

Poultry Reader



Teacher's Guide

Guided, standard-connected instruction for **third-grade** students.

Want help with this activity? Invite an AITC Education Specialist to your classroom with the From Chicken Little to Chicken Big lesson. A specialist will bring all of the supplies for no charge! **Learn More:** <https://nefbfoundation.org/classroomvisits/>

Activity Idea

ABOUT... BOOKS

LA.3.W.5 | Write informative/explanatory pieces to examine a topic of text and convey ideas and information.

1. If you are a teacher who creates educational books with your children, try creating the About Cattle, About Sheep, About Chickens, About Pigs, and About Goats books. Some of the books provide pages ready to color, others require the names of the animals be written, and other pages ask students to glue down feed samples or wool products. The books provide an opportunity to talk about animal needs, uses, offspring, seasonal changes, etc. The package of materials includes ready-to-copy booklet masters and enough samples of wool, hay, straw, cattle, pig, and chicken feed for the entire class to create the booklets. Order this kit online from **agclassroomstore.com**.

Activity Idea

EGG ANATOMY

SC.3.9.3.A | Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

1. Ask the students to list what animals need to survive. Discuss the fact that animals need food, water, shelter, and air.
2. Ask the students if they think chicks have the same basic needs developing inside the egg compared to after they hatch. Tell the students that chicken embryos need food, water, air, and the proper temperature and humidity to develop into a healthy chick that is ready to hatch out of the egg. Explain that it is important to know the parts of an egg and their functions in order to understand how a chicken embryo's basic needs are met inside the egg.
3. Divide the students into groups. Carefully break open one unfertilized (grocery store) egg per group into a shallow container.
4. Using the Parts of an Egg Diagram and toothpicks, have the students locate each part of the egg. You may need to use spoons to gently flip the yolk if the germinal disc is not visible.
5. Ask the students to fill out the Parts of an Egg Activity Sheet by cutting and pasting each egg part where it belongs.
5. Have the students create a Parts of an Egg Book by cutting out each egg.
6. Cut every egg, except the back cover, apart on the crack line.
7. Match each egg part with its corresponding function. Use two brads to connect the pages to the back cover.

Activity Idea

EGGCAM REPLAY

1. Watch the 2021 replay video of chicks hatching with University of Nebraska-Lincoln Lancaster County.
<https://lancaster.unl.edu/4h/embryology/eggcam>

Activity Idea

BIRD BEAK LAB

SC.3.9.3.C | *Use evidence to support the explanation that traits can be influenced by the environment.*

1. This lesson is designed to provide an introduction to animal adaptations. In this activity, students will use a variety of household objects to represent different types of bird beaks and identify which types of food can be picked up with each beak.
2. View the lesson guide from Illinois Ag in the Classroom!
<https://www.agintheclassroom.org/media/x4lpatlv/bird-beak-lab.pdf>

Activity Idea

EGGS 101 - AN EGG'S JOURNEY FROM THE FARM TO OUR TABLES

Watch these videos designed for the classroom that showcase an egg's journey from the hen house to our plates. The flexible series includes seven videos and quizzes for students.

<https://www.incredibleegg.org/professionals/k-12-schools/eggs-in-the-classroom/eggs-101-videos/>

Activity Idea

DESIGN A BETTER EGG CARTON

SC.3.1.1.A | *Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.*

1. Challenge students to use their STEM skills to design an egg carton that minimizes the chances of eggs cracking.
2. Use the lesson plan from Illinois Ag in the Classroom!
<https://www.agintheclassroom.org/media/avilutu3/stem-cards-poultry.pdf>

Activity Idea

FROM HEN TO HOME

SS 3.2.3.a | Indicate various markets where buyers and sellers meet.

LA 3.SL.2 | Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant descriptive information.

1. Watch the video Eggs 101.
2. Ask the students, “What are the steps involved in getting eggs from the farm to the grocery store?”
3. Organize the students into six groups. Provide each group with a set of Egg Production Cards. Ask the groups to work together to place the cards in the order that show the steps it takes to get eggs from the farm to the supermarket.
4. Explain to the students that technology is used in every production step to increase efficiency and decrease costs. Ask the students to describe some of the technologies they noticed from the videos.
5. Assign each group one of the production steps below to explore. Provide the groups with the From Hen to Home Discovery Sheet that corresponds with their production step.
 - Hens lay eggs
 - Eggs are washed
 - Eggs are checked for cracks
 - Eggs are sized
 - Eggs are graded
 - Eggs are packaged and shipped
6. Have each group read the information on their discovery sheet, watch the video, and create a poster to present to the class. Each poster should include the following information:
 - Name of the production step.
 - What happens during this step.
 - Technology that is used during this step.
 - Interesting information about this step.
7. Allow each group time to share their poster with the class.

Activity Idea

CHICKEN WINGS

1. Use this lesson plan from Illinois Ag in the Classroom to dissect a chicken wing and view similarities to a human arm.
<https://www.agintheclassroom.org/media/psjfxmpq/chicken-wings.pdf>

Activity Idea

NON-FICTION TEXT FEATURES

LA.3.RI.4 | Explain how text features contribute to meaning.

1. Use the “Non-Fiction” worksheet found in the appendix to have students locate different features of a non-fiction text in the reader on page 7.

Activity Idea

THE BOUNCING EGG (Source: Steve Spangler Science)

Materials

- One hard cooked egg
- Plastic container with lid
- White vinegar

1. Without breaking the shell, examine the hard cooked egg carefully. Record visual observations.
2. Place the egg in the plastic container. Cover completely with white vinegar and seal with lid. Look closely at the egg. Predict what will happen in one hour, one day, and one week. Record predictions. Leave the egg in the vinegar for a full 24 hours.
3. Change the vinegar on the second day. Carefully pour the old vinegar down the drain and cover the egg with fresh vinegar. Place the container in a safe place for a week! Do not disturb the egg, but pay close attention and record observations.
4. One week later, pour off the vinegar and carefully rinse the egg with water. The egg looks translucent because the outside shell is gone! The only thing that remain is the membrane of the egg. The egg white and yolk should have become rubbery. Record what happens when it is dropped. It should bounce!
5. Note: Do not eat the egg.

Activity Idea

AN INSIDE LOOK AT U.S. POULTRY PROCESSING

LA.3.W.6.c | Sort evidence into categories using an appropriate note-taking format to collect and organize photos.

1. Watch the video provided by US Poultry & Egg Association for a behind-the-scenes look at today's high-tech, poultry processing plants. Use one of the "Video Reflections" worksheet found in the appendix to record thoughts from the video. <https://www.youtube.com/watch?v=ZnRYi2ukzOs>

Activity Idea

TRUSSING SYSTEM TECHNOLOGY

LA.3.W.2 | Use a recursive writing process to develop, strengthen, and produce writing appropriate to the audience, purpose, and discipline.

1. Watch this video to see the trussing system in action! Use one of the "Video Reflections" worksheet found in the appendix to record thoughts from the video. Then, write a paragraph answering the question, "How does the trussing technology work?" <https://www.youtube.com/watch?v=uJgatxIhL3I>

Activity Idea

IN MY OPINION

LA.3.W.4 | Write opinion pieces with supporting reasons and/or evidence.

LA.3.SL.2 | Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details.

1. Write and present a speech using one of the following topics:
 - a. I think eggs are a very important food.
 - b. Breakfast is the best time to eat eggs.
 - c. Eating eggs any time of the day is all right with me.

Activity Idea

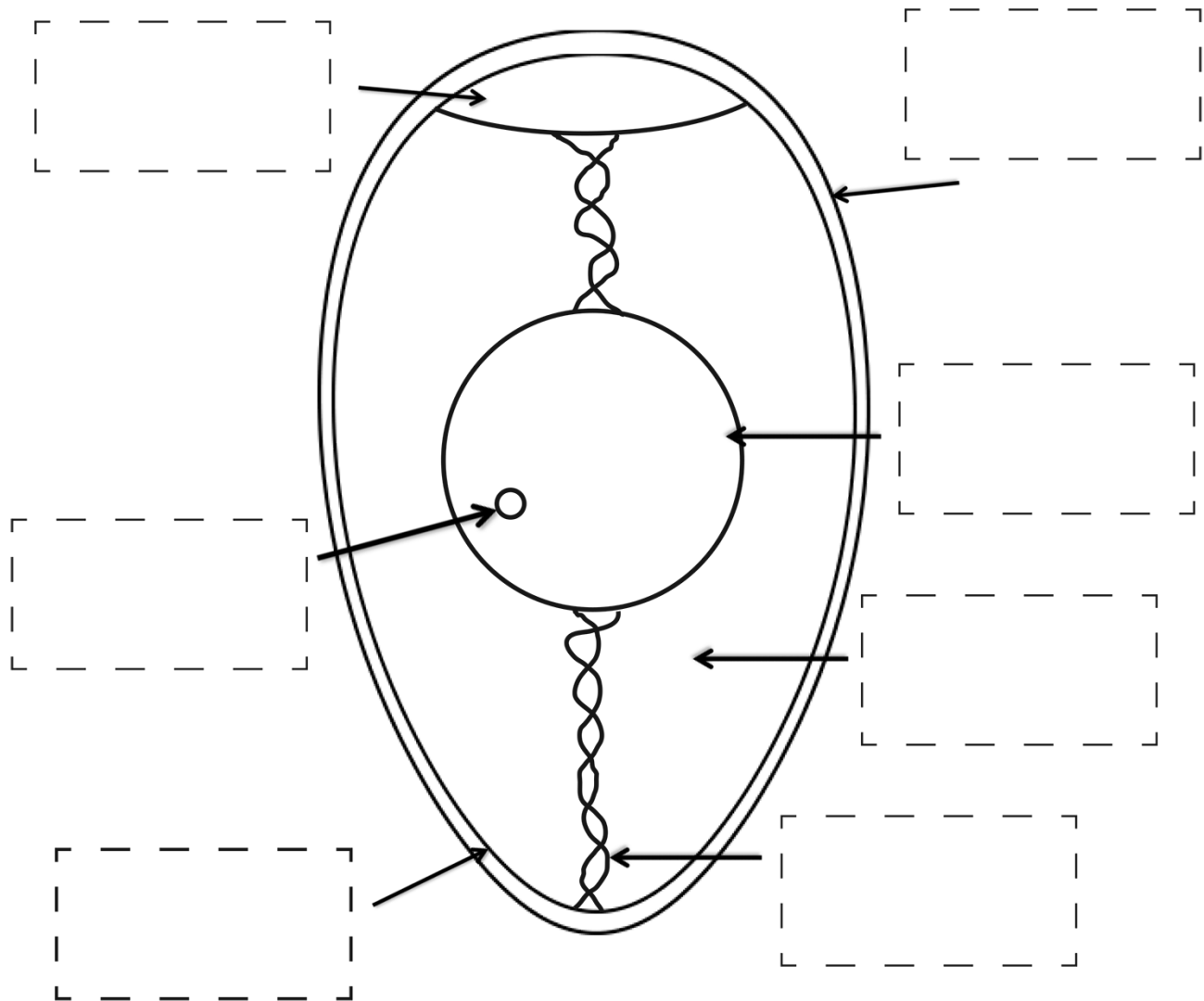
KID FRIENDLY RECIPES

LA.3.SL.1.d | Demonstrate active and attentive listening skills.

LA.3.SL.1.e | Complete a task following multi-step directions.

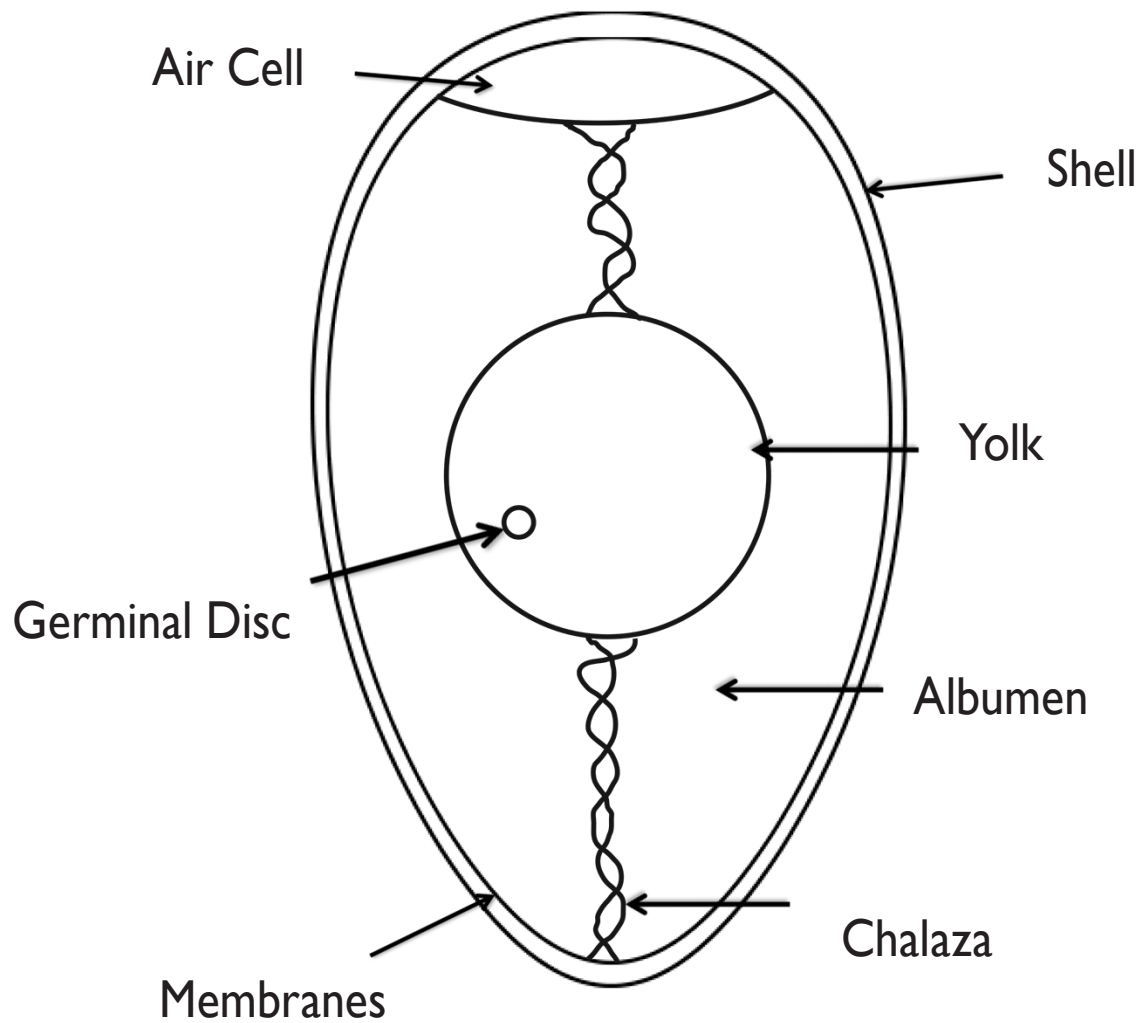
1. Find a recipe and cook eggs together as a class.
<https://www.incredibleegg.org/recipes/collections/kid-friendly-recipes/>

PARTS OF AN EGG WORKSHEET



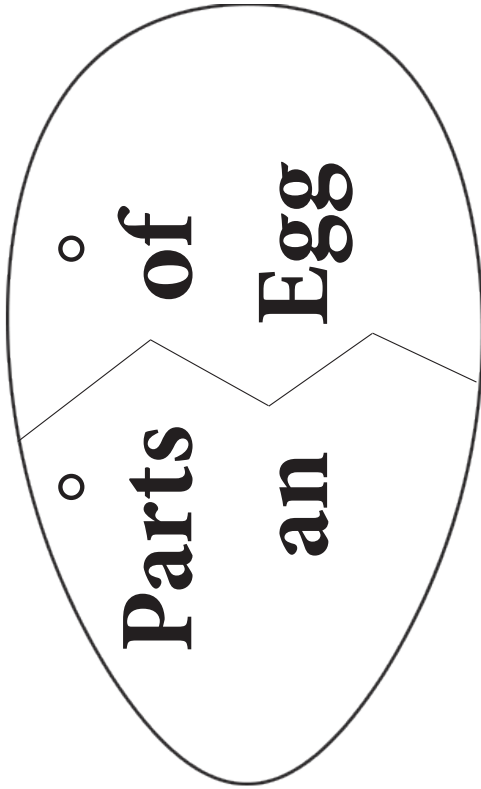
shell	air cell	yolk
membranes	albumen	chalaza
	germinal disc	

PARTS OF AN EGG DIAGRAM

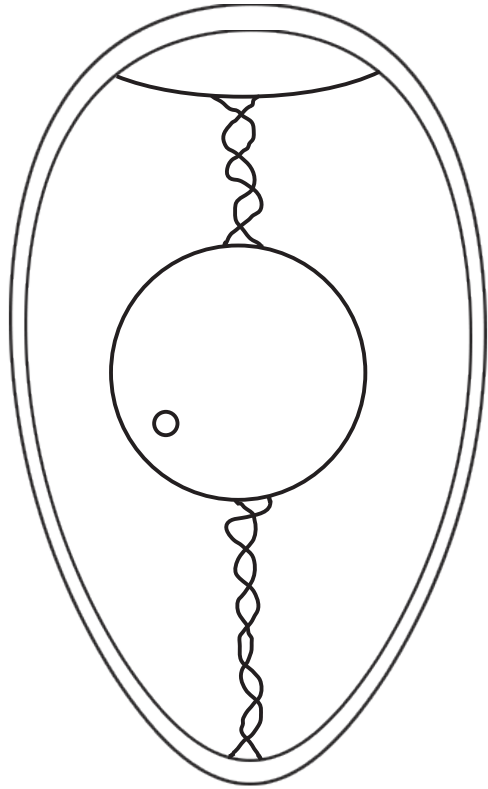


PARTS OF AN EGG BOOK

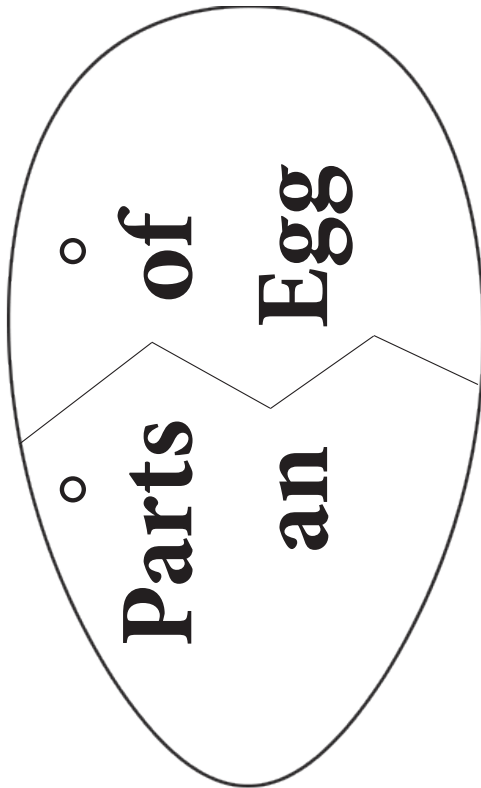
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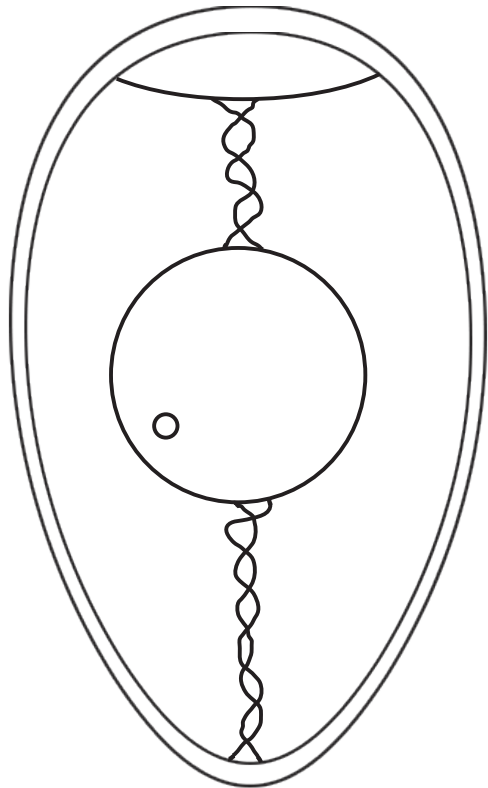
Back Cover



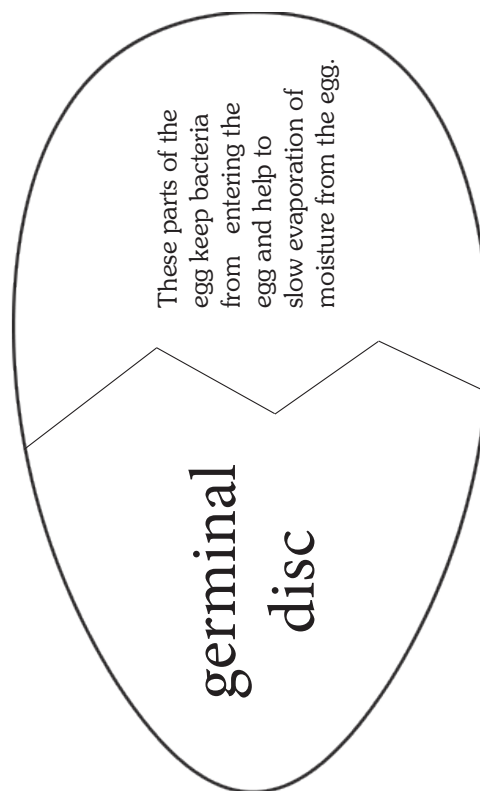
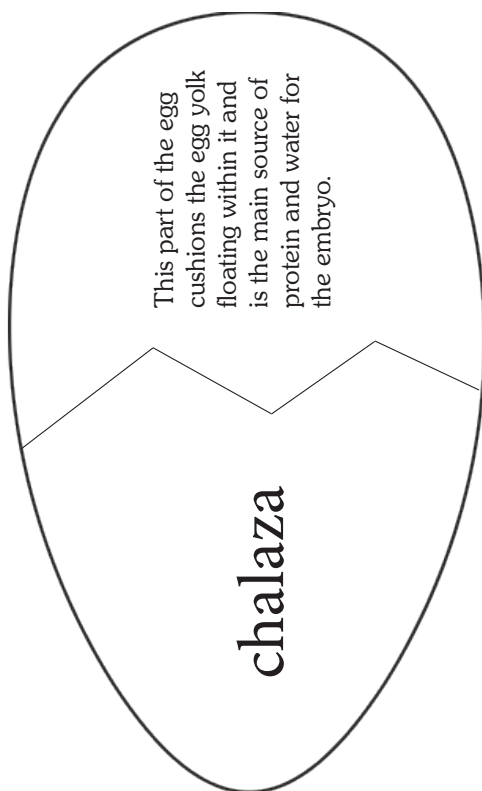
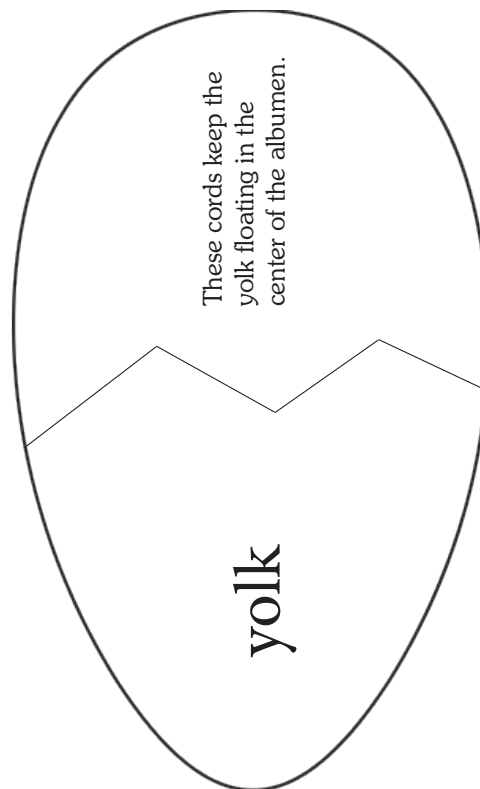
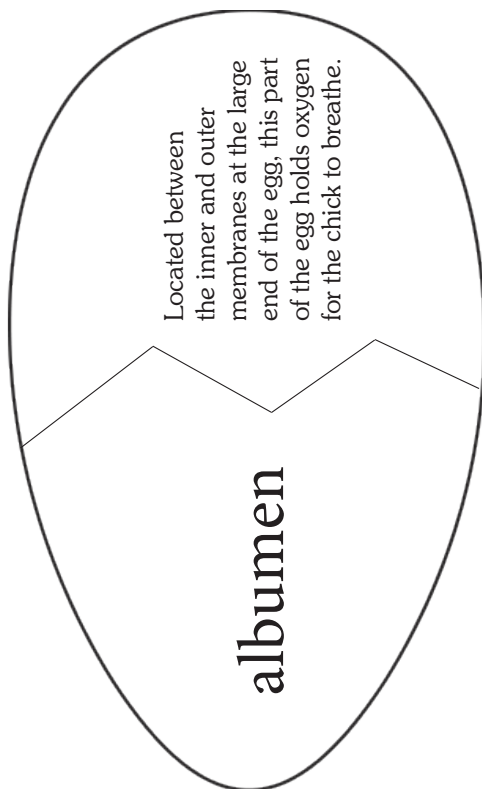
Front Cover



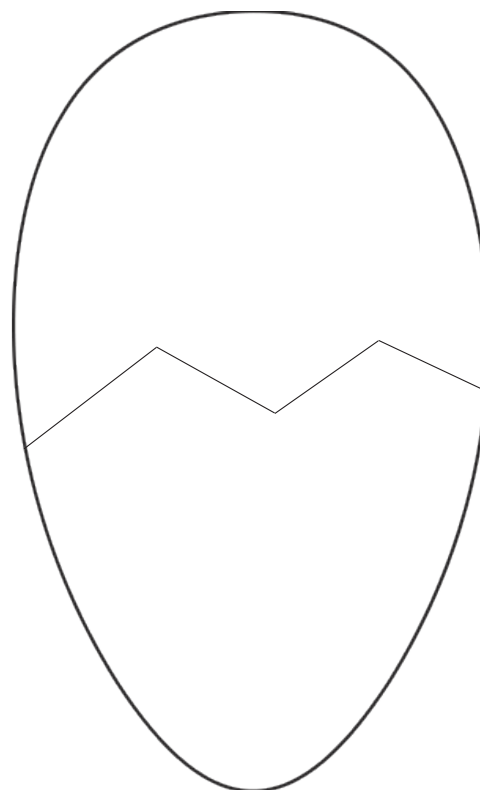
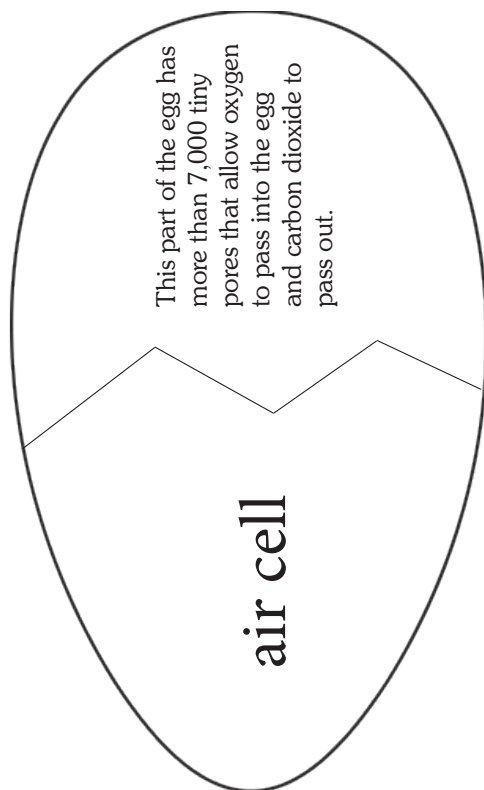
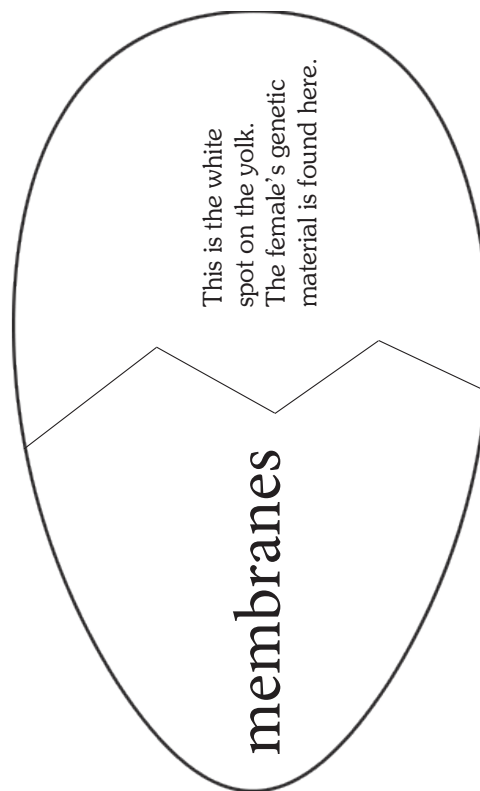
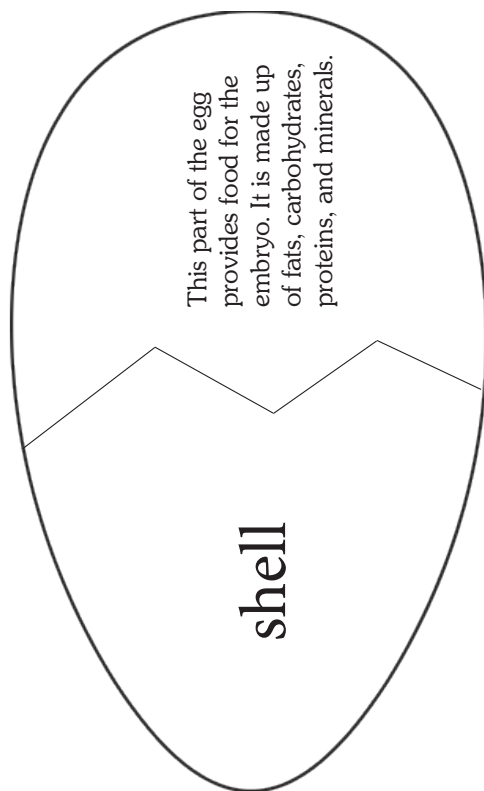
Back Cover



PARTS OF AN EGG BOOK



PARTS OF AN EGG BOOK



EGG PRODUCTION CARDS

Hens lay eggs



Eggs are washed



Eggs are checked for cracks, sized, and graded



Eggs are packaged



Eggs are refrigerated



Eggs are transported to the grocery store



HEN TO HOME DISCOVERY SHEETS

Hens Lay Eggs

Eggs are laid by hens (female chickens) on farms. Hens begin laying eggs when they are 4-6 months old. A good laying hen will produce 6-7 eggs per week for the first 1-2 years of her life.

There are many varieties of laying hens, but White Leghorns are the most common.



White Leghorns reach egg-laying maturity early, adapt well to different climates, and are known for consistently laying a large number of white-shelled eggs. They have a relatively small body size and can produce over 250 eggs a year.

Eggs come in various shell colors, although there is no nutritional difference between different colored eggs. The shell color depends upon the breed of the hen. An egg's shell color is determined by the color of the hen's earlobes. White hens have white earlobes and lay white-shelled eggs. Hens with red feathers and red earlobes lay brown-shelled eggs. Most retail eggs are either white or brown, but you may also see greens or blues in some stores. Hens live in barns. They eat a grain-based diet that includes vitamins and minerals to keep hens healthy.

On a farm, eggs are collected every day. They are gathered frequently and refrigerated quickly. Warm temperatures lower the eggs' freshness and quality.

Watch the video *Hens* to learn more about laying hens.



<https://www.incredibleegg.org/professionals/k-12-schools/eggs-in-the-classroom/eggs-101-videos>

HEN TO HOME DISCOVERY SHEETS

Eggs are Washed

All eggs in the United States are washed with a specialized solution of warm water (106° F) and soap to clean and sanitize the eggs and remove any contaminants (manure, grease, yolk, etc.) before they are sold to consumers.

After washing, the eggs are sprayed with a warm water spray containing sanitizer to remove any dirt and debris. Removal of contaminants prevents egg spoilage by bacteria.

Strict federal regulations specify the procedures and food-safe cleaning compounds that may be used to wash eggs. Most eggs are cleaned in mechanical washers that use sprayers, brushes, detergent-sanitizers, rinsers, and dryers. A dirt detection system is used to find eggs that are dirty. This system uses multiple cameras to find eggs that have spots on them. Any dirty eggs are rerouted back to the washer.



Watch the video *Eggs Part 2* to learn more about how eggs are washed. Begin watching the video at minute :27 and end at minute :45.



<https://www.incredibleegg.org/professionals/k-12-schools/eggs-in-the-classroom/eggs-101-videos>

HEN TO HOME DISCOVERY SHEETS

Eggs are Checked for Cracks

Egg shells are the first barrier to keep bacteria from entering the egg. Cracks in egg shells create a food safety risk due to bacterial contamination.

Large cracks can easily be seen with the human eye or by candling the egg (holding the egg up to a light). Microcracks in the shell are more difficult to detect. Microcracks are very small cracks in the shell surface that reduce the protective barrier benefits of the shell. Microcracks are not easily seen with the human eye.

Crack detectors check the eggs sonically. Tiny probes tap each egg and listen for the sound it makes. The machine taps the egg multiple times while listening to the sound it produces. If a crack is detected, the egg is removed from the production line.



Watch the video *Eggs Part 2* to learn more about how eggs are inspected for cracks. Begin watching the video at minute :45 and end at minute 1:15.



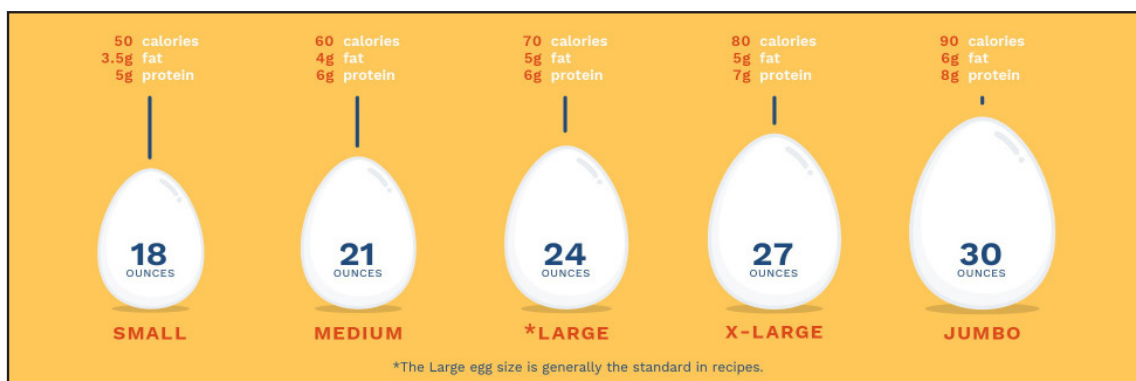
<https://www.incredibleegg.org/professionals/k-12-schools/eggs-in-the-classroom/eggs-101-videos>

HEN TO HOME DISCOVERY SHEETS

Eggs are Sized

The age, breed, and weight of the hen influences the size of an egg. As the hen ages, her eggs increase in size. Egg size is one of the factors considered when the price of eggs are determined. Egg size is determined by the average weight per dozen eggs. While some eggs may look slightly larger or smaller than each other in the same carton, the weight of the dozen eggs as a whole determines their class size.

All eggs are sized for consistency when packaged. The eggs are weighed by electronic scales and packaged according to their size based on weight. Eggs come in small, medium, large, extra large, and jumbo. In recipes, large eggs are generally the standard.



Watch the video *Eggs Part 1* to learn more about the factors that influence the size of an egg. Begin watching the video at minute :34 and end at minute 1:11.

<https://www.incredibleegg.org/professionals/k-12-schools/eggs-in-the-classroom/eggs-101-videos>



HEN TO HOME DISCOVERY SHEETS

Eggs are Graded

Eggs are graded into three classifications according to the United States Department of Agriculture (USDA) grading system—AA, A, and B. The grade of an egg is determined by the inside and outside quality of the egg. Eggs are inspected for quality using special lights. This process is called candling.



Grade AA eggs have thick, firm whites and the yolks are free from any defects. Their shell is clean, smooth, and oval in shape. Grade A eggs have a slightly lower interior quality. Grade B eggs may have slight stains and be irregular in shape. They are not sold in supermarkets, but are used in powdered or liquid egg products. There is no nutritional difference between the different grades.

		
○ Egg white thick and firm ○ Yolks high, round & practically free from defects ○ Clean, unbroken shells	○ Whites are reasonably firm ○ Yolks high, round & practically free from defects ○ Clean, unbroken shells	○ Whites may be thinner ○ Yolks may be wider and flatter ○ Shells unbroken, but may show slight stains ○ Usually used in liquid, frozen & dried products

Watch the video *Eggs Part 1* to learn more about how eggs are graded. Begin watching the video at minute 1:14 and end at minute 2:00.



<https://www.incredibleegg.org/professionals/k-12-schools/eggs-in-the-classroom/eggs-101-videos>

HEN TO HOME DISCOVERY SHEETS

Eggs are Packaged and Shipped

It takes between 48 to 72 hours from the time an egg is laid until the time it leaves for the restaurant or grocery store. They are packaged by size based on weight and by grade. Expiration, sell by, best by, and/or use by dates are burned into the egg cartons. Many cartons also show the USDA grade seal in addition to the brand, size, number of eggs, and nutrition label. Carton labels may also indicate the



producer, Julian date (the pack date), and instructions about how to properly store them. For egg cartons featuring the USDA egg grade shield, there will be a 'P' number stamped on the carton, near the Julian date, identifying the facility that packaged the eggs. For those eggs that are not graded by USDA inspection, the Food and Drug Administration (FDA) requires the carton to have the name and place of business where the eggs were packaged or distributor information so the source of eggs can be traced in the event of a food safety situation.

Whether made of pulp, foam, or clear plastic, the carton protects the eggs from breaking or crushing, bacteria, and loss of moisture. New packaging designs are continually being tested to provide the best protection for the eggs. Eggs are placed into the cartons large end up to keep the air cells in place and the yolks centered.

The egg cartons are packed into boxes and moved into a refrigerated room for storage until they are transported to stores. Eggs must be refrigerated. They will age more in one day at room temperature than in one week in the refrigerator. Eggs are transported to the grocery store in refrigerated trucks.



Watch the video *Overview* to learn more about packaging and shipping eggs. Begin watching the video at minute 1:50 and end at minute 2:06.

<https://www.incredibleegg.org/professionals/k-12-schools/eggs-in-the-classroom/eggs-101-videos>

LOCATING NON-FICTION TEXT FEATURES

Directions: Choose an informational book or magazine to read. As you read find examples of nonfiction text features. Look for things such as bold face type, italics, captions, headings, drawings, charts, and diagrams. Write or draw examples of the features you find, include page numbers, or cut and paste actual examples

Title of Book or Magazine:

Page #

Heading:

Page #

Caption:

Page #

Photo:

Page #

Bold Type:

Page #

Italics:

Page #

VIDEO REFLECTIONS

Name: _____

Date: _____

Watch the video. In each box below, record your thoughts with takeaways from the video.

My Notes:

My Opinion:

My Questions:

My Understanding:

Vocabulary Words I Heard:

A New Fact I Learned:

A Picture From The Video:

My Favorite Part: