

## Dear Educator,

The egg's journey from the hen house to kitchens across America is guided by quality control and protected by safety practices that ensure that freshness is not compromised along the way. But it all begins with the hen and, in this teaching kit, students will get a hen's-eye view of the production process and then follow the egg's journey into their homes for lessons on food safety.

Designed to help support agricultural and consumer education in the classroom, these lessons from the American Egg Board (AEB) and the award-winning curriculum specialists at Young Minds Inspired (YMI) supplement the valuable resources already available at the Egg Board's home site, [aeb.org](http://aeb.org), and at the AEB's companion site, [incredibleegg.org](http://incredibleegg.org). Be sure to check back periodically for updates. Although the materials are copyrighted, you may make as many copies as needed for educational purposes.

Please comment online at [ymiclassroom.com/feedback-egg-board](http://ymiclassroom.com/feedback-egg-board) to provide feedback. We look forward to hearing from you.

Sincerely,



Dr. Dominic Kinsley  
Editor in Chief  
Young Minds Inspired

 For questions, contact us toll-free at 1-800-859-8005 or by email at [feedback@ymiclassroom.com](mailto:feedback@ymiclassroom.com).

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## Target Audience

Middle school students in FCS and Health classes.

## Program Objectives

- Educate students on the agricultural production and processing systems of the U.S. egg farming industry.
- Raise awareness of egg safety and proper egg handling practices.
- Interest students in careers in agriculture.

## Standards Alignment

This program aligns with Family and Consumer Science and Common Core State Standards for English Language Arts, as well as Common Core History/Social Studies and National Social Studies standards. For more details, visit [ymiclassroom.com/egg-board](http://ymiclassroom.com/egg-board).

## How to Use This Program

Download and photocopy this teacher's guide and the three activity sheets. Review the materials to incorporate the lessons into your existing plans. Activity 1 will require extended sessions as needed for a class blog compilation.

### Activity 1

#### At the Hen House

**Hen Tweets:** Have students review the information in the link shown to help them identify the various production systems. **Answers:** #inandoutgal-free-range; #24/7hen-conventional; #natural4u-organic; #roamwhereuwant-cage-free; #girlhasitall-enriched colony.

**Dear Henrietta:** Ask students to look for and underline egg idioms, words with both figurative and literal meanings (nest egg, lay an egg, walking on eggshells). Help students "translate" these words into their common meanings, then ask them to suggest and translate other egg idioms and word play they can think of, such as bad egg, rotten egg, goose egg, egg on, put all your eggs in one basket, etc. Write the terms on the whiteboard so that all students can share their ideas.

**Guest Opinions:** Plan time for students to view one or more of the Virtual Field Trips featured at [aeb.org](http://aeb.org) before they choose a topic and format for a news article for *The Cluckster*, using the ideas listed or others they suggest. Remind students to think creatively, incorporating graphics if possible, and compile and photocopy the articles for everyone to share.

### Activity 2

#### A Major Production

Plan time for students to research the links shown, then have them name and describe the production stages.

**Answers:**

- **Laying** – Hens lay their eggs in an environment that



helps ensure quality. Production systems include conventional, free-range, cage-free, organic, and enriched colony.

- **Collecting** – Eggs are most often collected by automated gathering belts.
- **Washing** – Washing sanitizes the eggs by removing the "bloom," a coating applied by the hen's body.
- **Candling** – A light source automatically inspects the interior of the egg for quality. This process is sometimes also done by hand for quality assurance.

- **Grading, Sorting, and Packing** – Eggs are graded on both interior and exterior quality, then classified AA, A, or B, sorted according to size, and placed in cartons.
- **Shipping** – Eggs are shipped in refrigerated trucks and arrive at market about one day after being laid.
- **Selling and Storing** – Eggs must be refrigerated both at market and at home.

### Activity 3

#### Eggs-cellent Safety

**PART A: Answers: Across** 1. raw; 6. minutes; 7. hands; 10. contamination; 11. cracked; 12. microwave; 13. coldest. **Down** 2. weeks; 3. firm; 4. internal; 5. carton; 8. spoil; 9. discarded.



Learn how lighting controls the egg-laying process and other interesting trivia at [incredibleegg.org/egg-facts/trivia/fast-facts](http://incredibleegg.org/egg-facts/trivia/fast-facts).

**PART B:** Have students work in groups to make posters that creatively communicate egg safety information learned through completing the puzzle. You may wish to provide additional guidelines such as poster size, number of egg safety pointers, illustrations to be included, etc. Display students' completed posters in the classroom.

## Resources

- [ymiclassroom.com/egg-board](http://ymiclassroom.com/egg-board)
- American Egg Board: [aeb.org](http://aeb.org)
- The Incredible Egg: [www.incredibleegg.org](http://www.incredibleegg.org)
- USDA: [usda.gov/wps/portal/usda/usdahome?navid=food-nutrition](http://usda.gov/wps/portal/usda/usdahome?navid=food-nutrition)

# At the Hen House

## From Our Beak to Yours...Hen Tweets

Can you use the clues in these tweets to learn about hen lifestyles? Who lives under which type of system—conventional, free-range, cage-free, organic, or enriched colony? Read up on egg production systems at [incredibleegg.org/good-egg-project/farm-to-table/common-production-systems-farmers-offer-choice](http://incredibleegg.org/good-egg-project/farm-to-table/common-production-systems-farmers-offer-choice) if you need help!

@beak2beak

Roam here, forage there, we roam & forage everywhere—  
#inandoutgal

Production system: \_\_\_\_\_

@beak2beak

Everything I need is right here: food and water, safe shelter,  
and protection—#24/7hen

Production system: \_\_\_\_\_

@beak2beak

Hey gals, my diet's so special that USDA gives my eggs an  
extra special label—#natural4u

Production system: \_\_\_\_\_

@beak2beak

I live in a barn, my BFH (BestFriendHen) is free range,  
and we *still* get to chat every day—#roamwhereuwant

Production system: \_\_\_\_\_

@beak2beak

To Do: peck, cluck, dust bath, scratch, perch, nest,  
repeat—#girlhasitall

Production system: \_\_\_\_\_

**beak2beak** @beak2beak And here's a gentle reminder  
that no matter the egg production system, eggs are healthy  
and nutritious—and that's no yolk!

## The Cluckster



An eggs-citing blog about life in the  
henhouse as told by our resident hens!

Do you speak “egg”? Some words and/or expressions have two meanings; one that we take literally and another, called an *idiom*, that represents a common image or thought. Underline the idioms below in Henrietta's column.

around here so I don't feel like I'm walking on eggshells?

Sincerely,

Fierce Chicklet

### Dear Henrietta...

### Advice Columnist Eggs-traordinaire

Dear Henrietta,

I'm laying my first egg any minute now! I'm nervous—what if it cracks? After all, I don't want egg on my face!

Eggs-pectantly Yours,  
Ms. Fancy Feathers

Dear Ms. Fancy Feathers,

Cluck not! Your incredible egg already has a shell for protection. And that feed you've been eating? It contains extra calcium and limestone to make sure the shell is strong and well formed. Once laid, your nest egg will gently roll down the nesting box slope to meet the egg conveyor belt and continue its safe journey to the gathering house to be processed with other eggs.

So go ahead, lay an egg!

Dear Henrietta,

I'm a young chick who just arrived at the henhouse, doing my best to fit in. How about a few tips on how things work

Dear Fierce Chicklet,

Welcome to the coop! We're a friendly flock and the farmer is always checking on us to be sure we're comfortable. There's good food, plenty of water, and clean living conditions. Computers control air quality, temperature, and ventilation so we don't get too hot or too cold. Do what comes naturally—scratch around, cluck with your friends, and you'll fit right in!



### Guest Opinions...Your Turn to Cluck

Got something to say about eggs? Write your own blogpost on the other side of this sheet about an egg-related topic of interest. Some ideas include bio-security, nutrition, hen health, etc. For your format, you could create a “farmer and hen” Q&A, a top-10 list, new tweets to follow up on the ones above, a new *Dear Henrietta* post, “A Day in the Life” profile, etc.

Use the resources at the American Egg Board ([aeb.org](http://aeb.org)) and Incredible Egg ([incredibleegg.org](http://incredibleegg.org)) for the information you need. Then follow your teacher's directions to make your contribution to *The Cluckster*!



# A Major Production

Once eggs are laid and transported to the gathering room, they are ready for their close-ups—processing close-ups, that is. Every stage of processing is carefully controlled to make sure the eggs you buy are fresh and of the highest quality.

Visit [incredibleegg.org/good-egg-project/farm-to-table/the-production-process-from-hen-to-home](http://incredibleegg.org/good-egg-project/farm-to-table/the-production-process-from-hen-to-home) and [aeb.org/farmers-and-marketers/ftip](http://aeb.org/farmers-and-marketers/ftip) to learn about the stages. Then name each stage and briefly describe what happens.



**STAGE:** \_\_\_\_\_

**DESCRIPTION:**

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**STAGE:** \_\_\_\_\_

**DESCRIPTION:**

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**STAGE:** \_\_\_\_\_

**DESCRIPTION:**

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**And there's one final, important stage—enjoying fresh eggs at home!**



# Eggs-cellent Safety

Egg farmers follow strict grading and inspection guidelines established by the USDA to make certain shell eggs in your supermarket are free of bacteria that can cause food-borne illness. But you also play a role in reducing the risk by practicing egg safety at home. That means you must refrigerate, store, and use eggs properly.

**PART A:** Complete this puzzle to become an eggs-pert on egg safety!

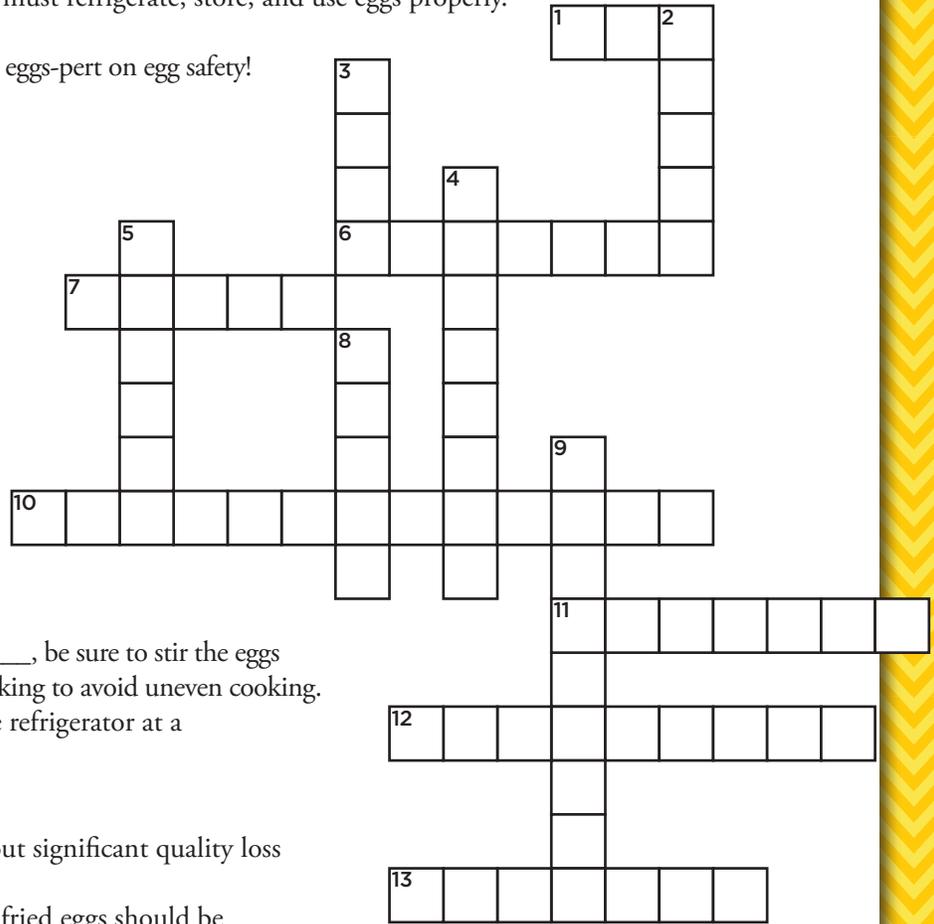
## CLUES

### Across

1. Thoroughly wash any bowls or utensils that have come in contact with \_\_\_\_ egg mixtures.
6. When a recipe calls for eggs at room temperature, leave them out of the refrigerator no longer than 20-30 \_\_\_\_\_.
7. Always wash your \_\_\_\_\_ before and after handling eggs.
10. Separate eggs from other foods in the grocery cart, grocery bags, and in the refrigerator to prevent cross-\_\_\_\_\_.
11. Discard shell eggs that are \_\_\_\_\_, broken, or leaking.
12. When cooking scrambled eggs in a \_\_\_\_\_, be sure to stir the eggs and rotate the dish once or twice during cooking to avoid uneven cooking.
13. Store shell eggs in the \_\_\_\_\_ part of the refrigerator at a temperature between 33 and 40 °F.

### Down

2. Refrigerated raw shell eggs will keep without significant quality loss for four or five \_\_\_\_\_.
3. Simple egg preparations like scrambled or fried eggs should be cooked until egg whites and yolks are \_\_\_\_\_.
4. Cook dishes containing eggs until they reach an \_\_\_\_\_ temperature of at least 160 °F.
5. Store raw shell eggs in the refrigerator in a \_\_\_\_\_.
8. When properly handled and stored, eggs rarely \_\_\_\_\_.
9. Eggs accidentally left at room temperature should be \_\_\_\_\_ after 2 hours, or one hour in warm weather.



Do you have a question about eggs and food safety? Visit these websites to get the answer.

### INCREDIBLE EGG

- [incredibleegg.org/egg-facts/egg-safety/eggs-and-food-safety#2](http://incredibleegg.org/egg-facts/egg-safety/eggs-and-food-safety#2)
- [incredibleegg.org/egg-facts/egg-safety/safe-food-handling-tips](http://incredibleegg.org/egg-facts/egg-safety/safe-food-handling-tips)

### USDA

- [fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/egg-products-preparation/shell-eggs-from-farm-to-table/CT\\_Index](http://fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/egg-products-preparation/shell-eggs-from-farm-to-table/CT_Index)

**Because the eggshell is porous, bacteria can enter and grow if eggs are not stored properly. Handled carefully and cooked thoroughly, eggs are just as safe as any other perishable food.**



**PART B:** Now follow your teacher's directions and use what you've learned to make posters about safe egg-handling practices.