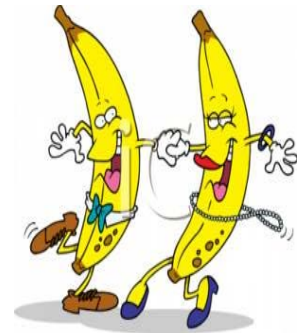


Welcome!



BI 199 Discussion 1

- I. Introduction** Welcome, information cards, goals, course overview, resources, expectations, grading, Q?
- II. Nutrition Research** Accurate & reliable? Peer-reviewed? Text vs. trade book? Extensions: .edu, .org, .gov vs. .com?
- III. Nutrition Concepts & Controversies: Fact or Fiction?**
Group Work & Discussion: ID Concepts & Controversies
Dr. Oz, Liz Vaccariello & the 21-Day Flat Belly Diet
Stanford Health Care on FOD MAPS
- IV. Why Care about Nutrition?** How does nutrition affect diseases? How about me?
- V. The Nature of Foods** What are essential nutrients? Energy nutrients? What elements are in me?
- VI. Healthy People 2020 Goals for the US**
- VII. Nutrition Science vs. Nutrition Quackery** Scientific Method, Kleiner's & Monaco's Top Quackery 10 Hit List! Group work!

Introduction & Cards

Last Name, First Name, Nickname, Phone, e-mail

Major/Undeclared/Area of Interest

Academic Status: (Fr), So, Jr, Sr, PB, MS, PhD, CEP

Professional Objective: eg, RD, MD, PhD, DO/TBA?

Hometown, Birthplace

Prior related course work? eg, A&P, Hum Bio, Nutr

High School, Prior Community Colleges/Universities?

Family/Special Interests/Hobbies

Secret/Something unique about you?





BI 199 Nutrition Concepts & Controversies

1^o Goals are to Promote:

1. lifelong interest & love of science & nutrition to optimize personal health & quality of life.
2. an open-ended, scientific investigation & discussion of nutrition concepts & controversies in an intimate, collegial & informal setting.
3. heightened awareness & use of tremendous academic & research resources @ U of O (Science & Knight Library resource staff,...).
4. enjoyment in one of your 1st University experiences. Have fun exploring & learning!
5. come as you are, leave different (S&W after a Louisiana billboard!)

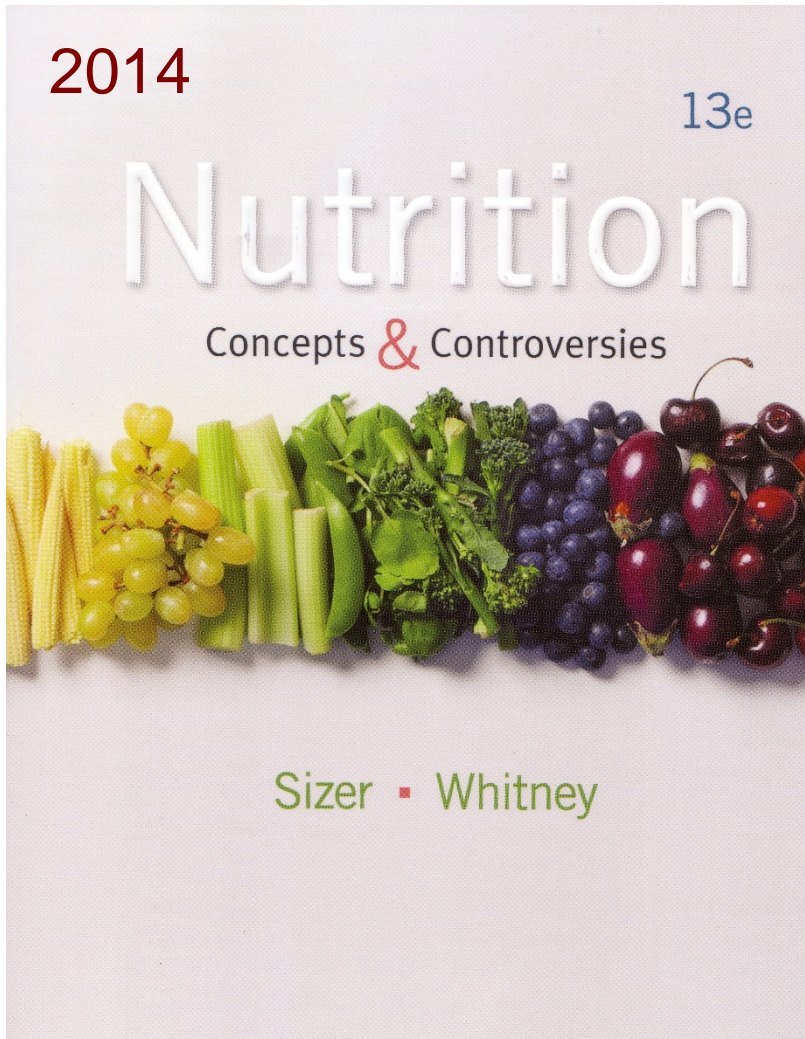


What the heck is nutrition?

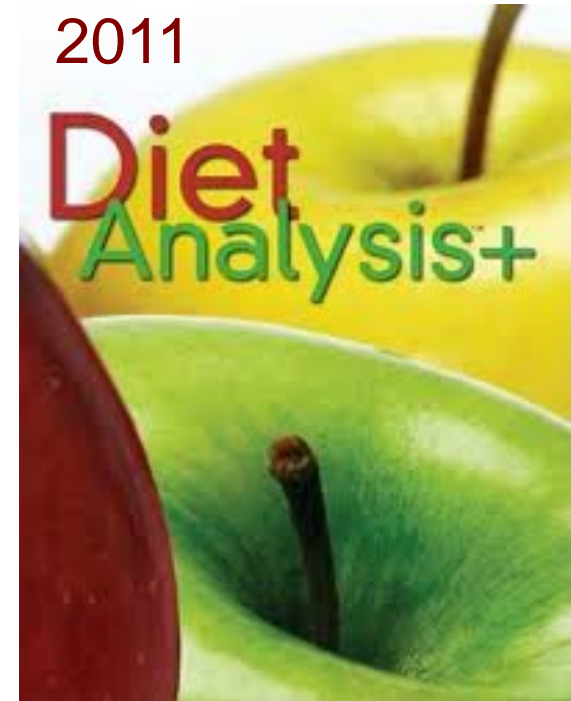
L. *nutritio* - the study or science of...to nourish!



Text w/Diet Analysis + On-line Access

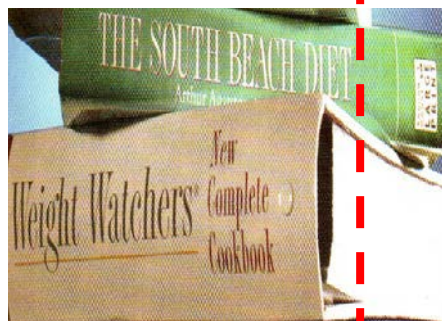
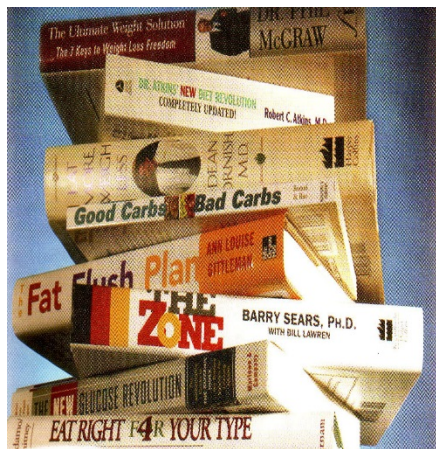


+



New 108.25 w/On-Line Access Used
168.00 w/o On-Line Access!
We got a special deal! 😊

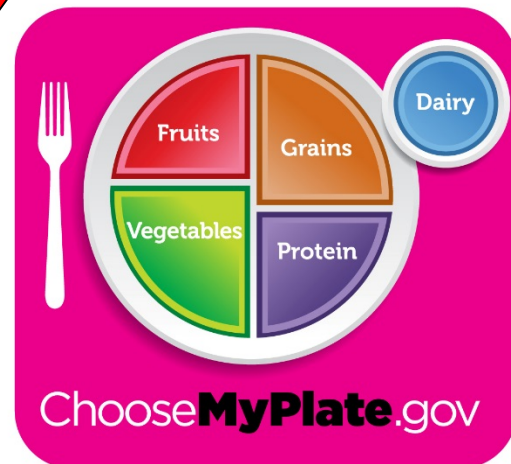
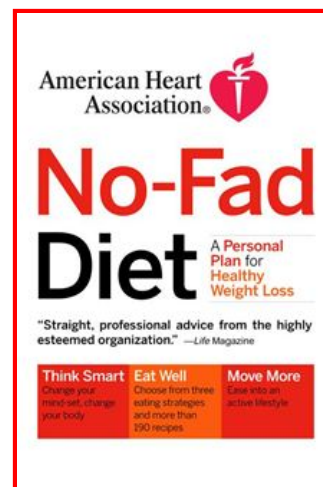
NOT PEER-REVIEWED = TRADE BOOKS



PEER-REVIEWED = TEXTS → RESEARCH



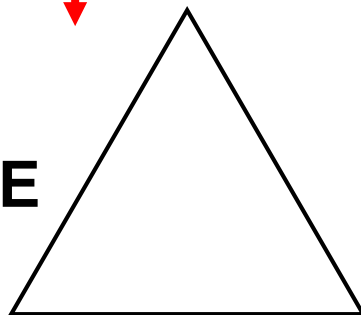
AHA + DASH + MAYO CLINIC



FAST LOW CARBOHYDRATE



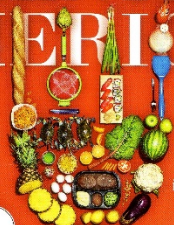
ELIMINATE CALORIES or FOOD GROUPS



LOW FAT

ADEQUACY, BALANCE, CONSISTENCY & MODERATION

SCIENTIFIC AMERICAN



It started as fuel, became a passion, ignited a global crisis—and made us human

food

You Don't Know CALORIES
The Truth About GMOs
Why We Needed

BerkeleyWellness.com
University of California, Berkeley
WellnessLetter
News and expert advice from the School of Public Health



Salt: Is lower not better after all?

An important new report shakes up some assumptions about sodium

Don't worry about sodium... Cut back on sodium... Consume a lot less sodium... Don't go too low in sodium. Over the past few decades, Americans have been subjected to shifting messages about sodium: a main component of salt and were unduly buffeted over more by a recent report from the Institute of Medicine (IOM), which suggests that a very low sodium intake could be *bad* for some people. Confused? We don't blame you.

A salty tale
For years health and nutrition experts emphasized reducing dietary fat and cholesterol and stressed to be less concerned about sodium. But as evidence mounted that excess sodium increased the risk of high blood pressure—a leading cause of heart attacks, strokes, and kidney failure—sodium took a more central place in dietary advice, and health officials began advising lower limits for more people.

In 2005 the government's Dietary Guidelines recommended a maximum of 2,300 milligrams of sodium a day (the amount in about a teaspoon of salt) and 1,500 milligrams for people at higher cardiovascular risk—everyone over 50, all African Americans, and anyone with hypertension, diabetes, or chronic kidney disease. (Protein substitutes had long said to choose and prepare foods with less salt and, before that, to keep sodium intake "moderate.")

Reigniting the debate
In May the IOM shook things up when it announced that despite current sodium recommendations, very low levels are not necessarily better and may even be harmful. The IOM is an independent nonprofit organization that convenes expert committees to examine scientific data and advise the government and the public about health issues. The Salt Institute and other food industry groups welcomed the news, arguing that there should not be population-wide recommenda-

WellnessFacts

- Daily sunscreen use slows skin aging, even in middle-aged people.** According to a well-designed Australian study in the *Annals of Internal Medicine*, it's clear that consistent sunscreen use reduces the risk of skin cancer, but this is the first study to show that it also protects against photoaging—the wrinkling, dark spots, and sagging skin caused by the sun's ultraviolet rays. More than 900 white people ages 25 to 55 were either instructed to use broad-spectrum sunscreen (SPF 15) diligently every day or simply told to use sunscreen at their discretion (it would have been unethical to tell them not to use sunscreen at all). After four years, the daily sunscreen group had 24 percent less skin aging, on average, than the other group.
- Two-thirds of customers at fast-food restaurants underestimate their calorie intake, often by hundreds of calories.** A recent study in the *Journal ofAMA* has found. Adults consumed 836 calories per meal and underestimated by 173 calories, on average. Teenagers ate 750 calories, but misjudged by 259 calories. About one in four people underestimated by more than 500 calories. Underestimation was greatest among Subway diners, partly because of the chain's "eat it up" ad: the researchers suggested the Affordable Care Act will require calorie labeling at fast-food restaurants, though research on the effect of calorie displays has been mixed. Young and middle-aged Americans get 10 to 15 percent of their calories from fast food, according to CDC data.
- Men with prostate cancer who take statin drugs to lower their cholesterol have a reduced risk of dying from the disease.** A recent study in *The Prostate*, the researchers tracked 1,000 Seattle-area men diagnosed with prostate cancer over a 10-year period and found that statin users were 80 percent less likely to die from the cancer than non-users; they consumed less fat, weighed less, and

WellnessLetter.com
University of California, Berkeley
WellnessLetter
News and expert advice from the School of Public Health

WellnessFacts

- Lack of sleep can cause weight gain, much research has shown.** Now a study in the *American Journal of Clinical Nutrition* has found a new explanation for this via fMRI scans. When subjects slept only four hours a night for six nights, their fMRI scans "showed images of brain regions (especially in areas that respond to pleasurable activities) involved much more than when they slept nine hours. That would increase the likelihood of overeating," the researchers said. "Previous research suggested that lack of sleep can cause weight gain by affecting appetite hormones."
- The number of Americans with type 2 diabetes will double or triple by 2050 if current trends continue.** according to "robust" projections from the CDC. While today 1 in 10 American adults has diabetes, that would triple to 1 in 3 by 2050. The sharp rise will be due to an aging population, increases in minority groups that are at higher risk for diabetes, and continuing weight gain.
- Women who go through early menopause are at higher risk for osteoporosis.**

Wheatophobia

Will avoiding wheat really improve your health?

Wheat has long been a dietary pariah for the millions of people who have jumped on the low-carb diet bandwagon (or at least sensitive) allergic (or at least sensitive) to the grain. Now even more people are hating about eating wheat after reading claims made by Dr. William Davis, a cardiologist and author of the bestseller *Wheat Belly*, which is subtitled "Lose the Wheat, Lose the Weight, and Find Your Path Back to Health." Not only does wheat make us fat, he says, it is addictive and causes everything from heart disease, diabetes, arthritis, and



is the main culprit in epidemic staple in most parts of the world. It's a little or not a "normal" intake (as for) and rates at consumption topped since 200 it is slowing us. In fact, a such more w few more w different use, the ob attribut claim avoid bea this

9 serving-size TRICKS, p. 14

Summer tomato dishes, p. 13

Sodium: how low to go? p. 8
Nutrition Action
HEALTH LETTER
CENTER FOR SCIENCE IN THE PUBLIC INTEREST

SAVE OUR SEAFOOD

What's good for us and the oceans

Seafood is good for our health. But the world's growing appetite for fish isn't so good for the creatures that inhabit our oceans.

Roughly 30 percent of the world's fish stocks are "overexploited"—in danger of collapse—according to the United Nations Food and Agriculture Organization. Another 57 percent are "fully exploited"—at close to their sustainable limits. That leaves the threat from climate change and air pollution.

Here's how to find fish that protect your health and the oceans.

Magnesium & stroke, p. 8
Getting a good night's sleep, p. 9
Three easy substitutes, p. 12
APRIL 2007 \$2.00
Nutrition Action
HEALTH LETTER
CENTER FOR SCIENCE IN THE PUBLIC INTEREST

Sugar Belly

How Much is Too Much Sugar?
BY BONNIE LIEBMAN

Have you heard of a bear belly. Now there's new news: the fructose in added sugars may contribute to that bulge.
BerkeleyWellness.com
University of California, Berkeley
WellnessLetter
News and expert advice from the School of Public Health

WellnessFacts

Is being overweight okay after all?

If being a study looking at whether body weight affects blood pressure, it's a good question. If you published it in a peer-reviewed journal, you'd have a good chance of being read.

Where to draw the line?
First of all, what's more important: what you eat or how much you eat? The BMI (Body Mass Index) is a measure of body mass based on height and weight. It's a simple calculation, but it doesn't take into account body composition. A person with a high BMI could be a bodybuilder, or they could be a person with a high BMI who is obese.

The good news
One thing is clear: being overweight is not necessarily bad for your health. In fact, being overweight may be protective against some diseases, such as heart disease and diabetes. However, being overweight can lead to other health problems, such as high blood pressure and sleep apnea.

Sleep apnea
Sleep apnea is a condition in which a person's breathing repeatedly stops and starts during sleep. It can lead to daytime fatigue, irritability, and difficulty concentrating. It is often associated with being overweight.

Thumbs-Up or Thumbs-Down From Nutrition Action Staff!



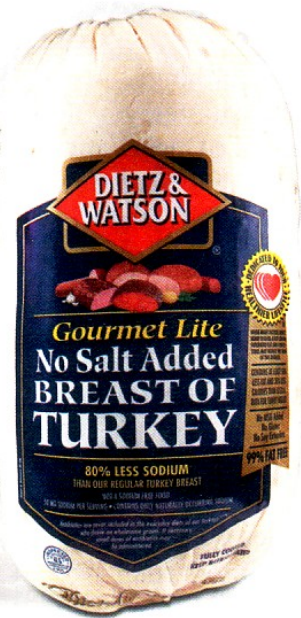
RIGHT STUFF

DELI DONE RIGHT

One quick stop at your supermarket's deli counter and you can stock up on a week's worth of quick sandwich fillings. But you'll also stock up on sodium—about 400 to 700 milligrams in each 2 oz. serving of deli turkey, roast beef, or ham.

That is, unless your deli carries **Dietz & Watson Gourmet Lite No Salt Added Breast of Turkey**. Each serving has just 50 mg of naturally occurring sodium. And it's made without nitrites, which are compounds that may raise cancer risk slightly.

Would you notice the Lite No Salt Added's milder taste if you took

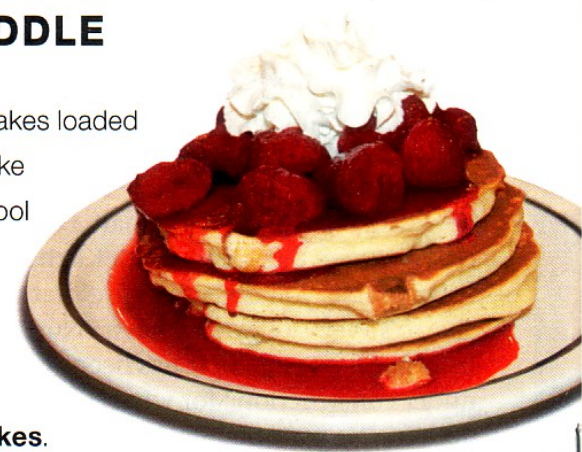


FOOD PORN

IWADDLE

"Four fluffy buttermilk pancakes loaded with creamy, rich cheesecake pieces and crowned with cool strawberries, powdered sugar and whipped topping." That's how the IHOP menu describes its **New York Cheesecake Pancakes**.

Just what we needed! Two out of three American adults are overweight or obese and IHOP decides that its ordinary stack of Original Buttermilk Pancakes is too skimpy. They can't expect customers to walk out of the restaurant with a mere 770 calories, mostly from white flour and (we suspect) a mix of butter and margarine



Keys to Accurate & Reliable Internet Resources

1. Peer-reviewed by expert scientists in area?

Scientific: PubMed/Index Medicus

<http://www.ncbi.nlm.nih.gov/pubmed/>

Lay: Other US Gov Websites *.gov*

<http://www.nutrition.gov/>

National Organization websites *.org*

[American Heart Association.org](http://www.heart.org) *Getting Healthy*

Nutrition Action Health Letter *.org*

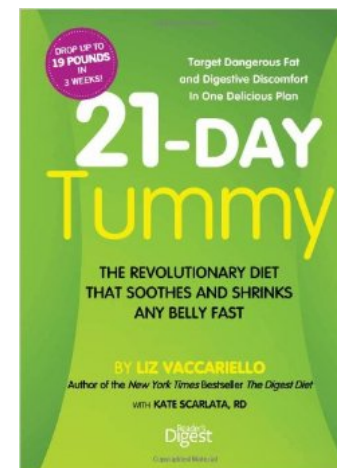
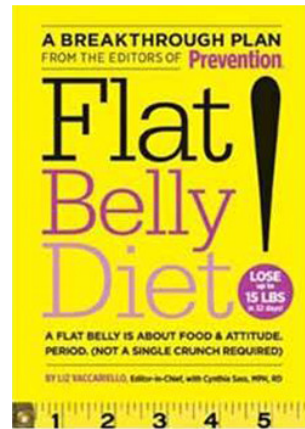
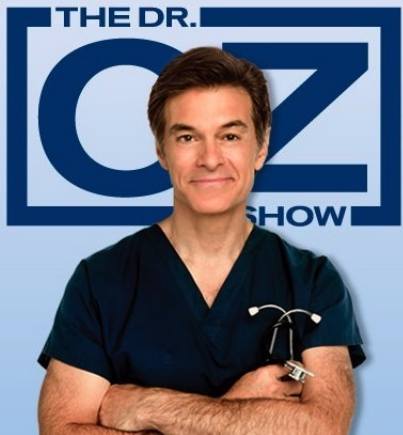
<http://www.cspinet.org/nah/index.htm>

UC Berkeley Wellness Letter *.com?*

<http://www.wellnessletter.com/ucberkeley/>

2. .edu, .org, .gov rather than *.com* (in most cases)

3. Check About Us! That is, investigate web origin!



Dr. Mehmet Oz & Liz Vaccarello 21 Days to a Flat Belly

<http://www.doctoroz.com/episode/21-days-flat-belly>

http://en.wikipedia.org/wiki/Mehmet_Oz



Stanford
HEALTH CARE

**Stanford Health Care on FOD MAPs ≡
Fermentable Oligo-Di-Mono Saccharides & Polyols**

<https://stanfordhealthcare.org/content/dam/SHC/for-patients-component/programs-services/clinical-nutrition-services/docs/pdf/lowfodmapdiet.pdf>

***Why
Care
About
Nutrition?***



Table 1–1**Leading Causes of Death in the United States**

Blue shading indicates that a cause of death is related to nutrition; the light yellow indicates that it is related to alcohol.

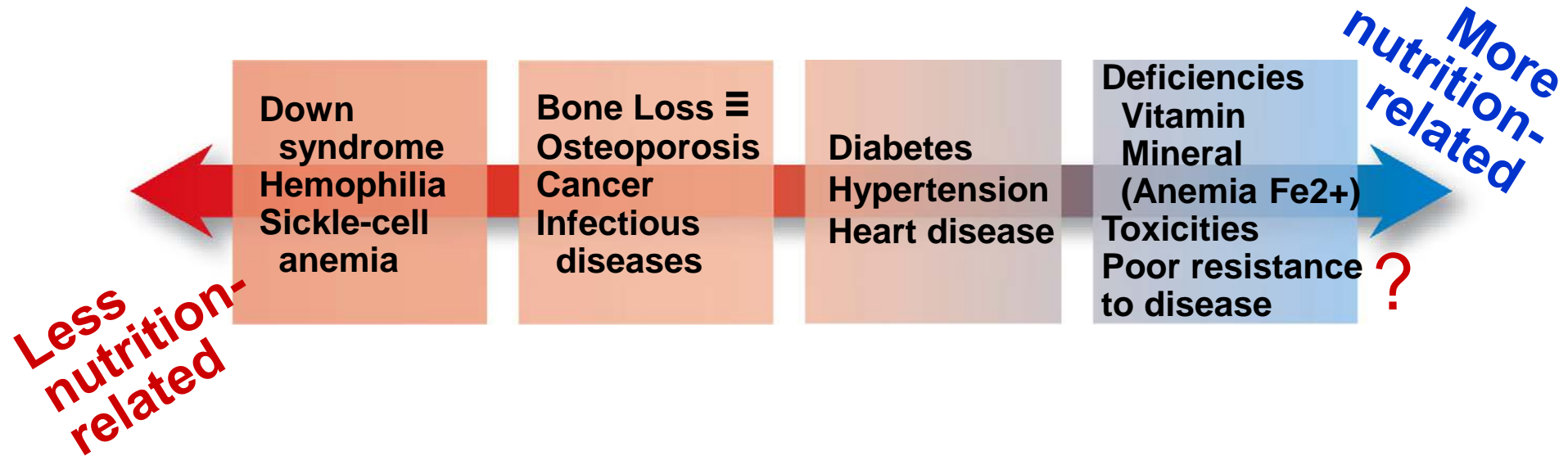
	Percentage of Total Deaths
1. Heart disease	24.6%
2. Cancers	23.3%
3. Chronic lung disease	5.6%
4. Strokes	5.3%
5. Accidents	4.8%
6. Alzheimer's disease	3.2%
7. Diabetes mellitus	2.8%
8. Pneumonia and influenza	2.2%
9. Kidney disease	2.0%
10. Suicide	1.5%

Source: Deaths: Preliminary data for 2009, National Vital Statistics Reports, March 16, 2011, Centers for Disease Control and Prevention, www.cdc.gov/nchs.

Genetics & Environmental Disease Continuum

Genetics

Environmental



Macronutrients & Micronutrients Essential for Life

Macronutrients

H₂O/Water

✓ 1^o Carbohydrates

✓ 2^o Fats/Triglycerides/Lipids

✓ 3^o Proteins

Sample Food Sources

Water, other drinks, fruits & vegetables

Grains, vegetables, fruits, dairy products

Meats, full-fat dairy products, oils

Meats, vegetables, legumes

Micronutrients

NB: Need only minute quantities!

Vitamins (A, D, E, K; C + B)

Vegetables, vegetable oils, fruits, dairy, citrus, grains

Minerals (K⁺, Na⁺, Ca²⁺, Mg²⁺, Fe²⁺, Zn²⁺, ...)

Fruits, processed foods, dairy, nuts, vegetables, grains, meats

✓ ***Energy nutrients = yield ATP***



Table 1–3**Elements in the Six Classes of Nutrients**

The nutrients that contain carbon are organic.

	Carbon	Oxygen	Hydrogen	Nitrogen	Minerals
Water		✓	✓		
Carbohydrate	✓	✓	✓		
Fat	✓	✓	✓		
Protein	✓	✓	✓	✓	^b
Vitamins	✓	✓	✓	✓ ^a	^b
Minerals					✓

^aAll of the B vitamins contain nitrogen; amine means nitrogen.

^bProtein and some vitamins contain the mineral sulfur; vitamin B₁₂ contains the mineral cobalt.

- Vitamins
- Minerals
- Fat
- Protein
- Carbohydrate
- Water

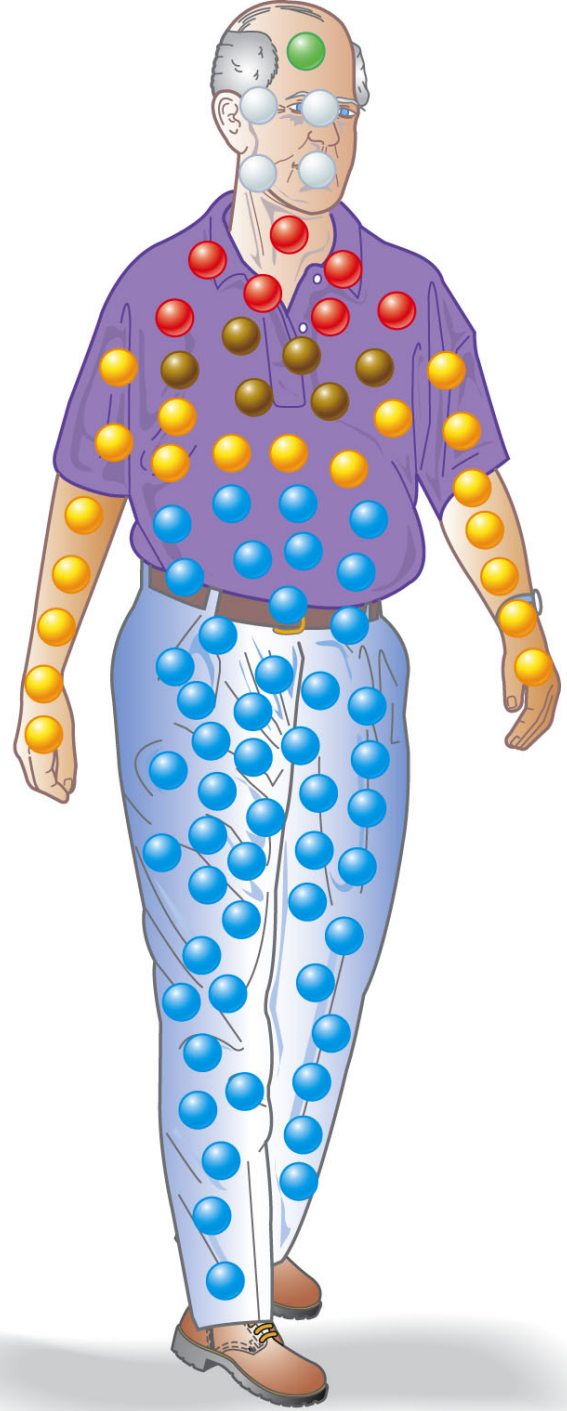
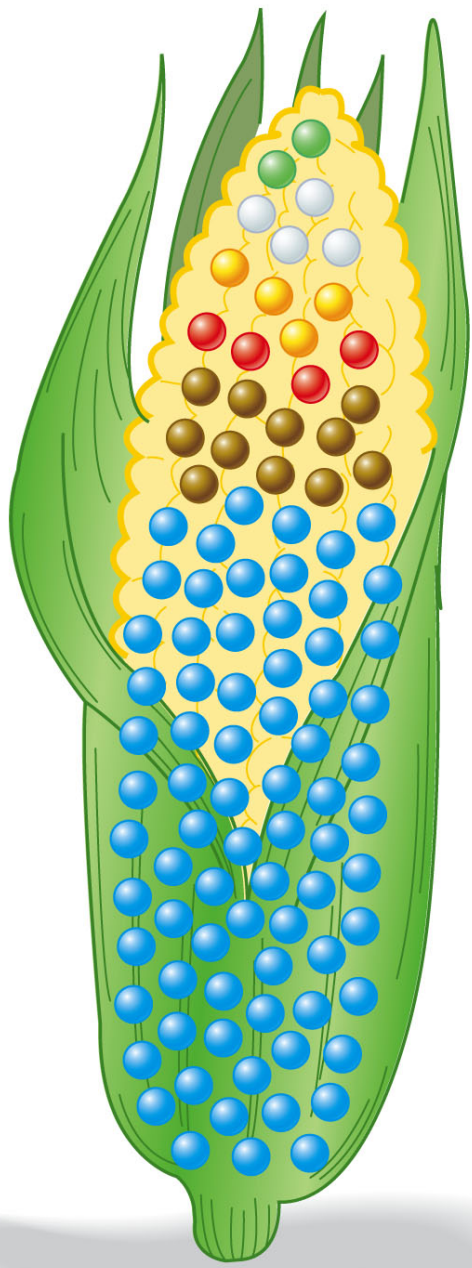


Table 1–4

**Calorie Values
of Energy Nutrients**

The energy a person consumes in a day's meals comes from these three energy-yielding nutrients; alcohol, if consumed, also contributes energy.

Energy Nutrient	Energy
Carbohydrate	4 cal/g
Fat (lipid)	9 cal/g
Protein	4 cal/g

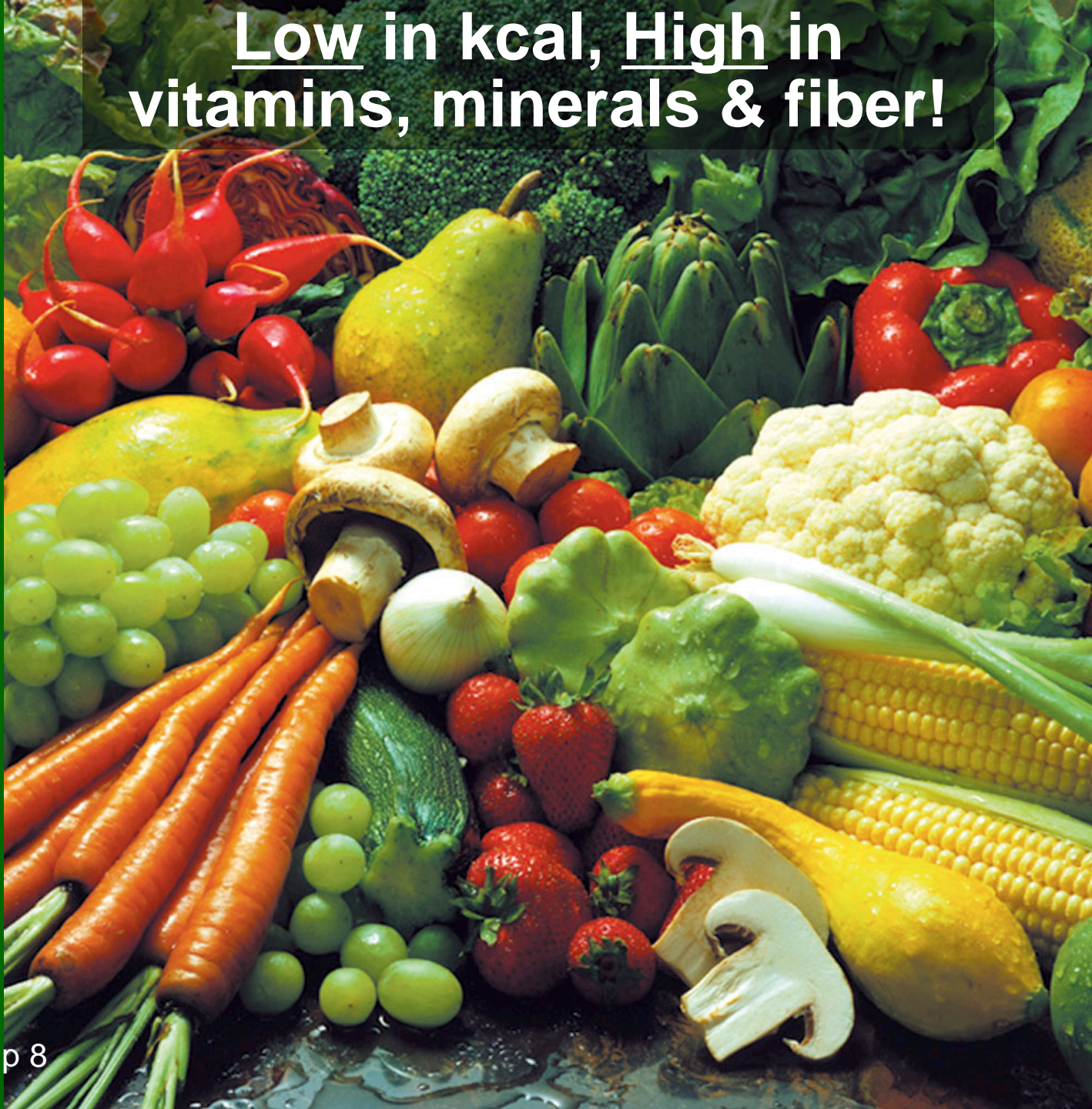
© Cengage Learning

Note: Alcohol contributes 7 cal/g that the human body can use for energy. Alcohol is not classed as a nutrient, however, because it interferes with growth, maintenance, and repair of body tissues.

*When you
eat foods,
you are
receiving
more than
just nutrients!*



Low in kcal, High in
vitamins, minerals & fiber!





Low in price (relatively)!

High in kcal, low in vitamins, minerals & fiber!



Superb, synergistic phytochemicals!



Diet & Health Guidelines for Cancer Prevention

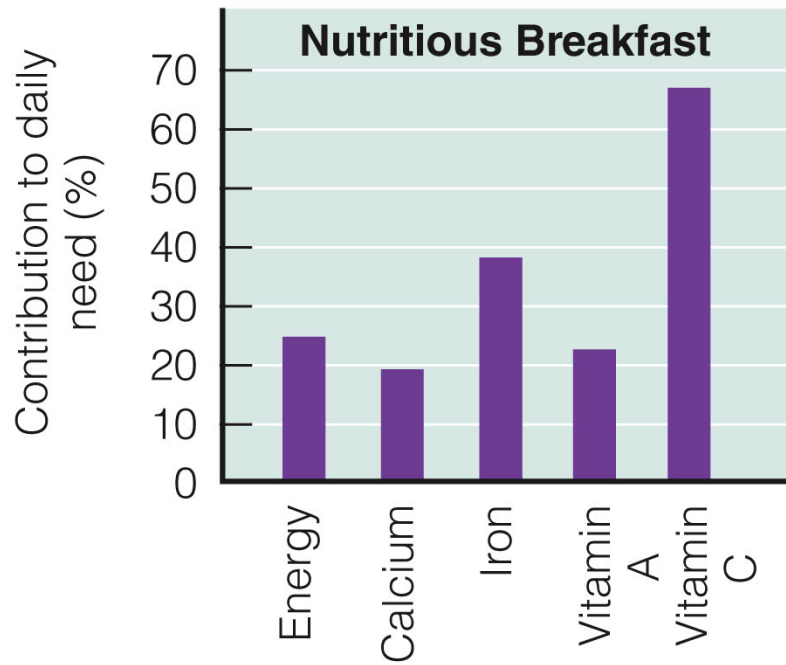
- 1. Choose a diet rich in variety of plant-based foods.**
- 2. Eat plenty of vegetables & fruits.**
- 3. Maintain a healthy weight & be physically active.**
- 4. Drink alcohol only in moderation, if at all.**
- 5. Select foods low in fat & salt.**
- 6. Prepare & store food safely.**

And always, remember...

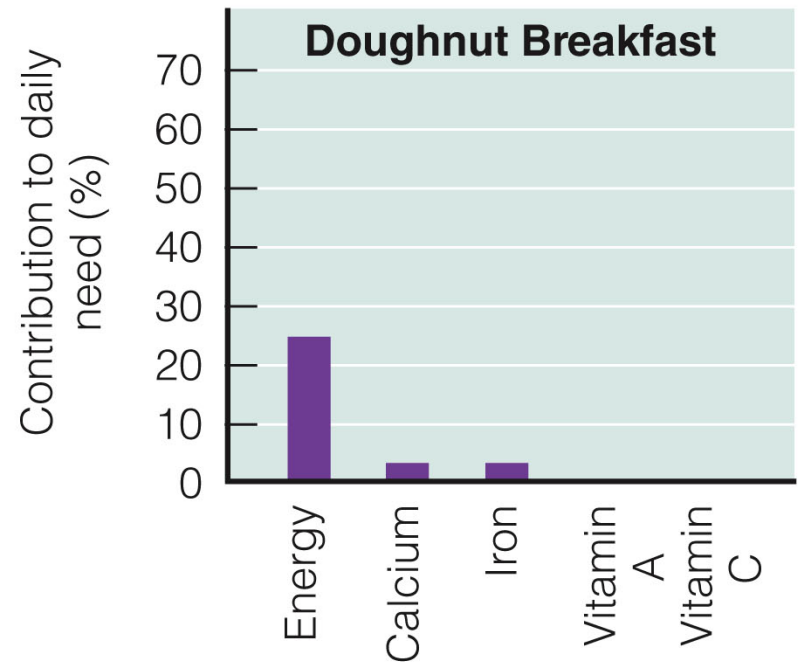
Do not smoke or use tobacco in any form.



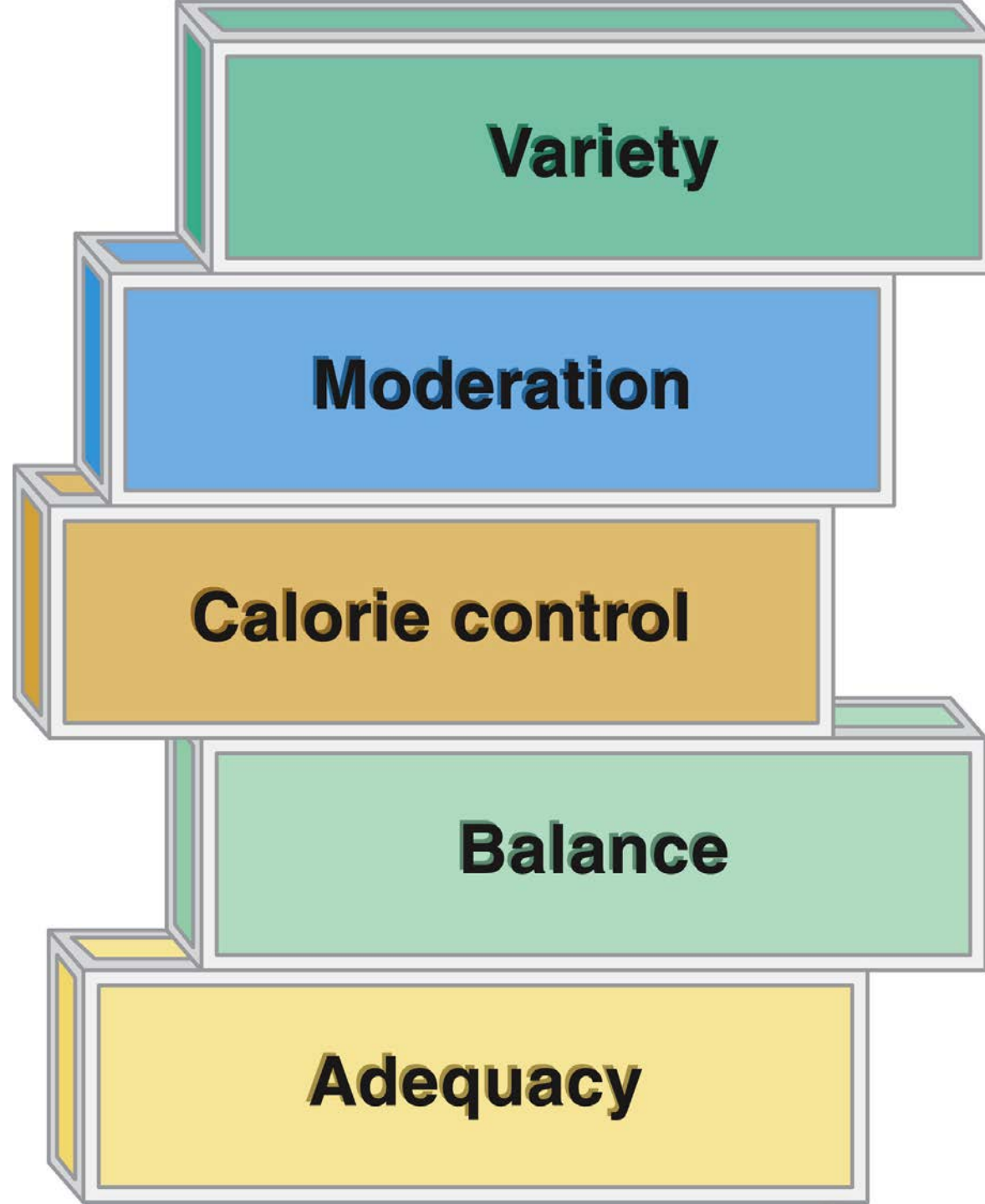
American Institute for Cancer Research (AICR)



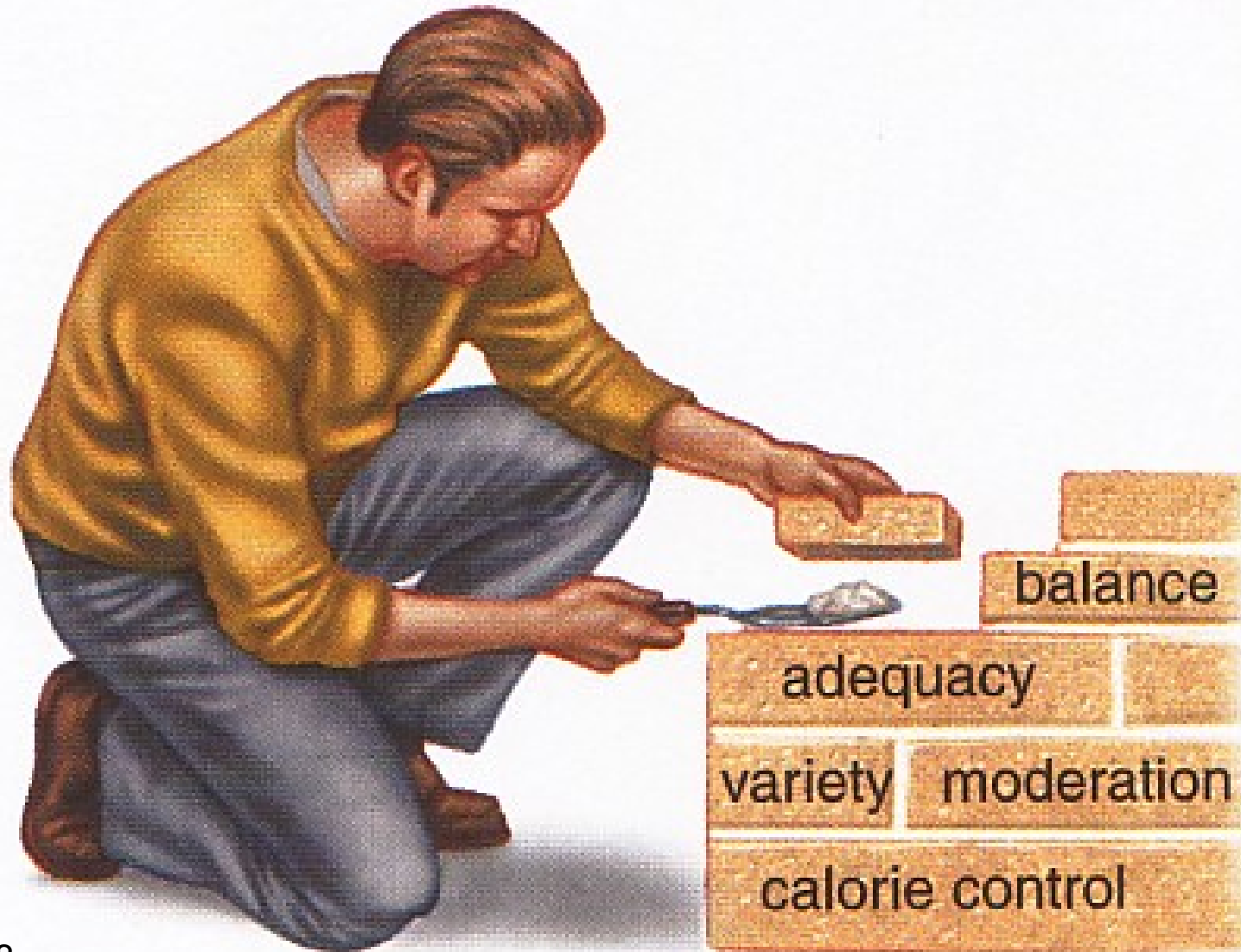
Higher Nutrient Density



Lower Nutrient Density



*All of these factors help to build
a nutritious diet.*





VARIETY IN THE DIET



Most people naturally vary and balance their food choices. They enjoy a variety of foods and consume a variety of nutrients. With little effort, their daily food choices stack into a pyramid.

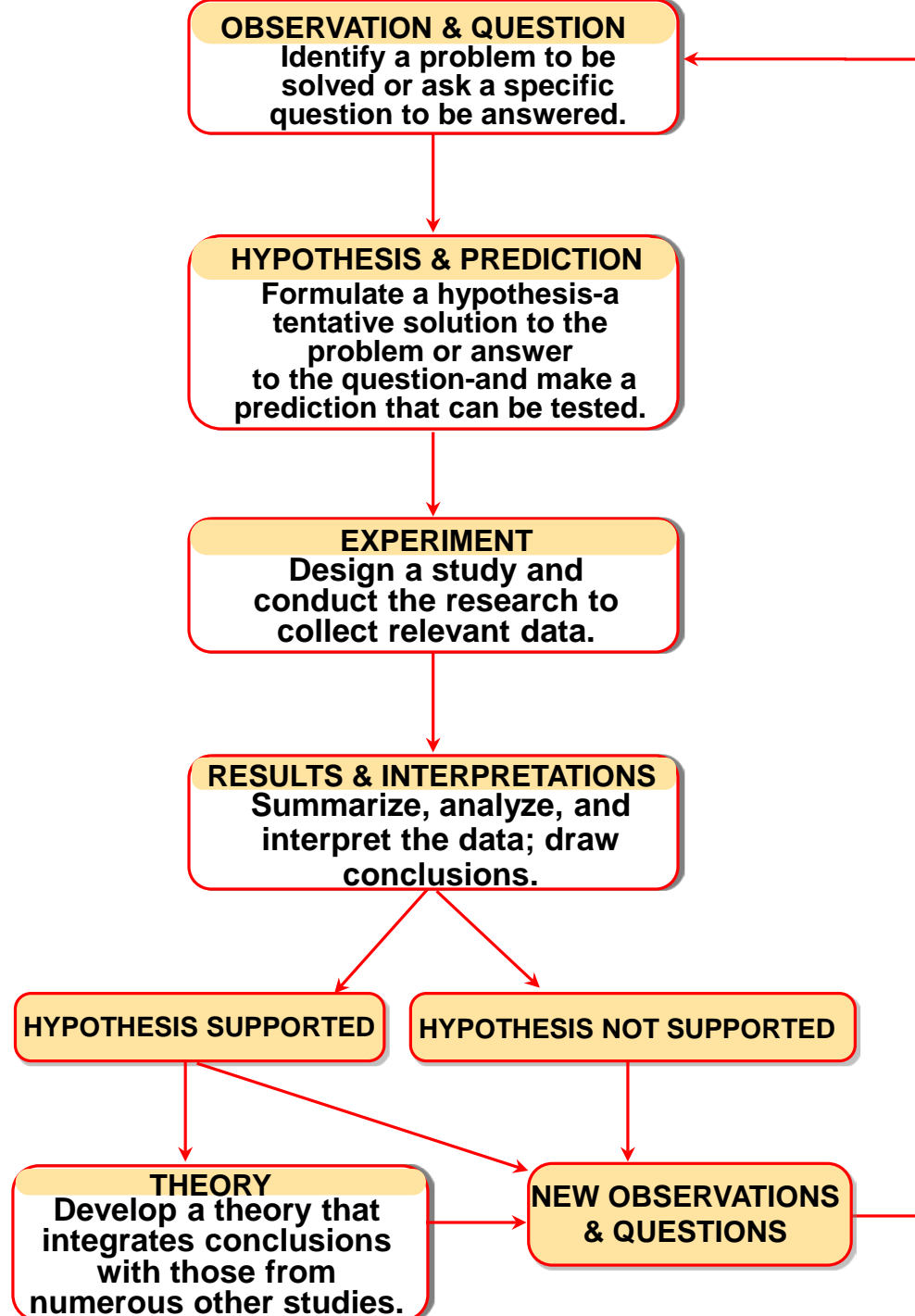
But some active people are eating a linear diet: bagels, bagels, bagels; apples, apples, apples. One of my clients ate spaghetti for breakfast, lunch, and dinner day after day and month after month. This repetitive eating kept life simple, minimized decisions, and simplified shopping. But it also resulted in an inadequate diet and chronic fatigue.





US Healthy People 2020 Nutrition-related Objectives

See Table 1-2 p 6 for details



*Case
Study*



Epidemiological Study



Too good to be true

Enticingly quick and simple answers to complex problems. Says what most people want to hear. Sounds magical.

Suspicious about food supply

Urges distrust of the current methods of medicine or suspicion of the regular food supply. Provides "alternatives" for sale under the guise of freedom of choice. May use the term "natural" to imply safety.

Testimonials

Support and praise by people who "felt healed," "were younger," "lost weight," and the like as a result of using the product or treatment.

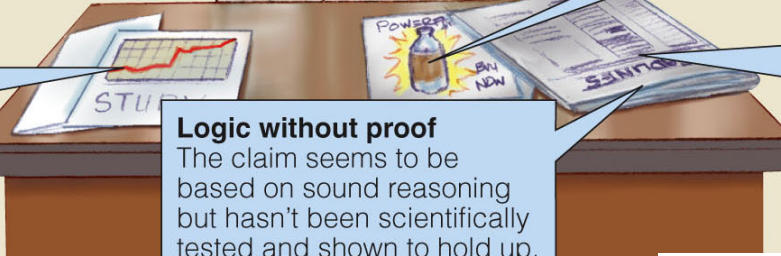
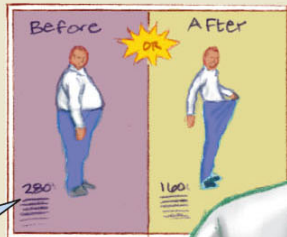
Fake credentials

Uses title "doctor," "university," or the like but has created or bought the title—it is not legitimate.

Unpublished studies

Scientific studies cited but not published in reliable journals and so are not critically examined.

A SCIENTIFIC BREAKTHROUGH! FEEL STRONGER, LOSE WEIGHT. IMPROVE YOUR MEMORY ALL WITH THE HELP OF VITE-O-MITE! OH SURE, YOU MAY HAVE HEARD THAT **VITE-O-MITE** IS NOT ALL THAT WE SAY IT IS, BUT THAT'S WHAT THE FDA WANTS YOU TO THINK! **OUR DOCTORS** AND SCIENTISTS SAY IT'S THE ULTIMATE VITAMIN SUPPLEMENT. SAY NO! TO THE WEAKENED VITAMINS IN TODAY'S FOODS. **VITE-O-MITE** INCLUDES **POTENT SECRET INGREDIENTS** THAT YOU CANNOT GET WITH ANY OTHER PRODUCT! **ORDER RIGHT NOW AND WE'LL SEND YOU ANOTHER FOR FREE!**



Logic without proof
The claim seems to be based on sound reasoning but hasn't been scientifically tested and shown to hold up.

Persecution claims

Claims of persecution by the medical establishment or claims that physicians "want to keep you ill so that you will continue to pay for office visits."

Authority not cited

Studies cited sound valid but are not referenced, so that it is impossible to check and see if they were conducted scientifically.

Motive: personal gain

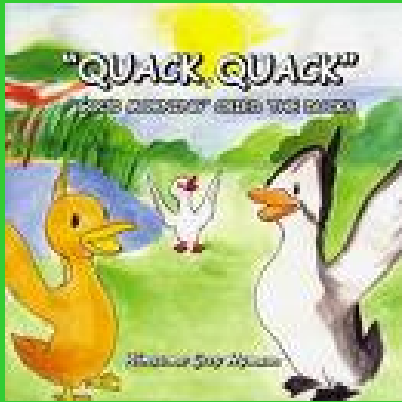
Those making the claim stand to make a profit if it is believed.

Advertisement

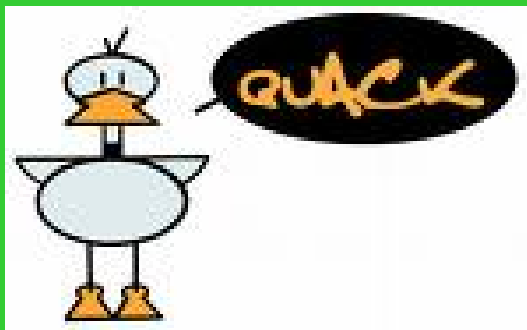
Claims are made by an advertiser who is paid to promote sales of the product or procedure. (Look for the word "Advertisement," in tiny print somewhere on the page.)

Latest innovation/Time-tested

Fake scientific jargon is meant to inspire awe. Fake "ancient remedies" are meant to inspire trust.



Nutrition Quackery?



\$\$\$



Kleiner's & Monaco's Top 10 Hit List for Nutrition Quackery

- 1. Treatment based on unproven theory calling for non-toxic, painless therapy.**
- 2. Author's/purveyor's credentials aren't recognized in scientific community.**
- 3. No reports in scientific, peer-reviewed literature but rather mass media used for marketing.**
- 4. Purveyors claim medical establishment is against them & play on public's paranoia about phantom greed of medical establishment.**
- 5. Treatments, potions, drugs manufactured according to secret formula.**
- 6. Excessive claims promising miraculous cures, disease prevention or life extension.**
- 7. Emotional images rather than facts used to support claims.**
- 8. Treatments require special nutritional support including health food products, vitamins and/or minerals.**
- 9. Clients are cautioned about discussing program to avoid negative.**
- 10. Programs based on drugs or treatments not labelled for such use.**

Group Work



***Can your group identify any items on the
Nutrition Quackery Top 10 hit list?***

<http://www.youtube.com/watch?v=4KMmUqYZxi8>

<http://www.leansecrets.com/>

Eddie displays
professional
credentials!



Seek Accurate & Reliable Peer-Reviewed Resources!

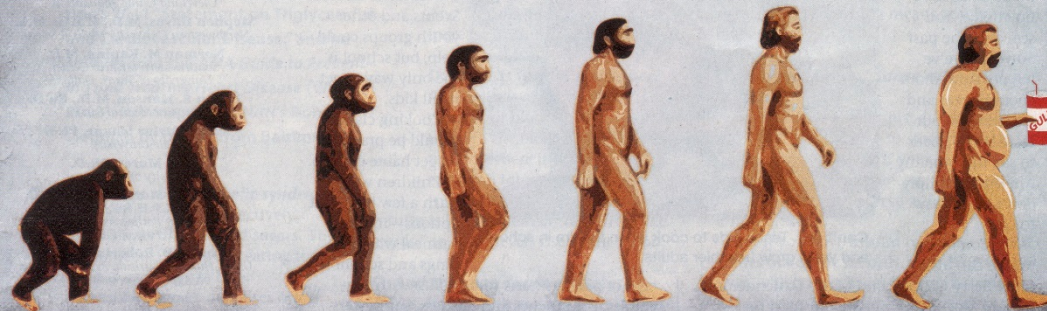


Nutrition Action

JULY/AUGUST 2012 \$2.50

HEALTH LETTER®
CENTER FOR SCIENCE IN THE PUBLIC INTEREST

Metabolic Meltdown



How a spare tire leads to diabetes & heart disease

Heat disease deaths have plummeted over the last four decades. But public health experts are worried.

The obesity epidemic—and especially our expanding national waistline—may soon send deaths climbing again. And our bulging bellies have already pushed diabetes rates skyward.

The problem begins with too much food and too little exercise. What starts as just a few extra inches of waist ends up as metabolic havoc.

Here's how to keep your waist—and your metabolism—in shape.

Continued on page 3.

Peer-reviewed
lay newsletters
+ .edu, .org &
.gov websites
easier to
understand!