In each group will be one adult. The adult will be melting butter and marshmallows. Students should each pour some ingredients into pot. Students will follow recipe and be allowed to form at least one popcorn ball each. Set finished balls aside to harden. (Gardner’s: Visual/Spatial, Bodily-Kinesthetic)
3. Have all students join teacher at the meeting center in the classroom. Read the following (page Y) of *H is for Hoosier: An Indiana Alphabet.* (Gardner’s: Linguistic) Elaborate on the fact that Indiana’s agriculture has been shaped over the twentieth century by new inventions and industry.

4. Explain that before the 1900’s farming was done mostly by human labor. Horses were needed to pull man-made plows. This means that only one farmer could handle a small amount of land. In 1900, 100 acres was considered quite a bit of land. Everyone in the family and sometimes neighbors were all involved in the planting, caring of and harvesting of crops. Plant crop farming has changed the MOST, with farm machinery. In 1900- a farmer would use a pair of horses, and a ONE ROW plow to go back and forth in his fields, turning over the top soil, to fold under the old/dead plants from last year, and bring up fresh soil to plant. This process only moved at a slow walking pace, and might take weeks of all-day work to finish. After that, the farmer would smooth the soil with a harrow/drag, and go back to plant.

5. Corn, for instance, might be planted in 1900 using a four foot V-shaped tool with a point on the bottom, and a seed box on the side. The farmer (or his kids) would stick the planter tool in the soil, to make a hole, and then the tool would drop one seed in each hole. Show the students the picture. (Gardner’s: Visual/Spatial) As you walked forward to make the next hole - you would step on the previous hole, to put some dirt over that seed. This would continue all day. Each time you got to the end of the field, you would take another few hands full of corn from a sack, and re-fill the planter box.

6. While your crop plants are still small, you spend more time removing the weeds, so that only crops are growing the fields. This need done about a couple times per month, but may take four days. In a few months, when your corn has grown about four feet high, you are done killing weeds. What would you do to make this process easier? Bloom’s: Synthesis

7. In September, when it is ready, the farmer would take a wagon to the fields, and everybody in the family would walk through the fields, pulling ears of corn from the stalks, and collecting them into bushel baskets. These baskets would empty into the wagon, and the wagon would carry the corn back to a "corn crib" for storage. Depending on the farm, and what equipment they had, sometimes the corn would be stored ON the cob, but it was preferred to "shuck" the husks off the corn, and then use a tool to cut/pop the corn kernels from the corn cob. The corn that was fed to animals could be left on the cob, but anything that was to be sold had to be "cleaned". Ask: Is there a better solution to doing all of this labor? Is there an easier way? (Bloom’s: Evaluation)

8. The same kinds of things must be accomplished on a modern farm in 2005, as happened on a farm in 1905, but the way that they happen has changed in many cases. The main thing that has changed, is that ONE farmer can now use machinery to till MANY more acres of land than was possible before. A hundred years ago, when a farmer used his own muscle power, and a few draft horses - a small farm might be 50 acres, and you were doing pretty well if you could handle 120 acres. Now, with modern machinery, one farmer may be able to handle 600 acres or more. Ask: How many acres more is a farmer able to plant between now and 100 years ago? (Bloom’s: Knowledge) (Gardner’s: Logical/Mathematical) Gone are the days of a
single row plow and two horses. A tractor in 1950 could pull a five row plow, and get 30 times as much work done as the horses. Tractors also have lots of lights, so you can see to work in the fields for 18-20 hours per day if needed. **Ask: What time period would you rather be a part of and why? (Bloom’s: Knowledge)** Working with horses, also meant that the horses needed food and rest. Tractors will start early in the morning, and only need 5-10 minutes worth of maintenance to get going, horses took 20 minutes to get ready (unless they were un-cooperative that day, and may take 2 hours to catch). Some large tractors can do more in one day than 100 farmers could do with horses. Farmers no longer have to walk through the fields to cut out the weeds either. Chemical herbicides do much of that work, with special formulas that will prevent certain weed plants from growing, but not damage the good plants that are growing the crops. That way, the farmer may only have to walk through his field and chop out the occasional weeds that are resistant to chemicals. In the fall, instead of gathering corn in baskets, and a wagon... there is special "Combine/Harvester" (show picture) (Gardner’s: Visual/Spatial) machinery that will drive through the fields and process the grain. The Combine dumps its grain into a truck, which then hauls it to be stored or sold. (Info taken from http://wiki.answers.com)

9. Let students discuss with elbow buddy two things they learned about changing agriculture in Indiana.

**Closure:** Students will now go to their seats and be given a half sheet of blank paper. Students will write at least one connection between the recipe and farming of the twentieth century agriculture development. While they are writing allow them to enjoy finished popcorn-balls!

**Adaptations/Enrichment:** If students finish connection paper early, allow them to find other ingredients that they could add to the popcorn recipe. They may look for soybean recipes online if time allows.

For student with inability to roll popcorn-ball due to injury or disability, let them stir the pot under adult supervision.

**Self-Reflection:**
Did students take the topic seriously? What went well? What didn’t? What would I do differently next time? Did students have enough time to successfully complete the project? Was the recipe fun? Did I ask enough probing questions during the history of Indiana’s agriculture? Were students able to make a connection between popcorn recipe and ag. development?
Popcorn Candy Balls

SUBMITTED BY: Angela  PHOTO BY: JENNIFERWACKERLA
"This is similar to making crispy rice squares but using popcorn instead."

Ingredients

- 1/2 cup butter
- 1 (16 ounce) package large marshmallows
- 2 cups popped popcorn
- 1 cup candy-coated chocolate pieces

DIRECTIONS

1. In a saucepan over low heat, combine the butter and marshmallows. Stir until marshmallows are softened.
2. Add popcorn and candies; mix until evenly coated with marshmallows.
3. Allow to cool enough to touch. Grease hands with butter and form into balls.
Twentieth Century Farming
21st century harvester