

Nutrition for Dancers

How to eat, what to eat, and
more...

What is a Calorie?

- Calorie-standard unit for measuring heat
- kCal- amount of heat necessary to raise 1 kg of water to 1 degree Celsius
 - The measure of energy provided by food to fuel the body
- 3,500 kCal = 1 lb

Nutrients

- Macronutrients - Fats, Proteins, Carbohydrates
 - Micronutrients - Vitamins and Minerals
- *Nutritional content has just as much to do with weight management/weight loss as calories consumed!

Nutrient Density

- Nutrient Density-ratio of nutrient content to total energy content
- Nutrient Dense vs Energy Dense (aka empty calories)
- Energy:
 - Phosphorous: short duration/very high intensity exercise
 - Fat: long duration, low intensity exercise
 - Glucose: medium duration, moderate/high intensity exercise

Carbohydrates

- Main fuel for central nervous system, brain, and formation of Red Blood cells
- Simple carbohydrates
 - Monosaccharides: glucose and fructose, sugars that occur naturally in fruit, honey, corn syrup
 - Disaccharides: table sugar, milk (lactose)
- Complex carbohydrates-more difficult to break down and take longer to digest/absorb
 - Wheat, whole grains, vegetables, corn, beans, legumes, potatoes

Carbohydrates Cont.

- Needed for:
 - Complete fat breakdown
 - Fiber source (keeps colon healthy, regulates blood sugar and satiety, aids in digestion)
 - Binds toxins in the body
- 4 kCal of energy per gram
- 55-65% of total caloric intake

Fats (lipids)

- Main fuel in endurance and aerobic state
 - Saturated:[solid @ room temp] shortening, butter, animal fat, hydrogenated oils
 - Monounsaturated and Polyunsaturated: [liquid @ room temp] mostly plant sources
- Aids in satiety-slows gastric emptying, stays in stomach longer
- Needed for:
 - Formation of cell walls
 - Neurological fxn
 - Fxn of smooth muscle
 - Recovery from injury
 - Absorption of fat soluble vitamins
 - Hormones for sexual organs: [amenorrhea]
- 9 kCal of energy per gram
- 10-20% of total caloric intake (don't go below 5% or you will lose essential fatty acids)

Proteins

- Contains nitrogen, which is formed into amino acids (building blocks of living tissue)
- Major component of muscles, ligaments, tendons, and bone
- Complete-contains all 9 essential amino acids [meat, poultry, fish]
- Incomplete-plant proteins
- Needed for:
 - Fluid balance
 - Synthesizing of hormones
 - Enzyme formation
 - pH balance
 - Antibody formation
- 10-20% of total caloric intake

Vitamins and Minerals

- Do not provide energy
- Vitamins-necessary for metabolic rxns, act as antioxidants, mineral metabolism, regulation of cell/tissue growth
 - Fat Soluble: A,E,K,D
 - Water Soluble: B's,C
- Minerals-support biochemical rxns of metabolism
 - Iron
 - Calcium

Your Caloric Needs

- 1,800-2,400 kCal/day
- Based on age, sex, physical activity level.
- Human body easily gains weight
- Dancing promotes weight loss
 - True or False?

Caloric Needs Cont.

- Basal Energy Expenditure-energy needed to sustain the body in a resting state
- $BEE = 655 + 9.6(\text{wt in kg}) + 1.85(\text{ht in cm}) - 4.7(\text{age})$
- $\text{Wt in lbs} \times .45 = \text{Wt in kg}$
- $\text{Ht in in} \times 2.54 = \text{Ht in cm}$
- BEE for 120lb 5'4" 15 year old Female
 - $120\text{lb} \times .45 = 54\text{kg}$
 - $64\text{in} \times 2.54 = 163\text{ cm}$
 - $655 + 9.6(54\text{kg}) + 1.85(163\text{cm}) - 4.7(15) = 1,404$
kCal

New USDA Guidelines as of June 2011

Balance Calories

Foods to increase

- Make 1/2 your plate fruits and vegetables
- Make at least half your grains whole grains
- Switch to fat-free or low-fat (1%) milk

Foods to Reduce

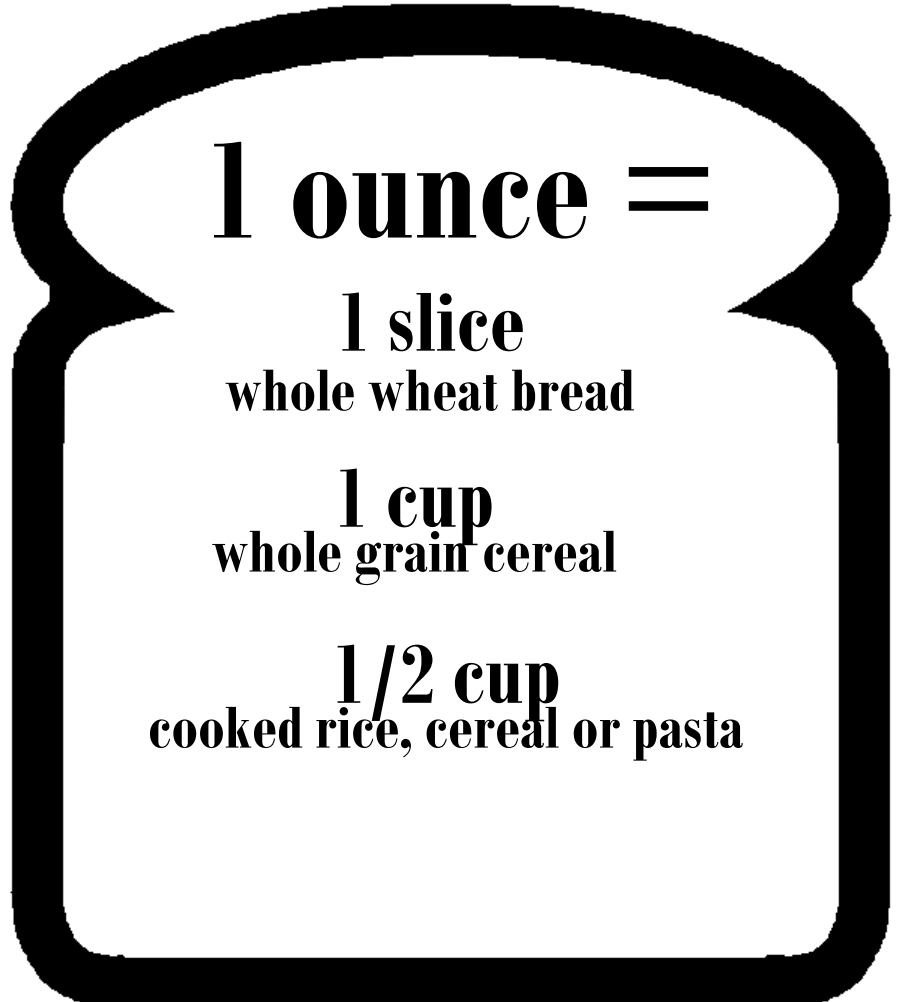
- Compare sodium in foods like soup, bread, and frozen meals--choose the foods with lower numbers
- Drink water instead of sugar drinks



Power Up! Eat Smart!

- Grains

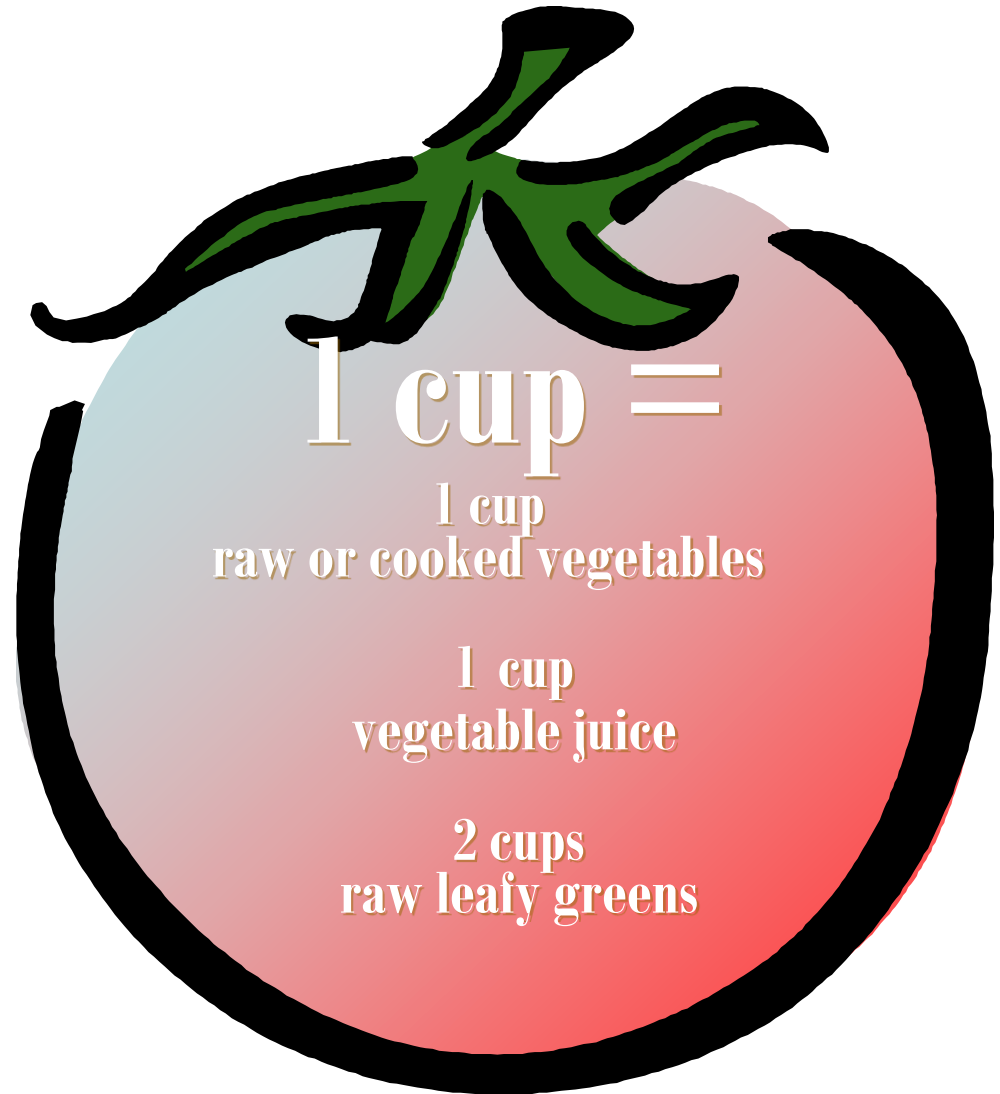
- ❑ Excellent source of carbohydrate, vitamins, minerals and fiber
- ❑ The carbohydrate fuels muscles and protects against fatigue
- ❑ 6 ounces every day
- ❑ Half of all grains should be whole grains



Power Up! Eat Smart!

- Vegetables

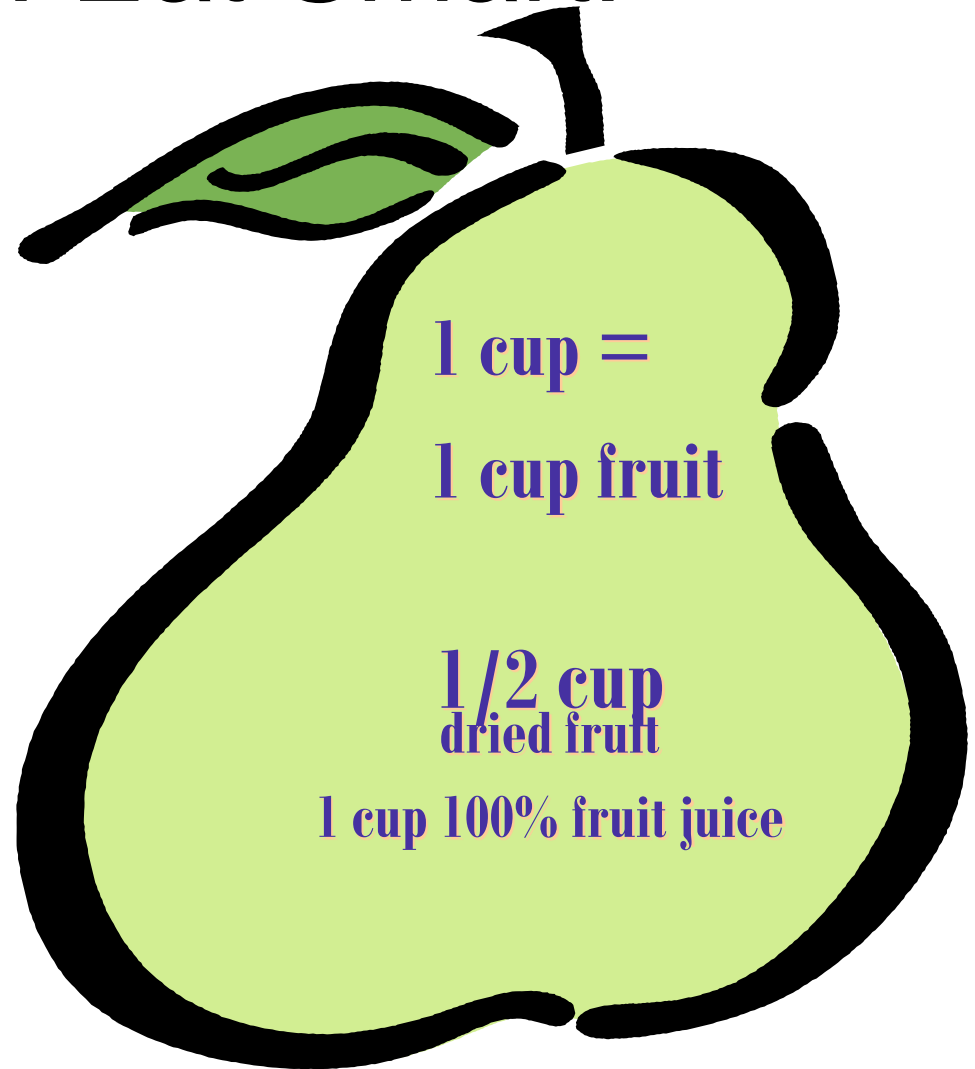
- ❑ Excellent source of fiber, vitamins, and minerals
- ❑ 2 1/2 cups every day
- ❑ Choose dark green and brightly colored
- ❑ Eat more dry beans and peas



Power Up! Eat Smart!

- **Fruits**

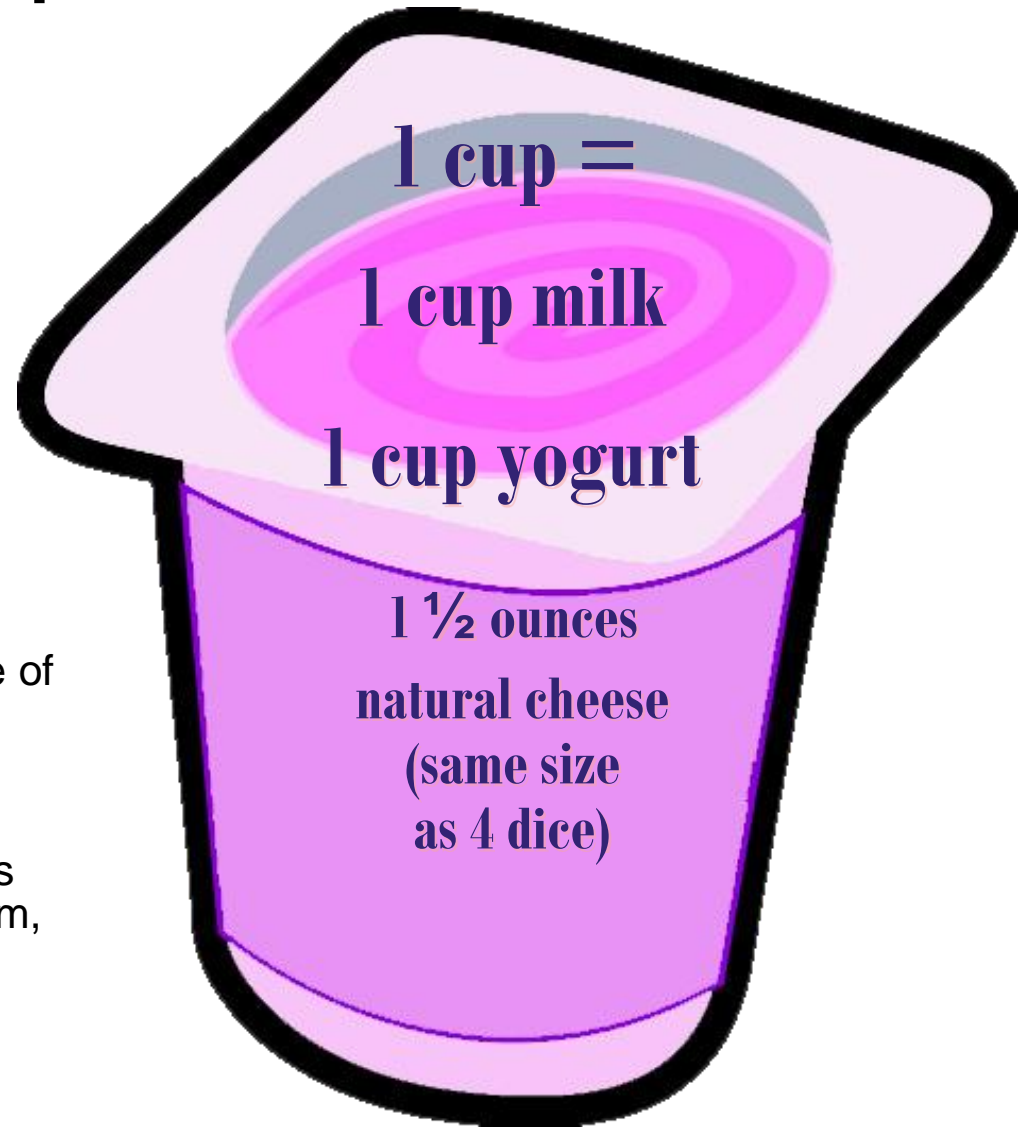
- Rich in vitamins, fiber and carbohydrate
- Carbohydrate found in fruit aids in recovery after exercise
- 2 cups every day
- Eat a variety of fruit – fresh, frozen, canned or dried
- Limit servings of juice



Power Up! Eat Smart!

Milk, Cheese and Yogurt

- ❑ Good source of protein
- ❑ Excellent source of calcium
- ❑ Good source of carbohydrate
- ❑ 4 cups every day
- ❑ Choose low fat or fat-free milk, yogurt and cheese
- ❑ Choose milk for the best balance of calcium, protein, carbohydrate and other essential nutrients
- ❑ Calcium-fortified foods and beverages including soy beverages or orange juice may provide calcium, but not the other nutrients found in milk and milk products



Power Up! Eat Smart!

Meat, Beans, and Eggs

- Protein to repair muscles
- Helps with muscle development
- Good source of iron to prevent anemia
- 5 1/2 ounces every day
- Low fat or lean meat, poultry or fish
- One 3 ounce serving of meat, fish or poultry is about the size of a deck of cards

1 ounce =

**1/4 cup
dry cooked beans**

**1 ounce
meat, poultry or fish**

**1 tablespoon
peanut butter**

**1/2 ounce
nuts or seeds**

1 egg

Nutrient Recap

Carbohydrate

- Critical fuel source for exercising muscles
- More exercise requires more carbohydrate
- It is important to eat carbohydrate in foods to maintain glycogen stores
- Carbohydrate is stored in the liver and in muscle as glycogen
- When glycogen stores are low, the body becomes tired
- Milk and yogurt, whole grain breads/bagels, whole grain cereal/granola, popcorn, whole grain crackers/tortillas, potatoes, whole grain pasta, brown rice, fruits, vegetables

Protein

- Essential for growth, repair and maintenance of body tissue and muscles
- Provides some energy
- Slows Digestion, prevents spike in insulin
- Important for refueling after rehearsals and performances
- Milk, cheese, yogurt, meat, fish, chicken, eggs, beans, nut butters, quinoa, peas, soy

Nutrient Recap Cont.

Fat

- Don't totally eliminate from diet
- Keeps you fuller longer
- Important to every cell in the body
- Provides fuel for working muscles
- Powers endurance activities
- fish (tuna, salmon, etc), avocados, oils (extra virgin olive, canola, flax seed, walnut, grape seed, sunflower, etc), olives, nuts and seeds (peanuts, almonds, walnuts, pistachios, sunflower seeds, pumpkin seeds, flax seeds, etc), nut butters (peanut butter, almond butter, cashew butter, sunbutter)

Fluids

*75% of muscle is water

- Dehydration will impair performance
- Drink before, during and after rehearsal and performances
- Avoid soft drinks and stimulant drinks
- Best sources are WATER, milk, fruit, & 100% fruit juice (limit to 4oz daily)

• Aim for 64 oz of water daily

- Regulates body temperature during activity
- Helps convert food into energy
- Lubricates joints

• Avoid sports drinks

• Hate Water?

- Add cucumber, mint leaves, or citrus fruit to make it more appealing

How to Choose Food

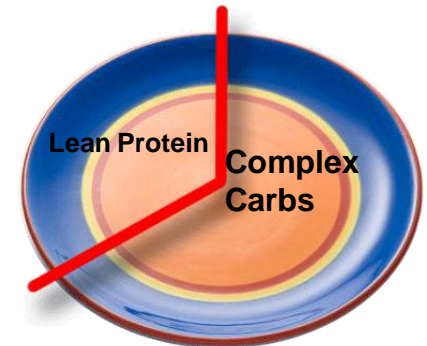
- Shop the perimeter
- “If it’s a plant, eat it...if it was made in a plant, don’t”
- Don’t eat things your grandmother wouldn’t recognize, things a 3rd grader can’t pronounce, or foods with more than 5 ingredients...
- Avoid high fructose corn syrup and hydrogenated oils
- Avoid foods that have some form of sugar (or sweetener) listed within the first 3 ingredients
- Eat foods that will one day rot
- Eat mostly plants
- Eat the rainbow
- “The whiter the bread the sooner you’ll be dead”
- Snacks should be unprocessed plant foods when possible (fruit, veggies, and nuts)
- Cook for yourself! Avoid eating already made foods and limit how many times you eat out a week. Example: If you want a cheeseburger, make it yourself rather than go to the drive-through

Timing is Everything

- Eat every 3-4 hours
- Smaller, portion controlled meals
- Response of insulin and blood glucose level is 1 factor in determining how hungry you are
- “Breakfast like the king, lunch like a prince, dinner like a pauper”
- Avoid sugar and caffeine

Peak Performance

- Timing and Composition
- 20:20:60
- Complex Carbohydrates are ideal
 - Eat a high carbohydrate meal 3-4 hours before a performance
 - Focus on carbohydrate and fluid
 - Rule of thumb: fill 2/3 of plate with high carbohydrate foods and the rest with lean protein
 - Can you think of healthy breakfast ideas?
 - Choose a small snack 45 minutes-1 hour before performance to allow for digestion, but provide optimum energy
 - Carry high nutrient dense snacks and water to refuel throughout a long day of rehearsals and performances
 - Can you think of healthy snack ideas?
- Know YOUR body and YOUR needs
 - Rehearsal time is key
- Food=Fuel, Fuel=Performance



Portion Distortion

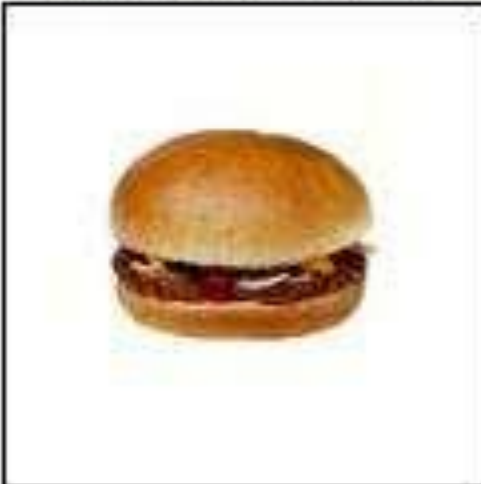
- *Average portion sizes have grown so much over the past 20 years that sometimes the plate arrives and there's enough food for two or even three people on it. These growing portion sizes are changing what Americans think of as a "normal" portion at home, too. We call it **portion distortion**.*
- **Portion**-*the amount of food that you choose to eat for a meal or snack, big or small--you decide*
- **Serving**-*the measured amount of food or drink, such as one slice of bread or 1 cup (8 oz) of milk*
- *Many foods that come as a single **portion** actually contains multiple **servings***

Bagels



20 years ago: 3-inch diameter bagel, 140 calories
Now: 6-inch diameter, 350 calories
Difference: 210 calories, equivalent to raking leaves for 50 minutes

Cheeseburgers



20 years ago: 333 calories
Now: 590 calories
Difference: 257 calories, equivalent to lifting weights for 1-1/2 hours

Turkey Sandwiches



20 years ago: 1 sandwich, 320 calories

Now: 820 calories

Difference: 500 calories, 1-1/2 hours riding a bicycle

Coffee



20 years ago: 8 oz, whole milk and sugar, 45 calories

Now: 16 oz, steamed whole milk and mocha syrup, 350 calories

Difference: 305 calories, 1 hour 20 minutes walking

1 Serving Looks Like...

Grain Products

- 1 cup cereal flakes=fist
- 1 pancake=compact disk
- 1/2 cup cooked rice, pasta, potato=1/2 baseball
- 1 slice bread=cassette tape
- 1 piece of cornbread=bar of soap

Dairy and Cheese

- 1 cup of salad greens=baseball
- 1 baked potato=fist
- 1 med fruit=baseball
- 1/2 cup fresh fruit=1/2 baseball
- 1/4 cup raisins=large egg

Dairy and Cheese

- 1 1/2 oz cheese=4 dice
- 1/2 cup ice cream=1/2 baseball

Fats

- 1 tsp margarine or spreads=1 dice

Meat and Alternatives

- 3 oz meat, fish, and poultry=deck of cards
- 3 oz grilled/baked fish=checkbook
- 2 tbsp peanut butter=1 ping pong ball

Tips for Downsizing

- Eat off of salad plates and cereal bowls. Your mind is a powerful thing and you can trick yourself into thinking you ate more than you did
- Serve proper portions, and don't go back for seconds
 - “See less, eat less”
 - Listen to your body
- Eat 80% of your plate, then stop and wait before resuming
- Order child sizes, lunch portions, and appetizers
- Ask for 1/2 of your food to be put in a to-go box *before* you start eating
- Share with a friend
- Spoil your dinner
- Never eat out of the bag
- Don't eat mindlessly

How to be Naturally Thin

- Your diet is a bank account
- You can have it all, just not all at once
- Taste everything, eat nothing
- Pay attention
- Downsize, but *don't* measure
- Cancel your membership to the clean plate club
- Check yourself before you wreck yourself
- Know Thyself
- Get Real
- Good for You

Suggested Readings

- *Food Rules* by Michael Pollan
- *Naturally Thin* by Bethenny Frankel
- *The Dancer's Body Book* by Allegra Kent
- *Diet for Dancers* by Robin Chmelar and Sally Fitt