



Egg Investigation

Grade Level: 3-5

Goal

Students investigate different colored eggs and compare differences between farmers market and grocery store eggs.

NOTE: Please follow appropriate hand washing procedures when using raw eggs and discuss with your students why this is important.

Curriculum Alignment

Find a list of which Common Core State Standards and NC Essential Standards this lesson plan aligns with on the lesson plan page at www.growing-minds.org.

Materials

Book to read

[An Egg is Quiet](#) by Dianna Aston

Activity supplies for each group (4 students/group)

Eggs from a grocery store (white)

1 raw

2 boiled

Eggs from a farmers market (brown)

1 raw

2 boiled

A magnifying glass

4 toothpicks

2 non-paper plates

4 paper plates or napkins for boiled egg samples

A measuring tape or ruler

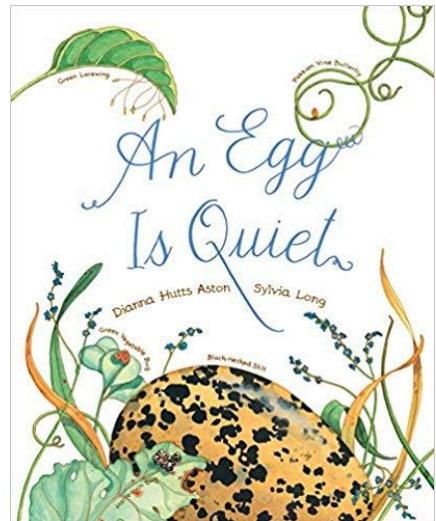
Activity supplies for the teacher

A hot plate

A cooking pot

A knife

Water to boil the eggs in





Egg Investigation

Grade Level: 3-5

Lesson

Most chickens lay white or light brown eggs. But did you know that some chickens lay eggs that are chocolate brown or blue? An Araucana chicken lays a blue egg. A Cuckoo Maran chicken lays a chocolate brown egg. One way to tell what color egg a chicken will lay is to look at her earlobe! Most people might not know chickens even have ears. A chicken's ears don't look like ours. There are little hairless spots on the sides of their heads that are their earlobes. Hens with white earlobes will always lay white eggs; hens with red earlobes can lay brown, blue or green eggs.

No matter what the color, eggs are very nutritious. Eggs have protein, a bit of vitamin B-12, vitamin E, riboflavin, folic acid, calcium, zinc, iron, and essential fatty acids. The protein in an egg has all the essential amino acids (building blocks of protein that our bodies need but cannot make) in a pattern that matches very closely the pattern our bodies need. This is why eggs are grouped with meat and why egg protein is called complete protein.

Most eggs that you find in the grocery store are white or brown. But do your shopping at a farmers market, and you are almost guaranteed to find colorful eggs. Wherever you shop, make sure to buy eggs that are not cracked, and don't wash eggs before storing them. Washing may remove the invisible protective coating surrounding the shell. This protective coating prevents bacteria from entering the egg.

Do different colored eggs look and taste the same on the inside? Let's find out!

Procedure

Tip: Boil the eggs ahead of time. One recipe for boiling eggs is as follows: place eggs in a single layer in the bottom of a pot. Add enough cold water to cover the eggs by 1 inch. Bring the water to a raging boil. Cover the pot and remove it from heat. Let it sit for 20 minutes. After 20 minutes, drain the hot water and run the eggs under cold water until they are cool to the touch. (Note: make sure to remember which eggs are from the farmers market and which are from the grocery store.)

1. Each group will need to make a label for their non-paper plates. Label one "Grocery Store" and the other "Farmers Market".
2. Demonstrate how to crack an egg for students. Students should break the appropriate egg onto each of the plates and closely examine them. Discuss with the class what it means to closely examine something and how to use precise language to describe their observations. For example, both yolks will likely be yellow but perhaps one is darker or more orange. Help students to see and express that difference. Discuss what they notice as different and the same between the two types of eggs.

Growing Minds is a program of ASAP (Appalachian Sustainable Agriculture Project).

306 West Haywood Street, Asheville, NC 28801

(828) 236-1282

www.growing-minds.org



Egg Investigation

Grade Level: 3-5

3. After discussing and observing as a class, have students work in their groups and use toothpicks, magnifying glasses, and measuring tapes to investigate their eggs. Have them fill in the Raw Egg Comparison Table for their group.
4. Cut the boiled eggs in half while still in the shell. After the students have observed the eggs and recorded their findings, give each student half of a boiled farmers market egg and half of a boiled grocery store egg. Have them peel the eggs and taste them.
5. Once students have tasted both of the eggs, have them fill out the Boiled Egg Comparison Table and answer the questions below it. You will need to give them information on the cost of the eggs.
6. Graph it! Have the class compile data on yolk diameter for both types of eggs. Depending on the needs of your class, you may want to lead the class through making a graph, have them work within their groups, or work individually.
7. Have students complete a writing assignment. They can use the internet to research the nutritional value of free range eggs and factory farm eggs, finding at least two sources. Based on their research and observations of different types of eggs, they can write a letter to a chef explaining to them which eggs they think they should use and why.

Extension

Invite a farmer to visit your classroom and discuss raising chickens for eggs.