Rice

*Lesson Plan for Grade 3, Math*

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*for Mississippi Farm Bureau Federation - AITC*

# OVERVIEW & PURPOSE

In this lesson, students will be able to observe the mass of rice through hands-on measurement.

# EDUCATIONAL STANDARDS

**Mississippi College-and-Career Readiness Standards:**

3.MD.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).6 Add, subtract, multiply, or divide to solve one- step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.

ELA-W.3.8 Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.

**NALOs:**

T1.3-5 e Recognize the natural resources used in agricultural practices to produce food, feed, clothing, landscaping plants, and fuel (e.g., soil, water, air, plants, animals, and minerals).

# OBJECTIVES

* Students will measure the weight of rice in grams and determine the cost

# MATERIALS NEEDED

* 10 beakers
* 10 scales that weigh in grams
* Rice Weight Worksheet (1 per student, attached)

Essential Files

* [Weight Worksheet](https://docs.google.com/document/d/12SBluKZyYtjvkPWxvoRIV6Om81sc9Spg/edit?usp=sharing&ouid=109918902593538910659&rtpof=true&sd=true) (The teacher can change the values in the document)

# Lesson Set Up:

1. The teacher will need to create 10 different weighing stations. Each station should have a beaker filled with rice. Each of the 10 stations beakers of rice should be different in weight. Each station should also have a scale that measures in grams. If students have not been instructed on how to work a scale, provide them with a small demonstration.
2. The teacher should predetermine students into pairs.
3. The teacher should print the Rice Weight Worksheet (1 per student).

# Ag Facts:

* Mississippi ranks 6th in the nation in rice production
* The average rice yield is about 155 bushels to the acre
* Rice was grown on 221 farms in 2019
* Rice brought in $91 million to the state’s economy in 2019

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# Background information for teachers:

Mississippi is one of the major rice producing states, ranking behind Arkansas, Louisiana, Texas, and California. Modern commercial rice production in Mississippi had its start in 1948 when Mr. Rex Kimbrell produced approximately 300 acres just south of Greenville in Washington County. Harvested acres increased to 5000 the next year. Acreage increased rapidly for the next five years to about 77,000 acres in 1954.In recent years, rice acreage has been increasing and was more than 300,000 in 1999.

Rice production in Mississippi has been confined almost entirely to the Mississippi-Yazoo Delta, with only very limited production outside this area. Bolivar, Washington, and Sunflower counties in the center of the Delta have been the leading counties in rice production. The clay soils, large flat fields, quality water availability, and favorable climate are excellent for rice growth.

Cultivated rice is generally considered a semiaquatic annual grass, although in the tropics it can survive as a perennial, producing new tillers from nodes after harvest (ratooning). At maturity the rice plant has a main stem and a number of tillers. Each productive tiller bears a terminal flowering head or panicle. Plant height varies by variety and environmental conditions, ranging from approximately 0.4 m to over 5 m in some floating rices. The morphology of rice is divided into the vegetative phases (including germination, seedling, and tillering stages) and the reproductive phases (including panicle initiation and heading stages).

# LEARNING PROCEDURES

Interest Approach:

1. Read the Background information for teachers about rice to the students.
2. Explain to the students that rice is a very important commodity. Explain to them that:

**“When a farmer grows and produces rice, they get paid by the type that it is and how much it weighs. Today we are going to be pretending like we farmers and weighing our rice and calculating how much money we would get paid. On our worksheets, we are going to pretend that we are getting paid $1.00 per gram of rice. So after you weigh your rice in grams on the scale, you are going to multiply that by one dollar to calculate how much money you would make”.**

1. Have the students work on their worksheets in pairs, rotating around to the different stations. Make sure that all students visit and complete the problems at each station.

**Concept Elaboration and Evaluation**

* Once the students have completed each station, review the problems and conclude the lesson.

# Additional Learning Procedures

To help students review and elaborate more about rice, try using the [“Think Pair Share”](https://drive.google.com/file/d/1WqpxYxyzvzn-hkqRea0xN94k-NxkV4BS/view?usp=sharing) method to allow students to think deeper and make new connections.

Additional Texts to Include:

[Mama Provi and the Pot of Rice](https://www.agfoundation.org/recommended-pubs/mama-provi-and-the-pot-of-rice)

[What’s for Lunch](https://www.agfoundation.org/recommended-pubs/whats-for-lunch-rice)

[The Life of Rice](https://www.agfoundation.org/recommended-pubs/the-life-of-rice)

Source: <https://www.agclassroom.org/teacher/matrix/>

*For more information and additional lessons visit*

*https://msfb.org/ag-in-the-classroom/lesson-plans/.*