

Which Came First the Chicken or the Egg?



LEVEL: Grades 4-6

SUBJECTS: Health: Nutrition, Life Science, Social Studies

AZ ACADEMIC STANDARDS 1CH-R1, 1CH-R7, LS-R5

MATERIALS

Copy for each student:
Food Taster Notebook
Observation Sheet and
Student Self Evaluation
Sheet

Fresh Uncooked Eggs; the quantity of eggs needed will depend on whether you demonstrate with one egg or allow older students to work individually or in groups. The amount of eggs cooked in the various demonstrations will influence how many eggs are needed. Figure one egg per student when preparing scrambled eggs and/or boiling eggs for egg salad. (Suggestion: Have eggs boiled before class so they are cool for peeling.)

Latex gloves, paper towels as needed.

Small pans or trays for dissecting eggs, quantity will depend on whether students work independently or in groups.

Craft sticks to assist with the dissection.

For the cooking experiences you need:

An electric fry pan, a portable electric burner, a pan large enough to boil eggs, water to cover the eggs for boiling, non stick spray for the pan or butter, a spatula, a cooking spoon, forks for smashing

mayonnaise, salt, pickle relish, bread or crackers and paper plates.

VOCABULARY

Arizona Grown egg, porous, shell, membrane, albumen, egg white, nutrition, yolk, fried, boiled, healthy, cook

RELATED LESSONS

Can You Walk on Eggs?
The Day an Egg Solved the Mystery of the Cell.

SUPPORTING INFORMATION

Which comes first, the chicken or the egg? This question has intrigued adults and children probably since recorded history began. It's one of those mind-bending questions, that, if we had a definite answer it wouldn't make any difference; but it's fun to debate the question.

What is the answer? Well, since both the birds and the eggs came before man, historians weren't around to record the answer. So, whichever answer you like, it's okay.

The fact is that a chicken can't be born without a chicken egg and a chicken egg can't be laid without a chicken. It's also a fact that both chickens and eggs are important in the human diet.

People have collected and eaten eggs for thousands of years. Chickens have been important in America since ancient times, but scientists say they weren't the same kinds of chickens that lay our eggs today. Historians believe

BRIEF DESCRIPTION

Student nutrition is a national concern and this is a timely lesson to introduce students to the value, reliability and convenience of eggs for a healthy meal or snack. Students will learn shopping tips when buying eggs, along with methods for cooking them. From Christopher Columbus to the egg today eggs have been an important part of good health and nutrition for people around the world. They are a great choice to maintain good health. The American Heart Association says an egg a day is a good thing; no more concerns about cholesterol. The Arizona Grown egg can become our symbol for good nutrition.

OBJECTIVES

- For students to become aware of eggs as an excellent nutritious food choice.
- For students to learn how eggs can be easily prepared for a meal or snack.

ESTIMATED TEACHING TIME:

Introduction: 30-55 minutes. Begin the cooking demonstration. Follow-up discussion/ enjoying the results: 30-55 minutes

that Christopher Columbus brought the birds related to today's chicken to America in 1493. On Columbus' second trip to the New World he brought along crates of chickens. The captain's log says the chickens produced eggs and meat for the sailors. Remember on their first trip many men died from starvation, so the second trip they were better prepared. Apparently they still had some chickens left when they landed and those chickens escaped....or, so the story is told.

GETTING STARTED

This is consumer protection information: Students may be handling raw fresh eggs so you may want to provide latex gloves. Occasionally a student may have an allergy to eggs, if so, that student should only observe. When finished, everyone handling eggs should wash their hands with soap and water. Be sure that all eggs are kept in a refrigerator or ice chest before use.

PROCEDURES

Session 1.

Introduce the question. Which comes first, the chicken or the egg?

(use *Supporting Information*)

Discussion point: ask students to speculate on this question. Lead them in developing other questions that would give them more information. Perhaps one group of students can debate another group, (alternating to present opposing opinions) the remaining students would need to listen closely to determine who presented the most convincing answer. Do they agree or disagree? Why or why not? This should be a fun experience, don't let it get out of hand.

What is the answer? Present the history of chickens and eggs (*Supporting Information*) and therein lies the answer. (students can read sections outloud.)

Re-ask: so which comes first, the chicken or the egg?

Students should document and defend their own opinion on the *Food Taster Notebook Observation Sheet*.

Transition from the question to a proven point: eggs are an extremely important item in the American diet. (see *Supporting Information*).

On the *Food Taster Notebook Observation Sheet* students should use the diagram as a guide and follow along as you are demonstrating the parts of the egg. An alternative would be for the students to dissect an egg in groups or individually. (allow 10-15 minutes extra time).

Utilize the *Supporting Information* with the dissections or demonstrations.

Clean up and wash hands.

Session 2.

Transition from exploring the parts of an egg to discussing the VALUE of eggs in our diet. From *Supporting Information* share the nutritional value of eggs.

Then how students can include eggs in their meal planning and snacks.

Demonstrate how eggs are fried, scrambled and boiled. During this demonstration the students should be listening to the recipe (directions) and writing them on their *Food Taster Notebook Observation Sheet*. (Even if the hard-boiled eggs have been prepared in advance it will be beneficial to demonstrate how eggs are boiled, length of time, etc.)

IT IS IMPORTANT FOR STUDENTS TO UNDERSTAND THAT HARD BOILED EGGS MUST ALSO BE STORED IN THE REFRIGERATOR; THEY

WILL STAY GOOD FOR ABOUT A WEEK.

Make egg salad and/or scramble eggs, serve and enjoy. Encourage students to talk with their parents to include eggs in their snacks. Complete the *Observation Sheets*.

EVALUATION OPTIONS

1. Teacher evaluation of *Food Taster Notebook Observation Sheet & Questions*.

2. *Student self-evaluation* rubric.

EXTENSIONS AND VARIATIONS

Read & enjoy Dr. Seuss' Green Eggs & Ham. If you have a class where nobody would be offended by eating ham, then it could be appropriate to add some chopped ham to the scrambled eggs.

RESOURCES

Education sites include: the University of Illinois Extension Program www.urbanext.uiuc.edu/eggs Education World. Their lesson planning includes Why all the EGGS-citement about eggs? An eggs-plosion of across-the curriculum egg-tivities for all grades.

www.education-world.com

Resources for information about consumer safety, egg production, safety and business include:

Presidents Council on Food Safety-Egg Safety Educating individuals throughout the production to consumption continuum.

www.foodsafety.gov/~fsg/cegs

United States Department of Agriculture www.usda.gov/

Two of the more comprehensive egg industry information sources are: Egg Nutrition Center

A center of research, safety, business, marketing for the

egg industry and the consumer.

www.enc-online.org/

American Egg Board, the Incredible Edible Egg Website

1460 Renaissance Dr, Park Ridge, Illinois 60068 (847) 296-7043 www.aeb.org/

In Arizona be sure to check these websites:

Arizona Department of Agriculture - ARIZONA GROWN Program, 1688 West Adams, Phoenix AZ 85007 (602) 542-4373

www.agriculture.state.az.us/

Hickman's Egg Ranch

Their website has some interactive kid activities.

Arizona can be proud of this homegrown business.

www.hickmanseggs.com/

CREDITS

All of the websites listed above were helpful in the development of this unit, especially the Egg Nutrition center.

I thank Henrietta, a stray chicken that has lived several years on our school campus for the pleasure she gives us. It's also important to the universe to acknowledge my own flock of chickens that faithfully produce 18 or so beautiful brown and blue eggs every day.

EDUCATORS' NOTES

<p>CURRICULUM DESIGN</p>

<p>Anita R. Easley 6th Grade Teacher Gilbert Elementary School Gilbert, Arizona</p>
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This Arizona Grown Specialty Crop Lesson Plan was paid for by a grant from the Arizona Department of Agriculture's Office of Marketing and Outreach.

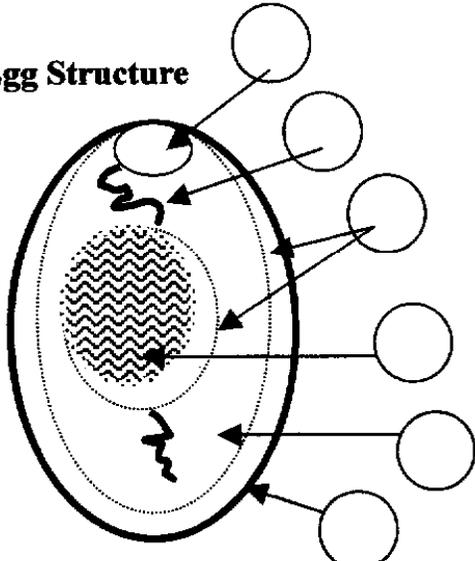
The Arizona-Grown Egg: Which Came First the Chicken or the Egg?

Food Taster Notebook Observation Sheet

Technician's Name: _____

Experiment Date: _____ in _____ Laboratory
(Teacher's name)

Egg Structure



Match item numbers to each part.

- 1 shell
- 2 albumen/egg white
- 3 air cell
- 4 chalaza
- 5 membranes
- 6 yolk

What three things should you remember when buying eggs?

Look for _____.

Check the _____.

As soon as possible put the eggs in _____.

Whenever possible buy _____ eggs.

Select the best answer.

best used by date _____
cracked eggs
the refrigerator
Arizona Grown

Unscramble the Scrambled Eggs
Put the steps in correct order. 1-12

Mix eggs and milk. _____

Add a spoonful of milk. _____

Break eggs into a bowl. _____

Season to taste. _____

Prepare skillet for cooking. _____

Ask an adult to watch you work. _____
(depending on your age and house rules)

Turn on the stove. _____

Serve eggs on a plate. _____

Clean up any mess. _____

Stir eggs as they cook. _____

Turn off stove. _____

Eat and enjoy! Yum-yum good! _____

NO YOLK



is a
Good Egg

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TEACHER'S KEY: Food Taster Notebook Observation Sheet

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Unscramble the Scrambled Eggs
Put the steps in correct order. 1-12

- Mix eggs and milk. _____5
- Add a spoonful of milk. _____4
- Break eggs into a bowl. _____3
- Season to taste. _____6
- Prepare skillet for cooking. _____2
- Ask an adult to watch you work. _____1
(depending on your age and house rules)
- Turn on the stove. _____7
- Serve eggs on a plate. _____10
- Clean up any mess. _____12
- Stir eggs as they cook. _____8
- Turn off stove. _____9
- Eat and enjoy! Yum-yum good! _____11

KROCK + MOK

Student's name

is a
Good Egg!

Which Came First the Chicken or the Egg?



Name: _____

Teacher: _____

Date : _____

Title of Work: _____

	Criteria				Points
	1	2	3	4	
Science Concepts	I don't get it yet.	I get some of it.	I get it.	My ideas shine! I can teach it to a friend.	___
Food Taster Notebook Observation Sheet	I did not record.	I started to record.	I did record and share.	I did record details carefully and asked questions.	___
Team Member	I didn't help my team. I was off task.	I did less than my share of work and was off task quite a bit.	I did some of the work. I helped clean up and shared the work most of the time.	I worked well with my team, cleaned up, stayed on task and shared the work equally.	___
Vocabulary	Many of the vocabulary words are still confusing to me.	Some of the vocabulary words are confusing to me.	I feel like I can use the vocabulary words most of the time.	I can understand and use the vocabulary words correctly.	___
Neatness	I rarely used legible handwriting.	Sometimes I used legible handwriting.	Usually I used legible handwriting.	I consistently used legible handwriting.	___
				Total---->	___

Teacher Comments: