

4TH GRADE

LESSON: Whole Grains and Fiber

SC STANDARD: 4.MDA.3



It's your world.

WHY IS IT IMPORTANT TO BE HEALTHY?

OBJECTIVES:

- Teach students about the different kinds of whole grains (corn, rice, oats, and wheat)
- Relate fiber to whole grains, explain what fiber is, and why it is good to have fiber in your food
- Briefly explain what it means to be gluten free
- Understand which foods have fiber versus those that do not

LET'S GET STARTED

- Explain what a whole grain is with a few examples
- Discuss the four main kinds of whole grains and how they all have something in common
- Describe what it means to be gluten free and how to adapt, as well as some of the foods that can be eaten that do not have gluten in them
- Help students understand the benefits of eating fiber rich foods

ACTIVITY (15 MINUTES):

- This activity will help students determine the area of rectangles and will also help them compare two different areas.

WRAPPING UP (5 MINUTES):

- Ask if anyone can remember the four main whole grains and why fiber is important
- Hand out Boss' Backpack Bulletin with the goal of the week on it

SC STANDARDS:

- 4.MDA.3 Apply the area and perimeter formulas for rectangles

MATERIALS:

- Whole grains sheet
- Area Measurement Worksheet
- Boss' Backpack Bulletin
- Pencils

LET'S GET STARTED!

- Begin by asking students if they know what whole grains are. Ask them to give their best definition as well as an example.
- Using the Whole Grains sheet provided, show the kids the four main types of whole grains, which include corn, rice, oats, and wheat.

DIALOGUE BOX

- Today we are going to talk about whole grains and fiber
- Whole grains are plant foods made from grains. Four main types of whole grains are corn, rice, oats, and wheat.
- Before grains can be eaten, they have to be processed, which is changing the grain from its natural state to something new. If the grains are processed in a bad way, then they are not very healthy; for example, processing wheat into white flour to make white bread or white tortillas. If they are processed in a good way that keeps all the vitamins and minerals, like in whole wheat bread or pasta, then it is still very healthy!
- Remember, whole wheat foods are GO foods, and processed grains, like white bread and white rice, are SLOW foods.

- Once whole grains have been explained, ask the students if they have any questions about whole grains.
- Tell students that all whole grains have something important in common; they all have something called Fiber. Ask if anyone knows what fiber is or what it does for the body.
- Explain what fiber is and some of the health benefits it has for the body, along with other fun facts provided.

DIALOGUE BOX

- All of the whole grains have a component in them that makes them similar, and this is called fiber.
- Fiber is a part of certain foods that can help clean out your body where food passes through. Fiber can only come from plant-based foods and never comes from animal based foods, like meat, fish, eggs, cheese, or yogurt.
- A good amount of fiber to have per day would be around 25-28 grams.
- A great way to tell if a food may have fiber in it is to see if it looks close to how it did in nature and it has not been processed. For example, grapes can be found in nature and look the same in the grocery store as they do in nature. Grape juice is the product of the grapes being processed and grape juice cannot be found in nature. Has anyone ever seen a tree with grape juice growing off of it? I did not think so.
- Can anyone else give me an example of foods in nature that may have been altered, or processed, into something else.
- Corn, oats, rice, and wheat all have fiber in them, but fruits, vegetables, and beans also have a good amount of fiber in them! All beans are a high fiber food, which mean they have a lot of fiber in them!

- Describe what being gluten-free means, and how someone who is gluten-free adapts and can find other foods to eat that compare to the foods they cannot eat.

DIALOGUE BOX

- There are some people in the world that cannot eat some grains, such as wheat, barley, and rye. When these people eat these foods, they can possibly feel sick or have an allergic reaction to the grains.
- Although they cannot eat grains like wheat, they can still eat corn, rice, and oats!
- Are any of you gluten free or know anyone who is?
- There are many ways that gluten free people can adapt to this issue and still have foods that taste similar to the foods they cannot have. For example, gluten free pretzels along with many other snacks, corn tortillas, and popcorn are just a few of the foods that gluten free people can still eat!
- A way to make sure that there is none of these ingredients in the foods that they eat, they can check the ingredients list on the package of food to make sure they will not consume anything that could make them sick.

ACTIVITY

- This activity will help students determine the area of rectangles and will also help them compare two different areas.
- Be sure to review how to determine the area of a rectangle (length x width)
- Hand out the Area Measurement Worksheet

DIALOGUE BOX

- Now that we've learned about the importance of whole-grains, let's help our friend Boss fit more whole-grain products into his pantry! In order to see which products will fit, he needs to determine the area of each product.

WRAPPING UP

- Ask students if they have any questions on the lesson about whole grains and fiber.
- Remind them briefly of the four main types of grains that we discussed at the beginning, and then recap what fiber is with a couple benefits.

DIALOGUE BOX

- The four main types of whole grains are corn, rice, oats, and wheat, and all four of these grains have one thing in common: fiber.
- If whole grains are processed a certain way that turns them in to white grains, then those foods aren't as healthy.
- If you remember correctly, fiber comes from plant foods

only, and helps clean out the parts of the body where food passes through.

- Beans, fruits and vegetables are three other great sources of fiber; eating these foods is an easy way to reach your daily goal of 25-28 grams of fiber per day.
- And remember, the more the food looks like it looked in nature, the more fiber it contains!
- Hand out Boss' Backpack Bulletin with the weekly goal on it of eating more whole grains and foods with fiber.

DIALOGUE BOX

- Boss' Backpack Bulletin has a list of fiber rich foods as well as the four whole grains (corn, rice, oats, and wheat) we talked about.
- There are also some examples of foods that those four grains can be found in.
- This week's goal is to try and eat more whole grains and foods with fiber in them.



WHOLE GRAINS

CORN



WHOLE GRAIN FOODS:

- Corn on the Cobb
- Corn Tortilla Chips
- Popcorn
- Corn Tortilla

RICE



- Brown Rice
- White Rice
- Rice Cakes

OATS



- Oatmeal (Old Fashioned, Quick, and Steel Cut)

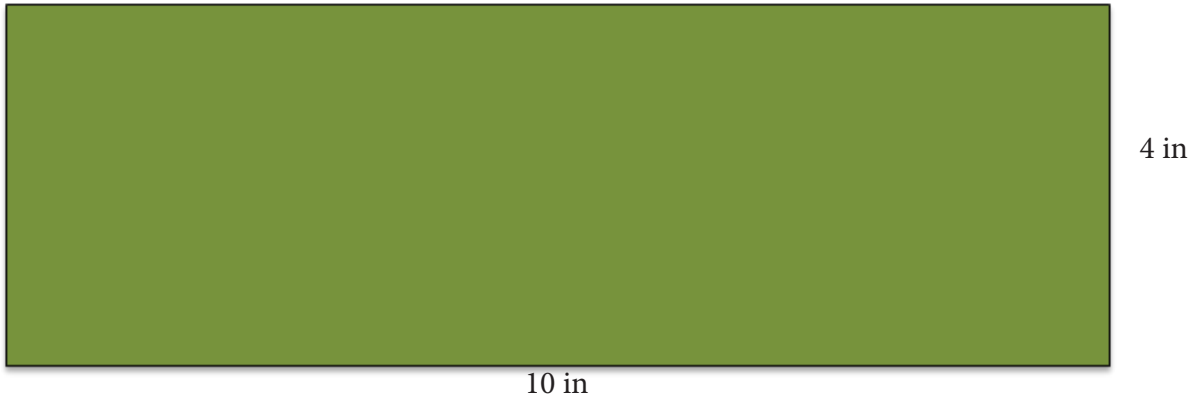
WHEAT



- Wheat Bread, Bagels, and Wraps
- Whole Wheat Pasta
- Wheat Crackers
- Whole Wheat Cereal
- Wheat Flour

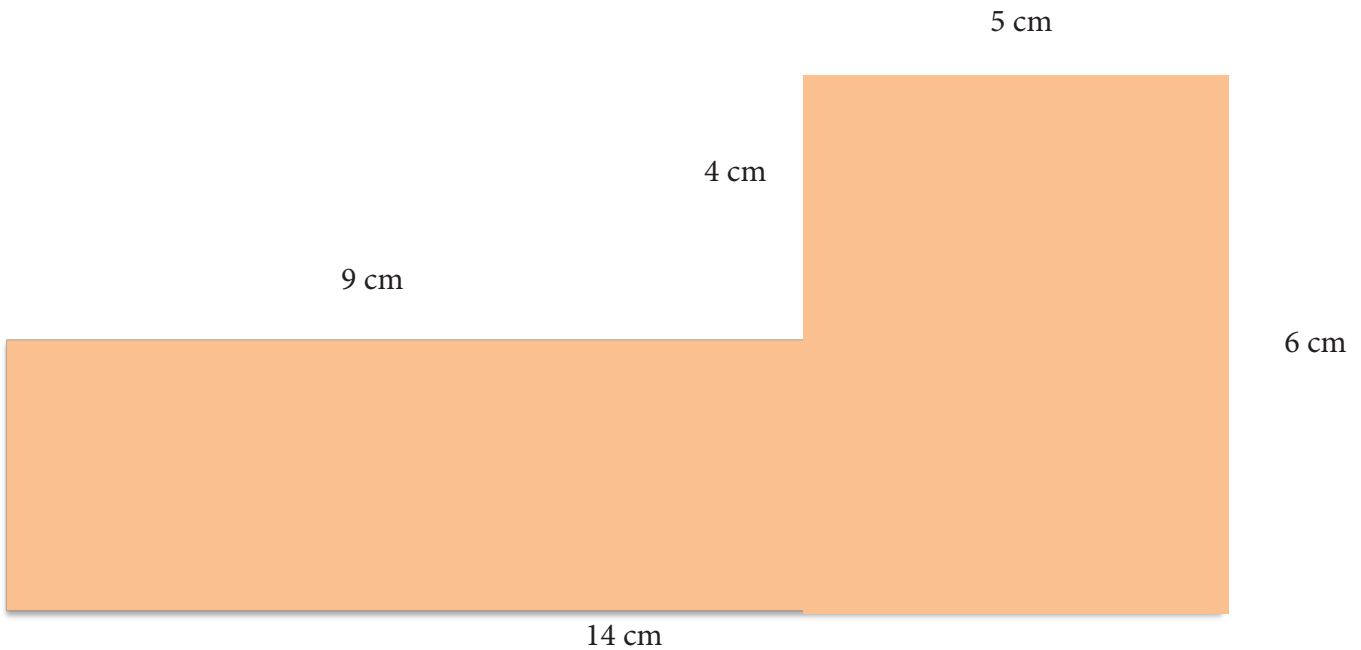
AREA MEASUREMENT WORKSHEET

Boss is trying to add more whole-grain products to his pantry shelf but is worried they may not fit. He decides to measure the area of the products to see if they will fit on his shelf. Can you help Boss find the area of the whole-grain products below?



What kind of shape is this box of rice?

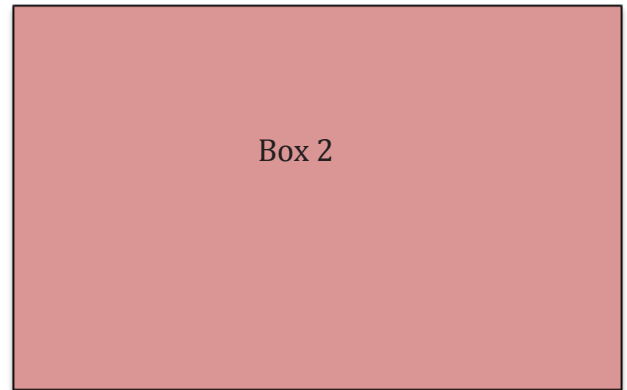
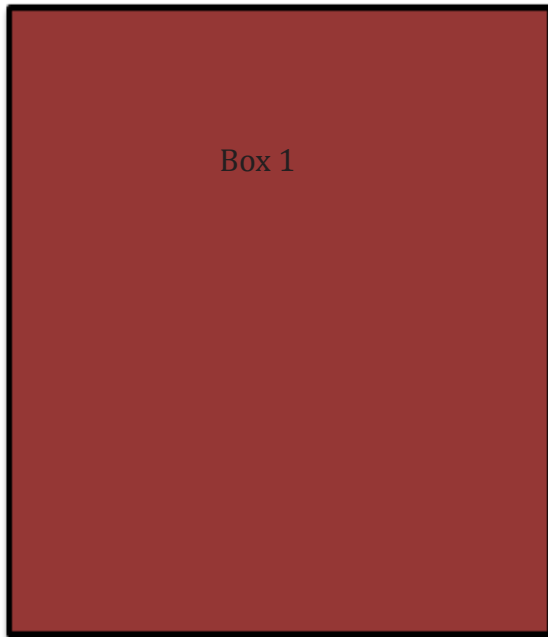
What is the area of this box of rice?



What is the area of this container of corn?

AREA MEASUREMENT WORKSHEET

Boss needs to decide which container to put in a small space in his pantry. Compare the following two boxes of oats below and determine which one has the smallest area.



9 cm

10 cm

15 cm

Box 2

12 cm

What is the area of box 1?

What is the area of box 2?

Which box has the smallest area?

Which of the following containers of whole-wheat crackers has the largest area? A box with a length of 7 inches and a width of 3 inches or a box with a length of 8 inches and a width of 2 inches?

Which box is larger and what is its area?

Name: _____ Date: _____

BOSS' BACKPACK BULLETIN

Your goal for this week is to try and eat more whole grains and high fiber foods, like fruits and vegetables. High fiber foods have lots of fiber in them that help clean out the parts of your body that food travels through! This keeps you strong and healthy!

- You need about 25 - 28 grams of fiber per day!
- The more food looks like it did in nature, the more fiber it has! Remember, an apple has more fiber than apple sauce... you cannot find apple sauce in nature!
- And don't forget about your beans! They are also a great way to get fiber!

Some of the whole grains you tried this week:

Some of the high fiber fruits you tried this week:

Some of the high fiber vegetables you tried this week:

