



# The Chicken and the Egg

Mathematics, Social Studies and Language Arts

## Brief Description:

Students will become familiar with the important role Florida's broiler production and broiler companies play. The students will continue to expand their knowledge by utilizing their math skills to calculate the space needed to adequately raise broiler birds and read graphs pertinent to the poultry industry.

**Objectives:** Students will be able to:

1. Define broiler production and explain its importance to Florida.
2. Identify three major broiler companies and their role in Florida.
3. Use estimation strategies to determine the space needed to raise broiler birds.
4. Use the Internet to obtain information about poultry.

## Life Skills:

1. Gathering and Evaluating Information
2. Using computers to Process Information

## Time:

Two, 60-90 minute sessions

## Materials:

- Computers with Internet access
- Copies of *Broiler Space* activity sheets for each student
- Measuring devices such as rulers, yard sticks and measuring tapes
- Surveying sticks (4-8)
- Surveying tape
- Balloons (at least 100)
- Copies of the *Poultry Data* and *Chicken Nutrition* activity sheets

## Preparation:

- Arrange time with school computer lab.
- Make copies of *Broiler Space* activity sheets for each student.
- Mark off a large area outside using the surveying sticks and tape.
- This area should be at least 50'. (If you choose to do the application activity, you need to measure off a 10' by 10' area. Vary the length and width so that the area is not a perfect square.
- Make copies of the *Poultry Data* and *Chicken Nutrition* activity sheets.

## **Background:**

### **Broilers**

Broilers are meat-type chickens. They are also called fryers or frying chickens. The broiler industry is vertically integrated. This means the broilers are produced and marketed by firms which own or control breeder flocks, hatcheries, broiler flocks, feed mills, processing plants and market arrangements. The birds are normally raised by farmers who are under contract with the companies. The farmer provides land, labor, houses, litter, equipment, taxes, utilities and insurance. The company furnishes birds, feed, vaccines and supervision. One of the three major broiler companies has an operation in Florida.

**Gold Kist Poultry** - Gold Kist Poultry is a multi-state company based in Atlanta, Georgia. Founded as a cooperative in 1933, Gold Kist is totally owned by 50,000 farmers today. It is the only major poultry company in the United States that is 100 percent owned by farmers. Gold Kist markets a variety of products primarily in the Southeastern United States. The Florida location for Gold Kist is in north Florida near Live Oak.



### **Broiler Care**

Care is required in the production of broiler chickens. Broiler chickens are raised in houses. Each bird requires one square foot of floor space. So, farmers must decide the number of birds that will fit per house. The birds also require maintenance. The waterers and feeders must be cleaned daily, and disinfected weekly. The house is cleaned and disinfected before a new flock enters. Wet bedding must be removed and the litter (waste) stirred every day. The house temperature must be regulated because poultry are unable to regulate their own body temperature in extremes.

## **Introduction:**

1. Ask the students:

\*Did you know that Florida ranks 20<sup>th</sup> nationally in broiler production? (*It does.*)

\*What exactly am I referring to when I say broiler production? (*Broilers are chickens raised for meat and layers or hens are raised for laying eggs.*)

2. Explain that broilers are also called **fryers or frying chickens**. In 2011, 62 million birds were grown in Florida allowing a total of 383 million pounds of chicken products. Broiler production contributes over \$179 million to Florida's economy. Today you will explore three major broiler companies and determine the space needed to properly grow broilers.

## **Activity One:**

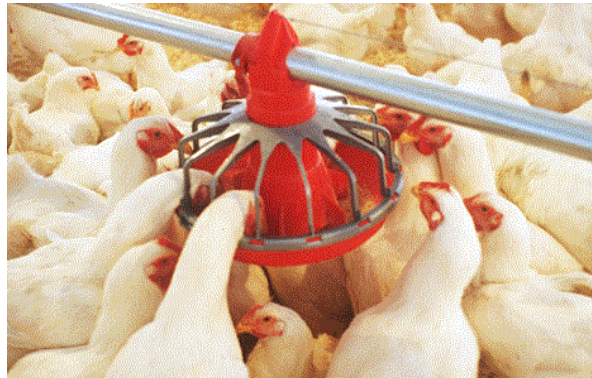
1. Have students go to the computer lab and explore three major broiler companies. Students should choose one to write a short report explaining the company's background and their role in Florida. Internet sites to look at are as follows:

**Tyson Foods:** <http://www.tyson.com/>

**Perdue Farms:** <http://www.perdue.com>

**Gold Kist Poultry:** <http://www.goldkist.com/>

2. When students are finished writing their short report, ask them what they think are some necessary tasks required to properly raise broilers. List responses on the board. (***Answers to look for include: disinfecting living space, fresh air, clean water, clean dry bedding and adequate space for each bird.***)
3. Broilers need to have one square foot per bird to adequately grow. Ask students if they think this is a lot of room. Discuss their answers and the reasons they give.  
\*Explain that these figures were arrived at by thousands of hours of research conducted at Land Grant Colleges and Universities (***these are the agricultural research colleges, UF is Florida's Land Grant University.***)
4. Hand out ***Broiler Space*** activity sheets to each student. Instruct students to answer section A. (This should take just a few minutes).
5. Once students are finished with section A, take them outside to the area you have previously marked off. Have students take measuring devices outside with them.
6. Instruct students to complete section B.
7. Ask the students:  
Which estimation, the visual or the stepped-off, was closest to the measured one? (***Answers will vary.***)  
\*Was the measured area smaller or larger than you estimated? (***Answers will vary.***)
8. Have the class visually see the number of broilers that would fit in the 10' by 10' space you have previously measured off. To do this, have students blow up balloons until the space is full.



## **Activity Two:**

1. Hand out copies of the *Poultry Data* activity sheet.
2. Have students read the graph and answer the questions.
3. Discuss the information and trends in meat consumption.
4. Now hand out the *Chicken Nutrition* pages.
5. Have the students complete the questions.
6. Discuss the information with intent to focus on the link between the two. Is there a link?

## **Evaluation Options:**

1. Utilize the completion and accuracy of assigned work to assess understanding of content and ability to perform estimations.
2. Have the students research and write series of questions about the poultry industry. Invite a representative to the classroom and interview him or her.
3. Have students search the Internet for information on an area that is of interest and create a poster project of the information.

