



From Farm to Freezer

Created: 04/2026 by the National FFA Organization

Description of Lesson: *Students learn how chicken is turned into different food products by exploring poultry processing and food science through a student supervised agricultural experience (SAE) example.*

Student Learning Objectives:

After completing these activities, students will ...

1. Identify common poultry cuts and processed poultry products found in grocery stores.
2. Explain how poultry processing adds value through food science and further processing.
3. Describe the role of byproducts in poultry processing and sustainable food systems.

Suggested Grade Level:

Grades 9 and 10 (This lesson is written so instructors can scale up or down based on class needs.)

Suggested Time: 90 minutes (*Time requirements may vary based upon student understanding and class schedule.)

Resources/References:

1. Video: "Food Science and Processing SAE", <https://vimeo.com/1148063143>

Related Resources:

1. Rogelio Ceja - Poultry SAE, <https://FFA.box.com/s/tq7ftdj7bl084o2u97dypdllvknnpfdd>

Equipment and Supplies Needed:

1. A copy of the "From Farm to Freezer" worksheet for each student
2. Internet access to play the video in real time or embed it in a PowerPoint ahead of time

Vocabulary:

1. Byproduct
2. Further-Processed Food
3. Meat Cut
4. Poultry Processing
5. SAE
6. Value-Added Product

Cross-Curricular Connections:

English/Language Arts

Research and write about the different poultry product byproducts.

SAE and FFA Connections

1. Poultry Evaluation CDE, FFA.org/participate/poultry/

Name: _____

2. Proficiency Areas: Agricultural Processing, Poultry Production, [FFA.org/participate/awards/proficiencies/](https://ffa.org/participate/awards/proficiencies/)
3. Foundational SAE Connections: Career Exploration and Planning, Employability Skills for College and Career Readiness

Student Activity Sheets:

Direct access to student activity sheets without lesson plan or answer key for easy upload to a learning management system or printing for classwork.

<https://ffa.box.com/s/6u3gudxneog5x2oe0pa55t4wdkh7ksz7> (Word)

<https://ffa.box.com/s/vecspb6wwneqvsqw8azu7dnr2zc966rx> (PDF)

<https://docs.google.com/document/d/1RWXzFzr75cHHctsayr1qjWLxAVTIF5HiXhtY74rJbEk/copy> (Google)

These Activities Are Aligned to the Following Standards:

AFNR Performance Element

- CS.05. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food & Natural Resources career pathways.

FFA Precept

- FFA.PL-A.Action A1. Work independently and in groups to get things done.
- FFA.PL-A.Action A3. Plan effectively.
- FFA.PL-A.Action A4. Identify and use resources.
- FFA.PL-C.Vision C2. Conceptualize ideas.
- FFA.PL-F.Continuous Improvement F5. Acquire new knowledge.
- FFA.PG-I.Professional Growth I5. Demonstrate exemplary employability skills.
- FFA.PG-J.Mental Growth J1. Think critically.
- FFA.CS-N.Decision Making N1. Demonstrate the decision-making process.

Common Career Technical Core

- AG5 Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food & Natural Resources Career Pathways.

NASDCTEc

- AGC09.02 Select, research and examine critical aspects of career opportunities in one or more AFNR career pathways in order to gain an understanding of the breadth of occupations within this cluster.

Common Core – Reading: Informational Text

- CCSS.ELA-LITERACY.RI.9-10.4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).
- CCSS.ELA-LITERACY.RI.11-12.7. Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.

Common Core – Writing

- CCSS.ELA-LITERACY.W.9-10.2. Write informative/explanatory texts to examine and convey complex ideas, concepts and information clearly and accurately through the effective selection, organization and analysis of content.
- CCSS.ELA-LITERACY.W.9-10.4. Produce clear and coherent writing in which the development, organization and style are appropriate to task, purpose and audience.

Common Core – Speaking and Listening

- CCSS.ELA-LITERACY.SL.9-10.2. Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.

Common Core – Language

- CCSS.ELA-LITERACY.L.9-10.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- CCSS.ELA-LITERACY.L.9-10.2. Demonstrate command of the conventions of standard English capitalization, punctuation and spelling when writing.

AFNR Career Ready Practices

- CRP.02. Apply appropriate academic and technical skills.
- CRP.04. Communicate clearly, effectively and with reason.

Name: _____

- CRP.06. Demonstrate creativity and innovation.
- CRP.08. Utilize critical thinking to make sense of problems and persevere in solving them.

Partnership for 21st Century Skills

- Communication
- Critical Thinking and Problem Solving
- Information Literacy
- Initiative and Self-Direction
- Productivity and Accountability
- Think Creatively

Name: _____

Lesson Plan:

1. **Bell Ringer:** Display images of common poultry products (raw chicken breast, nuggets, wings, rotisserie chicken). Ask students: What steps do you think happen between a live chicken and these products you can buy at the store?
2. **Introduction:** *What are some of your favorite chicken or poultry foods you see at the grocery store? (You may choose to write these on the board as students answer.) What makes those products easy or convenient to buy, cook or eat? (You may choose to add these ideas to your list on the board.) Did you know that food science and processing work could be your SAE? If you are involved in creating, testing or improving food products for an agricultural business or organization, this could count as your SAE. Let's watch one student who took her interest in food science and poultry processing and applied it through her SAE.*
3. **Activity:** Each student needs a copy of the worksheet "Food Science and Processing SAE."
 - a. **Part 1:** Play the video "Food Science and Processing SAE," available at <https://vimeo.com/1148063143>. Students will watch the video and answer the questions on the student activity sheet as they follow along. You may choose to show the video to the entire class or have students view it individually on their own devices.
 - b. **Part 2:** Have students examine the poultry products provided in the chart and then complete the chart on their student activity sheets. They will then learn about byproducts by completing the chart on the second half of their student activity sheets. They will need to do online research to complete the chart.
 - c. **Part 3:** You may choose to have students work independently or in groups of three or four students. Share with students that they are food scientists working for a poultry company. Their task is to design a new poultry product that could be sold in a grocery store. They will work with their group to create a product that makes sense based on how poultry is processed and complete the student activity sheet as they work.
4. **Follow-up:** Share with students: *If you are interested in food science, cooking or how food products are made, there is an opportunity for you to have a strong SAE in food science and processing. Many poultry products require careful planning, testing and processing, and there is a growing field of opportunities to work with food companies, processors or local businesses to develop or improve poultry food products.*
5. **Optional – Extended Learning Opportunities (Not factored into time requirement):**
 - a. Have students visit the local grocery store to see what poultry products are offered and what processing is needed to make those products.
6. **Exit Ticket:** What did you learn about food processing today that you didn't know before the lesson? How can you apply that to your daily life?

Name: _____

From Farm to Freezer

Aligned to the following standards:

FFA.PL-A1; FFA.PL-A3; FFA.PL-A4; FFA.PL-C2; FFA.PL-F5; FFA.PL-I5; FFA.PL-J1; FFA.PL-N1;
CCSS.ELA-RI.9-10.4; CCSS.ELA-RI.11-12.7; CCSS.ELA-W.9-10.2; CCSS.ELA-W.9-10.4; CCSS.ELA-SL.9-10.2; CCSS.ELA-L.9-10.1; CCSS.ELA-L.9-10.2; CRP.02; CRP.04; CRP.06; CRP.08

Part 1

Directions: Answer the questions below as you watch the video “Food Science and Processing SAE,” available at <https://vimeo.com/1148063143>.

1. What state is Adalyn from?
2. What is Adalyn’s SAE?
3. What pathway is Adalyn’s SAE in?
4. Explain her SAE in one or two sentences.
5. What are five tasks Adalyn is involved in?
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 -
 -
 -
 -
6. What food safety measures does Adalyn take during her SAE?
7. What FFA event has Adalyn participated in, and how does it help her in her SAE?
8. Why does Adalyn say that you should join FFA?

Name: _____

Part 2

Directions: Examine the poultry products provided and complete the chart below.

Poultry Product	Original Cut Used	Raw/Minimally Processed/Further Processed	Added Ingredients or Processing Steps
Boneless chicken breast			
Chicken wings			
Chicken nuggets			
Breaded chicken patties			
Rotisserie chicken			
Chicken sausage			
Chicken broth			

Choose one product from the chart and answer the following questions

1. Why do you think consumers choose this product instead of raw chicken?
2. How does processing add value?

Now that you have looked at common poultry products and where they come from, you are going to learn about byproducts by completing the chart below.

Poultry Byproduct	How Is It Used?
Feathers	
Bones	
Blood	
Fat	
Organs	
Trimming	
Skin	

1. Why do byproducts matter in food systems and sustainability? Answer using two or three sentences.

Name: _____

Part 3

Directions: You are a food scientist working for a poultry company. Your task is to design a new poultry product that could be sold in a grocery store. Work with your group to create a product that makes sense based on how poultry is processed.

1. Product Name:
2. Who is this product for?
(Example: families, kids, athletes, busy adults)
3. What chicken cut(s) are used?
4. How is this product made?
(Describe the main processing steps from raw chicken to final product.)
5. Sketch Your Product
Draw what your product might look like in the grocery store.
6. What is added or changed during processing?
(Examples: seasoning, breading, cooking, shaping, freezing, packaging)
7. Why would a customer buy this product?
8. What byproduct(s) might be created while making this product?
9. How does your product increase the value of the original chicken cut?

Name: _____

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FFA.PL-N1; CCSS.ELA-RI.9-10.4; CCSS.ELA-RI.11-12.7; CCSS.ELA-W.9-10.2; CCSS.ELA-W.9-10.4; CCSS.ELA-SL.9-10.2; CCSS.ELA-L.9-10.1; CCSS.ELA-L.9-10.2; CRP.02; CRP.04; CRP.06; CRP.08

Part 1

Directions: Answer the questions below as you watch the video “Food Science and Processing SAE,” available at <https://vimeo.com/1148063143>.

1. What state is Adalyn from?
Arkansas
2. What is Adalyn's SAE?
She works at the University of Arkansas Pilot Processing Plant.
3. What pathway is Adalyn's SAE in?
Food Products and Processing
4. Explain her SAE in one or two sentences.
She works in an unpaid placement. She does a lot on the further processing side of the poultry processing plant.
5. What are five tasks Adalyn is involved in?
 - Deboning chicken
 - Marination
 - Making frankfurters
 - Taking the pH and weight of carcasses
 - Breeding chicken tenderloins
6. What food safety measures does Adalyn take during her SAE?
She wears a hairnet, gloves, apron and smock.
7. What FFA event has Adalyn participated in, and how does it help her in her SAE?
The poultry science CDE has helped Adalyn learn about processing and poultry diseases.
8. Why does Adalyn say that you should join FFA?
FFA is really fun.

Name: _____

Part 2

Directions: Examine the poultry products provided and complete the chart below.

Poultry Product	Original Cut Used	Raw/Minimally Processed/Further Processed	Added Ingredients or Processing Steps
Boneless chicken breast	Breast	Raw	Trimmed, deboned, packaged
Chicken wings	Wing	Minimally processed	Separated and packaged
Chicken nuggets	Breast (ground)	Further processed	Ground, seasoned, breaded, formed, cooked
Breaded chicken patties	Breast or mixed cuts	Further processed	Ground, shaped, breaded, cooked, frozen
Rotisserie chicken	Whole bird	Further processed	Seasoned, cooked, packaged
Chicken sausage	Thigh or mixed cuts	Further processed	Ground, seasoned, stuffed into casing
Chicken broth	Bones or trimmings	Further processed	Simmered, strained, packaged

Choose one product from the chart and answer the following questions

1. Why do you think consumers choose this product instead of raw chicken?

Answers will vary.

2. How does processing add value?

Processing adds value by turning raw poultry into products that are easier to use, last longer and meet different consumer needs. It can add flavor, convenience and variety, which makes the product more appealing to buyers. This allows producers to sell the product for a higher price than raw chicken.

Now that you have looked at common poultry products and where they come from, you are going to learn about byproducts by completing the chart below.

Poultry Byproduct	How Is It Used?
Feathers	Processed into feather meal for animal feed or used in pillows, insulation and compost
Bones	Ground into bone meal for fertilizer, pet food or mineral supplements
Blood	Used to make blood meal for fertilizer or animal feed
Fat	Used in pet food, biodiesel and cooking fats
Organs	Sold as food products or used in pet food
Trimmings	Used in ground poultry products like nuggets or patties
Skin	Used in processed foods, pet treats or rendered for fat

1. Why do byproducts matter in food systems and sustainability? Answer using two or three sentences.
Byproducts matter in food systems and sustainability because they help reduce waste by using more parts of the animal instead of throwing them away. They can be turned into things like pet food, fertilizer or animal feed. This makes food production more efficient and better for the environment.

Name: _____

Part 3

Directions: You are a food scientist working for a poultry company. Your task is to design a new poultry product that could be sold in a grocery store. Work with your group to create a product that makes sense based on how poultry is processed.

1. Product Name: *Answers will vary.*
2. Who is this product for?
(Example: families, kids, athletes, busy adults)
Answers will vary.
3. What chicken cut(s) are used?
Answers will vary.
4. How is this product made?
(Describe the main processing steps from raw chicken to final product.)
Answers will vary.
5. Sketch Your Product
Draw what your product might look like in the grocery store.
Answers will vary.
6. What is added or changed during processing?
(Examples: seasoning, breading, cooking, shaping, freezing, packaging)
Answers will vary.
7. Why would a customer buy this product?
Answers will vary.
8. What byproduct(s) might be created while making this product?
Answers will vary.
9. How does your product increase the value of the original chicken cut?
Answers will vary.