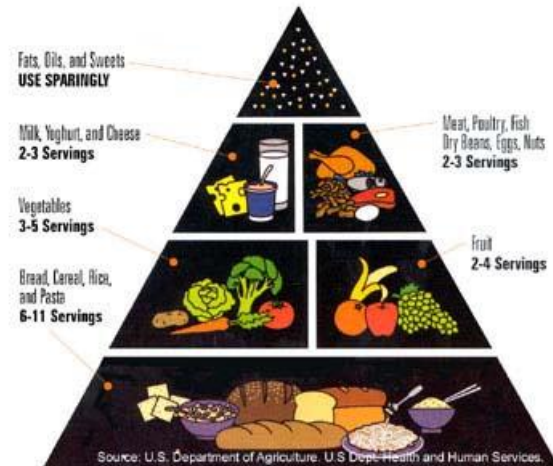


# NUTRITION



**Fats, Oils & Sweets**  
**USE SPARINGLY**

**KEY**  
■ Fat (naturally occurring and added)  
▼ Sugars (added)  
These symbols show fats and added sugars in foods.

**Milk, Yogurt & Cheese Group**  
**2-3 SERVINGS**



**Meat, Poultry, Fish, Dry Beans, Eggs & Nuts Group**  
**2-3 SERVINGS**



**Vegetable Group**  
**3-5 SERVINGS**



**Fruit Group**  
**2-4 SERVINGS**



**Bread, Cereal, Rice & Pasta Group**  
**6-11 SERVINGS**





**MyPyramid.gov**  
STEPS TO A HEALTHIER YOU

# Grain Group

Make half your grains whole

- Eat at least 3 oz. of whole grains every day
  - Cereal
  - Breads
  - Crackers
  - Rice
  - Pasta



**Grain Group**  
Make half your grains whole

[MyPyramid.gov](http://MyPyramid.gov)

# Vegetable Group

Vary your veggies

- Eat more dark green veggies like broccoli, spinach and other dark, leafy greens
- Eat more orange vegetables like carrots and sweet potatoes



**Vegetable Group**

Vary your veggies

MyPyramid.gov

# Fruit Group



**Fruit Group**

Focus on fruits

MyPyramid.gov

Focus on fruits

- Eat a variety of fruits
- Choose fresh, frozen, canned, or dried fruit
- Go easy on fruit juices

# Milk Group

Get your calcium-rich foods

- Go low-fat or fat-free when you choose milk, yogurt, and other milk products
- If you don't or can't consume milk, choose lactose free products or other calcium sources such as fortified foods and beverages



**Milk Group**  
Get your calcium-rich foods

MyPyramid.gov

# Meat & Bean Group

Go lean with protein

- Choose low-fat or lean meats and poultry
- Bake it, broil it, or grill it
- Vary your protein routine choose more fish, beans, peas, nuts, and seeds



**Meat & Bean Group**

Go lean with protein

[MyPyramid.gov](http://MyPyramid.gov)



# Oil/Fat Group

- Make most of your fat sources from fish, nuts, and vegetable oils.
- Limit solid fats like butter, stick margarine, shortening, and lard, as well as foods that contain these.
- Check the Nutrition Facts label to keep saturated fats, trans fats, and sodium low.
- Choose food and beverages low in added sugars. Added sugars contribute calories with few, if any, nutrients.

# MyPyramid Anatomy

- **ACTIVITY**

- Activity is represented by the steps and the person climbing them, as a reminder of the importance of daily physical activity

- **PERSONALIZATION**

- Personalization is shown by the person on the steps, the slogan, and the URL. Find the kinds and amounts of food to eat each day at [MyPyramid.gov](http://MyPyramid.gov)

# • MODERATION

- Represented by the narrowing of each food group from bottom to top. The wider the base stands for foods with little or no solid fats or added sugars. These should be selected more often.
- The narrower top area stands for foods containing more added sugars and solid fats. The more active you are, the more of these foods can fit into your diet.

- PROPORTIONALITY

- Proportionality is shown by the different widths of the food group bands.
- The widths suggest how much food a person should choose from each group.
- The widths are just a general guide, not exact proportions.

- **VARIETY**

- Variety is symbolized by the 6 color bands representing the 5 food groups of the Pyramid and oils. This illustrates that foods from all groups are needed each day for good health

- GRADUAL IMPROVEMENT
  - Gradual improvement is encouraged by the slogan. It suggests that individuals can benefit from taking small steps to improve their diet and lifestyle each day.

# WORKSHEET

What do you eat and what should you eat?

# Nutrients

What are nutrients?

- Essential substances that your body needs in order to grow and stay healthy

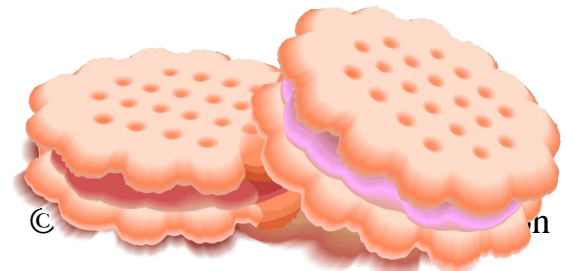


- Six categories of nutrients:
  - Carbohydrates
  - Proteins
  - Minerals
  - Vitamins
  - Fats
  - Water



# Carbohydrates

- Structure and function:  
Carbohydrates are sugars and starches that the body uses for ENERGY!
- PLANTS are the major source of carbohydrates in the food we eat.



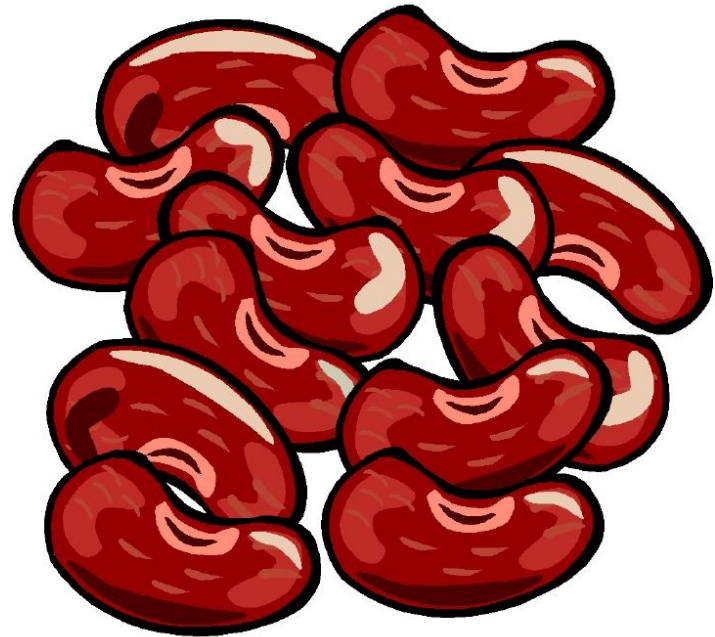
# Simple Carbohydrates

- Sugars that are quickly digested and provide a **BOOST** of energy for the body
- Foods with **LOTS** of sugar: oranges, milk, cookies, candy



# Complex Carbohydrates

- Starches that are composed of many sugars linked together
- Foods with LOTS of starch: rice, beans, potatoes
- They provide the body with long-term energy since they are digested more slowly than sugars.



# Protein

- Structure: Proteins are made from many amino acids connected together in different arrangements.
- Function: Provide the building materials your body needs to grow and repair itself



# Essential Amino Acids

- 9 of the 20 amino acids are called essential amino acids because you must obtain them from the foods you eat since your body cannot make them.

## Complete proteins:

- Foods containing all the essential amino acids Examples: fish, meat, eggs, milk, cheese

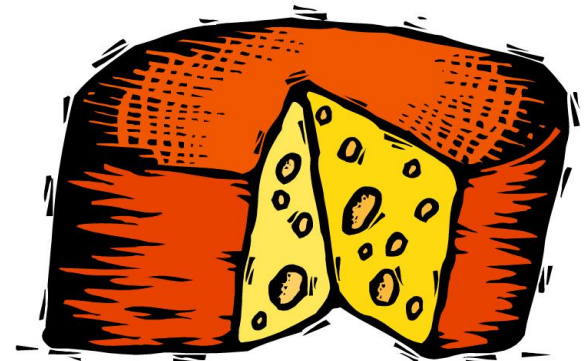
## Incomplete proteins:

- Foods that are missing some essential amino acids Examples: Legumes, nuts, whole grains

# Fat

## Functions:

- ENERGY source for the body (more than carbs and proteins)
- Help protect and cushion vital organs as well as joints
- Insulate the body



# Fat

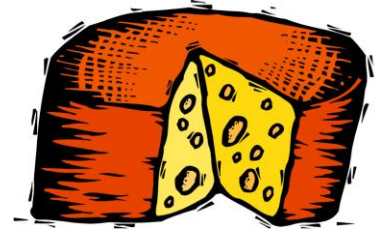
## Structure:

- Fats belong to a group of organic compounds called lipids which are substances that do not dissolve in water.
- Fatty acids are the building blocks of fats.



# Unsaturated fats:

- Contain fatty acids that are missing hydrogen atoms
- They are less harmful to the circulatory system than saturated fats.
- At room temperature, they are typically in liquid form.
- Foods with a lot of unsaturated fat: canola, safflower, and peanut oils



## Saturated fats:

- Contain fatty acids with the **MAXIMUM** amount of hydrogen atoms
- At room temperature, they are typically in solid form.

- Diets with TOO MUCH saturated fat have been known to cause heart disease.
- Foods with a lot of saturated fat: beef fat, egg yolks, dairy products

# Calories



What is a calorie?

- The energy obtained from carbohydrates, proteins, and fats is measured in units called *calories*.

# *Calorie Calculations*

- Carbohydrates      1g = 4 calories
- Protein              1g = 4 calories
- Fat                    1g = 9 calories
- Alcohol              1g = 7 calories

# Sample Calculation

- **A slice of bread has 9g of carbohydrates, 2g of protein, and 1g of fat.**
- **Get out a piece of paper and see if you can do the calculations.....**

- 9 grams carbohydrates x 4 calories/gram

***= 36 calories***

+ 2 grams protein x 4 calories/gram

***= 8 calories***

+ 1 gram fat x 9 calories/gram

***= 9 calories***

---

***Total calories = 53***

Do you know the **MOST**  
**IMPORTANT** nutrient?

It's Water!

- 60%-80% of the human body is **WATER!**





- Function: Assists with the transport of materials in the body by making up most of the liquid part of blood (plasma), helps regulate body temperature, and helps break down food in the digestive system
- Food sources: vegetables, fruit, milk

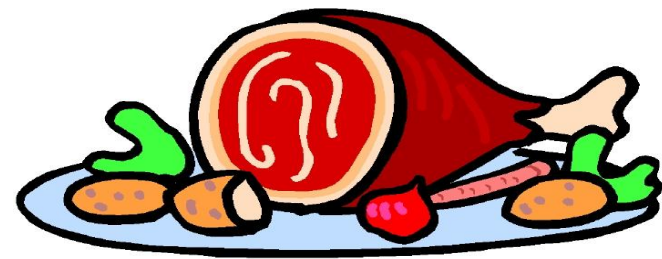
# WORKSHEETS

calorie lab

# Micronutrients

- Minerals and vitamins are called micronutrients since they are needed by your body in **SMALL** amounts.

The minerals and most of the vitamins your body needs must be obtained from the **FOODS** you eat since your body cannot make them.



# Micronutrients: Minerals

- Minerals are **INORGANIC** substances that are required by your body in order to develop and grow properly.

## Some Important Minerals:

- Calcium      Iron
- Potassium      Magnesium



# Micronutrients: Minerals

## Calcium

- Function: Helps build strong bones and teeth, regulates blood clotting
- Food sources: dairy products, leafy and green vegetables



# Micronutrients: Minerals

## Iron

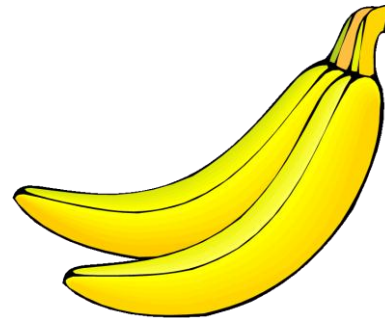
- Function: Helps build hemoglobin which is the oxygen-carrying part of your red blood cells
- Food sources: eggs, meats, whole grains



# Micronutrients: Minerals

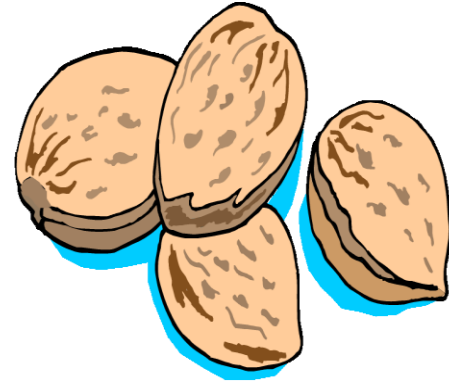
## Potassium

- Function: Helps regulate fluid balance in the body, assists with the normal functioning of muscles and nerves
- Food sources: bananas, carrots, milk



# Micronutrients: Minerals

## Magnesium



- Function: Involved in the metabolism of proteins and carbohydrates, assists with bone growth and proper muscle functioning
- Food sources: milk, meat, nuts



# Micronutrients: Vitamins

Vitamins: Group of complex compounds that help your body maintain normal metabolism, growth, and development

Two Groups of Vitamins:

- Water-Soluble
- Fat-Soluble



# Micronutrients: Vitamins

## Water-Soluble Vitamins:

- Vitamins that dissolve in water and are NOT stored in your body for future use

Vitamin B and Vitamin C

# Examples of Water-Soluble Vitamins:

- Vitamin C: Fights against infection, maintains healthy gums, strengthens and maintains blood vessel structure
  - Food sources: citrus fruits, tomatoes, leafy vegetables

# Micronutrients: Vitamins

Vitamin B Complex/Folic acid:

Helps prevent birth defects,  
and is needed in the formation  
of red blood cells and nucleic  
acids

- Food sources: beets, broccoli,  
avocado, turkey, bok choy,  
and lentils.

# Micronutrients: Vitamins

## Fat-Soluble Vitamins:

- Vitamins that dissolve into and are transported by fat
- They can be stored in fat tissue, the liver, and the kidneys.
- Vitamins A, D, E, and K

## Examples of Fat-Soluble Vitamins:

- Vitamin A: Maintains good vision, promotes body cell growth, helps protect teeth
  - Food sources: green vegetables, dairy products

- Vitamin D: Promotes the development of healthy bones and teeth
  - Food sources: eggs, salmon, fortified breakfast cereal.
  - Other sources include sunlight

WORKSHEETS



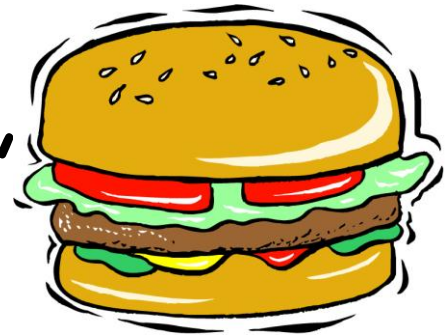
# Making Good Food Choices

- The US federal government created a *food pyramid* which is a guide to healthy living.
- It gives recommendations for:
  - Eating healthy
  - Regular exercise



# Fast Food Choices

- Fast food consumption should be limited since it generally includes foods that are high in calories, fat, and/or sodium.
- Try to choose smaller portions since larger portion sizes greatly increase the calorie, fat, and sodium content of your meal.

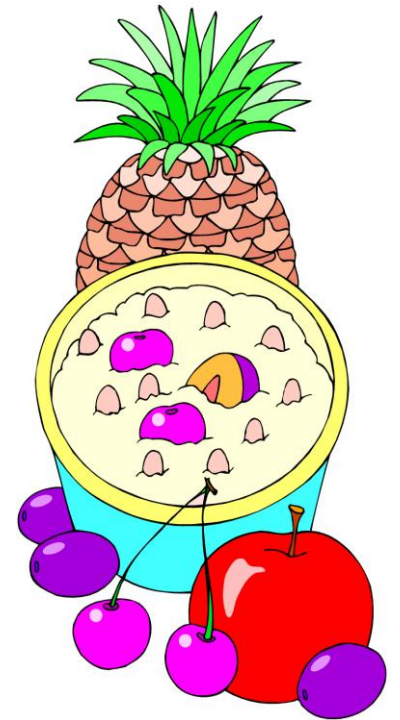


- Option #1: McDonald's Quarter Pounder with Cheese, large fries, and a 16 oz. soda includes 1,166 calories and 51 grams of fat!

- Option #2: McDonald's Hamburger, small fries, and a 16 oz. diet soda includes 481 calories and 19 grams of fat!

# Fast Food Choices

- Some fast food choices are healthier than others so try to choose the healthier options.



## - Healthy options:

- Grilled chicken
- Regular-sized single hamburger
- Fruit and yogurt
- Plain baked potato (no butter or sour cream)
- Salad

## - Less healthy options:

- Chicken nuggets
- Croissant breakfast sandwiches
- Onion rings
- Large French fries

# Physical Activity

- Regular exercise, included as part of the new food pyramid, is an important part in maintaining a healthy lifestyle.
- Exercise (physical activity) involves any form of movement such as walking, jogging, climbing stairs, or playing basketball.

## -Exercise hints:

- Include activities you enjoy doing
- Work your way up to at least 30 min. of physical activity per day
- Incorporate exercise into your social life by including your friends in the activity
- Listen to music or watch TV while you exercise

# Physical Activity

## Benefits of Regular Exercise

- Helps relieve stress and depression
- Adds years to your life by lowering your risk of heart disease, colon cancer, diabetes, and high blood pressure

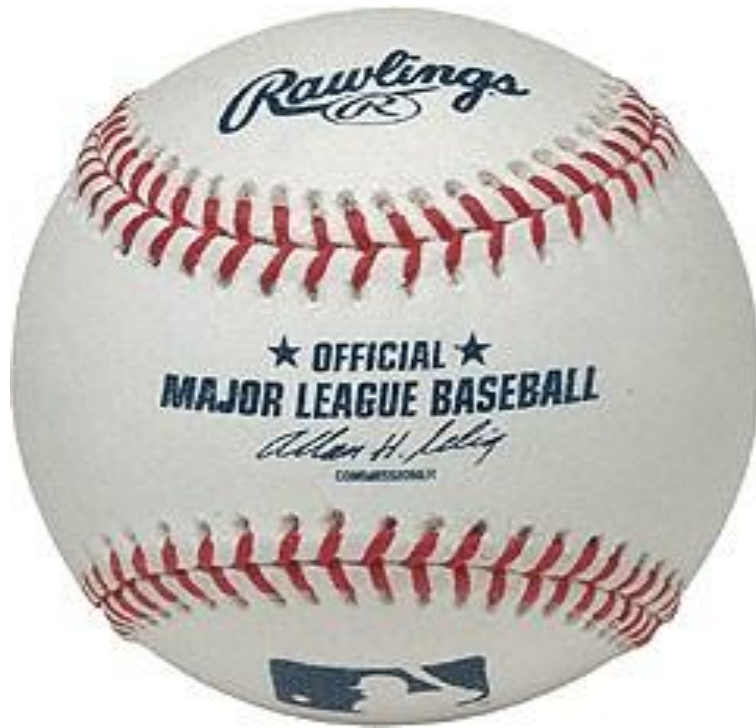




- Helps you maintain a normal weight by burning calories which results in a loss of body fat
- Tones and develops the muscles in your body



# PORTION SIZES



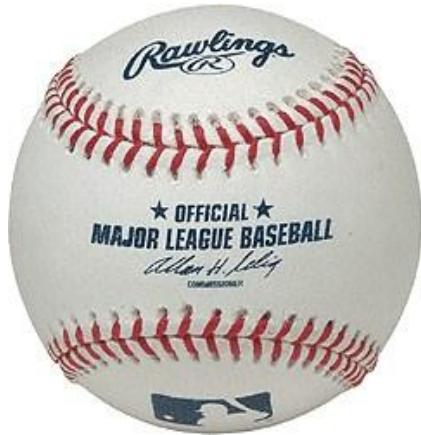
Fresh Fruit Or Vegetables

Dairy produces

=

1 Cup

# Half a Baseball



Canned Fruit or Cooked Vegetables,  
Rice, pasta, cooked cereal

=

$\frac{1}{2}$  Cup



Raisins

=

$\frac{1}{4}$  cup



Bread  
=  
1 slice



2 Cheese slices

=

1  $\frac{1}{2}$  ounces



Dry Cereal  
=  
 $\frac{3}{4}$  Cup





Lean meat, chicken, fish  
=  
3 ounces



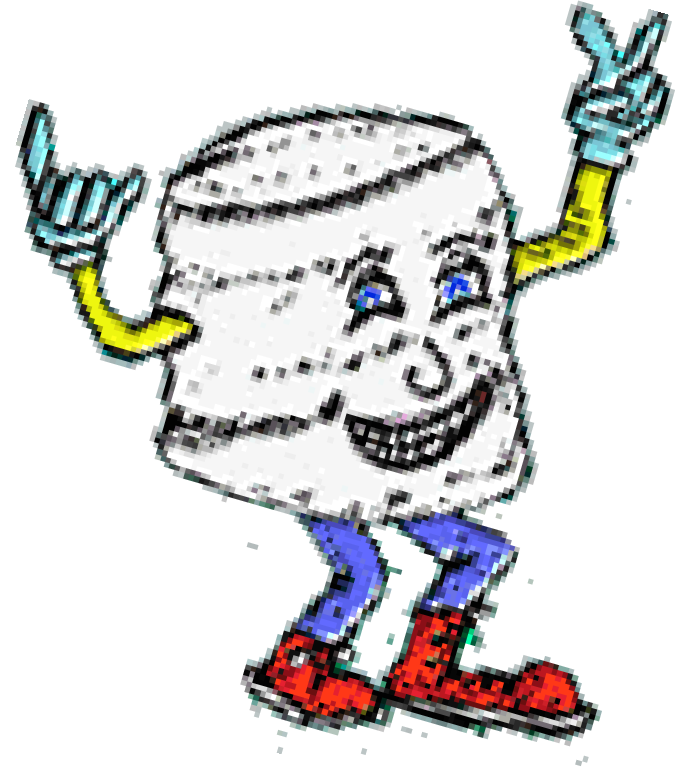
Grilled baked fish

=

3 ounces



Oil, butter, margarine  
=  
1 teaspoon



Peanut butter  
=  
2 tablespoons



Muffin or dinner roll  
=  
Plum

SERVING SIZE HANDOUTS

# Reading Food Labels

To help you make healthy food choices, many foods have a "Nutrition Facts" label that contains helpful information such as:

- serving size
- calories per serving
- fat/sodium/protein content
- types and relative amounts of nutrients (vitamin C, iron, etc.)

# Reading Food Labels

What do claims on food labels mean?

- Organic - Made from foods grown without pesticides, man-made fertilizers, or genetic engineering
- Healthy - Low in fat and saturated fat, contains no more than 360mg of sodium and cholesterol per serving



- Light - Contains at least one-third fewer calories or at least 50% less fat or sodium
- Fresh - Raw food products that contain no preservatives and have never been frozen, heated, or processed in any way

- Most food products will include a list of ingredients that are listed in order from the highest to the lowest in amount used.

# Nutrient and Health

## Claims

- **Free...** Fat Free = less than .5 g fat  
Sugar Free = less than .5 g sugar
- **Low in ...** low in calories = less than 40 calories  
low in sodium = less than 140 mg

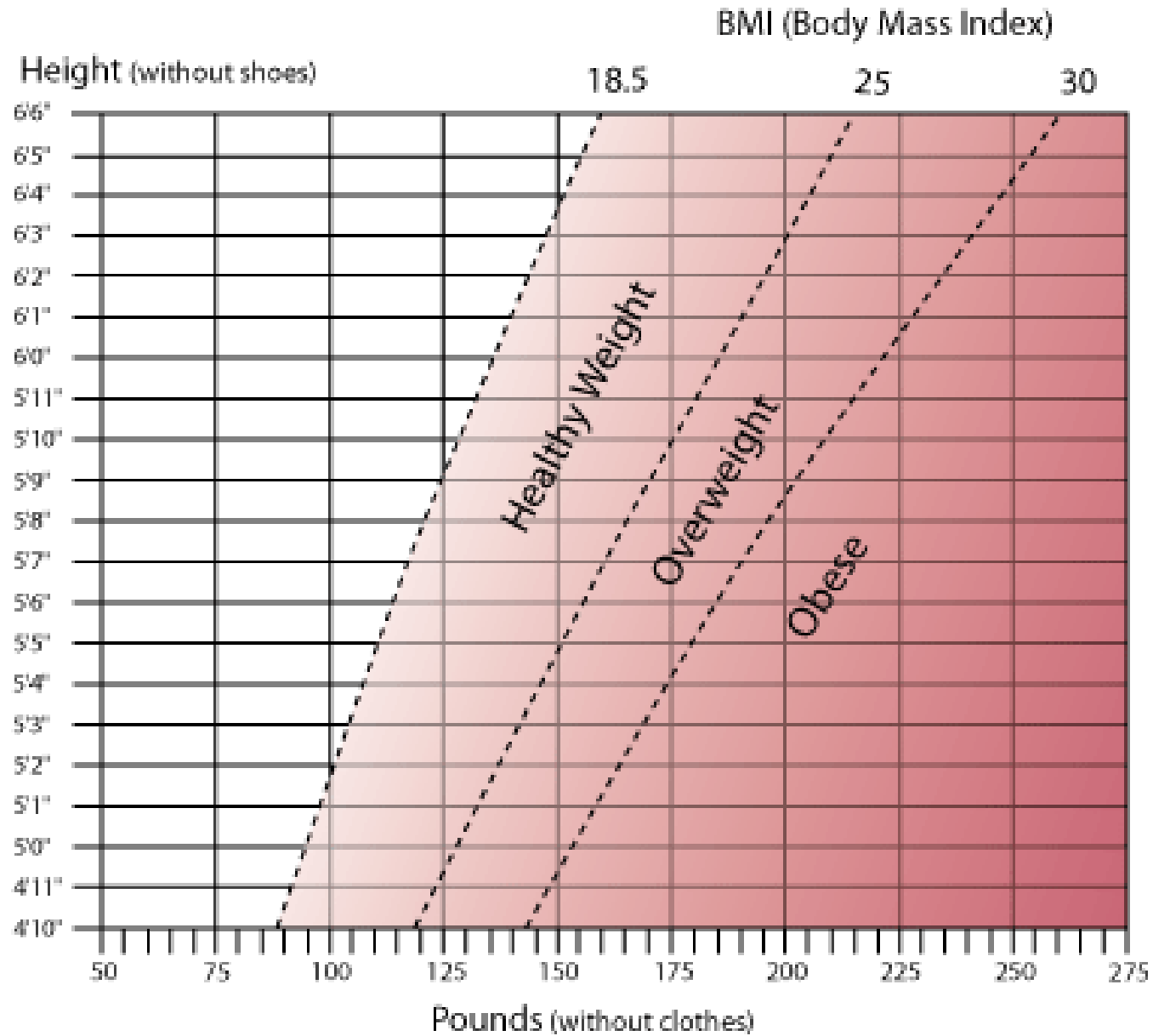
- **Excellent source of ... Excellent source of calcium = one serving provides 20% or more of the Daily Value for calcium.**
- **May reduce your risk of heart disease ... can appear on fiber containing grain products fruits and vegetables that are also low in saturated fat and cholesterol**

- **High in ...** high in vitamins = one serving provides 20% or more of the daily value for vitamin C
- **Light ...** contains 50% less fat or at least 1/3 fewer calories.

- **Open Dates** = These dates give you an idea of how long the foods will be fresh and safe to eat.
  - **Sell by** = last date the product can be sold
  - **Best if used by** = how long the product will be at peak quality
  - **Do not use after** = date is the expiration date. Last day you can consume the product.

FOOD LABEL ACTIVITY  
HEALTH FOOD CLAIMS  
FOOD LABEL HANDOUTS

# Are You at a Healthy Weight?





# Fad Diets

What are "fad diets"?

- Diets that promise quick weight loss and usually require you to eat specific types of food



## Examples of fad diets:

- Fit for Life (food combining diet)
- Dr. Atkins' New Diet Revolution (low carbohydrate diet)
- Metabolife 356 (diet pills)
- Slim Fast (liquid diet)

# Fad Diets

- The weight that you lose is usually water and/or lean muscle rather than body fat.
- Some of these diets can be harmful to your health.
- They sometimes do not include exercise which is important for healthy living.

- They limit your food choices and usually keep you from a balanced diet.
- These diets do not offer long-term success, and you usually gain back all the weight you lose.



# Anorexia

Psychological disorder that involves a person starving themselves due to an unhealthy fear of becoming obese



## Warning signs:

- Eating extremely small amounts of food per day
- False impression of their own body image
- Obsessed with exercise

## Harmful effects:

- Damage to the heart
- Excessive weight loss
- Negatively affects the immune system
- Death

# Bulimia

Psychological disorder that involves a person overeating ("binging") followed by the use of laxatives or vomiting to keep from gaining weight



People who suffer from this disorder usually have a false sense of their body image, and they are constantly striving to obtain the "perfect body."

Harmful effects:

- Tooth decay (from excessive vomiting)
- Damage to the kidneys
- Dehydration      Death



# COMPULSIVE EXERCISE

- Best defined by an exercise addict's frame of mind: He or she no longer chooses to exercise but feels compelled to and struggles with guilt/anxiety if he or she doesn't work out.
- Exercising takes over the exerciser's life because he or she plans life around it.

- Excessive exercise damages tendons, ligaments, bones, cartilage, and joints
- May disrupt the balance of hormones in their bodies.
- The combination of anorexia and compulsive exercise can be fatal.
- Exercise addicts are often plagued by anxiety and depression

# COMPULSIVE OVEREATING

- Characterized as an "addiction" to food, using food and eating as a way to hide from their emotions, to fill a void they feel inside, and to cope with daily stresses and problems in their lives.

# COMPULSIVE OVEREATING

- Words like, "just go on a diet" are as emotionally devastating to a person suffering Compulsive Overeating as "just eat" can be to a person suffering Anorexia.

# COMPULSIVE OVEREATING

- At health risk for a heart attack, high blood-pressure and cholesterol, kidney disease and/or failure, arthritis and bone deterioration, and stroke.

# Laxatives

- Laxatives move food through the body more rapidly.
- They relieve stomach bloating and pain after a binge.
- They don't prevent the calories from being absorbed.
- Weight loss is caused by loss of  $H_2O$  and minerals and only temporary.

# Laxatives

Misuse of laxatives is VERY harmful:

- Upsets the body's mineral balance
- Leads to dehydration
- Damages the lining of the digestive tract
- Lets the digestive tract get lazy. When someone stops using them, they may become constipated.

# Diuretics

- a.k.a. water pills-help get rid of excess water by increasing the amount of urine.
- Causes sudden weight loss
- Could cause dehydration
- Increased loss of minerals
- **VERY DANGEROUS**



# Ipecac Syrup

- Taken to cause vomiting
- Can cause heart weakness
- Linked to several deaths
- **TOXIC** in large amounts or small amounts built up over time

# Obesity

Caused by an excess amount of body fat

- People are usually considered "obese" if their weight is 30% or more above their ideal weight.

2 main causes:

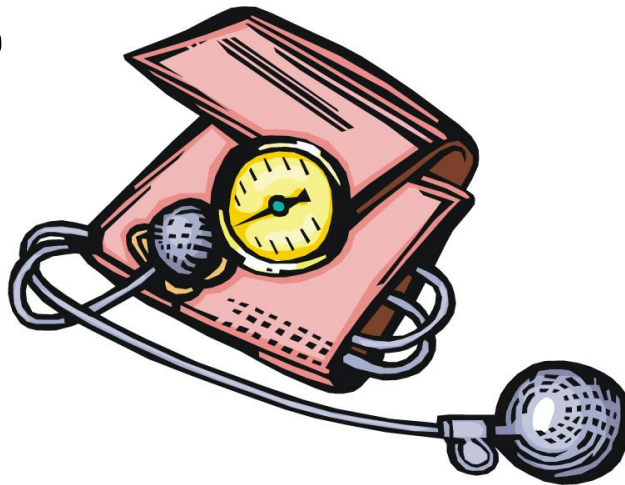
1. Unhealthy eating habits
2. Lack of physical activity



# Obesity

## Health Risks:

- Lower self-esteem
- High blood pressure
- Blocked arteries
- Diabetes
- Cancer



- Drugs do not really help people lose weight and keep it off.
- They can be addictive, and lead to dangerous physical problems if misused.

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