

**WHY:** "This program is based on my experience that students have little knowledge of their ability to make simple, impressive, quality food products. Knowing that eggs are an inexpensive source of quality protein and nutrients AND have many uses makes them a culinary essential.

Students buy pre-packaged food, which contributes to overall decline in health. We know our nation is at risk of obesity for today's youth. Students can build confidence in their ability to make food. They can follow directions and prepare foods that are healthy. My school has a high population of children in poverty. Learning to use eggs is one resource for them to provide more economical choices in their family."

---Delaine Stendahl



# The Power of Eggs



Home Baking Association Educator Award  
Delaine Stendahl, Family & Consumer Sciences Teacher  
Whitehall Memorial Schools--Whitehall, WI

**WHO:** Food Science & Nutrition course students, grades 9-12

**WHAT:** The roles of eggs in food preparation, scientific function of eggs and safe food preparation

- Eggs are an *emulsifier* in the production of Muffins and Pound Cake
- Egg is used as a *coagulant* (thickener) and *texture agent* to prepare Lemon Curd
- Eggs are *leavening* in the preparation of Angel Food Cake, Popovers, and Dutch Babies
- Eggs provide nutrition and a rich food history

**HOW:** Students are able to see direct application of ingredient, and science concepts through the production of the food products.

Students will apply math, community service, team and management career skills as they select a charity or need and the recipes to prepare bake, cost and label for sale or donation.

## The Power of Eggs Objectives Students will

- Practice personal hygiene, sanitation, and food safety in lab
- Use communication, problem solving, and teamwork skills to prepare simple recipes using eggs in cooking and baking
- Identify and apply proper measuring tools and methods
- Identify scientific role of eggs in food product production
- Evaluate food products prepared in class and the function of eggs in each recipe
- Produce, cost/price, label and sell baked goods to raise funds for a local charity or donate their products to a charity
- Engage in reflective practices re: egg baking lessons and experience

## Tools & Ingredients for:

### Demonstrated recipes--

Pound cake, lemon curd, popovers, angel food cake

### Lab/team recipes--

Muffins, popovers, Dutch Baby

### Equipment per lab team

Liquid **and** dry measuring cups  
Measuring spoons  
Mixing bowls, non-plastic  
Scoops (dishers)  
12-cup muffin tin  
(2 ½ -in wide X 1 ½ -in deep)  
Electric mixer  
Rubber scrapers  
Baker scraper or spatula level  
9 or 10-inch cast iron skillet  
Angel food cake pan  
1½ qt. saucepan  
Citrus juicer  
Spoons  
Serving plates and utensils  
Cake knife  
Wire cooling racks

Teacher Note: The complete lesson includes pre- and post-assessments, handouts and discussion questions at end of lesson or located at Educator Resources, [www.homebaking.org](http://www.homebaking.org)

# The Power of Eggs Family and Consumer Sciences Education Standards

Found at [www.nasasfacs.org](http://www.nasasfacs.org)



Whitehall High School  
FCS students, egg lab

## 7.0 Family & Community Services

7.1 Analyze family and community career paths

7.1.1 Explain career roles and functions of individuals engaged in family and community services

7.1.2 Analyze opportunities for employment and entrepreneurial endeavors

## 8.0 Food Production & Services

8.2 Demonstrate food safety and sanitation procedures

8.2.5: Practice good personal hygiene/health procedures, including dental health and weight management and report symptoms of illness.

8.5 Demonstrate professional food preparation methods and techniques for all menu categories to produce a variety of food products that meet customer needs.

8.5.3: Utilize weights and measurement tools to

demonstrate portion control, proper scaling and measurement knowledge and techniques.

## 9.0 Food Science, Dietetics & Nutrition

9.2 Apply risk management procedures to food safety, food testing, and sanitation

9.2.5 Demonstrate practices and procedures to assure personal and workplace health and hygiene.



Image Source:  
[agromerchant.com](http://agromerchant.com)



Download Guide at  
[www.homebaking.org/PDF/HomeBakingFoodSafety101.pdf](http://www.homebaking.org/PDF/HomeBakingFoodSafety101.pdf)

## Day 1-Introduction to Egg Functions in Food Preparation

**Teacher Note:** Prior to the start of the lesson, students should complete pre-assessment on eggs.

**Introduction 5-10 minutes:** Set the stage by cracking an egg on a small dessert dish or in a bowl. Instruct the students on the parts of the egg.

**Teacher:** Eggs can be found in most recipes we bake.

Q: What are reasons for including eggs in a recipe?

(A: To add nutrients, to help ingredients hold together, to emulsify, to improve texture, to leaven, and improve product browning/color)

### **Activity-Video 30 minutes:**

Introduce Alton Brown Good Eats video, Egg Files and highlight

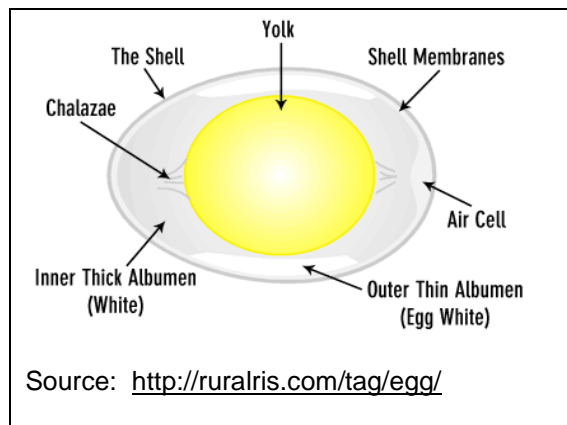
- how eggs are processed and graded
- why eggs are an important recipe ingredient
- what functions eggs have in baking/cooking

**Activity Large Group Discussion-5-10 minutes:** Follow the video with discussion of Egg Files I Video Questions. (Questions found end of lesson or at [www.homebaking.org](http://www.homebaking.org), Educator Resources)

**Closure 5 minutes:** After DVD finishes, ask for Exit Ticket responses on one thing they learned today regarding eggs.



Image source:  
[petitebakehouse.com/bakerslab](http://petitebakehouse.com/bakerslab)



Source: <http://ruralris.com/tag/egg/>

## Day 2-Muffin Lab, Eggs as a Coagulant/Binding Agent

**Introduction 3-5 minutes:** Announce lab teams. Quick reminders of lab procedures, time frame for preparation and cleanup.

Image Source: [www.amazon.de](http://www.amazon.de)



**Activity 35-40 minutes until the end of class:**

1. Students prepare for lab-hair restraint, apron, hand washing
2. Student lab teams read recipe, divide tasks, measure and prepare muffins.  
Recipe: Blueberry Muffins

**Whole grain variation:** Use 3T. melted butter for 2 T. oil; use 3/4 cup whole wheat flour and 1 cup of all-purpose flour in place of 1 3/4 cups all-purpose flour

3. Students place muffins in oven and set timer. While baking, students clean up kitchen.

4. Remove muffins from oven when done, cool pans on wire racks.
5. Remove muffins from pans in 10 minutes, and package in paper sacks for transport.

**Baking Science Extra! Kitchen Science: Baking for Special Needs** Explore results when one or more egg substitutes are used and compared with the control recipe. Use lab rubric and A Matter of Taste forms, p. 4.

**Closure:** Teacher conducts inspection of kitchens for lab dismissal.

## Day 3-Demonstraton of Eggs as an Emulsifier and Texture Agent

**Introduction 5-8 minutes:** Teacher introduces interactive teacher-student demonstration with eggs as *emulsifying* and *texturizing* agent

**Key Concepts discussed by teacher include:**

1. Emulsification, (define)  
[http://www.homebaking.org/glossary/old\\_glossary.html#E](http://www.homebaking.org/glossary/old_glossary.html#E)
2. Separating eggs, importance of no yolk getting in the whites
3. Tempering of eggs

**Time Management Goal:** To get both recipes prepared, with cake in the oven and the lemon curd prepared and put in a bowl, covered and refrigerated. Both products sampled the following day in class.

**Review** Pound Cake and Lemon Curd recipes to be prepared today

**Recipe options** include home measurements or culinary weights  
Pound Cake (Alton Brown) OR Pound Cake from King Arthur Flour-Lemon Curd, (Alton Brown) OR [www.chsugar.com/recipe/lemon-curd-filling](http://www.chsugar.com/recipe/lemon-curd-filling)  
Students: Tie hair, wash and help with the demonstrations making it possible to complete both recipes in one class period.

**Discussion points during interactive lab demonstration:** Cover Baking Food Safety 101 never eat raw batter; take internal temperatures for doneness

**Baking History: Enjoy learning more about the history of Pound Cake**  
<https://whatscookingamerica.net/History/Cakes/PoundCake.htm>

**Culinary Art:** See Land O'Lakes test kitchen's many "designer pound cakes" and Buttery Pound Cake.

**Teacher note:** Be sure to reserve the egg whites for tomorrow's demonstration!

Additional egg whites will also be required. Egg whites can be stored through freezing in an airtight container such as a covered mason jar and stored ahead for this lab.



Source: [saturdayeveningpost.com](http://saturdayeveningpost.com)

Source: [LandOLakes.com](http://LandOLakes.com)





## Day 4-Eggs as a Leavening Agent

Source: spicedblog.com



**Introduction 3-5 minutes:** Teacher announces another demonstration featuring another powerful egg function- leavening

**Time Management Goal:** Get the cake in the oven; sample Day 3 products  
Pre-portion samples before class to ensure time to assess the products.

**Activity 15-20 minutes:** Teacher shares recipe; demonstrates preparation of Angel Food Cake

(Find additional demonstration questions in complete on-line lesson, [HomeBaking.org](http://HomeBaking.org), Educator Resources)

**Key Concepts to discuss:** Be sure to discuss

- a fat-free environment when whipping egg whites
- beaten egg white *soft and stiff peak* stages
- denaturation of proteins
- folding of the dry ingredients into the beaten egg whites,
- tartaric acid (cream of tartar) role in stabilizing egg white foams

**Sample and evaluate Pound Cake and Lemon Curd (10 minutes)**

1. Use A Matter of Taste form, p. 4, Kitchen Science lesson
2. Identify the functions of eggs in the products' finished characteristics.

Complete Egg Lab and video demos: Bakers Dozen DVD and Lab Manual



## Day 5- Eggs as a Leavening Agent

Teacher demonstrates Popovers and Angel Food Cake

**Teacher Note:** Have Popover ingredients pre-measured and ready for the demonstration prior to class.

**Introduction: (3 minutes)** Teacher announces Popover demonstration as another product that uses eggs as a *leavening* and *structure*.

- Ask students: Have you ever left leavening out of something you baked?
- Describe what leavening does for baked goods and why it's important (A: Creates air spaces in batter; essential for heat transfer to gelatinize starch and set proteins for a light product volume and structure)



Source: kingarthurfLOUR.com

**Activity: (3-5 minutes)** Teacher posts or shares Popover recipe, preheats oven, and quickly demonstrates preparation and places them in the oven.

**Activity: (30 minutes)**

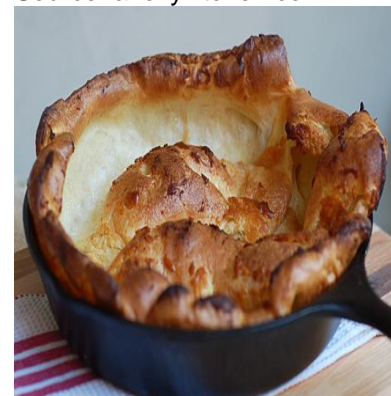
Students watch the Alton Brown Good Eats DVD, *Popover Sometime* and complete the video questions (end of lesson) OR view Step-by-Step directions, King Arthur recipe. While students view, the teacher will portion the angel food cake and clean up the dishes.

**Closure: (5-10 minutes)** Students sample Angel Food Cake and Popovers. Use A Matter of Taste form, p. 4 of Kitchen Science lesson. Discuss likes/dislikes, and function eggs provided for cake and popover height and browning.

## Day 6-Eggs as a Leavening Agent, Dutch Babies

Source: akozykitchen.com

**Teacher Note:** Time will be tight to complete this lab; have all ingredients ready-to-use.



**Introduction 3-5 minutes:** Announce lab teams. Quick reminders of lab procedures, time frame for preparation and clean up.  
In classroom, post Alton Brown Dutch Baby recipe OR southern DutchBaby OR similar product, Lemon Puff Pancake.

### Activity 35-38 minutes:

1. Students prepare for lab with hair restraint, apron, and hand washing.
2. Students work as a team to read recipe, measure, and prepare their Dutch Babies.
3. Students place Dutch Babies in oven and set timer.
4. While baking, students clean up kitchen.
5. Remove Dutch Babies from oven when done, top with lemon sugar and sample.

**Explore Food Culture:** Ask students: What is a Dutch Baby?

Wikipedia.org says: "A **Dutch baby pancake**, sometimes called a German pancake,<sup>[1]</sup>a **Bismarck**, or a **Dutch puff**, is a sweet popover that is normally served for breakfast.<sup>[2]</sup> It is derived from the German *Pfannkuchen*...." More is found at [https://en.wikipedia.org/wiki/Dutch\\_baby\\_pancake](https://en.wikipedia.org/wiki/Dutch_baby_pancake)

**Closure 2-4 minutes:** Teacher conducts inspection of kitchens for lab dismissal.

## Day 7- Baking for Others



### Introduction: (5 minutes)

Teacher informs students that they can put their knowledge and skills to benefit others by preparing and donating baked goods to charity or hosting a class bake sale and donate their income to a local concern or need.

**Activity: (30-35 minutes)** Students will work as a team to

1. Select recipes to bake items to donate to charity or for a class bake sale
2. List and *mise en place* their recipe ingredients; from the ingredient list, price the cost of the recipe and per item cost to help determine cost for selling the products.
3. Create labels for products, including product name, net weight, ingredient list and price
4. Select a charity to donate the baked goods or the money raised from their sales.



**Bake Sale Resources, Home Baking Association—**Bakers lend a humane hand locally. Get a start with Bake for Funds

Bake Sale Central

Recipes for bake sales during school = Smart Snack

Home Baking Association members and their marvelous recipes and resources ready-to-bake. Additional great resources include

- Bake for Good
- No Kid Hungry Bake Sale for No Kid Hungry
- Baking the World a Better Place. Stop Hunger Now.

**Closure: (5 minutes)** Teacher inspects kitchens, ingredient storage and ingredients that need to be purchased for lab.

Find at [www.homebaking.org](http://www.homebaking.org)



## Day 8: Baking for Others/Bake Sale

**Note:** Bake Sale is conducted as allowed in district-teacher to determine the logistics. Take precautions to avoid allergenic ingredients for these products or clearly label before distribution or sale.

- Are **Smart Snack** recipes essential to in-school hour bake sale? Smart Snack Baking Recipes
- Introduction 1-3 minutes:** Quick reminders of lab procedures, preparation time frame, and clean-up.
- Review safe food handling guidelines, Baking Food Safety 101, and provide food-handling gloves.

### Activity 35-42 minutes until the end of class:

- Students prepare for lab with hair restraint, apron, hand washing.
- Students work as a team to prepare their recipes/products.
- Students bake, cool, wrap, price, and label their finished baked products
- for distribution or sale.
- Teacher conducts inspection of kitchens for lab dismissal.



**Follow up:** Assignments to follow as homework or the next day  
Include the Post-Assessment and the Reflection Assessment,  
(Found at end of document.)



[www.practical-personal-development-advice.com](http://www.practical-personal-development-advice.com)

### Sell Soft Pretzels or Bread Sticks!



## The Power of Eggs Unit Reflection

### Power of Eggs Unit Reflection Name \_\_\_\_\_

**Directions:** Read each question carefully and write a reflection of your thoughts about the topic.

- How are eggs, knowledge, and skills powerful tools?
- While preparing, baking, and packaging your baked good for charity, what procedures did you use to ensure a safe product for the public?
- While preparing your baked good for charity, how might portioning affect the final product and desirability of the product to the customer?
- In comparing the products produced in class for charity, did you notice variations in quality? If so, what were they? If not, how would you describe the products produced in a technical writing example?
- When preparing food items for a charity, what issues need consideration to ensure a successful event?
- What did you learn about careers in the foodservice industry, or your ability to use your knowledge and skills in an entrepreneurial career?
- Brown eggs cost more than white, what's the difference?

Image Source: [food.ndtv.com](http://food.ndtv.com)



## The Power of Eggs Resources and Credits

*Teacher Note: The complete Power of Eggs includes pre- and post-assessments, handouts and discussion questions. If they aren't in this version, go to Educator Resources, [www.homebaking.org](http://www.homebaking.org)*

### Websites:

Alton Brown Good Eats-Egg Files I, available on iTunes.

Alton Brown Good Eats-Popover Sometime, available on iTunes

FREE at Home Baking Association, [www.HomeBaking.org](http://www.HomeBaking.org)

- [Bake Sale Central](#)
- [Bake for Funds](#)
- [Baking Glossary](#) terms: Emulsify; Folding (video); Leavening
- [Bread with a Twist](#), Soft Pretzels for bake sales
- [Dough Sculpting 101](#) lesson (includes beautiful egg refrigerator dough recipe, shaping, Egg wash directions)
- [Home Baking Food Safety 101](#) Kitchen Science: Baking for Special Needs lesson and A Matter of Taste p.4
- [Recipes](#)
- [Smart Snack](#) baking recipes (qualified for in-school bake sales)
- [Test kitchens](#) (explore test kitchen professionals work, videos, guides, recipes)

[How to Fold in Egg Whites by the American Egg Board](#) (See How to video, Fold, [Glossary](#), [HomeBaking.org](#))

### Videos:

Alton Brown Angel Food Cake <http://www.cookingchanneltv.com/shows/good-eats/cooking-good-eats.html>

Alton Brown Good Eats-Egg Files I, available on iTunes; \$1.99 @ Food Network

- You-Tube <https://www.youtube.com/watch?v=Fx8up7UJv2s>

Alton Brown Good Eats-Popover Sometime, available on iTunes.

[Bakers Dozen Lessons for Better Baking](#), <http://www.homebaking.org/products.php#.WH5ceCMrJWM>

- Eggs section features egg separating, beating yolks, stages of beating whites, folding in

[How to Temper Eggs](#) <http://www.cookingchanneltv.com/videos/how-to-temper-eggs.html>

### Recipes used in lesson plan:

[Angel Food Cake Recipe](#) : Alton Brown : Food Network

- OR <https://www.dominosugar.com/recipe/angel-food-cake>
- OR <http://www.whitelily.com/recipes/angel-food-cake-with-strawberry-topping-3424>

[Best-Loved Blueberry Muffins](#) from [homebaking.org](#) (Recipe section)

- OR [Muffin Recipe](#)-Teacher selection from [Homebaking.org](#) or [Members test kitchens](#)

[Pound Cake](#) from King Arthur Flour-customary measurements as well as weights

- [Pound Cake Recipe](#) by Alton Brown: Food Network
- OR, [Designer Poundcakes](#) <https://www.landolakes.com/search/?s=Pound%20cakes>

[Lemon Curd](#): [Lemon Curd Recipe](#) by Alton Brown: Food Network

- OR <https://chsugar.com/recipe/lemon-curd-filling-616>
- OR <https://www.landolakes.com/recipe/20392/tangy-lemon-curd-tart/>

[Popovers Recipe](#) : Alton Brown : Food Network

- OR [www.kingarthurflour.com/recipes/popovers-recipe](http://www.kingarthurflour.com/recipes/popovers-recipe)

[Dutch Baby Recipe](#) : Alton Brown : Food Network OR <http://www.renwoodmills.com/2016/09/13/dutch-baby/>

- OR <http://www.kingarthurflour.com/recipes/lemon-puff-pancake-with-fresh-berries-recipe>

**Image Credits** [Buttery Pound Cake](#), <https://www.landolakes.com/recipe/16631/buttery-pound-cake/>

<http://agromerchant.com/market/eggs/egg/>

<http://food.ndtv.com/food-drinks/brown-eggs-vs-white-eggs-whats-the-difference-743350>

<http://www.petitebakehouse.com/bakerslab>

<http://ruralis.com/tag/egg/>

<http://www.saturdayeveningpost.com/2013/07/03/health-and-family/food-recipes/berry-parfait-with-lemon-curd-dip.html>

<http://spicedblog.com/hazelnut-angel-food-cake.html>

<http://www.kingarthurflour.com/recipes/gluten-free-popovers-recipe>

<http://acozykitchen.com/dutch-baby-with-lavender-sugar-spice-station-giveaway-vanilla-beanslavender/>

<http://bigrapidsdailynews.com/breaking-news/140080>

<http://www.practical-personal-development-advice.com/power-of-giving.html>



## The Power of Eggs Demonstration Discussion Questions

### Angel Food Cake

1. Angel food cake is made of what part of the egg? Give the common and scientific terms. 2 pts.

#### **Egg White/Albumen**

2. What baking function does the egg white have in an angel food cake? **Leavening and structure**

3. There are two basic consistencies of egg whites that are beaten in foam stages. Name them. 2 pts.

#### **Soft Peak and Stiff Peak**

4. The first level of foam stage is identifiable by the following characteristics.

**Fluffy, somewhat white in appearance, peaks tip over**

5. The second level of foam stage is identifiable by the following characteristics.

**Very white-like whipped cream, peaks will stand straight up**

6. If you pass the second foam stage, the following is likely to happen.

**The whites dry out and do not fold in well, lumpy.**

7. What ingredient is added as a stabilizer? Explain how it works.

**Cream of tartar. It will change the structure of the protein molecule.**

8. One can tell when they reach the second stage by:

**You can turn the bowl upside down and the whites will not move or slide in the bowl.**

9. If over beaten, the whites will affect the recipe because:

**Batter will be lumpy and if you continue to beat they will turn back into liquid and not able to beat up again.**

### Pound Cake

10. Pound cake got its name because:

**Used one pound of butter, sugar, flour, and eggs.**

11. Eggs in the pound cake serve the purpose of:

**An emulsifier.**

12. An emulsion means:

**The fat in the mixture will not separate out of the mixture when baked.**

13. Eggs are beaten into the batter one at a time because:

**They will just slide around if added all at once, it also creates a better emulsion.**

### Lemon Curd

14. What part of the egg is used in lemon curd? **Yolks**

15. What purpose does the egg serve? **Thickener, emulsifier, texturizer to make very smooth custard**

16. What does 'temper' mean in working with eggs?. **A process to combine the eggs with a hot liquid**

17. Explain how to temper eggs.

**Slowly add some hot mixture to the yolks while beating with a whisk. Continue to add until you have half of the hot mixture in the eggs and then add the eggs to the remaining hot mixture while whisking.**

18. Why do you need to temper the eggs in lemon curd? **So you do not have bits of fried egg in the custard.**

19. What other products require you to temper eggs? Name 3. **Ice cream, pie, puddings, sauces, Crème Brule.**



## The Power of Eggs Handouts

### The Power of Eggs Pre-Assessment

Match the following terms to the definitions, writing term in the blank ahead of its definition.

#### Terms:

Albumen	Yolk	Stiff peak	Folding	Tartaric Acid
Sift	Custard	Leavener	Emulsify	
Lemon Curd	Denaturation	Temper	Soft peak	

- \_\_\_\_\_ A dish consisting of milk, eggs, flavoring, and sometimes sugar, boiled or baked until set.
- \_\_\_\_\_ The yellow part of the egg.
- \_\_\_\_\_ To aerate the ingredient through a mesh.
- \_\_\_\_\_ A rolling action of the wrist to incorporate ingredients into a foam, preventing a breakdown of it's structure.
- \_\_\_\_\_ A custard based dessert which is tart and sweet; used on cakes, breads, etc.
- \_\_\_\_\_ Same as cream of tartar.
- \_\_\_\_\_ The first stage in beating egg whites.
- \_\_\_\_\_ Another name for egg white.
- \_\_\_\_\_ A process used to incorporate eggs into a hot mixture.
- \_\_\_\_\_ To incorporate eggs one at a time to prevent separation of the fat from the batter.
- \_\_\_\_\_ The second stage of beating egg whites; they are ready for folding in the remaining ingredients.
- \_\_\_\_\_ A process of changing the structure of protein with an acid, heat, salt, and agitation.

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### The Power of Eggs Pre-Assessment Answer Key

Match the following terms to the definitions

#### Terms:

Albumen	Yolk	Stiff peak	Folding	Tartaric Acid
Sift	Custard	Leavener	Emulsify	
Lemon Curd	Denaturation	Temper	Soft peak	

- Custard** A dish consisting of milk, eggs, flavoring, and sometimes sugar, boiled or baked until set.
- Yolk** The yellow part of the egg.
- Sift** To aerate the ingredient through a mesh.
- Folding** A rolling action of the wrist to incorporate ingredients into a foam, preventing a breakdown of it's structure.
- Lemon Curd** A custard based dessert which is tart and sweet; used on cakes, breads, etc.
- Tartaric Acid** Same as cream of tartar.
- Soft Peak** The first stage in beating egg whites.
- Albumen** Another name for egg white.
- Temper** A process used to incorporate eggs into a hot mixture.
- Emulsify** Reason to incorporate eggs one at a time to prevent separation of the fat from the batter.
- Stiff Peak** The second stage of beating egg whites; they are ready for folding in the remaining ingredients.
- Denaturation** A process of changing the structure of protein with an acid, heat, salt, and agitation.

## The Power of Eggs Post-Assessment Questions

Match the following uses of eggs to the correct product.



Image Source: food.ndtv.com

### Word Bank Terms:

Albumen	Yolk	Popover
Leavener	Emulsify	Dutch Baby
Temper	Soft Peak	Custard
Stiff Peak	Folding	Power
Sift	Powerful	Powerful
Lemon Curd	Denaturation	
Tartaric Acid	Pound cake	

- \_\_\_\_\_ Eggs in this product are used to emulsify, thicken, and improve the texture.
- \_\_\_\_\_ This part of the egg contains fat and the most nutrients.
- \_\_\_\_\_ This part of the egg is the basis for making Angel Food cake.
- \_\_\_\_\_ This technique is used to keep the air in the product before baking.
- \_\_\_\_\_ The mixing bowl can be turned upside down when you have reached this stage.
- \_\_\_\_\_ This ingredient is used to stabilize an egg white foam.
- \_\_\_\_\_ This product is heavy and dense.
- \_\_\_\_\_ Another name for egg white.
- \_\_\_\_\_ This product uses tempering of the eggs.
- \_\_\_\_\_ This product uses steam and eggs for the leavening process; very little sugar.
- \_\_\_\_\_ This product uses a cast iron skillet and is baked.
- Eggs are a \_\_\_\_\_ ingredient in baking.
- I have the \_\_\_\_\_ to make a difference.

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**Post-Assessment Answer Key** Match the following uses of eggs to the correct product.

### Word Bank Terms:

Albumen	Yolk	Popover
Leavener	Emulsify	Dutch Baby
Temper	Soft Peak	Custard
Stiff Peak	Folding	Power
Sift	Powerful	Powerful
Lemon Curd	Denaturation	
Tartaric Acid	Pound cake	

- Custard** Eggs in this product are used to emulsify, thicken, and improve the texture.
- Yolk** This part of the egg contains fat and the most nutrients.
- Albumen** This part of the egg is the basis for making Angel Food cake.
- Folding** This technique is used to keep the air in the product before baking.
- Stiff Peak** The mixing bowl can be turned upside down when you have reached this stage.
- Cream of Tartar** This ingredient is used to stabilize an egg white foam.
- Pound Cake** This product is heavy and dense.
- Albumen** Another name for egg white.
- Lemon Curd** This product uses tempering of the eggs.
- Popover** This product uses steam and eggs for the leavening process; very little sugar.
- Dutch Baby** This product uses a cast iron skillet and is baked.
- Eggs are a **Powerful** tool in baking.
- I have the **Power** to make a difference.

## The Power of Eggs, Alton Brown Good Eats, *Egg Files*, Questions

Eggs have potent powers in the culinary world. This dvd, Good Eats-Egg Files 1, will show you how eggs are processed, prepared, some of the amazing properties of eggs, and how to make lemon curd.

1. What are the two main functions of the eggshell? 2 pts.
2. What is the candling process? 2 pts.
3. What is looked for during the candling process? 3 pts.
4. Name the three grades of eggs. 4 pts.
5. What is the difference between each grade of egg? 3 pts.
6. Why does the lowest grade of egg have a yolk that moves around so much? 2 pts.
7. What is the best way to store eggs and why? 5 pts.
8. What is an epidemiologist? 2 pts.
9. What advice is given regarding the consumption of eggs that are undercooked? 4 pts.
10. How can you tell a cooked egg from a raw egg? 2 pts.
11. What is the proper way to crack an egg and why? 2 pts.
12. How much liquid should be added per egg when making scrambled eggs? 2 pts.
13. What is the impact of salt on an egg? 1 pt.
14. What happens when you use high heat for too long when making scrambled eggs? 2 pts.
15. Why should you 'retreat from the heat' before the eggs are completely done? 2 pts.
16. Complete the following statement: "If it looks cooked in the pan it will be \_\_\_\_\_ on the plate." 1 pt.
17. Why might you want to use lemon zest in a recipe? 2 pts.
18. What is the meaning of the term, 'Nappe?' 2 pts.
19. Why should one use an ice bath with hard cooked eggs? 2 pts.

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## Alton Brown Good Eats, *Egg Files*, Questions Answer Key

1. What are the two main functions of the eggshell? 2 pts. **Food and Shelter**
2. What is the candling process? 2 pts. **It is looking at the egg through light for imperfections**
3. What is looked for during the candling process? 3 pts. **Blood spots, hairline fractures, overlarge air sacs**
4. Name the three grades of eggs. 4 pts. **AA, A, B**
5. What is the difference between each grade of egg? 3 pts.  
**Freshness, thickness of the yolk, movement of the yolk**
6. Why does the lowest grade of egg have a yolk that moves around so much? 2 pts.  
**The whites are thinned out from age**
7. What is the best way to store eggs and why? 5 pts.  
**In carton, rubber-banded, and set on side in refrigerator**
8. What is an epidemiologist? 2 pts. **A specialist in the study of food borne illness**
9. What advice is given regarding the consumption of eggs that are undercooked? 4 pts.  
**Elderly, expectant mothers, young, immunocompromised should avoid undercooked eggs**
10. How can you tell a cooked egg from a raw egg? 2 pts.  
**When spun and stopped, raw continues to move, cooked stops**
11. What is the proper way to crack an egg and why? 2 pts. **On flat surface, avoid shell in mixture**
12. How much liquid should be added per egg when making scrambled eggs? 2 pts. **1 Tbsp.**
13. What is the impact of salt on an egg? 1 pt. **Causes the egg to toughen**
14. What happens when you use high heat for too long when making scrambled eggs? 2 pts.  
**The water is wrung out of the egg**
15. Why should you 'retreat from the heat' before the eggs are completely done? 2 pts.  
**The eggs will continue to cook by the time they are served**
16. Complete the following statement: "If it looks cooked in the pan it will be overcooked on the plate." 1 pt.
17. Why might you want to use lemon zest in a recipe? 2 pts.  
**To intensify the flavors, and add phytochemicals to the food**
18. What is the meaning of the term, 'Nappe?' 2 pts.  
**It refers to the thickness of the mixture; when the back of the spoon is coated with the mixture and you take your finger and run it through the mixture on the spoon and it does not run back together**
19. Why should one use an ice bath with hard cooked eggs? 2 pts. **To prevent the eggs from overcooking-it will stop the cooking process**

### The Power of Eggs, Alton Brown Good Eats, Popover Sometime, Questions

This video shows you the powerful tool eggs are to the culinary world. It is a whole lot of science that makes the popover a wonderful addition to the meal.

1. What are the differences in AP, Bread, and Pastry flours? 3 pts.
2. What is the role of the yolk and the white in this product? 2 pts.
3. What is the leavener in popovers? 3 pts.
4. Why does Alton avoid the dark pan? 1 pt.
5. Why should you pierce the top of the popover? 1 pt.
6. What are 3 ways to use popovers? 3 pts.
7. What is *Yorkshire Pudding*? 2 pts.
8. What is a *Dutch Baby*? 2 pts.

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### Good Eats, Popover Sometime, Answer Key

1. What are the differences in AP, Bread, and Pastry flours in baking? 3 pts.  
**Pastry flour-weak structure, products are extremely tender**  
**Bread flour-strong and tough structure**  
**AP flour-perfect mixture-strong and tender**
2. What is the role of the yolk and the white in this product? 2 pts. **Yolk tenderizes; white strengthen the product**
3. What is the leavener in popovers? 3 pts. **Steam from liquid and the egg**
4. Why does Alton avoid the dark pan? 1 pt. **The product will get too done on the outside**
5. Why should you pierce the top of the popover? 1 pt. **To let the steam escape after baking.**
6. What are 3 ways to use popovers? 3 pts. **As a bread, as a bowl, as a dessert**
7. What is *Yorkshire Pudding*? 2 pts. **Classic supper dish**
8. What is a *Dutch Baby*? 2 pts. **A dish based on German pancakes. The batter is prepared and added to a heated cast iron skillet and then baked.**