



## Egg Reader's

- The Nebraska Department of Agriculture – Egg and Poultry Division supports Nebraska Extension’s Embryology School Enrichment with The Egg Reader. This is a great piece for 3rd-5th grade students to learn a bit more about the Egg Industry.
- An email is sent out in late spring requesting the number of Egg Reader’s needed for your county.

**The Hen: "Eggspert" Producer**  
 Ag in the Classroom—Helping Students Understand Their Connection to Agriculture

**Incredible!**  
 American Egg Board  
 Grades 3-5

Most of the eggs we eat come from chickens. Female chickens are hens. They are the ones who lay eggs. It's an all-day event for a hen to make an egg and lay it.

1. The hen is born with many tiny yolks in her body. One at a time, these grow to full size.
2. When full size, the yolk is released into a long tube, called an oviduct. This release takes about 14 minutes.
3. As the yolk moves, a thick white layer of albumen—also known as the egg white—develops around it. This takes about three hours. This takes about an hour and 15 minutes.
4. Water goes into the eggshell is the last and longest step. This step can take as long as 20 hours. The shell gets its pigment at the very end of this step, making the eggshell white, cream, or brown, depending on the breed of the hen.
5. The hen lays the egg, and the process starts again.
6. The hen lays the egg, and the process starts again.

White hens lay white eggs. Brown hens lay brown eggs.

**Parts of an Egg**

- 1 shell—the outer covering of an egg, which is composed mainly of calcium carbonate and is the part that takes the longest to form in the egg-laying process
- 2 germinal disc—a slight depression on the yolk surface where an embryo can begin to develop if the egg has been fertilized and kept warm
- 3 vitelline membrane—the membrane that surrounds the yolk
- 4 thin albumen—the egg white nearest the shell
- 5 thick albumen—the egg white nearest the yolk and contains most of the egg's riboflavin and protein
- 6 yolk—the yellow portion of an egg and the major source of an egg's vitamins, minerals, and fat and about half of the protein
- 7 shell membrane—one of two membranes surrounding the albumen inside the shell, which is a barrier against bacteria
- 8 chalazae—twisted, cordlike strands of egg white that anchor the yolk in the center of an egg
- 9 air cell—a pocket of air formed at the large end of the egg between the two membranes

Fact: A hen lays an egg every 24-26 hours.

**"Eggstra" Math and Language Arts Challenges**  
 Math, vocabulary (RI.4.4; RI.4.7; RI.5.4; RI.5.7)

Look at the numbers on each basket. Use +, -, x, or ÷ between each number to make a correct equation.

10 = 12  
 1 15 3 = 5  
 8 3 13 = 14  
 14 2 6 = 1  
 10 2 1 = 8

...to the puzzle.  
 ...hard to using a  
 ...in place

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