

# Dear Educator,

Back to school is a time that offers opportunities for reminding students about effective ways to care for their health as they face the challenges of a new school year. Students need balanced meals rich in lean protein, vitamins, and minerals to help them achieve their goals. These engaging, educational activities created by the curriculum specialists at Young Minds Inspired (YMI), in cooperation with the National Pork Board, offer support toward reinforcing these messages.

The lessons in this program explore nutrition and the benefits of sharing family meals together, as well as the goals of the We Care initiative, which today's pig farmers support. We Care focuses on animal well-being and the use of innovative technology to help promote sustainability for the planet. Students will also enjoy a fun video whiteboard activity found at [ymiclassroom.com/pork](http://ymiclassroom.com/pork) that will take them on a virtual trip to a pig farm to experience firsthand the care that goes into pig farmers' animal welfare practices.

Please share this program with other Family and Consumer Science teachers in your school, as well as your food service director, school nurse, coaches, counselors, and science and health teachers. Although the materials are protected by copyright, you may make as many copies as you need for your students. Also, please visit [ymiclassroom.com/feedback-pork](http://ymiclassroom.com/feedback-pork) to let us know your thoughts on this program.

Be sure to look for more interactive lessons on agriculture and sustainability later this fall.

Sincerely,

Dr. Dominic Kinsley  
Editor in Chief  
Young Minds Inspired

# Sustainable Farming, Nutritious Meals

## Target Audience

Students in middle and high school Family and Consumer Science classes

## Program Objectives

- Raise awareness of practices pig farmers follow to promote animal welfare
- Foster an appreciation for pig farmers' dedication to environmental sustainability
- Inspire students to create family meal experiences designed to meet MyPlate guidelines

## How to Use This Program

Copy the two pages of this teacher's guide for your use. Provide students with copies of the three activity sheets before starting. Students will also need access to the Internet to complete the activities. Visit [ymiclassroom.com/pork](http://ymiclassroom.com/pork) for standards alignment.

## Activity 1 • Life on the Farm

In this activity, students will learn that pig farmers across the country work hard so that the animals in their care can thrive. Explain that many pig farms are family-owned businesses, where farming is based on a family commitment to the We Care principles of providing a safe, clean, and comfortable environment for their pigs as part of their goal of continuous improvement in pig farming.

**Part 1:** Pass out the activity sheet, have students complete the quiz, and then review and have a class discussion about the following answers:

### Answers:

- 1. False.** Pigs are kept warm by heaters in the winter and cooled by misters in the summer.
- 2. False.** Pigs are kept clean in comfortable pens.
- 3. True.** Pig farmers are very careful to protect pigs from diseases.
- 4. True.** Veterinarians help pig farmers with vaccinations and other health measures to ensure pigs are healthy.
- 5. False.** Pigs are given nutritious meals designed by a swine nutritionist specifically to foster their optimum health.



**6. False.** Pigs always have access to food and water.

**7. False.** Pigs are moved into the nursery barn at three weeks of age.

**8. False.** Sows usually only have two litters per year.

**Part 2:** Now prompt students to brainstorm additional ways pig farmers might provide a safe, clean, and comfortable environment for their pigs, and the resources they would need. Students can research details about pig farming at [porkcares.org](http://porkcares.org). Ask them to share their ideas. Then direct them to the whiteboard activity at [ymiclassroom.com/pork](http://ymiclassroom.com/pork) for a virtual visit to a pig farm and a quiz. (See next page for more detail.)

## Resources

### Animal Welfare

[porkcares.org/our-practices/every-day-on-the-farm/](http://porkcares.org/our-practices/every-day-on-the-farm/)  
[porkcares.org/our-practices/keeping-pigs-healthy/](http://porkcares.org/our-practices/keeping-pigs-healthy/)  
[porkcares.org/ethical-principles/animal-well-being/](http://porkcares.org/ethical-principles/animal-well-being/)

## Activity 2 • Farm Science

In this activity, students will learn how pig farmers care for the environment by using sustainability and food safety practices, including innovations in technology such as methane digesters (a machine that captures methane from manure storage systems and uses it as fuel to generate electricity or heat), biosecurity measures, and GPS systems to track soil quality.



First ask students to share ways technology has made their lives safer, better, and more efficient. Extend the conversation to discuss how advances in science and technology have benefited other groups, including crop and animal farmers.

For example, pig farmers use technology to implement sustainability practices on their farms, such as equipment that monitors manure output. Manure is an important source of organic fertilizer. Soil sampling and tracking software help farmers match the correct amount of manure with the soil's needs. Good soil health leads to beneficial crop production, which in turn feeds healthy pigs and promotes the production of nutritious pork. Methane digesters are another tool that converts the energy stored in manure into methane, which is used to produce energy for on-farm or off-farm use.<sup>1</sup> These practices exemplify the idea of circular farming, in which the crops raised on the farm support the pigs who, in turn, produce the manure used on the crops.

Sustainability in food production helps pig farmers protect the land they farm, while improving the welfare of their pigs and producing high quality, nutritious pork that will help support a balanced diet for people. In fact, in the past 50 years, pig farmers have used 75.9% less land, 25.1% less water, and 7% less energy in their farming practices.<sup>2</sup>

Pass out the activity sheet. **Part 1:** Have students form small groups and visit [porkcares.org/americas-pig-farmers/our-farms](http://porkcares.org/americas-pig-farmers/our-farms). Tell them to scroll to the bottom of the webpage to locate and select farmer profiles to research. Make sure each group has a different farmer. Have students read about their farmer and answer the questions on the sheet.

**Part 2:** Now, challenge students to invent a tool or method that they think would benefit pig farmers' sustainability efforts, and share their tool with the other groups.

## Resources

### Environmental Sustainability

[porkcares.org/our-practices/environmental-stewardship/](http://porkcares.org/our-practices/environmental-stewardship/)

### Pig Farming Profiles

[porkcares.org/americas-pig-farmers/our-farms/](http://porkcares.org/americas-pig-farmers/our-farms/)



## Activity 3 • Science, Nutrition, and Family Meals

In this activity, students will explore meal choices for their families, based on the nutritional benefits of protein, including pork. Pig farmers who strive for goals that benefit people, pigs, and the planet, in turn, help produce pork, a globally important source of protein enjoyed by families all over the world.

September is National Family Meals Month, a perfect time to remind students that having regular family meals is connected to higher grades and self-esteem, as well as positive social behaviors.<sup>3</sup> Ask students to share some of their favorite family meals and food-related traditions. For example, some cultures traditionally eat pork on New Year's Day, because pigs are often considered lucky. Tradition aside, pork can be a smart choice because of its nutritional benefits.

Pass out the activity sheet. **Part 1:** Challenge students to create a balanced, nutritional meal plan centered around pork that will help them enjoy family meals together. (**Note:** For students whose families do not eat pork, offer an alternative by asking them to imagine that they are chefs and a family has asked them to prepare a pork-based meal for a family occasion. Students should be prompted to imagine the occasion and plan the meal.)

**Part 2:** Now ask students to plan a meal to enjoy while celebrating a special event. When done, invite them to share their meal plans.

## Resources

### Nutrition and Recipes

[pork.org/cooking/pork-nutrition/vitamins-and-minerals/](http://pork.org/cooking/pork-nutrition/vitamins-and-minerals/)  
[yummy.com/page/pork](http://yummy.com/page/pork)

## Whiteboard Activity

Visit [ymiclassroom.com/pork](http://ymiclassroom.com/pork) to take your students on a virtual visit to a pig farm and have them complete the embedded quiz as they explore the farm. There are four video and quiz segments. Approximate completion time 10 minutes. Students can use the mouse to move around each video and pause it to see different parts of the pig farm, review images, and read text boxes. Before using the WBA, review these terms with students: sow (adult female pig), gestation (the period of time between conception and birth), and farrowing (the process of giving birth).

## Resources

### Lessons

[ymiclassroom.com/pork](http://ymiclassroom.com/pork)

### Pig Farming VR Experience (5:00)

[Note: Video segments are also featured in the Whiteboard Activity.]

[youtube.com/watch?v=cQ-5F-gT-6c](https://www.youtube.com/watch?v=cQ-5F-gT-6c)

<sup>1</sup>[pork.org/blog/shared-focus-innovation/](http://pork.org/blog/shared-focus-innovation/)

<sup>2</sup>Data Source: A Retrospective Assessment of U.S. Pork Production: 1960 to 2015, Univ. of Arkansas, National Pork Board, 2018

<sup>3</sup>[fmi.org/family-meals-movement/meals-matter](http://fmi.org/family-meals-movement/meals-matter)

# Life on the Farm

**PART 1:** Fact check! How much do you know about life on a pig farm? Show off your farm smarts and find out!

Put a **T** for true or an **F** for false below. Then discuss the answers with your class.

1. \_\_\_\_\_ The temperature in a pig barn varies with the weather — cold in the winter, hot in the summer.
2. \_\_\_\_\_ Pigs are encouraged to wallow in the mud to regulate their body temperatures.
3. \_\_\_\_\_ Farmers follow biosecurity protocols, such as showering before they enter a pig barn.
4. \_\_\_\_\_ Pig farmers work closely with veterinarians to ensure their animals are healthy.
5. \_\_\_\_\_ Pigs are fed leftover food and garbage to reduce waste.
6. \_\_\_\_\_ Pigs are given food and water only at certain times of the day.
7. \_\_\_\_\_ Piglets are separated from their mothers as soon as they are born for safety reasons.
8. \_\_\_\_\_ Sows, or female pigs, have four or more litters per year.



**PART 2:** Pig farmers feel a strong responsibility for taking the best possible care of their pigs. They work hard every day on the farm to make sure that their pigs are healthy, safe, and comfortable. What are some additional ways pig farmers might care for their animals? Check out [porkcares.org](http://porkcares.org) for more details about pig farming. Then brainstorm strategies farmers might implement and resources they might need to succeed. Write your ideas below, and then share them with the class.

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- Answers:** 1. False. Pigs are kept warm by heaters in the winter and cooled by misters in the summer.  
 2. False. Pigs are kept clean in comfortable pens.  
 3. True. Pig farmers are very careful to protect pigs from diseases.  
 4. True. Veterinarians help pig farmers with vaccinations and other health measures to ensure pigs are healthy.  
 5. False. Pigs are given nutritious meals designed by a swine nutritionist specifically to foster their optimum health.  
 6. False. Pigs always have access to food and water.  
 7. False. Pigs are moved into the nursery barn at three weeks of age.  
 8. False. Sows usually only have two litters per year.

Did you know?  
 There are more than  
 60,000 pig farms in  
 America and 98% of them  
 are family-owned!  
 Find out more by visiting  
[porkcares.org/americas-pig-farmers/our-farms](http://porkcares.org/americas-pig-farmers/our-farms).



# Farm Science

**PART 1:** Meet a real pig farmer! With your group, scroll down to the bottom of [porkcares.org/americas-pig-farmers/our-farms](https://porkcares.org/americas-pig-farmers/our-farms), and choose a farmer or friend (often a veterinarian) to learn about. Then answer these questions.

Name of the person I chose: \_\_\_\_\_

Their job or profession: \_\_\_\_\_

1. How does this person care for the environment, the people around them, and/or their pigs?

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2. What are some ways this individual works to meet goals related to animal care, sustainability, or other goals?

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3. Why do you think this person chose their career?

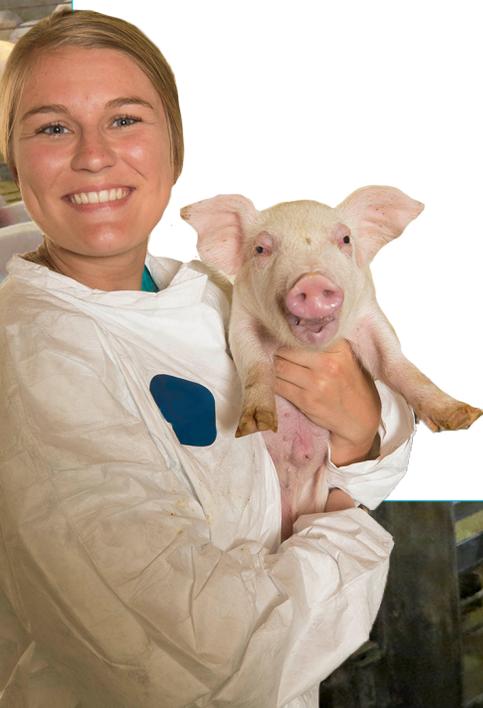
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**PART 2:** You might not think of IT when you think about farming, but technology plays an important role in the success of pig farmers' sustainability practices. For example, GPS systems help farmers regulate the use of manure on their crops. Check out [porkcares.org/our-practices/environmental-stewardship](https://porkcares.org/our-practices/environmental-stewardship) to learn more.

Now, imagine that you've been asked to help a pig farmer enhance his or her sustainability efforts. What kind of tool or method do you think might be beneficial? Write and/or draw your idea below, and then share your idea with other groups.

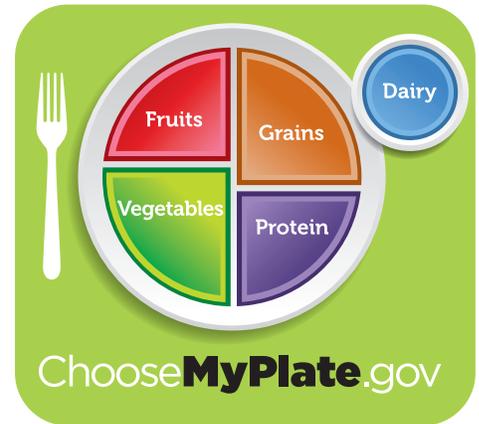


Take a page from a pig farmer's handbook and look for ways you can engage in sustainability practices at your school or home! Share your ideas with classmates.



# Science, Nutrition, and Family Meals

**PART 1:** Create a five-day balanced family meal plan! Put together a simple and nutritious meal plan your family can enjoy for the week. We've started you off with a nutritious and delicious pork main dish as your protein on two of those days. Add your choice of protein for the other days and finish it off with fruits, vegetables, whole grains, and dairy. Use the MyPlate graphic and [choosemyplate.gov](http://choosemyplate.gov) as a guideline for building a healthy, balanced meal. Check out [pork.org/cooking/pork-nutrition/vitamins-and-minerals](http://pork.org/cooking/pork-nutrition/vitamins-and-minerals) for nutritional information about pork.



	Monday	Tuesday	Wednesday	Thursday	Friday
<b>Protein (Entrée)</b>	Boneless pork loin roast		Rolled pork tacos		
<b>Fruits</b>					
<b>Vegetables</b>					
<b>Whole Grains</b>					
<b>Dairy</b>					

**PART 2:** Now, design a pork-based meal for your own family occasion! What will your family celebrate, and what meal will you enjoy?

Occasion: \_\_\_\_\_ Meal: \_\_\_\_\_

## Did you know?\*

- Children who eat family meals regularly have higher grades and self-esteem.
- Children who enjoy more family meals tend to eat more fruits and vegetables.



Celebrate Family Meal Month (September). Check out [yummy.com/page/pork](http://yummy.com/page/pork) for pork recipes to inspire your family meal menus.





# Sustainable Farming, Nutritious Meals

## National Standards for Family and Consumer Sciences Education

### Area of Study 9.0: Food Science, Dietetics, and Nutrition

Content Standard 9.3 Evaluate nutrition principles, food plans, preparation techniques, and specialized dietary plans.

- 9.3.2 Analyze nutritional data
- 9.3.6 Critique the selection of foods to promote a healthy lifestyle

### Area of Study 14.0: Nutrition and Wellness

Content Standard 14.2: Examine the nutritional needs of individuals and families in relation to health and wellness across the life span.

- 14.2.1 Evaluate the effect of nutrition on health, wellness, and performance.
- 14.2.4 Analyze sources of food and nutrition information, including food labels, related to health and wellness.

Content Standard 14.3: Demonstrate ability to acquire, handle, and use foods to meet nutrition and wellness needs of individuals and families across the life span.

- 14.3.1 Apply current dietary guidelines in planning to meet nutrition and wellness needs.

Source:

National Standards for Family and Consumer Sciences Education. Copyright © 2018 Developed by National Association of State Administrators of Family and Consumer Sciences (NASAFACS). Available at [www.nasafacs.org/national-standards-and-competencies.html](http://www.nasafacs.org/national-standards-and-competencies.html).