

Whole Grains for Health

According to the USDA, “CACFP provides aid to child care institutions...for the provision of nutritious foods that contribute to the wellness, healthy growth, and development of young children.”



Agenda

- ✓ The Grains Group – what and why
- Child Care Food Program Guidelines
- ABCs
- Label Reading Savvy
- Adding Whole Grains
- FAQs



Foods in the Grains Group:

- Food made from wheat, rice, oats, cornmeal, barley, or another cereal grain
- **Examples:** bread, pasta, oatmeal, breakfast cereals, tortillas and grits

Not potatoes!



Grains are Essential

- Grains, especially whole grains, provide health benefits and carbohydrates for energy
- Whole grains as part of a healthy diet may reduce risk of some chronic diseases
 - e.g. heart disease



Nutrients

- Grains are important sources of many nutrients, including...
 - Dietary fiber
 - B vitamins
 - Iron
 - Magnesium
 - Selenium



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CACFP Guidelines

- Grains and breads must be enriched **OR** whole-grain or made from enriched or whole-grain meal or flour.
- Ready-to-eat breakfast cereals must be enriched, whole-grain, or fortified.



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Photo source: USDA SNAP-Ed Connection Photo Gallery

Recommendations:

- At least half whole grain
- Limit grains high in solid fats, added sugar and sodium
 - Donuts
 - Toaster pastries
 - Sugary breakfast cereals



WEIGHT TABLE FOR GRAINS/BREADS

Some of the following foods, or their accompaniments, may contain more sugar, salt and/or fat than others. This should be a consideration when deciding how often to serve them.

Group A	Minimum Serving Size for Group A
Breading type coating Bread sticks - hard Chow mein noodles Crackers - saltines and snack crackers Croutons Pretzels - hard Stuffing - dry (weights apply to bread in stuffing)	1 serving = 20 gm or 0.7 oz 3/4 serving = 15 gm or 0.5 oz 1/2 serving = 10 gm or 0.4 oz 1/4 serving = 5 gm or 0.2 oz
Group B	Minimum Serving Size for Group B
Bagels Batter type coating Biscuits Breads - white, wheat, whole wheat, French, Italian Buns - hamburger, hotdog Crackers - graham (all shapes), animal crackers Egg roll skins English muffins Pita bread - white, wheat, whole wheat Pizza crust Pretzels - soft Rolls - white, wheat, whole wheat, potato Tortillas - wheat or corn Tortilla chips - wheat or corn Taco shells	1 serving = 25 gm or 0.9 oz 3/4 serving = 19 gm or 0.7 oz 1/2 serving = 13 gm or 0.5 oz 1/4 serving = 6 gm or 0.2 oz
Group C	Minimum Serving Size for Group C
Cookies * - plain Cornbread Corn muffins Croissants Pancakes - purchased Pie crust - dessert pies*, fruit turnovers*, meat/meat alternate Waffles - purchased	1 serving = 31 gm or 1.1 oz 3/4 serving = 23 gm or 0.8 oz 1/2 serving = 16 gm or 0.6 oz 1/4 serving = 8 gm or 0.3 oz
Group D	Minimum Serving Size for Group D
Doughnuts ** - cake and yeast, raised, unfrosted Granola bars ** - plain Muffins - all except corn Sweet roll ** - unfrosted Toaster pastry ** - unfrosted	1 serving = 50 gm or 1.8 oz 3/4 serving = 38 gm or 1.3 oz 1/2 serving = 25 gm or 0.9 oz 1/4 serving = 13 gm or 0.5 oz

Group E	Minimum Serving Size for Group E
Cookies * - with nuts, raisins, chocolate pieces and/or fruit purees Doughnuts ** - cake and yeast, raised, frosted or glazed French toast Grain fruit bars ** Granola bars ** - with nuts, raisins, chocolate pieces and/or fruit Sweet rolls ** - frosted Toaster pastry ** - frosted	1 serving = 63 gm or 2.2 oz 3/4 serving = 47 gm or 1.7 oz 1/2 serving = 31 gm or 1.1 oz 1/4 serving = 16 gm or 0.6 oz
Group F	Minimum Serving Size for Group F
Cake * - plain, unfrosted Coffee cake **	1 serving = 75 gm or 2.7 oz 3/4 serving = 56 gm or 2 oz 1/2 serving = 38 gm or 1.3 oz 1/4 serving = 19 gm or 0.7 oz
Group G	Minimum Serving Size for Group G
Brownies * - plain Cake * - all varieties, frosted Cereal bars *	1 serving = 115 gm or 4 oz 3/4 serving = 86 gm or 3 oz 1/2 serving = 58 gm or 2 oz 1/4 serving = 29 gm or 1 oz
Group H	Minimum Serving Size for Group H
Barley Breakfast cereals *** - cooked Bulgur or cracked wheat Macaroni - all shapes Noodles - all varieties Pasta - all shapes Ravioli - noodles only Rice - enriched white or brown	1 serving = 1/2 cup cooked or 25 gm dry (0.9 oz) 1/2 serving = 1/4 cup cooked or 13 gm dry (0.5 oz)
Group I	Minimum Serving Size for Group I
Breakfast cereal *** - dry	1 serving = 3/4 cup or 1 oz, whichever is less

* Snack only

** Breakfast or Snack only

*** Refer to Food Chart for appropriate serving size served to children ages 1 through 5 and adult participants in CACFP.

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- ✓ **ABCs of Grains**
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ABC's of Grains

Two Types

- Whole grains
- Refined grains



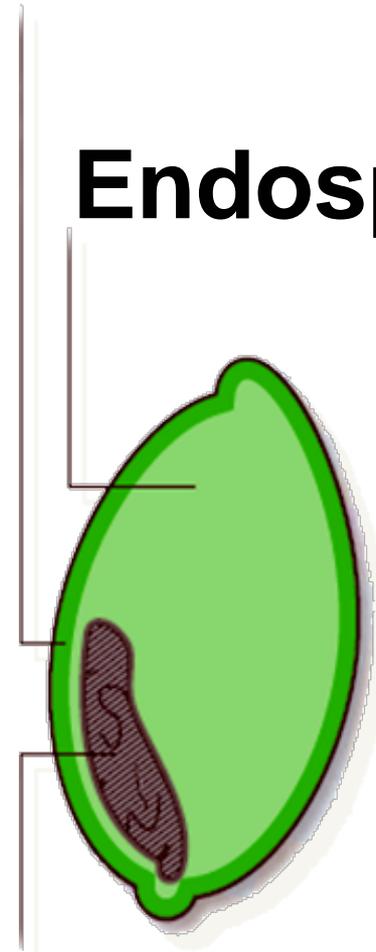
Whole grains contain the entire grain: bran, endosperm & germ

Examples:

- Oatmeal
- Brown rice
- Whole wheat flour

Bran

Endosperm



Germ

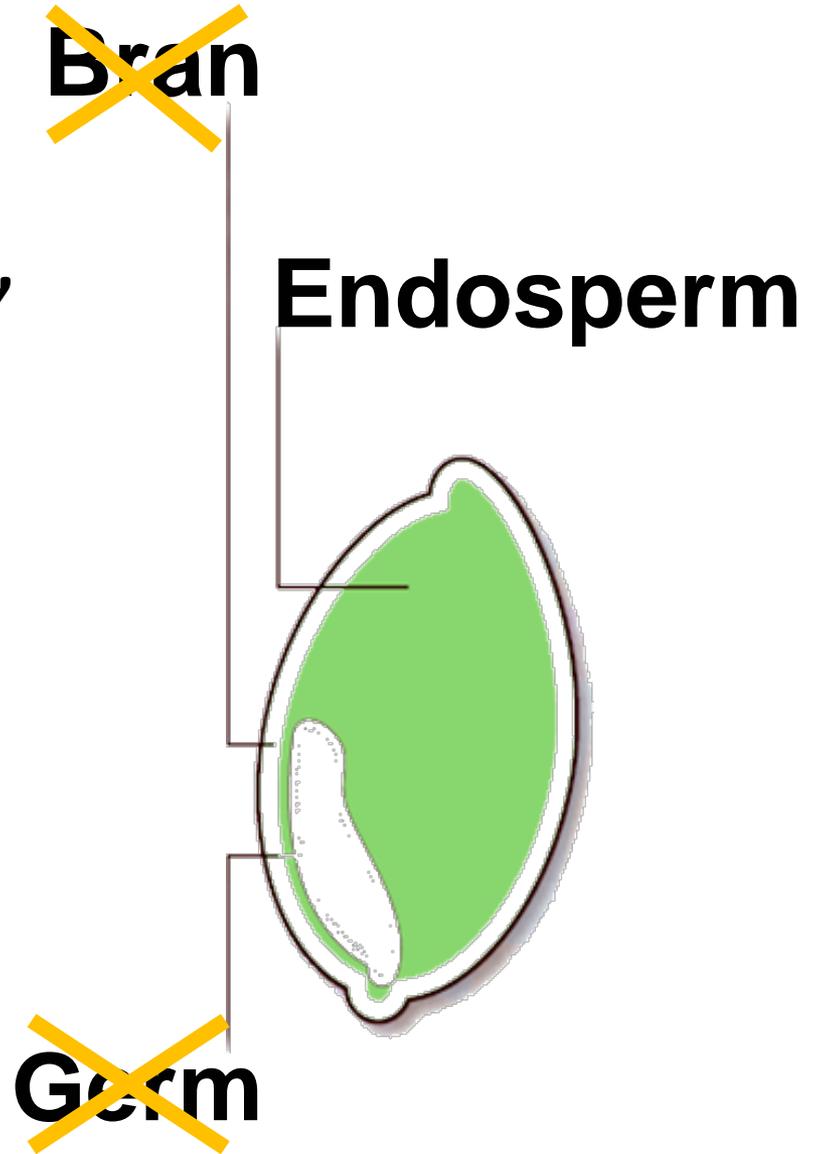


Only endosperm

Lose B-vitamins, iron,
fiber

Examples:

- White flour
- White bread
- White rice



Nutrient Comparison

	Bran: fiber & B vitamins	Germ: vitamin E, B vitamins & antioxidants	Endosperm: energy, carbohydrates & protein
Whole grain	X	X	X
Refined grain			X



Quiz Time!

1. What are whole grains?

- a. Grains that are darker in color.
- b. Grains that are low in carbohydrates.
- c. Grains that contain the bran, germ and endosperm.
- d. Grains that have been fortified.
- e. Both “a” and “c”.



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Label Reading Savvy



Food Labeling: So What?

- Labels aren't always truth tellers
- Ingredients lists tell the whole story

Ingredients: whole grain **wheat** flour, sugar, soybean oil, cornstarch, malt syrup (from corn and barley), salt, invert sugar, leavening (calcium phosphate and/or baking soda), vegetable color (annatto extract, turmeric oleoresin).



Which bread is whole grain?

A



Wheat flour, water,
high fructose corn syrup,
molasses, wheat bran ...

B



Whole wheat flour, water,
brown sugar ...



Quiz Time!

2. Which indicates whole grain?

- a. Stoneground
- b. Unbleached
- c. Multigrain
- d. Wheat
- e. All of the above
- f. None of the above



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Color: Who Cares?

- Color is not an indication of a whole grain
- Bread can be brown because of molasses or other added ingredients
- Read the ingredient list to see if the grain is a whole grain



Nutrition Facts Labels: Dietary Fiber

Nutrition Facts		
Serving Size 1 slice (34g)		
Servings Per Container 108		
Amount Per Serving		
Calories 90	Calories from Fat 15	
%Daily Value*		
Total Fat 1.5g		2 %
Saturated Fat 0g		0 %
<i>Trans</i> Fat 0g		
Cholesterol 0mg		0 %
Sodium 140mg		6 %
Total Carbohydrate 16g		5 %
Dietary Fiber 1g		0 %
Sugars 2g		
Protein 2g		
Vitamin A 0%	•	Vitamin C 0%
Calcium 0%	•	Iron 6%

* Percent Daily Values are based on a 2,000 calorie diet.

Nutrition Facts		
Serving Size 1 slice (50g)		
Servings Per Container 15		
Amount Per Serving		
Calories 140	Calories from Fat 30	
%Daily Value*		
Total Fat 3g		5 %
Saturated Fat 0.5g		3 %
<i>Trans</i> Fat 0g		
Cholesterol 0mg		0 %
Sodium 340mg		14 %
Total Carbohydrate 24g		8 %
Dietary Fiber 3g		14 %
Sugars 0g		
Protein 4g		
Vitamin A 0%	•	Vitamin C 0%
Calcium 2%	•	Iron 8%

* Percent Daily Values are based on a 2,000 calorie diet.

- Dietary fiber not always indication of whole grain content

Quiz Time!

3. Which is always a whole grain?

- a. Barley
- b. Oatmeal
- c. Enriched wheat flour
- d. 100% wheat bread
- e. All of the above
- f. None of the above



Quiz Time!

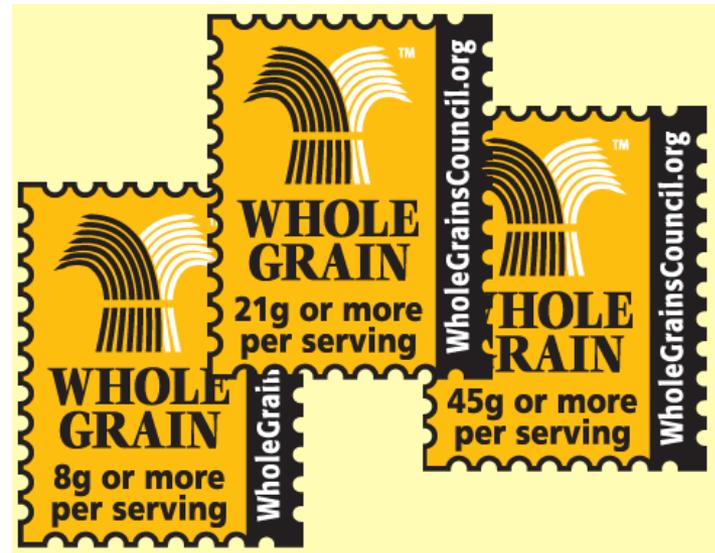
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Whole Grain Stamp

Basic Stamp:
At least 8g (1/2
serving) of
Whole Grains



**EAT 48g OR MORE OF
WHOLE GRAINS DAILY**



NEBRASKA DEPARTMENT OF EDUCATION

Source: wholegrainscouncil.org

Whole Grain Stamp

100% Stamp:
NO refined grain
AND
at least 16g
(1 serving) of Whole
Grains



**EAT 48g OR MORE OF
WHOLE GRAINS DAILY**



Less Added Sugars and Fats

- Donuts, rolls & coffee cake
- Sugared cereals
- Breakfast pastries
- Pizza
- Crackers
- Muffins & quick breads
- Biscuits
- Granola or other breakfast bars
- Cakes & pie crust



Crust: whole grain,
enriched flour,
whole wheat flour,
oil, fiber, sugars

Filling: sugar, corn
syrup, fruit puree,
glycerin, sugar



NEBRASKA DEPARTMENT OF EDUCATION

- Hidden “cereal” offenders
- Sources of added sugar & fat



FIBER FACTS:

- Fiber = GI health
- Too much fiber?
- Snack bars ~ 9g fiber per serving
- Too much may ↓ absorption of calories, protein, fat
- Upset stomach
 - Cramping
 - Bloating



How Much Fiber For Children?

- 3 years and older: age in years plus 5g per day
- Examples:
 - 3-year-old needs 8g fiber daily
 - 12-year-old needs 17g fiber daily



Williams, C.L., Bollella, M., & Wynder E.L. (1995)



How Much Fiber For Adults?

- Adult women:

Age 50 or younger	Age 51 or older
25 grams	21 grams

- Adult men:

Age 50 or younger	Age 51 or older
38 grams	30 grams



Cereals & Breakfast Bars

Nutrition Facts		
Serving Size 1 cup (234g)		
Servings Per Container 10		
Amount Per Serving		
Calories 150	Calories from Fat 20	
%Daily Value*		
Total Fat 2.5g		4 %
Saturated Fat 0g		0 %
<i>Trans</i> Fat 0g		
Cholesterol 0mg		0 %
Sodium 0mg		0 %
Total Carbohydrate 25g		8 %
Dietary Fiber 4g		16 %
Sugars 1g		
Protein 6g		
Vitamin A 0%	•	Vitamin C 0%
Calcium 0%	•	Iron 8%

* Percent Daily Values are based on a 2,000 calorie diet.

- Nutrition Facts Panel
 - Amount in 1 serving?
 - How much sugar per serving? Fiber?
- Sugar: ≤ 8 g per serving
- Fiber: ≥ 3 g per serving



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Whole Grains for Breakfast

- Whole wheat toast, pancakes, waffles
- Mix 'n match whole grain cereals
- Oatmeal
 - add apples, berries, bananas, nut butter



Whole Grains for Lunch/Dinner

- Mix 'n match whole grain pastas
- Brown rice and/or barley
 - Add to meatballs
 - Add to soups, stews
 - Serve plain and sprinkle with shredded cheese
- Whole wheat black bean and cheese quesadillas



Whole Grain Snacks

- Whole grain tortilla chips
- Whole grain pretzels (unsalted)
- Whole grain dry cereal

- Whole grain mini bagel pizzas

- Brown rice pudding



Snack mix



Included in
your breakfast
recipes packet!

Whole Grain Pancakes

Directions:

1. In a medium size bowl, combine all of the ingredients and mix just until moistened. If batter is too thick add a little more buttermilk.
2. Fry on griddle. Flip pancakes when bubbles form on top. *Makes 12 pancakes.*

Variations:

- Chocolate Chip Pancakes Blueberry Pancakes
- Applesauce Walnut Pancakes
- Banana Pancakes

Ingredients:

- ½ cup whole wheat flour
- ½ cup all-purpose flour
- 1 teaspoon baking soda
- 1 teaspoon baking powder
- 2 teaspoons sugar
- 1 cup buttermilk
- 1 large or 2 small eggs
- 1 teaspoon salt
- ¼ cup vegetable oil



Brown Rice Pudding

Included in
your breakfast
recipes packet!

Ingredients:

- 2 cups cooked brown rice
- 3 cups reduced fat milk
- 2 Tbsp. honey
- 1 tsp. vanilla extract
- ½ tsp. ground cinnamon
- ½ cup raisins or other dried fruit

Directions:

1. Combine cooked rice, milk, honey, vanilla and cinnamon and fruit in 3 quart saucepan; stir well.
2. Bring to simmer over medium heat; continue simmering and stirring frequently 30 minutes.
3. Remove from heat and let stand 10 minutes to continue thickening.



Tortilla Chips & Fruit Salsa

Ingredients:

- whole grain tortillas
- 3 cups seasonal or frozen fruit, thawed
- 2-3 Tbsp. fruit preserves

Included in your
breakfast recipes
packet!

Directions:

1. Slice whole grain tortillas into 8 pieces; place on pan prepared with light coating of cooking spray
2. Sprinkle wedges with cinnamon and a touch of sugar.
3. Bake 400°F. for 7–8 minutes
4. Mix fresh or thawed fruit with preserves and serve alongside tortilla chips

Baking With Whole Grains

- Check expiration date before purchasing
- Refrigerate or freeze any whole grain flours
- Use a well-tested recipe
- Or try altering your own with whole wheat flour, oatmeal, white whole wheat flour, etc.



Altering Recipes

*Included in
your whole
grain handout!*

- Quick breads, cookies, cakes are easiest
 - 25% to 100% whole wheat flour in place of all-purpose flour
 - Typically may want to start with 50/50
- Yeast breads
 - Use 50% whole wheat flour and 50% bread flour
 - Will be more dense and nuttier flavor



White Whole Wheat Flour

- Lighter in color, sweeter taste than regular whole wheat flour
- Same fiber content, vitamins and minerals
- Reduce by 1 tablespoon for each cup of flour recipe calls for

*Included in
your whole
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Whole Grain FAQ's



What is gluten and is a gluten-free diet good for you?



Gluten

- A protein in wheat, rye & barley
- Elasticity & shape to baked goods
- Helps dough rise
- Chewy texture
- Added to some foods
 - Modified food starch
 - Gravies, dried fruits, caramel color, processed cheese, processed meat



Celiac Disease or Gluten Sensitivity?

- Celiac Disease
 - Autoimmune reaction to gluten
 - Damage & inflammation to lining of GI tract
 - Poor nutrient absorption = malnutrition
 - Symptoms: GI discomfort, rash, joint pain, tingling
- Non-Celiac gluten sensitivity
 - No immune system reaction
 - Less GI damage
 - Symptoms: headache, numbness



Gluten-free?

Only for participants with:

- Gluten sensitivity/intolerance
- Celiac Disease

Remember a **Gluten-Free** means:

- The elimination of several foods or an entire food group
- Unless **medically necessary**, gluten should NOT be removed - nutrient deficiencies could occur



It seems like a lot of whole grains are very expensive. Are there any low-cost options?



Lower Cost Whole Grain Options

- Brown rice
- Oatmeal
- Store brand dry whole grain cereals
- Buy day-old or on sale whole-grain bread (use quickly or freeze them)
- Frozen whole grain bread dough



Should I be purchasing
organic whole grains?



Organic

- Personal preference
- No scientific evidence to support higher nutrients density than non-organic counterparts



Resources

- Understanding the food label, J. Anderson, L. Young and S. Perryman, <http://www.ext.colostate.edu/pubs/foodnut/09365.html>
- <http://www.cookinglight.com/eating-smart/nutrition-101/whole-grain-food-labeling>
- <http://www.choosemyplate.gov/food-groups/grains-why.html>
- Williams, C.L., & Bollella, M. (1995). Is a high-fiber diet safe for children? *Pediatrics*, 96(5), 1014-1019.
- Williams, C.L., Bollella, M., & Wynder E.L. (1995). A new recommendation for dietary fiber in childhood. *Pediatrics*, 96(5), 955-985.
- <http://www.mayoclinic.com/health/food-and-nutrition/NU00197/NSECTIONGROUP=2>
- A.D.A.M. Medical Encyclopedia (2010). <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001280/>



CERTIFICATE OF ATTENDANCE

