

Lesson 3 - The Grains Group

Go With Energy!

Topic

Nutrition

Audience

2nd & 3rd Grades

Suggested Time

45 minutes



NJ Core Curriculum Standards 2.1 Wellness

By the end of Grade 2, students will know how to:

B. Nutrition

Choosing a balanced variety of nutritious foods contributes to wellness.

2.1.2.B. - **1.** Explain why some foods are healthier to eat than others.

2.1.2.B. - **2.** Explain how foods on MyPlate differ in nutritional content and value.

Knowledge Objective(s)

The children will learn the foods that belong to the Grains Food Group.

The children will learn the importance of eating foods from the Grains Food Group.

Behavioral Objective(s)

The children will use what they learned to choose foods from the grains group they will eat at home.

Life Skill(s)

The children will make healthy lifestyle food choices like choosing whole grains.

How This Activity Is Behaviorally Focused

The children will choose foods that they will consume from the Grains Food Group.

Supplies Needed

MyPlate youth poster

“Parts of a Grain” handouts

- Without answers – one for each child.
- One Answer sheet

Grains by Nancy Dickmann

Grains On MyPlate by Mari Schuh

The Wheat We Eat by Allan Fowler

Note with this book you will need a small coffee grinder and some wheat or corn kernels to grind up in the grinder

(Note to Educator: Choose only one of the 3 books above)

“Who Am I?” handouts

Individual pictures of wheat, oats, rye, rice, corn, and barley

MyPlate Train (Grain Group car only)

Teaching Tips

Write new terms on the board.

New Term(s) For Children & Educators

Enriched: This is when nutrients that are lost when we process food are added back. For example, white flour and white rice lose most of their fiber and vitamins when we process wheat and rice so we add some of them back. This is called enriched.

Fortified: This is when nutrients that are not in a food are added to it. An example is orange juice with added calcium. This orange juice is fortified with calcium.

Carbohydrates: They provide energy for the body. Grains foods are where we get most of our carbohydrates.

Fiber: This is important to keep your food moving through your body. It helps food move through the digestive tract more quickly.

Protein: This is a nutrient in many foods that helps our bodies grow and repair itself when we get things like cuts or scrapes.

Grains: These are the seeds of the grass family. There are many kinds of grains like wheat, barley, oats, corn, rice and rye. Grains are high in carbohydrates and low in fat. Whole grains are high in fiber.

Bran: This is the outer part of the grain. It protects the seed. It has fiber and B vitamins. It also has some protein and iron.

Endosperm or inside: This gives the seed energy. It has most of the starch and some of the protein, and B vitamins in the grain.

Germ: The germ is the very small part inside the endosperm. It gives the plant the things it needs to grow like protein, and B vitamins and has some fat for energy too.

B vitamins: B vitamins help the body to use energy from food.

Iron: is a mineral. It helps the blood carry oxygen to all parts of the body.

Background Information for Educator:

Grains are small hard seeds in the grass family. There are many types of grains. Some kinds are wheat, corn, barley, rice, oats, and rye. A whole grain is a good source of carbohydrates, fiber, vitamins, minerals, and is low in fat. A whole grain is made up of an outer layer called bran, an inside starch center called the endosperm, and small area which helps the plant to grow called the germ. The hard outer bran protects the seed. Bran has fiber, B vitamins, some protein, and iron. The bran supplies most of the fiber in whole grains. The endosperm or starch inside is the largest part of the grain and gives the seed the energy it needs to grow. It has most of the starch and some of the protein and B vitamins in the grain. The germ or embryo is the small part of the seed inside the endosperm that sprouts and grows into a new plant. It is high in healthy fat, protein, B vitamins, and iron. When we make white flour we take off the bran and take out the germ. In white flour you only have the endosperm. When we do this we lose almost all the fiber and a lot of the vitamins and minerals.

Pre – Lesson Preparation

Hang MyPlate youth poster in front of the class.

Have all necessary supplies and handouts.

NOTE: All lessons are in sequence. Refer to MyPlate lesson if this is the first lesson.

Briefly review MyPlate For Kids and ask the children to name the different food groups. Ask the children to show you where the food groups can be found on the Plate.

Answers will vary but should include, we need grains for energy, fruits and vegetables for fiber, vitamins and minerals, we need milk for calcium to build strong bones and healthy teeth, meat and beans for protein to help you grow and iron to get oxygen to your body.

Children should also tell you we need to eat from all the food groups to get everything we need to grow and be strong. If the children do not share all these answers, take a moment to remind them before moving on to the rest of the lesson.

Discussion should take no more than 5 minutes.

Then tell the children we are going to talk about grains today.

Activity 1

1. Ask the Children: “What foods belong to the Grains Food Group?”
(Wait for children to answer)

Answers will vary but should include: Bread, cereal, rice, pasta (spaghetti, macaroni), bagels, crackers, tortillas, popcorn, and cornbread.

2. Ask the Children: “Why are foods from the Grains Group good for us?”

Answers will vary but should include: Grains give us energy to do all kinds of things like learning and being active. It is like the gas that cars need to go. Grains also have fiber that is good for digestion. Fiber keeps food moving through your body.. Whole grains that are in bran cereal, oatmeal, whole wheat bread, and brown rice are good ways to get fiber. They also have vitamins and minerals to help our bodies work better.

3. Ask the Children: “Do you know what grains are?”

Answer: Grains are the seeds of grasses we call cereal grass. Hold up one of the pictures of cereal grass and show them that this is the way cereal grass looks when it is growing. If you would like to you can bring samples of whole grains to class like wheat berries.

4. Tell the children “Lots of Foods Come from Grains!”

Hold up the pictures of each grain. Tell the students that these are some of grains we eat the most. They are wheat, oats, rye, rice, corn, and barley. These grains grow in a field on a farm. When they are done growing, the farmer cuts them down. The farmer sends the grains to the mill to be ground into flour.

(Note to Educator- Optional: If you want, you can try and find these grains in a store and bring them to class)

5. Ask the Children if they can think of foods that are made from these grains.

Answers will vary but should include: bread, cold and hot cereal, cake, cookies, pancakes, waffles, spaghetti, tortillas, cornbread, rice cakes, rice, and popcorn.

Be sure to tell the children that MyPlate tells us to make half our grains whole. That means half of the foods from the grains group that we eat each day should be whole grain foods like oatmeal, cold cereal with whole grains, whole wheat bread, brown rice and popcorn.

6. Write the terms bran, germ and endosperm on the board. Distribute the blank “Parts of a Grain” handouts to the children.

Tell the children you are going to talk about the different parts of the grain.

Go over the different parts of the grain and talk about what nutrients can be found in each part. As you name each one, point to the name on the board and ask the children to write the terms next to the right part on their handout. Tell them to write what nutrient they get from each part of the grain. For example, carbohydrates, protein, B vitamins, iron. Give the children a few moments after describing each part to write it on their handout.

7. Ask the Children: “Do you know what a whole grain food is?”

Answer: A whole grain food has all three parts of the grain in it. A whole grain has the bran, the endosperm and the germ.

8. We just talked about whole grain foods before. Does anyone remember what foods have whole grains?

Answers will vary but should include the examples you already mentioned: oatmeal, cold cereal with whole grains, whole wheat bread, brown rice and popcorn.

Activity 2

NOTE TO EDUCATOR: Read any book listed in the materials part of the lesson. Use the questions that go along with your chosen book.

Grains On MyPlate by Mari Schuh

1. Ask the Children: “What are some types of grains you learned about in the book?”

Answer: Wheat, corn, rice, and oats.

2. Ask the Children: “Which is better for you, whole grains or refined grains?”

Answer: Whole grains.

3. Ask the Children: “How do grains help your body?”

Answer: They help fill you up and give you energy.

4. Ask the Children: “Name some foods that are made from grains.”

Answers may vary but should include: oatmeal, noodle soup, popcorn, and bagels.

5. Ask the Children: “What are your favorite grains?”

Answers may vary.

Grains by Nancy Dickmann

1. Ask the Children: “What are some types of grains you learned about in the book?”

Answer: Wheat, rice, and oats.

2. Ask the Children: “Why are whole grains good for your body?”

Answer: They help your body fight illness and help keep your heart healthy.

3. Ask the Children: “Grains can be turned into flour. Name some foods that are made from flour.”

Answers may vary but should include: pasta, bread, and tortillas, corn bread.

4. Ask the Children: “Where do grains come from?”

Answer: They are the seeds of some plants.

The Wheat We Eat by Allan Fowler

Not this book is more about how wheat is harvested and ground into flour and made into foods. If you use this book, you may use a coffee grinder to grind up wheat kernels (that you get from the supermarket) to show what happens to wheat in a mill. If you use this book be sure to review information about whole grains and why grains are good for us since it is not covered in this book.

1. 1. Ask the Children: “What are some types of grains you learned about in the book?”

Answer: Wheat, rice, and oat, corn, rye and barley.

2. Ask the Children: “What foods are made from wheat?”

Answer: cereal, bread, spaghetti and pasta.

3. Ask the Children: “Where do wheat and other grains grow?”

Answer: They grow on stalks in a field.

4. Ask the Children: “Where does the grain go after the farmer harvests it?”

Answer: To the mill

5. Ask the Children:”What happens to the grain in the mill?”

Answer: It gets ground up to make flour which is used to make the foods we eat that are made from grains. Note: If you like you can use the coffee grinder to ground wheat or corn kernels into flour to show the children what happens in the mill.

Tell the children (after your grind the corn or wheat kernels) this is what the flour looks like when it is ground in the mill.

Optional Activity for Older Children (if time allows)

Note: This may be too advanced for your classes. If so, you can leave this behind with the teacher

Distribute “Who Am I?” worksheets to the children. If time permits, ask the children to share their answers with the class and correct any mistakes. Leave the worksheets with the teacher if there is not enough time to do this exercise with the children.

Conclusion

1. Ask the Children: “What did you learn about the Grains Food Group today?”

Answers will vary but should include:

- *Whole grains have bran, germ, and endosperm.*
- *The bran has fiber to help move food through our body.*
- *The endosperm gives us carbohydrates for energy.*
- *The germ gives us vitamins, minerals, and protein that helps our bodies stay healthy.*
- *Grains are foods like wheat, corn, rye, oats, rice, and barley.*
- *Whole grains give us fiber and more vitamins and minerals than refined grains.*
- *Whole grains foods are foods like: whole wheat bread, popcorn, oatmeal, brown rice.*

The MyPlate tells us to make half our grains whole. That means half of the foods from this group that we eat each day should be whole grain foods.

2. Ask the Children: “What types of grains will you try to eat at home?”

Answers may vary.

Tell them to try to eat more whole grain bread than white bread because it is good for them.

MyPlate Food Train

Leave the Grains Group car of MyPlate train with the teacher. Remind the children they will receive a different part of the train at the end of each lesson. When you have completed all the lessons, they will have a complete train.

References

Martin, Peggy and Litchfield, Ruth E., "Spend Smart, Eat Smart: Grains" (2012). *Families and Health Extension Publications*. Book 20.

Retrieved from http://lib.dr.iastate.edu/extension_families_pubs/20

“Whole Grains for Health Organic, Stoneground, Multigrain, Oh My!” University of Nebraska-Lincoln – Extension: 2/5/13. Accessed 4/18/14

<http://food.unl.edu/documents/4089482/4737600/Whole+Grains+For+Handouts.pdf/2b4f9fc2-e973-45e5-8516-ef92bdcf1ca4>

Clemson Cooperative Extension. (2014). “Whole Grains.”

http://www.clemson.edu/extension/hgic/food/nutrition/nutrition/dietary_guide/hgic4019.html Accessed 4/1/14

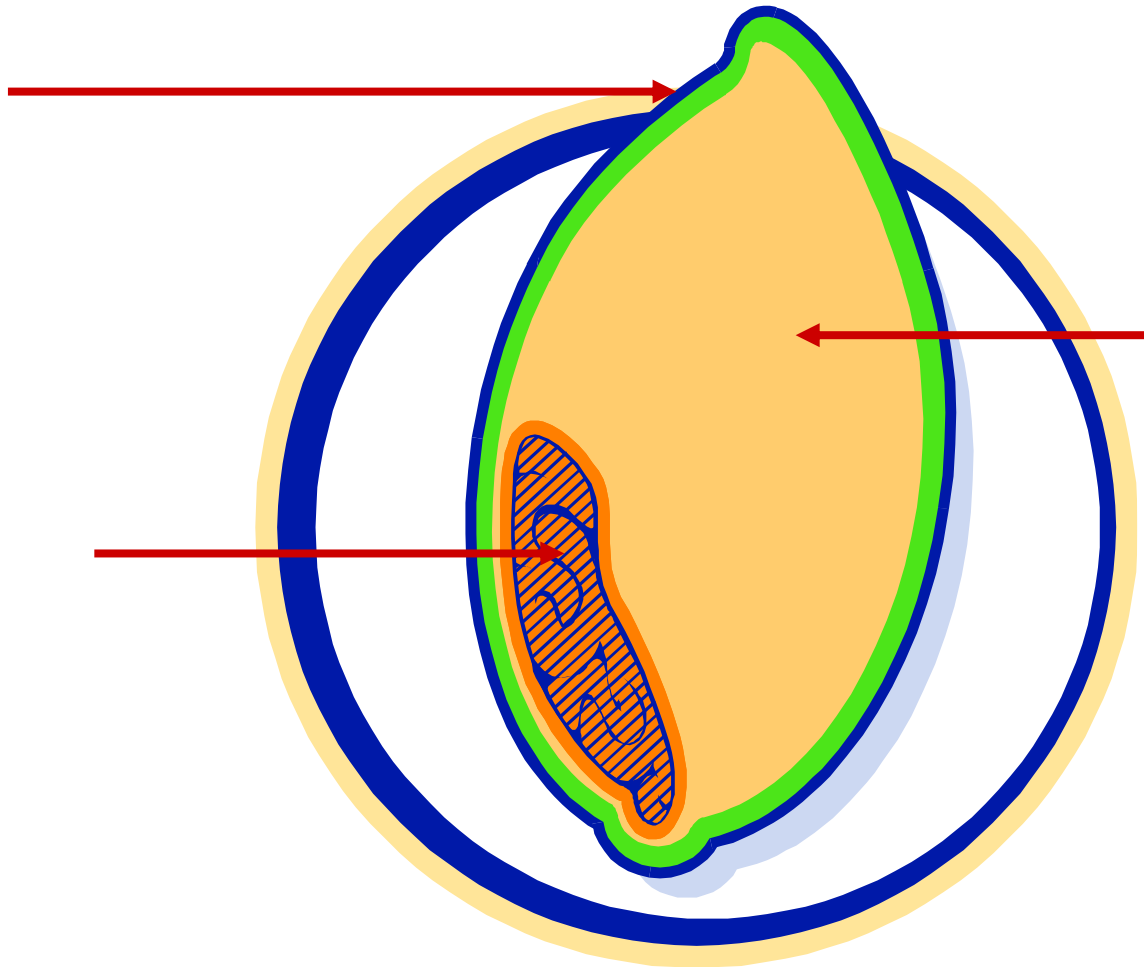
“Grains: What Are Grains in the Grains Group?” Choose My Plate – USDA. <http://www.choosemyplate.gov/food-groups/grains.html>. Accessed March 4, 2013,

“Dietary Guidelines for Americans, 2010. 7th Edition” p. 36-27, 52, 66, 91, U.S. Department of Agriculture and U.S. Department of Health and Human Services. Washington, DC: U.S. Government Printing Office, December 2010. Retrieved from <http://www.health.gov/dietaryguidelines/2010.asp>

Adapted from *SMART FOODS ROCK* Curriculum created by NJ SNAP-Ed Union County staff.

Name _____

Parts of a Grain



4/18/14

Name _____

Parts of a Grain

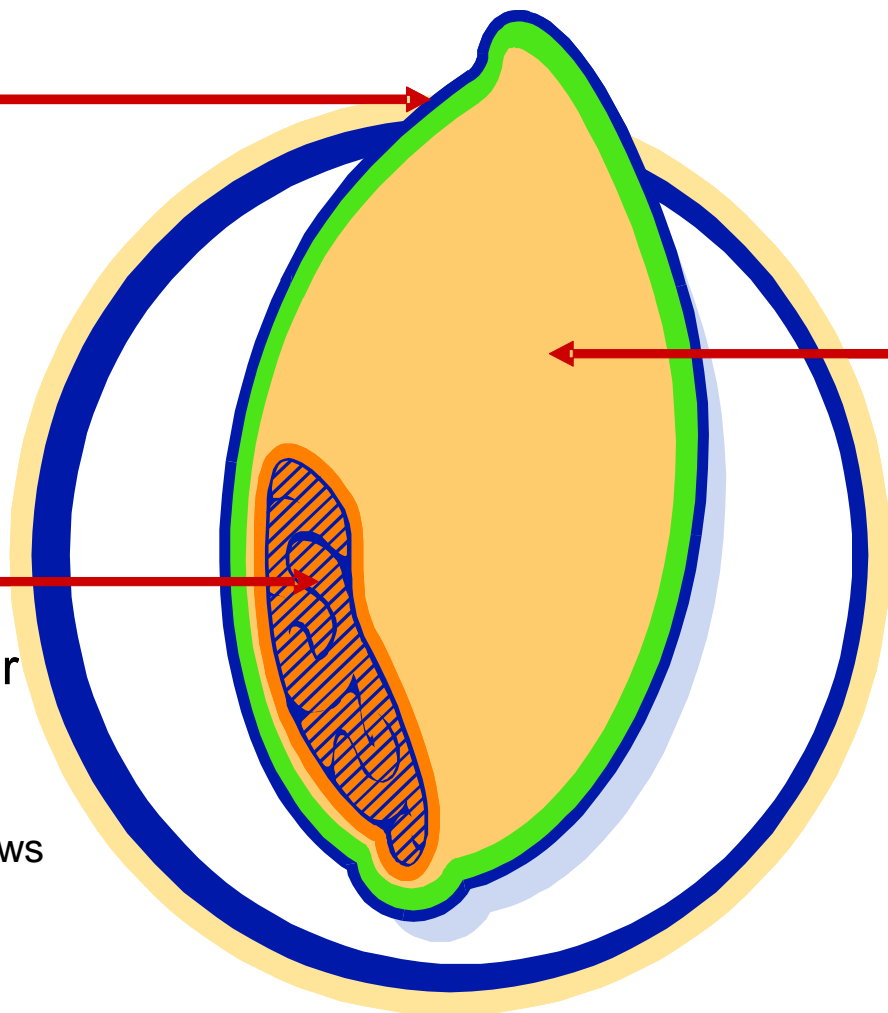
Answer Key

Bran

“Outer shell”
Protects the seed

Germ

“Nourishment for
the seed”
The part of the seed
that sprouts and grows
into a new plant



Endosperm

“The inner part of
the grain”
Gives energy to the
sprout

Name _____



WHO AM I?

Fill in the blanks with the correct part(s) of the wheat kernel. You will use these words and each of these words can be used more than once:

bran

endosperm

germ

- _____ 1. I am the hard outer covering of the kernel.
- _____ 2. I am the smallest part of the kernel.
- _____ 3. I am the largest part of the kernel.
- _____ 4. I am made of many thin layers.
- _____ 5. I make white flour.
- _____ 6. I am where the new wheat plant begins to grow.
- _____ 7. We make whole wheat flour.
- _____ 8. I nourish the young plant when it starts to grow.
- _____ 9. I am used in cereal flakes.
- _____ 10. I am the part you touch when you hold a whole kernel of wheat.

4/18/14

Answer Sheet



WHO AM I?



IDENTIFY THE PARTS

Fill in the blanks with the correct part(s) of the wheat kernel. You will use these words:

bran

endosperm

germ

- bran 1. I am the hard outer covering of the kernel.
- germ 2. I am the smallest part of the kernel.
- endosperm 3. I am the largest part of the kernel.
- bran 4. I am made of many thin layers.
- endosperm 5. I make white flour.
- germ 6. I am where the new wheat plant begins to grow.
- bran, endosperm, germ 7. We make whole wheat flour.
- germ 8. I nourish the young plant when it starts to grow.
- bran 9. I am used in cereal flakes.
- bran 10. I am the part you touch when you hold a whole kernel of wheat.

WHEAT



Wheat is a grain.



We eat whole-wheat cracker.

Tell me if you know other foods
that are made from wheat?

OATS



Oats are a grain.

We eat oatmeal for
breakfast.



Tell me if you know other foods
that are made from oats?

RYE



Rye is a grain.

We eat rye bread.



Flickr Commons- Seirravallygirl

Tell me if you know other
foods that are made from rye?

RICE



Rice is a grain.

We eat rice in a bowl.



Tell me if you know other foods that are made from rice?

CORN



Corn is a grain.

When we grind the kernels into cornmeal, we can make corn muffins.



Tell me if you know other foods
that are made from corn?

BARLEY

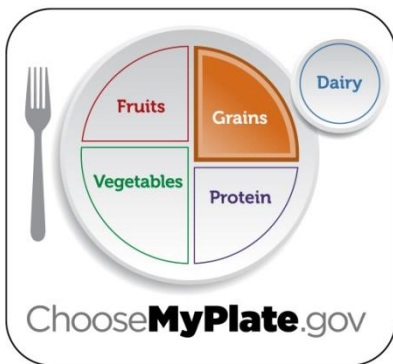
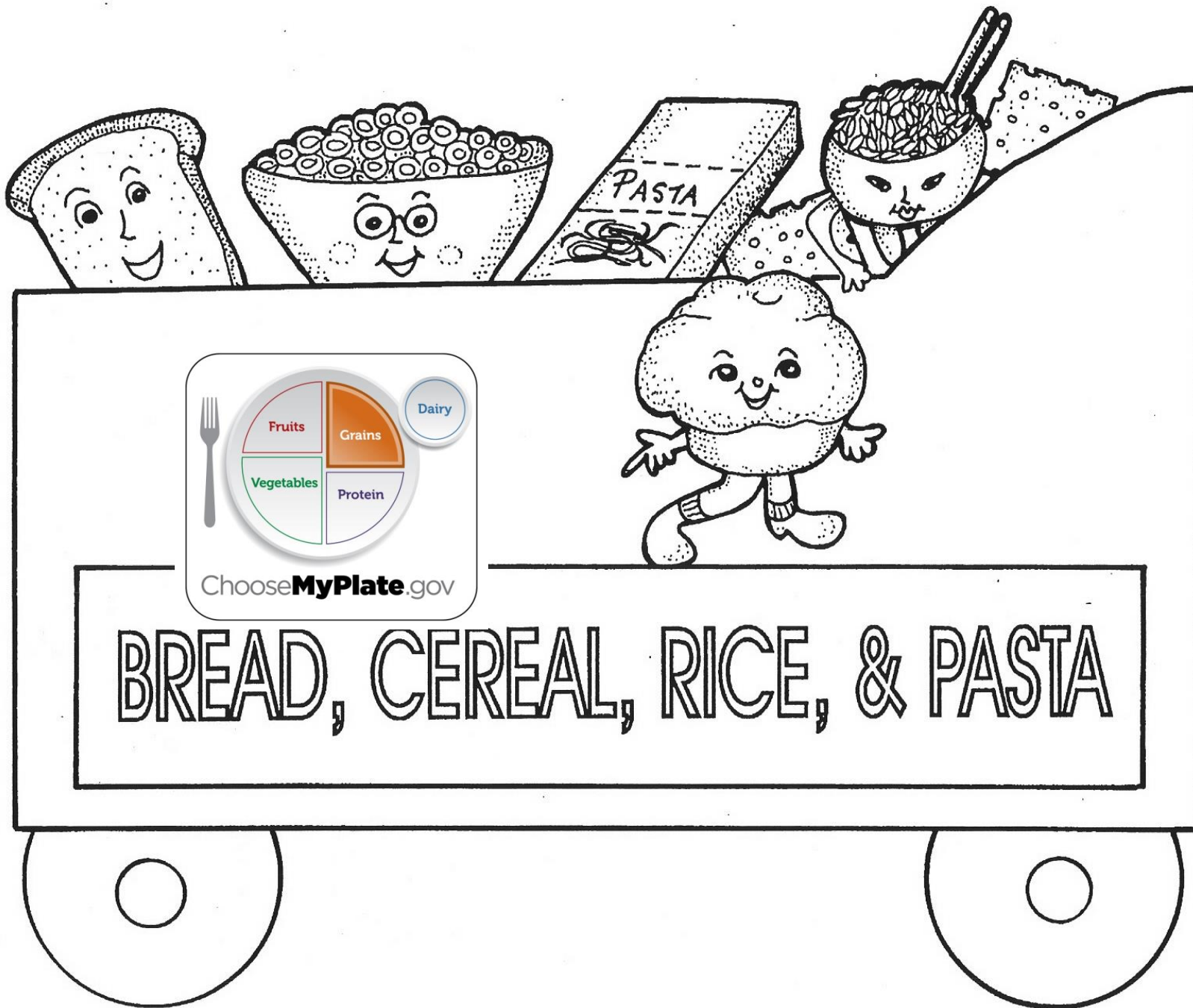


Barley is a grain.

Barley is used to make soups
and stews.



Tell me if you know other foods that are made from barley?



BREAD, CEREAL, RICE, & PASTA



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