



Think

Rice!

Dear Educator,

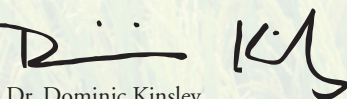
Help your students *Think Rice!* when it comes to building a balanced diet with this free educational program that also celebrates rice's role in America's history and how U.S. rice growers help protect our environment through sustainable agricultural practices.

Brought to you by the USA Rice Federation and the curriculum specialists at Young Minds Inspired, this program will also remind parents that when families put locally grown rice on the menu for good nutrition, they are also supporting community agriculture, which in turn promotes the local economy.


We hope that you will share this valuable program with other teachers in your school. Although the materials are copyrighted, you may make as many copies as needed for educational purposes.

Please use the enclosed reply card or comment online at ymiclassroom.com/feedback-usarice to provide feedback. We look forward to hearing from you.

Sincerely,



Dr. Dominic Kinsley
Editor in Chief
Young Minds Inspired

 For questions, contact us toll-free at 1-800-859-8005 or by email at feedback@ymiclassroom.com.

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Target Audience

Students in grades 3-6.

Program Objectives

- Highlight the history of rice in U.S. agriculture since colonial times and its economic importance today.
- Help students understand how sustainable agricultural practices used by U.S. rice growers benefit the local ecosystem.
- Raise awareness of the role that grains—particularly rice—play in the USDA's **MyPlate** guidelines for a healthy diet.

Program Components

- This one-page teacher's guide.
- Three reproducible activity sheets.
- A colorful classroom wall poster.
- A reply card for comments.

How to Use This Program

Photocopy the teacher's guide and activity sheets before displaying the poster. To review alignment with national standards for social studies, science, and health, visit ymiclassroom.com/usarice.

Activity 1

FROM THEN TO NOW

Part 1: Read the information with students and help them complete the timeline. **Answers:** 1685–B; 1700–D; 1777–E; 1849–H; 1865–A; 1884–C; 1920–G; 2015–F.

Part 2: Direct students to view the poster to help identify and unscramble the state names. **Answers:** A–4; B–1; C–5; D–6; E–3; F–2.

You might assign student groups to research the history of rice in a state of their choosing. Each group can map the rice-growing areas of its state, collect local rice recipes, and relate the state's geography, climate, and rice-farming techniques to rice production.

Activity 2

RICE SUSTAINS

Part 1: Use these answers and the poster to help explain the concepts presented. Have students work in groups to do further research.

Answers

- 1. True.** American rice growers' use of computers and lasers helps conserve soil and water and protects wildlife.
- 2. False.** Rice is grown in wet fields that require flooding during the winter months as part of the growing cycle.
- 3. False.** U.S. rice farmers use less water to produce their crops than any other rice-farming nation of the world. Advanced irrigation methods help U.S. rice farmers monitor water usage to help them recycle water.
- 4. False.** Many rice farmers use a no-till method for farming in which they level rice fields using heavy machinery. Tilling destabilizes and erodes soil, leaving it less fertile and impeding the flow of water.

- 5. True.** Eighty-five percent of the rice consumed by Americans is grown in the U.S., which reduces the amount of carbon produced by transporting rice from field to plate, compared to rice imported from other countries.
- 6. True.** Rice fields create a special wetland ecosystem that supports habitat for a variety of species and helps restore natural marsh. Waterfowl such as songbirds and raptors; reptiles and amphibians, including snakes, crocodiles, and frogs; and even mammals like beavers, otters, squirrels, and raccoons, find food, shelter, and nesting sites in American rice fields.
- 7. True.** The rice-growing regions of the United States correspond to the three important North American flyway regions for most migratory birds, whose migratory patterns time perfectly with the rice farmer's winter flooding of rice fields.
- 8. True.** U.S. rice farming provides affordable nutrition to help feed America and the world, saving energy, reducing the carbon footprint, and providing critical habitat for wildlife.

Part 2: Review with students the concept of a carbon footprint—the amount of carbon dioxide (CO₂) produced when food is transported from its place of origin, which requires the burning of fossil fuels that emit carbon dioxide into the atmosphere. Eating locally grown foods helps reduce the carbon footprint. (Note: To simplify calculations, this activity uses a benchmark value for CO₂ emissions associated with transporting rice and rounds off distances.) **Answers for CO₂ emissions to CT:** from China – 4200kg; India – 4800kg; Thailand – 5400kg. **Answers for distances and CO₂ emissions to CT:** Missouri – 1,000 miles/600kg; Arkansas and Mississippi – 1,100 miles/660kg; Louisiana – 1,200 miles/720kg; Texas – 1,600 miles/960kg; California – 2,500 miles/1,500kg.

Activity 3

THE RICE BOWL

Review the activity sheet with students and show them the recipes featured at the links provided before they craft their own Rice Bowl recipes, share them with classmates, and try them at home with a parent. Consider creating a class Rice Bowl Recipe cookbook that can be reproduced and taken home to parents.

Resources

- www.usarice.com
- www.ymiclassroom.com/usarice

Rice Facts

(available at www.ymiclassroom.com/usarice)

- Facts about USA Rice
- The History of U.S. Rice Production (LSUAgCenter)
- Video: American Rice – Home Grown, World Famous

Rice and Wildlife Conservation

(available at www.ymiclassroom.com/usarice)

- "Conservation: A Banquet for Ducks," Ducks Unlimited
- Infographic: What's Good for Rice is Good for Ducks

About Carbon Footprint and Food Miles

- www.foodmiles.com
- www.foodemissions.com/foodemissions/Calculator.aspx



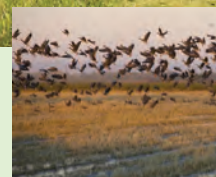
ACTIVITY 1

Reproducible Master

FROM THEN TO NOW

Now is the perfect time to *Think Rice* and learn how long it has been an important source of nutrition in the United States.

Part 1: First grown in China around 2800 B.C.E., rice has been produced in the U.S. since colonial times. To follow the history of U.S. rice, match the letter of each event described below to the correct date on the timeline.



1685

1700

1777

1849

1865

1884

1920

2015

History of U.S. Rice Facts

- A.** Rice production in many states in the Deep South is severely affected by the Civil War. Production begins to move westward to Arkansas, Louisiana, and Texas.
- B.** Rice arrives in the colonies by accident. A ship, damaged by a storm after traveling from Madagascar, arrives in the Charles Town harbor of the colony of South Carolina. After the colonists help repair the ship, the ship's captain repays them with a small amount of "Golde Seed Rice." When a local farmer plants the seeds, rice growing becomes part of American history.
- C.** The Industrial Revolution helps make rice farming easier and more efficient. New machines are invented, like steam-powered pumps to pump water into rice fields.
- D.** Rice becomes a major food source for colonists. About 300 tons of American-grown "Golde Seed Rice" are even shipped to England!
- E.** Rice becomes a major agricultural business for the newly formed United States of America.
- F.** The rice-growing regions of the U.S. produce high-quality rice to feed America and the world!
- G.** The rice-farming industry is established in California.
- H.** In California, the Gold Rush brings people from all nations, many of whom are rice eaters.

Now that you know Americans have been farming rice since the colonial days, you might want to include rice in your list of all-American favorite foods!

Part 2: Today, rice is grown in six states. Find out more about each one! First unscramble the state names below, then match their numbers to the correct statement. Do you call any of these rice-producing states home?

The Scrambled States of Rice

1. FICALORNAI

2. MSIRISUO

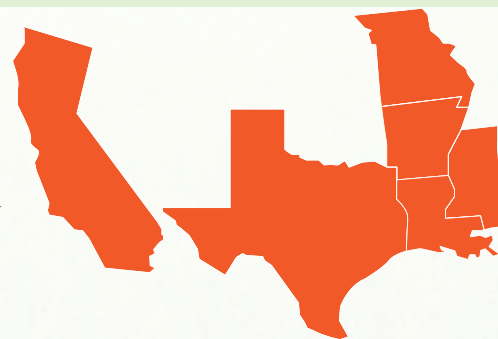
3. SIPIPSISMIS

4. SRKANSAA

5. XATSE

6. ISILUONAA

- A.** This state is the largest producer of rice in the U.S. A line in the official state song says, "The fields are full of rice!"
- B.** It's the second largest rice-producer and also grows wild rice. Almost every piece of sushi made in America is made with rice grown from this state!
- C.** Rice farmers here are neighbors with many cattle ranches and cowboys for which this state is famous.
- D.** Pass the gumbo and jambalaya! Rice farmers in this state serve it up Cajun style!
- E.** The rich, clay soil of the Delta region of this southern state is more suited to growing rice than cotton.
- F.** The rice-growing area of this state is located in what is nicknamed the "bootheel" portion of the state because of its geographical shape.



For fun, read the clues to a parent at home to see if he or she can identify each state!



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ACTIVITY 2

Reproducible Master

RICE SUSTAINS

Part 1: The production of rice in the U.S. provides Americans with tasty nutrition, but it also helps the environment and wildlife through sustainable farming practices. Try this True/False quiz to learn about some of the different ways U.S. rice helps sustain both you and the environment!

- 1. American rice growers' use of the latest technology helps both conservation and wildlife protection efforts.
- 2. Periods of drought are good for rice farming, since rice requires dry growing conditions.
- 3. U.S. rice farmers use more water than rice farmers in other countries.
- 4. Most rice farmers till the land every year to help return oxygen to the soil for better rice harvests.
- 5. When you eat U.S.-grown rice, you reduce your carbon footprint — the amount of carbon dioxide produced by human activities like transportation.



- 6. Rice fields support biodiversity of wildlife in a wetland ecosystem.
- 7. During the winter, flooded rice fields provide food and habitat for ducks and geese along their migratory pathways.
- 8. Eating U.S.-grown rice helps support people and wildlife.

Part 2: When you eat rice grown in the U.S., you reduce your carbon footprint because your food travels less miles to get to your plate. More food miles means more carbon dioxide (CO₂) emitted into the atmosphere by trucks and other forms of transportation that burn fossil fuels. Rice-growing nations like China, India, and Thailand are far from the United States. When rice from these countries is sold in the U.S., it must travel many more food miles than if it came from a rice-growing state in the U.S.

It's in the Numbers

Suppose that a grocery chain in Connecticut needs 10,000 pounds of rice. How much CO₂ emissions would be saved if they purchased this amount of rice from growers in a U.S. state, compared to rice growers in the countries listed on this sign? Pick a rice-growing state and add it to the sign below.

Distance to Connecticut from:



1. First, figure out what the CO₂ emissions would be if 10,000 pounds of rice were shipped to Connecticut from each of the three countries on the sign above. Use the following to do the math:

On average, transporting 1,000 pounds of rice over a distance of 1,000 miles generates 60 kilograms (kg) of carbon dioxide (CO₂).

CO ₂ emissions from China	➡	<input type="text"/>	kg
CO ₂ emissions from India	➡	<input type="text"/>	kg
CO ₂ emissions from Thailand	➡	<input type="text"/>	kg



2. Now, figure the distance from the state you chose to Connecticut using a map or an online resource such as www.distancefromto.net. Round your figure to the nearest thousand.

The state I chose _____

Distance in miles to Connecticut _____

3. Do the same math as you did for the foreign countries to calculate the CO₂ emissions produced if the 10,000 pounds of rice were shipped to Connecticut from the state you chose _____ kg

4. Now subtract the CO₂ emissions produced by transporting U.S.-grown rice from the emissions you calculated. Use the back of this sheet to do the math, and write your answers in the spaces below.

5. How much more CO₂ is produced by transporting the 10,000 pounds of rice from each of these countries to Connecticut versus transporting it from the state you chose?

China _____ kg

India _____ kg

Thailand _____ kg



You've just figured the carbon footprint savings when Americans eat U.S.-grown rice!



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THE RICE BOWL

Time to tune in for the Rice Bowl! No, we're not talking about a football game, but a tasty way to combine rice with vegetables, protein, and flavorings to score for good nutrition!

The USDA **MyPlate** nutritional guidelines for healthy eating recommend eating grains at every meal. Rice is an important grain that has many of the nutrients your body needs to become strong and healthy. And, when you make at least half your grains whole grains, like delicious brown or wild rice, you get even greater nutritional power.



Rice Bowl, My Style!

Make U.S.-grown rice the All-American, All-Star Player on your nutrition team—and not just for lunch or dinner. Breakfast is the first important meal of the day and rice can join that team, too!

Use the space below to create your own recipe. Choose which kind of rice you want to use, then mix and match your favorite foods and flavor combinations for your own special Rice Bowl treat.



(Your recipe title)

Rice Bowl Recipe

Serve for (circle one): **Breakfast** **Lunch** **Dinner**

Type of Rice: _____

Vegetables: _____

Protein: _____

Sauce/Herbs/Seasonings: _____

* **Dairy:** _____

* **Fruit:** _____

* You may wish to serve dairy and fruit items as sides to pair with your rice bowl instead of making them a part of your recipe, but the choice is yours. Now take this sheet home and try your idea with a parent!



Here's what rice brings to the plate...er, bowl, when it comes to healthy eating:

- Contains over 15 health-boosting, power-packing vitamins and minerals to help your body grow strong
- Gives you great energy for school and play
- Gluten-free and the least allergenic of all grains

Visit www.usarice.com to learn more about the many nutritional benefits of U.S.-grown rice!

Parents! Your child has participated in the **Think Rice!** educational program brought to you by the USA Rice Federation. Help your child get cooking with his or her ideas for preparing delicious and healthy rice bowls for the family! U.S.-grown rice is a budget-friendly, nutrition-packed, All-American grain staple that scores big points for your family, your local economy, and the environment! Visit www.usarice.com to find more recipes and reasons to make U.S.-grown rice part of your winning nutrition team!

