

Everybody Eats Rice

Lesson Objective & Summary

Objective: Students will learn that about ½ of the world's population subsists partially or totally on rice. Students will understand that rising global temperatures are posing a threat to the world's rice supply. Students will understand that the threat to the world's rice supply will negatively affect more than ½ of the world's population. Students will work together in groups through a Problem-Based Learning approach to come up with a solution to the problem of the world's rice supply being threatened by rising global temperatures.

Summary: In this lesson students will begin by watching [Paddy to Plate](#). They will discuss with the teacher all the steps that go into growing rice and all the important factors. After discussing the world's dependence on rice, students will work together in cooperative learning groups to come up with a solution to the problem of the rice supply being threatened by rising global temperatures. Students will present their solutions through a variety of media including but not limited to Prezi presentations, posters, PowerPoint/Keynote presentations, or other artistic representation of their solution.

Standards & Benchmarks

From the Common Core Standards for English Language Arts

- Write arguments to support claims with clear reasons and relevant evidence.
- Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
- Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

From the Common Core Standards for Comprehension and Collaboration

- Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led, with diverse partners, topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.)

From the Common Core Standards for Presentation of Knowledge and Ideas

- Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.

Grade Level:
Middle School

DURATION:
3 Lessons

SUBJECTS:
English Language Arts,
Social Studies

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Background Information for Educators

About 3 billion people, or about ½ of the world's population, subsists either totally or partially on rice. Although rice is grown in many different parts of the world and there are many different kinds of rice, it needs very specific conditions to thrive, including high annual rainfall. Malaysian Rice is planted in small fields called paddies where there must be enough water to cover most of the plant but not submerge it. Seeds are spread and once the seedlings grow, they are replanted in rows in the paddy. Rice doesn't grow well in warmer nighttime temperatures, thus rising global temperatures threaten the rice crop.

Key Vocabulary

paddy
subsist
climate change

Lesson Plan 1A (one lesson)

Materials Needed: Rice cards (provided), web access, poster board, markers and other artistic materials for students to make posters.

1. Before students enter the classroom, place "rice cards" on half of the desks in the room. (rice cards follow at end of document)
2. After students enter the room and sit at their desks, inform the students that the rice cards on their desks represents how ½ of the world's population subsists on rice.
3. Put students into cooperative learning groups and have them brainstorm what they think rice needs in order to grow.
4. Watch the [Paddy to Plate](#) video.
5. Instruct students to discuss with their groups what they learned from the video about what rice needs to grow. Students will then share their ideas with the class.

Lesson Plan 1B (two lessons)

Materials Needed: Problem Statement (provided), web access, poster board, markers and other artistic materials for students to make posters.

1. Ask students, "What is climate change?" Discuss their answers. Reinforce correct ideas and clarify misconceptions. Write their ideas on the board.
2. Discuss with students that climate change is threatening to the rice supply.
3. Pass out "problem statement" to each group.
4. Students will work in cooperative learning groups to come up with a solution to this problem and organize their ideas into a Prezi, PowerPoint or Keynote, Poster, or other presentation format approved by the teacher.
5. Students will present their solutions to the class.

Assessment

1. Students will be assessed based on their participation in class discussions.
2. Students will be assessed based on their participation in their cooperative learning groups.
3. Students will be assessed on their final projects and presentations using a rubric.

Assessment Rubric	Below Expectations	Meets Expectations	Exceeds Expectations
Oral Presentation	Delivery not smooth, but able to hold audience attention most of the time.	Relatively interesting, rehearsed with a fairly smooth delivery that usually holds audience attention.	Interesting, well-rehearsed with smooth delivery that holds audience attention. Student is very enthusiastic about their presentation.
Content	Includes essential information about the topic but there are 1-2 factual errors.	Includes essential knowledge about the topic. Subject knowledge appears to be adequately learned.	Covers topic in-depth with details and examples. Subject knowledge is excellent and goes beyond what is expected of the student.
Attractiveness	Makes use of font, color, graphics, effects, etc. but occasionally these detract from the presentation content.	Makes good use of font, color, graphics, effects, etc. to enhance to presentation.	Makes excellent use of font, color, graphics, effects, etc. to enhance the presentation. The graphics, etc... do not detract and are interesting additions to the presentation
Mechanics	No misspellings or grammatical errors.	Three or fewer misspellings and/or mechanical errors.	No misspellings or grammatical errors.

Problem Statement

About 3 billion, or $\frac{1}{2}$ of the world's population subsists either totally or partially on rice. However, with temperatures rising around the world, there is concern about maintaining the world's rice supply.

Directions: In your group, work together to come up with a potential solution to this problem. You will present your solution to the class in the form of a Prezi, PowerPoint/Keynote, poster, or other presentation format approved by your teacher.

Rice Cards

