

# What You Need to Know...

## Sugar, Carbs & Sodium

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# Diabetes in Youth



- Most common disease in school aged children
  - 186,300 youth in 2007 have diabetes
  
- Type 1 – was leading cause of diabetes in children
  - 15,000 new US youth diagnosed a year in 2002-2003

SEARCH for Diabetes in Youth Study Group: Incidence of Diabetes in Youth in the United States. JAMA 2007; 297 (24): 2716-2724.

# Diabetes in Youth

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- Type 2 – increasing with increase in obesity
  - 3,700 new diagnosis a year in 2002-2003
  - Estimated that 50% of all new diagnosis are Type 2
  - Highest rates with minority populations

# Diabetes in Schools



- Children need to manage their diabetes at school as they do at home.
- Each student will have different needs.
- Type 1 & Type 2 have different needs.

# Diabetes

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## **Type 1**

Nutrition Management

Physical Activity

Blood glucose testing

Insulin administration

Avoidance of hypoglycemia

## **Type 2**

Nutrition Management

Increased Physical Activity

Blood glucose testing

Oral medications or Insulin  
administration

Weight reduction

# Your Role

- Controlling portion sizes
- Making healthy food choices
  - Whole grains
  - Fruits & Vegetables
  - Low fat dairy
  - Water
- Including activity
  - 60 minutes a day

No Single Plan - Individualize



# Carbohydrates

- Grains, starchy foods – peas, corn, potatoes
- Fruits
- Milk – Yogurt
- Sugar

Read labels for grams of Total Carbohydrates  
If using choices - 15 grams equals 1 carb choice



# Celiac Disease

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**1 in 133**

**Americans have Celiac Disease**

Fasano A, Bertl I, Gerarduzzi T, Not T, Colletti RB, et al. Prevalence of celiac disease in at-risk and not-at-risk groups in the United States: a large multicenter study. *Arch Intern Med*, 2003;163:286-292.



# Celiac Disease Diagnosis

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- Diagnosis increased 4 fold from 2003-2007
- Auto immune disease like Type 1 diabetes
- Adults typically have symptoms for 11 years before diagnosis

# Treatment Options

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Only treatment for Celiac disease is

**FOOD**

# What Can I Eat?

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- **27,000 Gluten Free foods launched since 2006**
- **\$4.3 Billion industry over the next 5 years**

Mintel Global New Products Database

The Future of Gluten-Free: Consumer Insight and Public Opportunities





























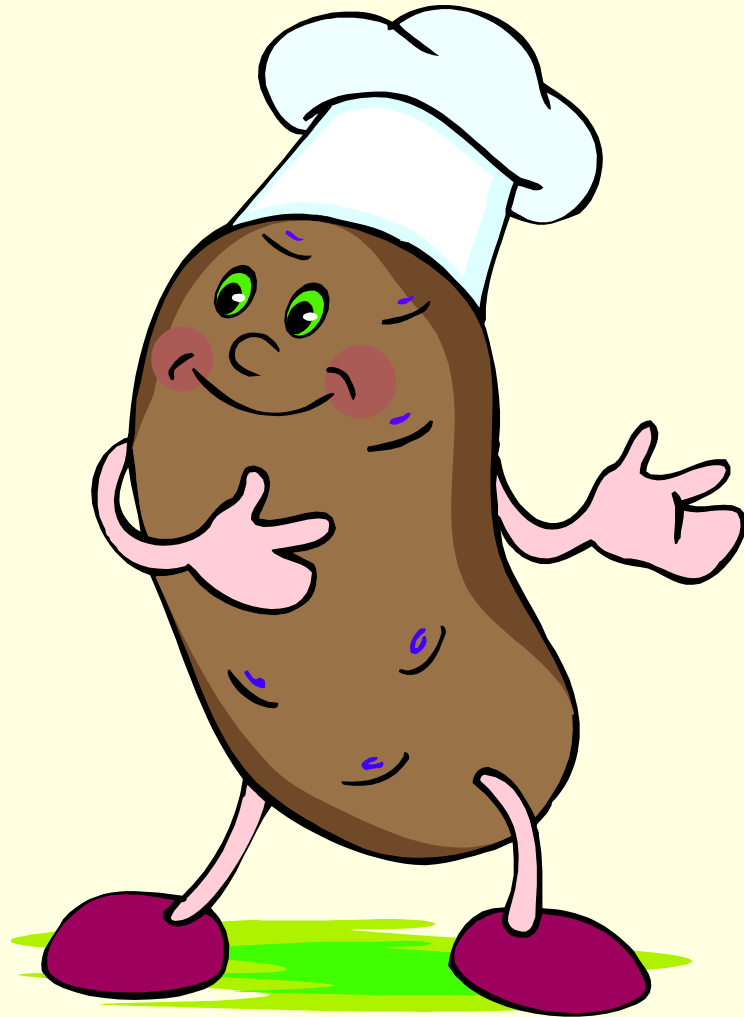


# All Fruit

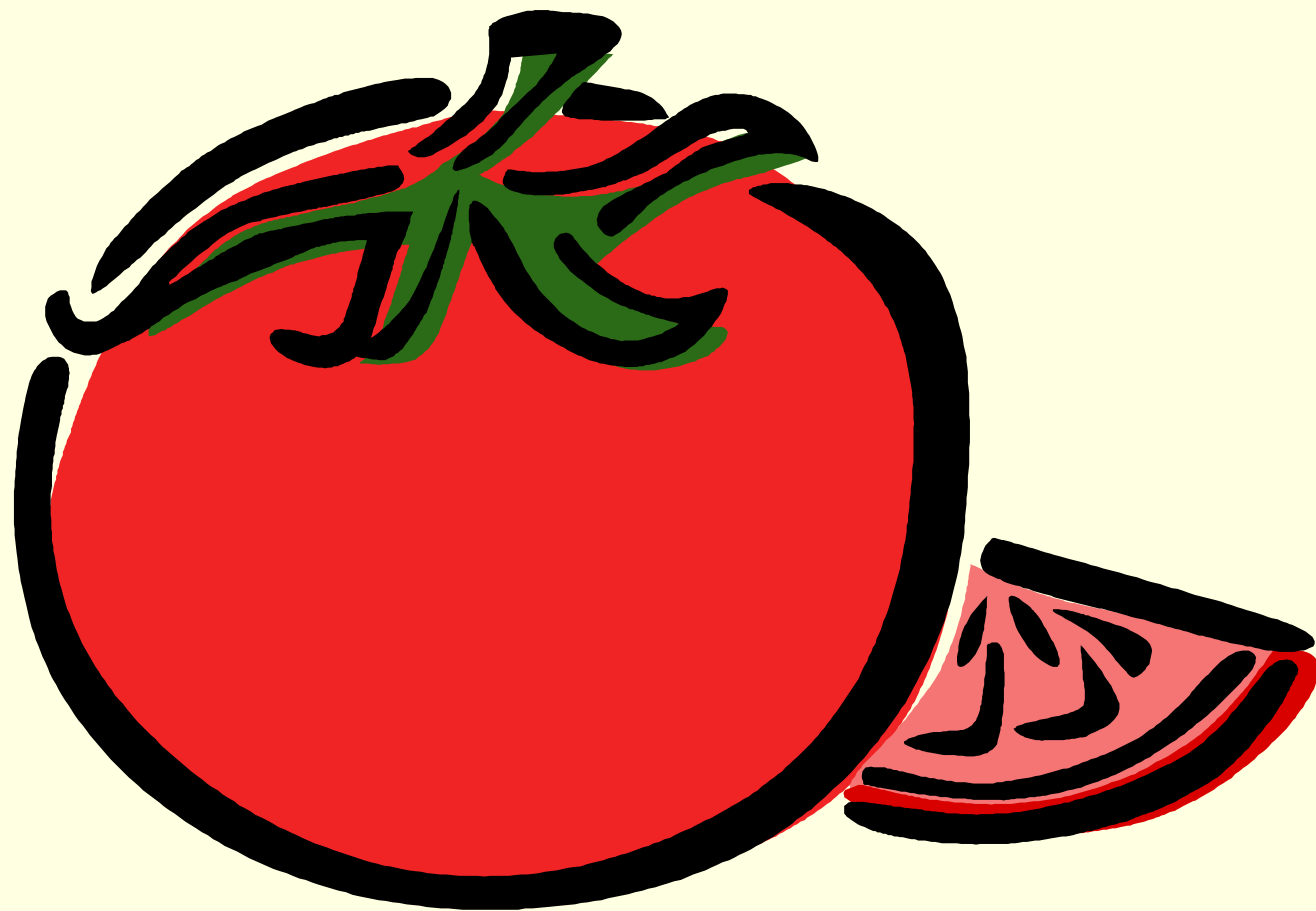
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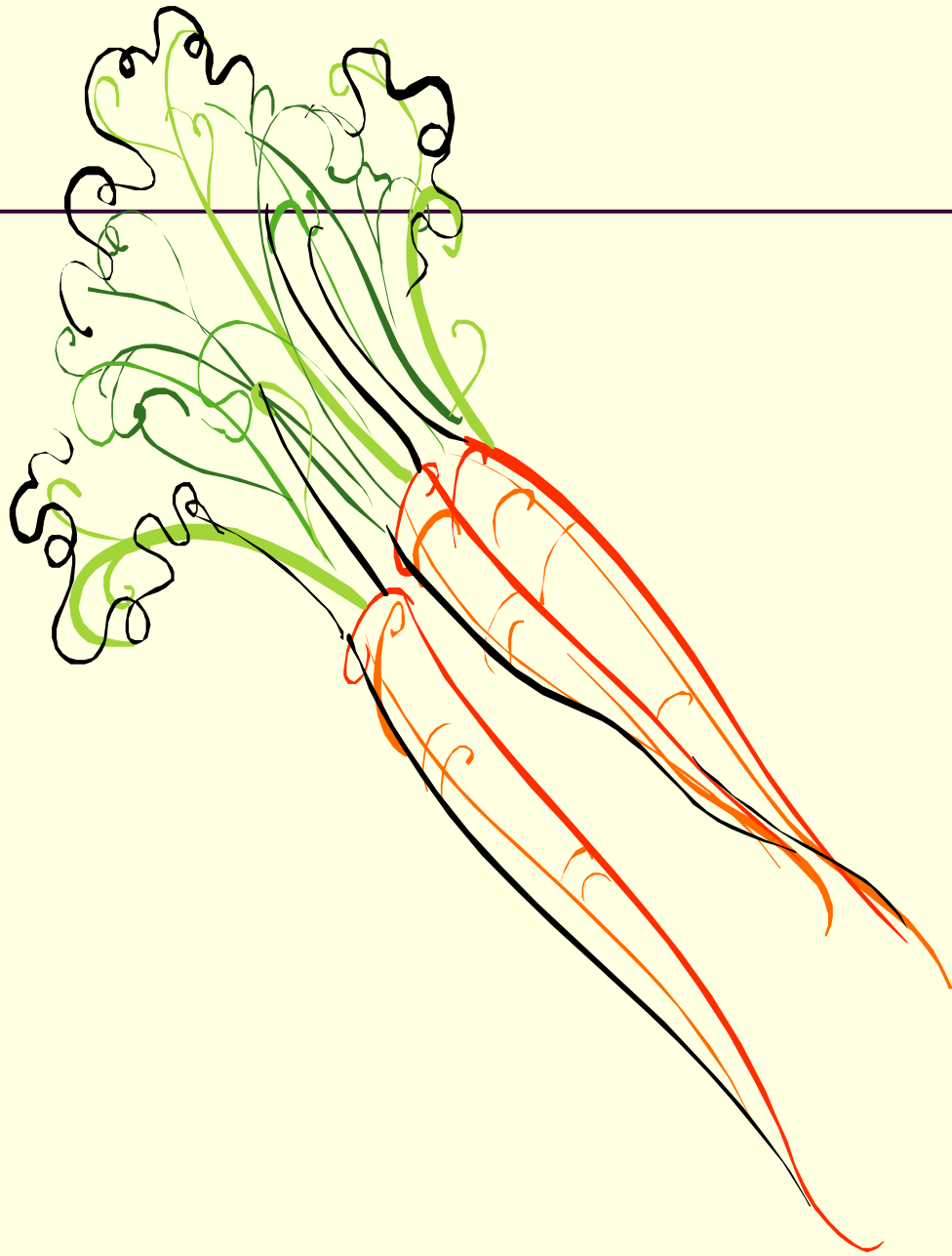












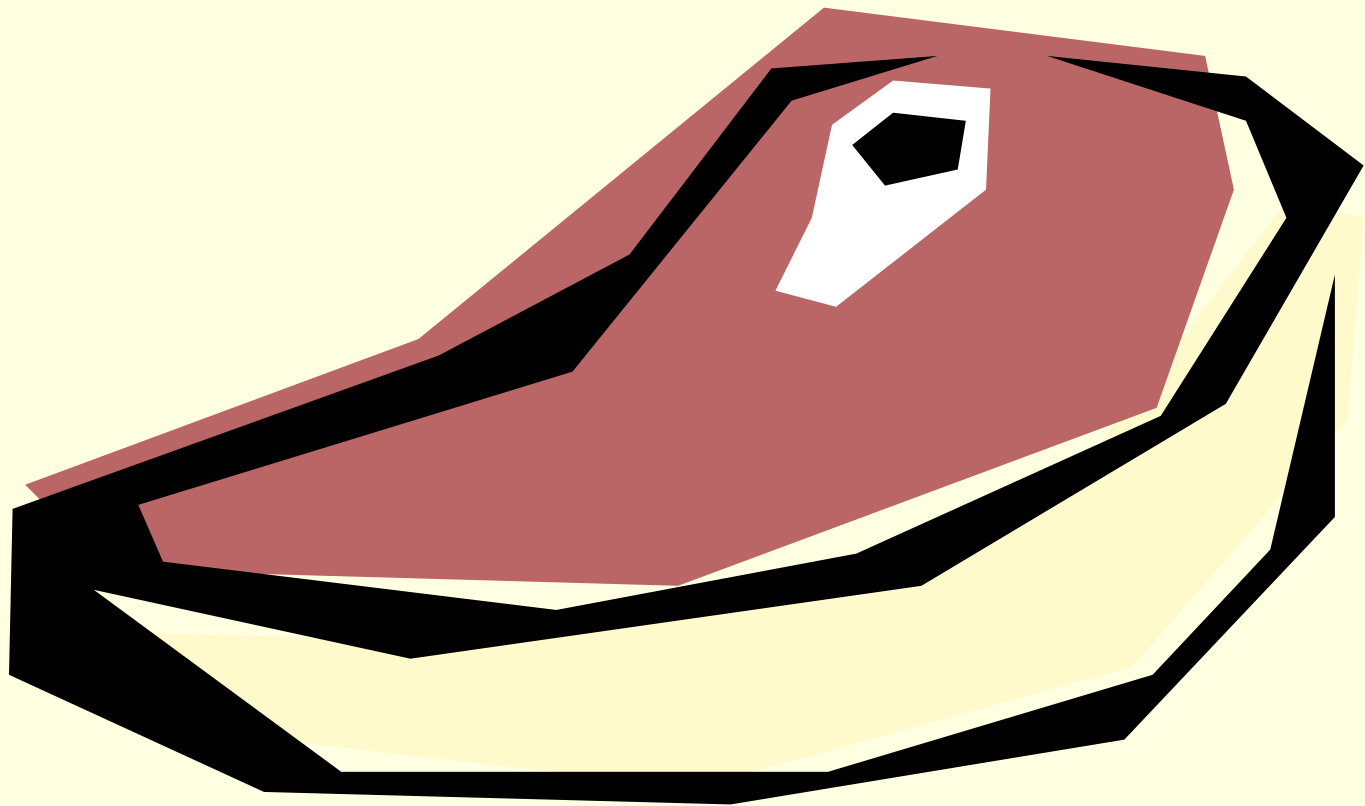




# All Vegetables

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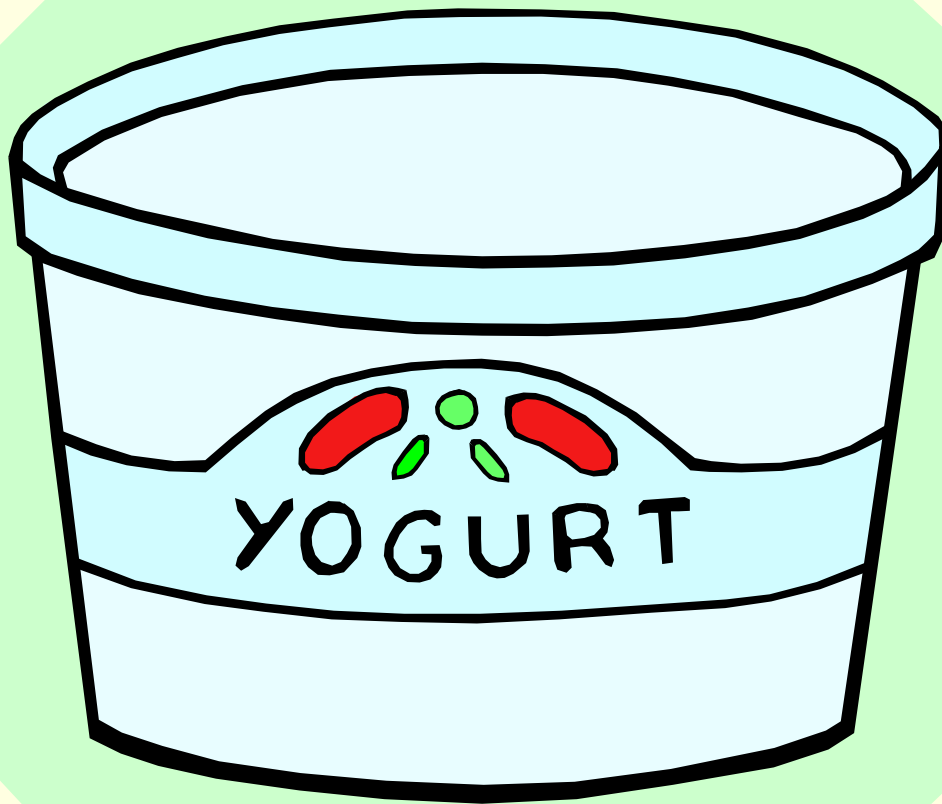
# All Plain Meats

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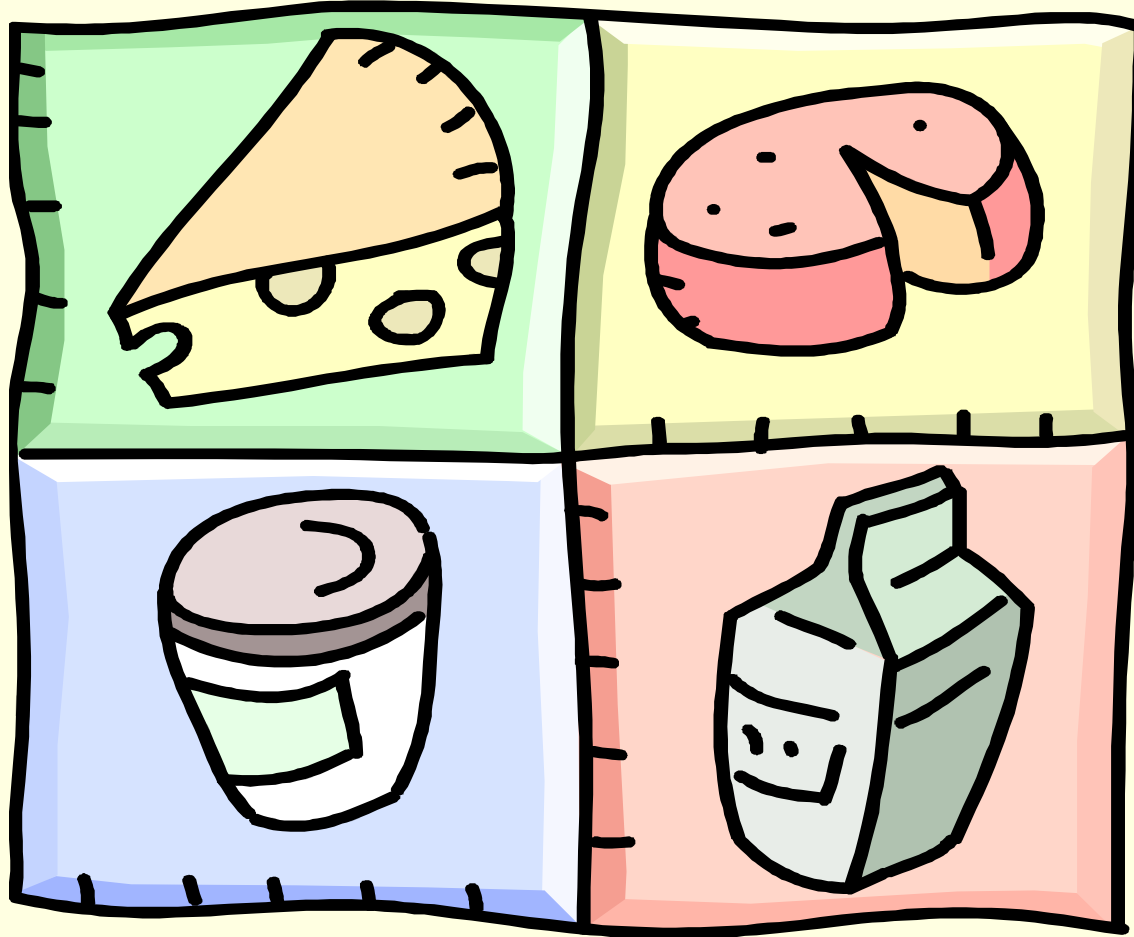






# Milk-Yogurt-Block Cheese

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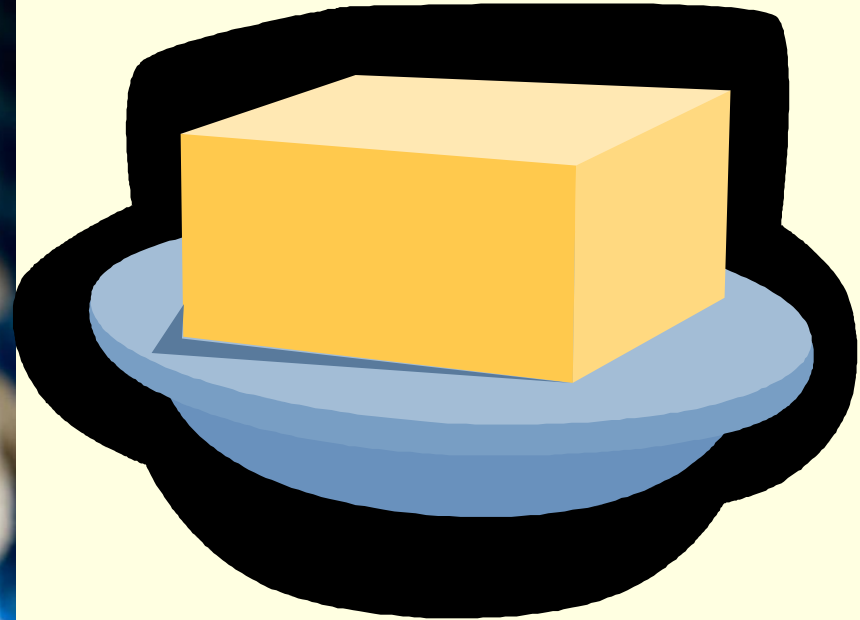


# Fats

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**Nuts**



**Butter & Margarine**

# Grains

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**Rice**



**Oatmeal**



**Popcorn**

# What Can't I Eat?

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**Wheat**

**Barley**

**Rye**

# Label Reading

- 2006 Labeling laws require **wheat** to be labeled
- Gluten is not required yet, so read ingredient lists for:
  - barley
  - malt
  - malt flavoring
  - malt vinegar
  - Rye



# Cross Contamination

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- Dedicated toaster
- Squeeze bottles
- Prepare gluten free first
- Meat slicers need to be cleaned





# Your Role

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- Read labels.
- Prevent Cross contamination.
- Be positive!!!

They can eat!



# Sodium

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- Need only 200 mg sodium a day
- Intake has increased 50% since 1970
- 77% of sodium intake is from processed foods

American Heart Association. "Consuming a littler less salt could mean fewer deaths". 2009, March 11.

Mattes, RD, Connelly, D. Relative contributions of dietary sodium sources. *Journal of the American College of Nutrition*. 1991 Aug; 10(4):383-393

Brightfield, AF. The truth about how we eat. Women's Day 2009 April 14.

# Health Risks with Sodium

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- Increased Blood Pressure/Hypertension
- Heart Disease – stiffen arteries
- Kidney Disease
- Increased risk of Gastric Cancer

# Health Risks with Sodium

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- Adverse effects on blood pressure begin early in life. Main concern is effect on children
- Age-related blood pressure begin early in life and increases in a straight line effect
- Elevated BP in children results in significant cardiovascular dysfunction
- More than 90% of US adults will develop HTN
- Study shows a four fold increase in risk of CVD in adults with HTN (Daniels 1998)

# New England Journal of Medicine

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- Reducing from 3400 mg to 2300 mg sodium a day could annually reduce:
  - Coronary Heart Disease – 60,000 new cases
  - Strokes – 32,000
  - Myocardial Infarction – 54,000

**Saving \$10-24 Billion a year**

# Health Care Savings

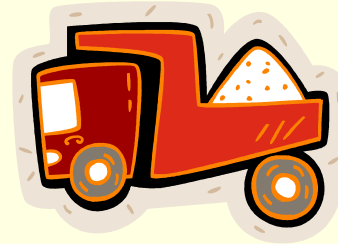
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- Reducing sodium could prevent more than 100,000 death annually according to Jane E. Henney, MD, chair of the Committee on Strategies to Reduce Sodium Intake at the Institute of Medicine
- If intake decreased to 2300 mg per day there could be 11 million fewer cases of high blood pressure – saving \$18 billion a year
- If intake fell to 1500 mg per day there could be a savings of \$23 billion from saving in treating high blood pressure, heart attacks & strokes

# Sodium

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- Unhealthy amounts of sodium in our diet
  - Ave intake >3400 mg



- Dietary Guidelines <2300 mg
  - Encouraged consumers to avoid salt at the table



# 2008

- Congress asked Institute of Medicine to reduce sodium intake
  - < 2300 mg/day for 2 years & older
  - < 1500 mg/day for people over 40, black or with high blood pressure.
- Flavor, Safety, shelf life, functionality, acceptability



# Sodium



- Require new government standards
- Manufactures & restaurants need to comply
- Gradually reduce sodium

# Sodium



## Institute of Medicine

- Recommended Strategies Released 4/20/10
- Reduce the sodium content of processed food
- Restaurants/foodservice to reduce salt added to menu items
- Revisit GRAS status of food additives

# Institute of Medicine

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- Voluntarily reduce sodium until implementation of mandatory regulations
- Collaboration to reduce sodium in foods
- FDA to revisit health claims & labeling
- Facilitate & sustain reducing sodium in menu items

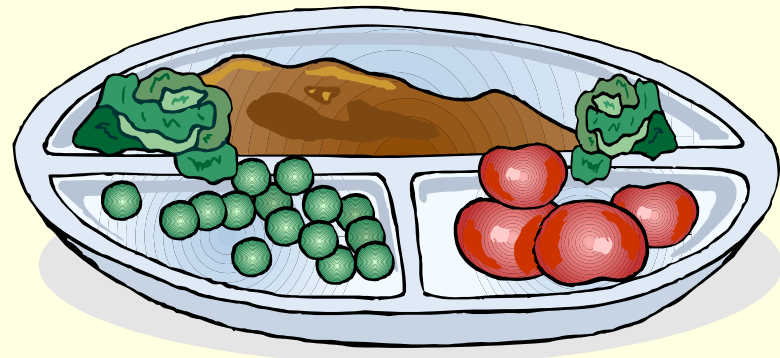
# Institute of Medicine

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- Participate in activities in reducing sodium intake
- Organize a campaign to achieve goals of the Dietary Guidelines for Americans
- Data in user friendly formats
- Congress, CDC, USDA need adequate funding

# Sodium in School Lunch

- USDA/FNS 2007
  - 43% in combination entrees
  - 17% in accompaniments
  - 12% in grains
  - 11% in vegetables



# Your Role

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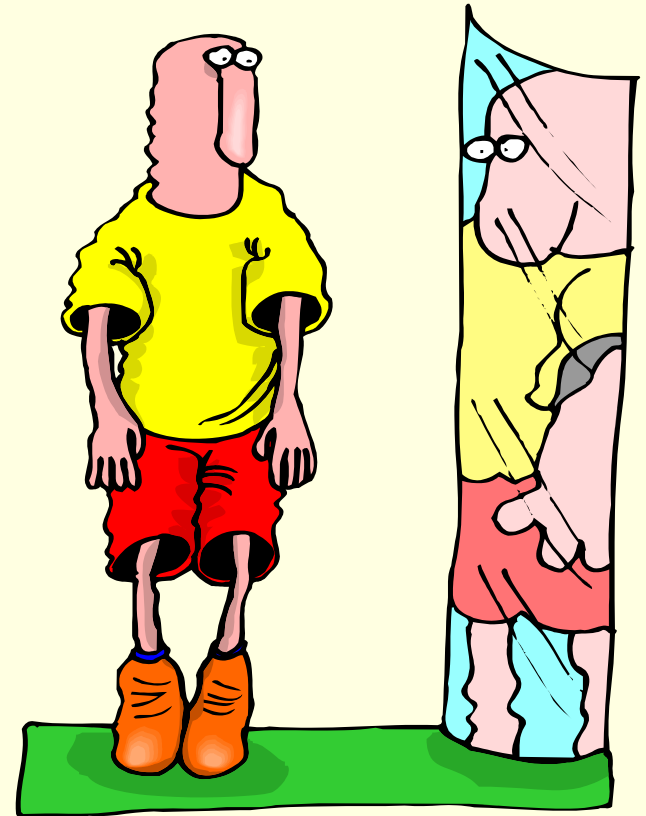
- Increase local food preparation
- Decrease processed foods
  - Choose foods with <200 mg sodium
  - Meals with <600mg sodium
- Fresh fruits & vegetables
- Frozen vegetables
- Gradual reduction for acceptance with target goal date of 2020



# Obesity

- One-third of all children are overweight or obese
  - 17% obese
  - 16% overweight

School Meals: Building Blocks for Healthy Children  
<http://www.nap.edu/catalog/12751.html>



# Health Risks

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- Blood Pressure
- Joint Pain
- Osteoporosis
- Diabetes
- Cancer
- Heart Disease
- Lack of self confidence
- Ridicule
- Tooth Decay



# Sugar

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- Average American consumes 2-3 lb a week
- In the past 20 years we have increased from 20 lbs to 135 lbs of sugar per person per year
- Lacks vitamins & minerals
- 12 oz can pop = 10 teaspoons sugar (~1/4 c)

# Sugar Limits

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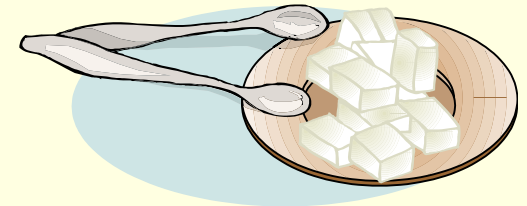
- No specific limit on added sugars because not listed on nutrition labels
- Believed that the calorie limits will self limit sugar



# High Fructose Corn Syrup

- All are interchangeable from a composition, nutritional, metabolic standpoint.

- Sucrose
- Invert sugar
- Honey
- Fruit Juice Concentrate
- HFCS



- White, John. Misconceptions about High Fructose Corn Syrup: Is It Uniquely Responsible for Obesity, Reactive Dicarbonyl Compounds, and advanced Glycation Endproducts? *The Journal of Nutrition Supplement*; 2009;1219S-1227S.

# Your Role

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- School lunch will have a maximum calorie level
- Fruits & Vegetables not interchangeable
- Must select a fruit or vegetable to be reimbursable
- Serve  $\frac{1}{2}$  c dark green, orange vegetables & legumes
- Half the grain must be whole wheat
- Only fat free & low fat milk
- Zero trans fat for packaged foods

# Thank you

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