

Board the Grain Train



Prepared by

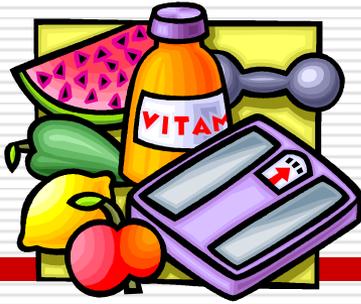
Sharon P. Davis, FACS Education Consultant

Connie Nieman, FACS Teacher, Olathe North

Betty Kandt, FACS Teacher/KWC Spokesperson

Cindy Falk, KWC Domestic Marketing Specialist

Kansas Wheat Commission—www.kswheat.com

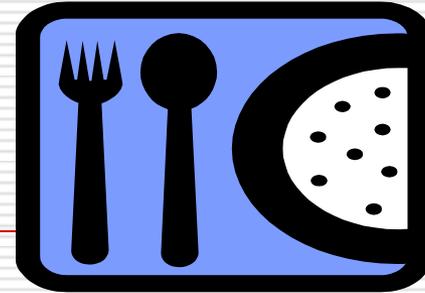


Children and Weight

- One in four are overweight or at risk for becoming overweight
- Overweight children are much more likely to be overweight as adults (64% of adults are overweight)
- \$150 billion in health care costs due to nutrition related illness

Children Concerned about Weight

- Kids Health Kids Poll Survey: 1,100 youth, ages 9 to 13
- 52% recognize there is a problem with kids being overweight
- 59% say they've tried to lose weight
- Top cause of problem? They say:
 - 29% not enough activity/exercise
 - 25% not eating right
 - 19% fast food restaurants don't serve the right food

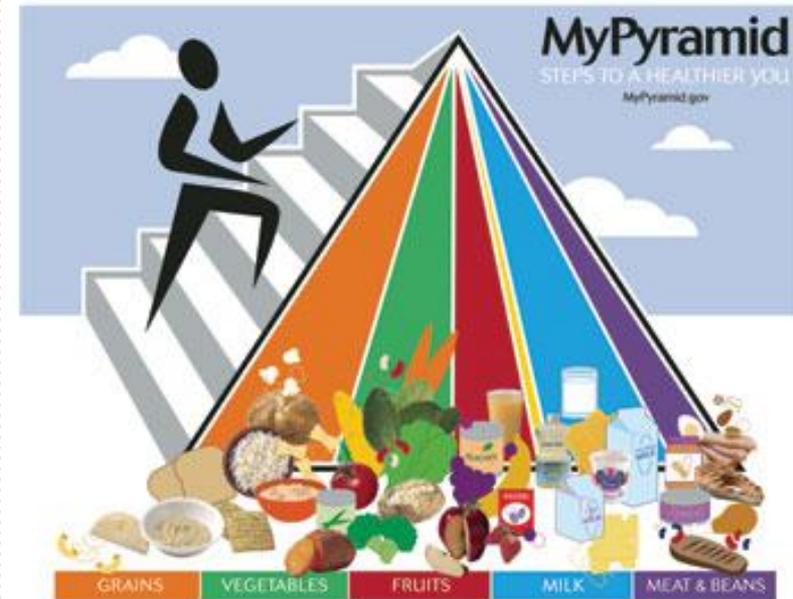


“You can’t just eat what’s put in front of you. You have to pay some attention to food. (This) is lacking in a culture that says ‘more is better’ and that encourages you to wolf down what is on your plate. In many other cultures, people **do** connect with their food, appreciate and enjoy quality in ways that we don’t. It can be done here (in U.S.) too.”

Walter Willet, Ph.D, Harvard School of Public Health.
Eating Well magazine. Winter, 2003.

It's the Calories not Just Carbs

- 1 in 7 adults are following low-carb diets
- Less than 7% of people follow MyPyramid
- Carbohydrates are essential =50-60% of calories—veggies, fruits, grain foods, beans, legumes
- Eating 300 more calories daily now, than 5 years ago; less active



It's the Calories Not the Carbs. Glenn A. Gaesser, Ph.D. and Karin Kratina, Ph.D., R.D.
2004. Trafford Publishing. www.trafford.com





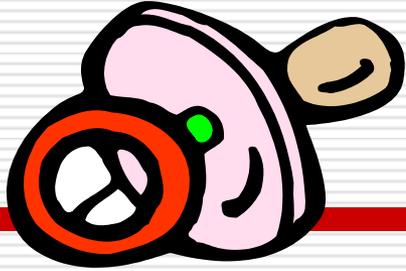
Sound Foundation

“The cancer-fighting vitamins and phytochemicals in fiber-rich vegetables, fruits, whole grains and beans are an important health benefit. Dismissing these foods simply because they are carbohydrates is shortsighted...

Eat moderate portions of the types of carbohydrates and fat that are good for long term health.”

Dr. Ritva Butrum, American Institute for Cancer Research VP for Research. AICR Newsletter Issue 79, Spring 2003.

American Institute of Cancer Research--www.aicr.org



Early Intervention

“Interventions occurring later in life require greater expenditures of effort, and require involvement of greater proportions of the system than is the case in earlier portions of the life span.”

Richard M. Lerner, Ph.D—Director

Institute for Children, Youth & Families, Michigan State U.

American Journal of Family & Consumer Sciences, Winter, 1995

Grain Foods are Nutrient Packed

- Complex carbohydrates
 - Muscle and brain fuel
 - Endurance
 - Energy
- Soluble and insoluble fiber
- B vitamins
 - Folic acid
 - Thiamin, Riboflavin, Niacin
- **Iron**
- **Protein** (plant source)
- **Whole grains—at least 3 servings daily—even *more*** phytonutrients (antioxidants), minerals and vitamins, dietary fiber

Get on the Grain Train--
www.usda.gov/cnpp

The Bell Institute, General
Mills—
www.generalmills.com/wholegrain

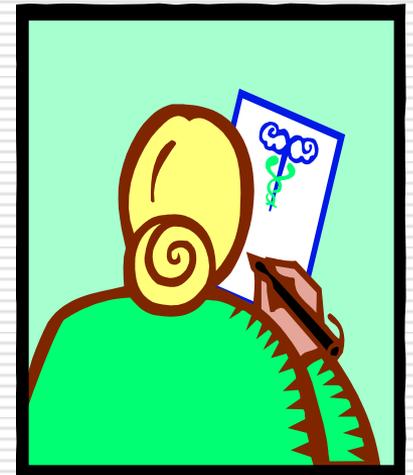
Use a 2005 Dietary Guideline Focus

- Stop dieting... use research-based, nutrition road map
- Build a healthy base - Carbohydrates (45-55% of calories)
 - Strive for 5 to 10 servings grain foods a day
 - Three or more of which are whole grain servings
 - Note where sugars/fats are placed
- See 2005 Dietary Guidelines and the new Food Guide Visual at www.nutrition.gov

Understanding the 2005 Dietary Guidelines available @ <http://www.ific.org>

How Many Grain Servings?

- Children 2-6 years
Women, older adults
5 servings
- Older children
Teen girls
Active women
Most men
9 servings
- Teen boys
Active men
10 servings



Everyone: Three of the servings should be whole grain

What's a Grain Food Serving?

- 1 ounce ready-to-eat cereal
 - 2 to 3 graham cracker squares
 - ½ bagel or English muffin (1 oz/28 g.)
 - 6 crackers
 - ½ cup **cooked** cereal, rice, barley, bulgur, grits, pasta, couscous
 - One 7-inch tortilla
 - 3 cups popcorn
 - Two 4-inch pancakes or waffles
 - 9 three-ring pretzels
 - 1 (1 oz/28 g) slice bread, bun or roll
-

Disease Prevention

Enriched and whole grains assist with health related problems:

- Cancer
 - Heart disease, stroke
 - Constipation
 - Weight control
 - Birth defects (folic acid enrichment)
 - Diabetes (type 2) — diets with whole grains, 40% less likely to develop
-

Whole Grain Health Claim

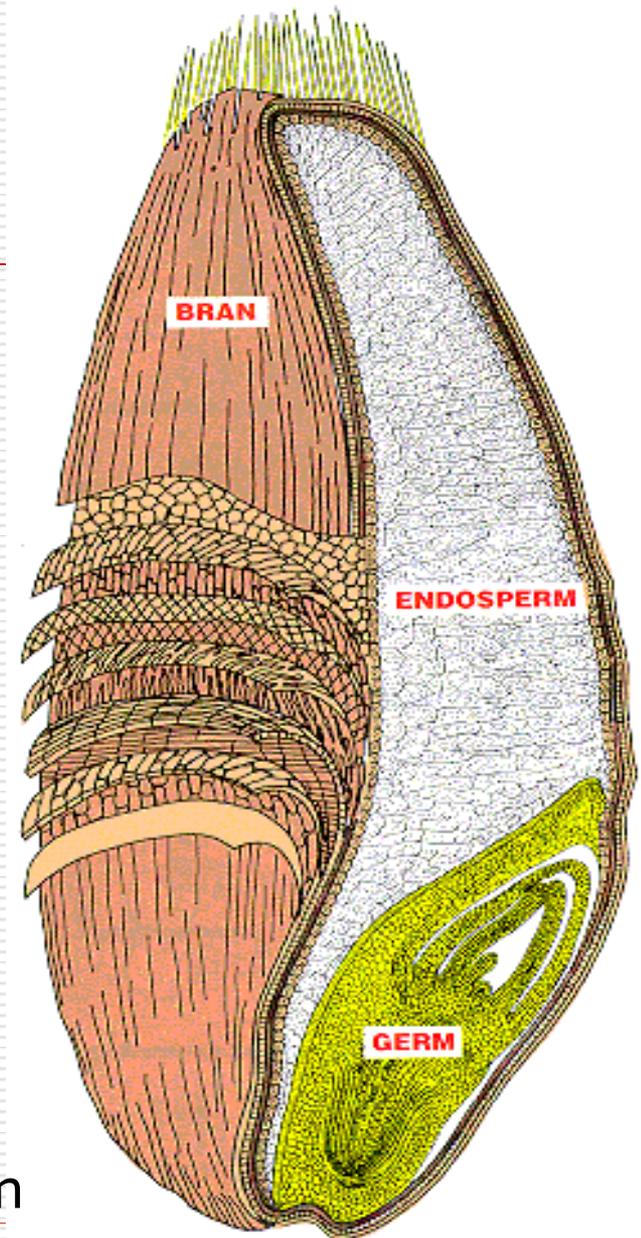
FDA approved health claim:

Diets rich in whole grain foods and other plant foods and low in total fat, saturated fat and cholesterol may help reduce the risk of heart disease and certain cancers

Follow food health claims at: www.cfsan.fda.gov

Goodness of Grains

- **Endosperm:**
Energy; Carbohydrates; protein
- **Bran layers:**
Protect seed; Fiber;
B-vitamins; minerals
- **Germ:**
Nourishes seed; plant sprout;
Antioxidants; Vitamin E;
B-vitamins
- **Whole grain:** contains all grain parts and their benefits
- **Refined/enriched** = endosperm



Include a Variety of Grain Foods

- **Whole wheat and enriched** breads, pasta, bulgur, flour
 - **Oatmeal** is “whole” (instant, quick, old-fashioned), cold cereals, oat flour
 - **Corn**—look for *wholegrain* meal or flour
 - Wholegrain **rye** flour or cereals
 - **Soy** flakes, flour, meal (may be defatted)
 - **Barley**—pearled, quick, flour
 - **Amaranth, flax, sorghum, quinoa, kasha** meal, flour, cereals, multi-grain breads, pancakes
-



Detach the Couch

“One in five Americans are functionally illiterate.”

Parade Magazine. Marilyn vos Savant. 9/20/96

“ Kids need experiences... trade the video, computers and television, to learn skills like languages, bread baking, handwork...”

Frank McCourt, Veteran teacher, NY Public Schools/Author

“...the thrill for many children lies not in acquiring knowledge, but in manipulating it in an interesting manner.”

Michael Meyerhoff, Ed. D.--The Epicenter Education Center

Build Better Lifestyles, Weight Management

Center for Disease Control study reports

- 53% of a person's health is related to lifestyle
- 10% is based on the quality of medical care
- 19% is from the environment
- 18% is hereditary

Health Update. April 2000.

Better Homes & Gardens magazine, p. 250

“High Yield” Baking is ...

Kitchen skills that yield:

- Resources for improved health & wellness
- Functional literacy for home and work
- More self-reliance and esteem
- Integrated math, sciences, reading, history, art knowledge and skills
- Multiple FCS education standards
- Improved relationships for individuals, families and communities





No Food Skills = Fewer Resources

- Expand culinary skills, employability
 - American Institute of Baking www.aibonline.org
 - Bread Bakers Guild of America www.bbga.org
 - Kansas State University Grain Science
www.oznet.ksu.edu/dp_grsi/bakery.htm
 - Working parents need food prep partners to make meals and celebrations at home happen
 - Eat Together, Eat Better www.nutrition.wsu.edu
 - Communities are richer from having local bakers
 - Home Baking Association local award winners
www.homebaking.org
-

Why Teach Kids to Cook and Bake?



“Research consistently shows that integrating nutrition and food education into the larger curriculum and providing children with hands-on cooking experiences changes what they are willing to eat.”

The Cookshop Program. Toni Liquori. **Journal of Nutrition Education.** Sept/Oct. 1998.

People Who Cook at Home...

- More likely to meet Dietary Guidelines for calcium, fiber, iron, fat/sat. fat

Biin-Hwan Lin, et al March 1999

USDA/ERS Bulletin #749, www.econ.ag.gov

- Improve family and peer relationships, school success, drug use less likely

Blake Bowden, Ph.D.- Cincinnati Children's Hospital

Archived topic, Family Time www.cincinnatichildrens.org

Bakers... Can Promote Health

“Family meals appear to play an important role in promoting positive dietary intake among adolescents. Feasible ways to increase the frequency of family meals should be explored with adolescents and their families.”

Diane Neumark-Sztrainer; Peter J. Hannan; Mary Story; Jillian Croll; Cheryl Perry. JOURNAL OF THE AMERICAN DIETETIC ASSOCIATION. 2003; 103:317-322.



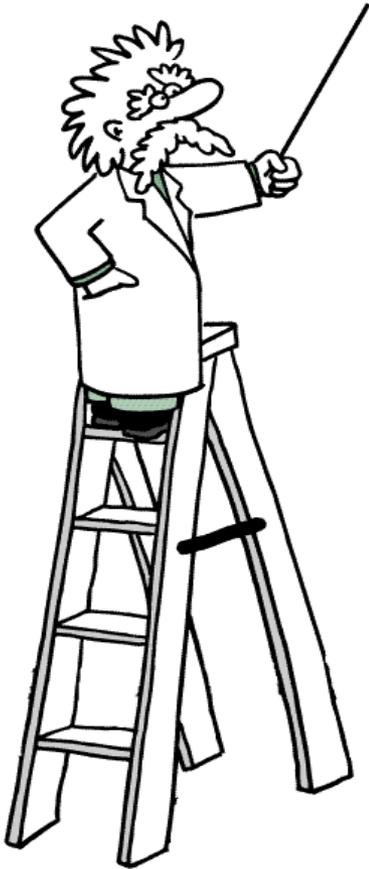
“Mealtime routines are good for your family’s health, say researchers at Syracuse University...

...50 years of clinical psychological studies determined regular family interaction at dinner can lead to better parenting, healthier children, and improved academic performance.”

Cooking Light. First Light, P. 28. June 2003

Baking is...

Experiential Learning



1. Do it—Experience the activity.
2. What happened—Share publicly the results, reactions, observations.
3. What's important—Process by discussing, looking at the experience, analyzing and reflecting.
4. So what—Generalize to connect the experience to real-world examples.
5. Now what—Apply what was learned to a similar or different situation; practice.

Source: University of Minnesota, St. Paul, MN. 1997.

Baking is... Science



- Ingredient knowledge is power
flour, water, milk, sugar, fat, salt
Leavening: chemical, air, yeast, egg
 - Temperature effects
liquids, dough, baking, staling
 - Techniques and Timing
 - Substitution Success
 - Problem solving
 - Nutritional values
-

Baking is...

Consumer Science

- Matters of Taste
 - Adding value, quality products
 - Cost vs. price point
 - Packaging power
 - Food labels
 - What's advertising
 - What's required
 - Ingredient list
 - Health claims
 - Nutrition Facts
 - Consumer Rights
 - Standards of Identity
-



Baking is...

Hands On History

- **How did people plant and eat grain foods?**
- **5,000 years of bread history**
Personal, family bread traditions
Kansas kolaches, houska, povitica
U.S.—hoe cakes, “thirds bread”
- **Bread Events**
Famine/bread wars
Shrove Tuesday Pancake Race (right)
Kansas Festival of Breads,
www.kswheat.com
Pillsbury Bake-Off
Bread Bakers Guild of America
Coupe de Monde, Paris - www.bbga.org



Baking Lends... a Humane Hand



Student bakers can offer services and gain benefits at:

- Emergency Shelters - People and Pets
Bakers Lend a Humane Hand - www.homebaking.org
 - High Yield Bake Sales - www.homebaking.org
Great American Bake Sale/Share Our
Strength - www.greatamericanbakesale.org
Local fund raising - www.homebaking.org
 - Bake and Take Day - www.bakeandtakeday.org
 - Bake to teach others - local clubs, camps, etc.
 - Bake for Family Fun - www.homebaking.org
-



Baking is... High Tech

- Baking equipment—scales, mixers, ovens
 - Explore reliable cyber sources
 - Apply computer skills
 - Analyze—nutrition, flour, meal, dough, product testing
 - Marketing
 - Consumer surveys and education
 - Digital photography—lab results and food styling
 - Food features for newspaper, magazine
 - Food labeling & research/FDA, USDA, HHS
-

Baking is... High Tech



Check out careers:

American Institute of Baking -
www.aibonline.org

Kansas State U., Grain Science
www.oznet.ksu.edu/dp_grsi

KSU Baking Science -
www.bakery-net.com/rdocs/ksubsbs.html

Retail Bakers of America -
www.rbanet.com

$$\begin{array}{r} 510784.36 \\ 2.719372 \overline{) 91} \end{array}$$

Baking is... Math

- Determine temperatures for liquids, batters, doneness of products, storage
- Weighs and measures ingredients, dough, batter, recipe analysis*, Nutrition Facts label
- Calculate yield, net weight*
- Determine serving size*, product cost/price point
- Analyze time use/efficiency
- Consumer product acceptance surveys

*See www.ESHA.com *The Food Processor* software

Baking is... Art

- Artisan shapes
- Effective ads/labels
- Adding value
- Food styling
- Egg wash, decorating
- Connect with baking pros and spokespersons at www.kswheat.com



Baking Labs Include

- Fight BAC!/Did You Wash 'Em guides
 - Terms and Techniques
 - Critical Thinking
 - Ingredient Functions/Science
 - Power Points
 - Why Teach Baking to Young People?
 - Wheat and Flour History
 - Grain Foods & Nutrition
 - Ingredient Functions
 - Multiple labs and activities with options
 - Community Service Learning to Demonstrate Learning
 - References & Resources
-

Sites to Cite

American Institute of Baking www.aibonline.org
Bread Bakers Guild of America www.bbga.org
Food and Drug Administration www.cfsan.fda.gov
Home Baking Association www.homebaking.org
International Food Information Council www.ific.org
Kansas State University Extension. *Healthful Whole Grains*
www.oznet.ksu.edu/library/fntr2/MF2560.pdf
KSU Grain Science www.oznet.ksu.edu/dp_grsi/bakery.htm
Kansas Wheat Commission www.kswheat.com
Kids A Cookin' (Spanish/English) www.kidsacookin.ksu.edu
Nemours Foundation www.kidshealth.org
North American Millers' Association www.namamillers.org
USDA/HHS www.usda.gov/news/usdakids and www.nutrition.gov
Wheat Foods Council www.wheatfoods.org

