



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!)

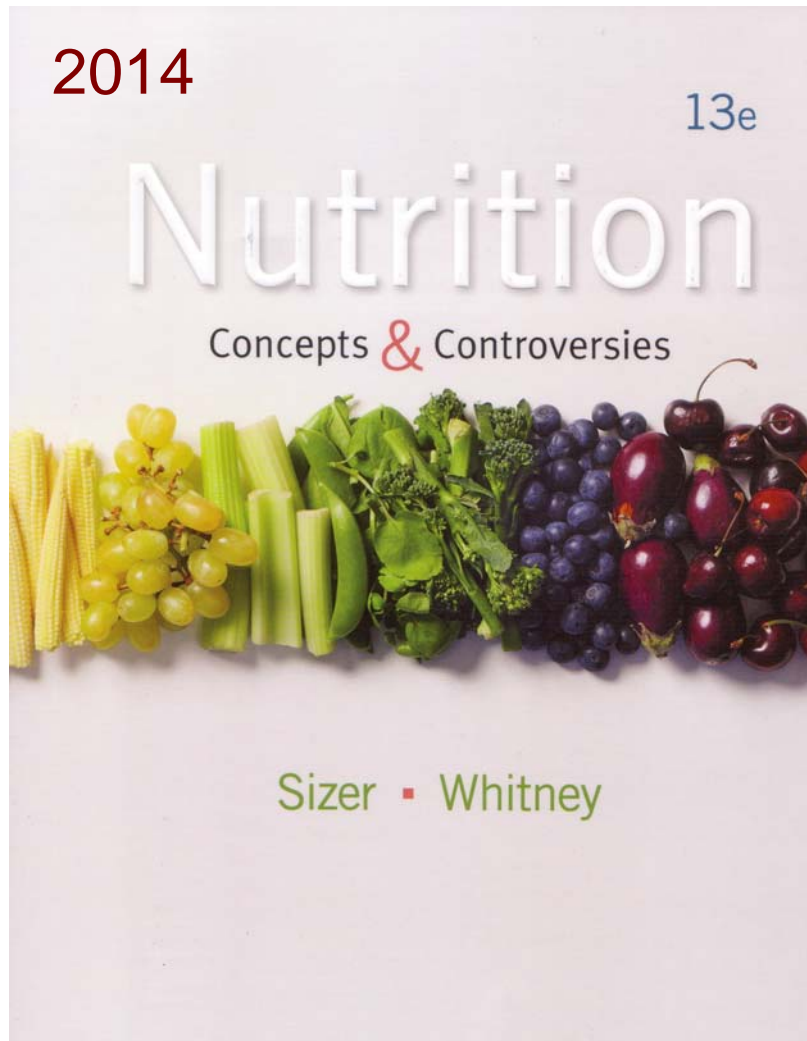


What the heck is nutrition?

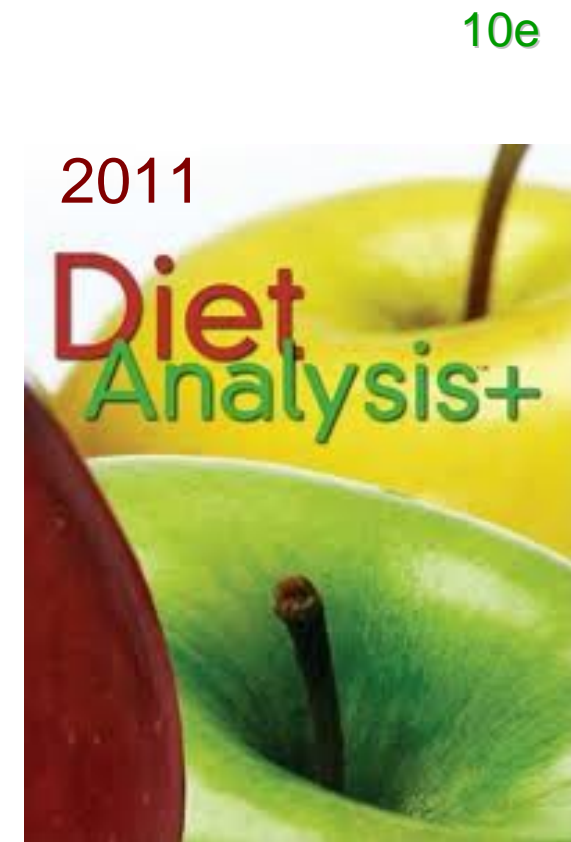
L. *nutritio* - the study or science of...to nourish!



Text w/Diet Analysis + On-line Access



+

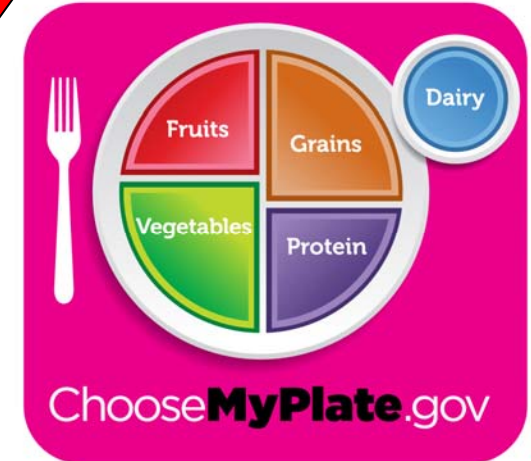
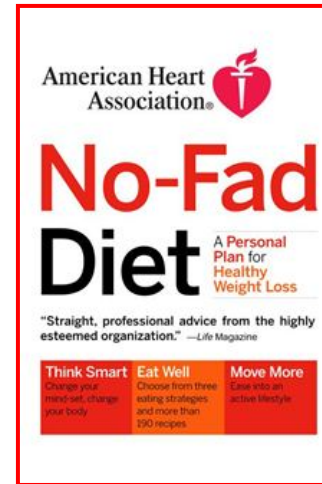


New 108.25 w/On-Line Access Used
168.00 w/o On-Line Access!
We got a special deal! 😊

NOT PEER-REVIEWED = TRADE BOOKS

PEER-REVIEWED = TEXTS → RESEARCH

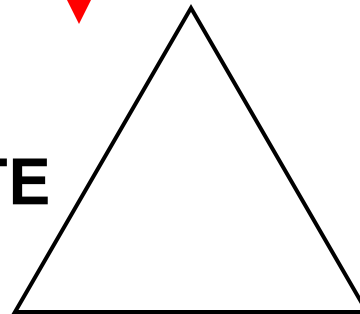
AHA + DASH + MAYO CLINIC



FAST LOW CARBOHYDRATE



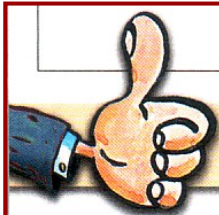
ELIMINATE CALORIES or FOOD GROUPS



LOW FAT

ADEQUACY, BALANCE, CONSISTENCY & MODERATION

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



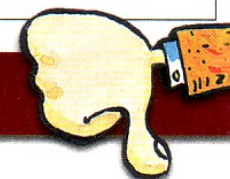
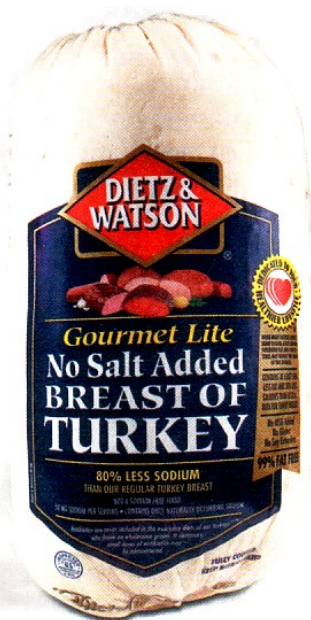
RIGHT STUFF

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

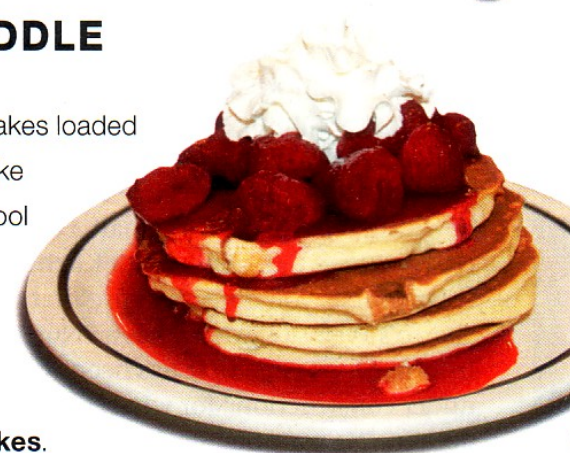


FOOD PORN

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.AmericanHeartAssociation.org) *Getting Healthy*

Nutrition Action Health Letter *.org*

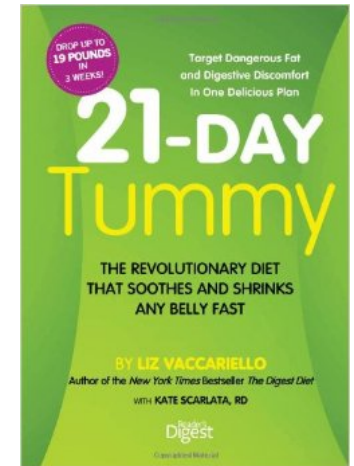
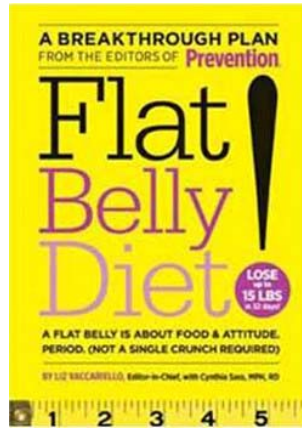
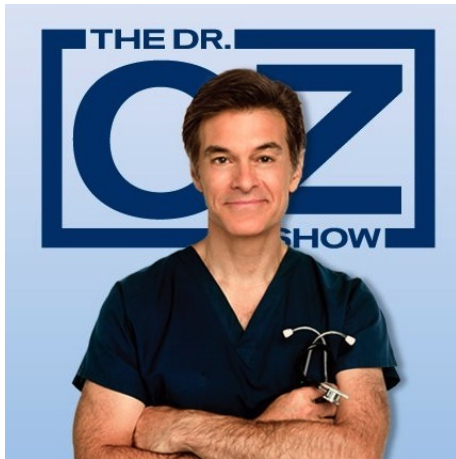
<http://www.cspinet.org/nah/index.htm>

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**

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

***Why
Care
About
Nutrition?***



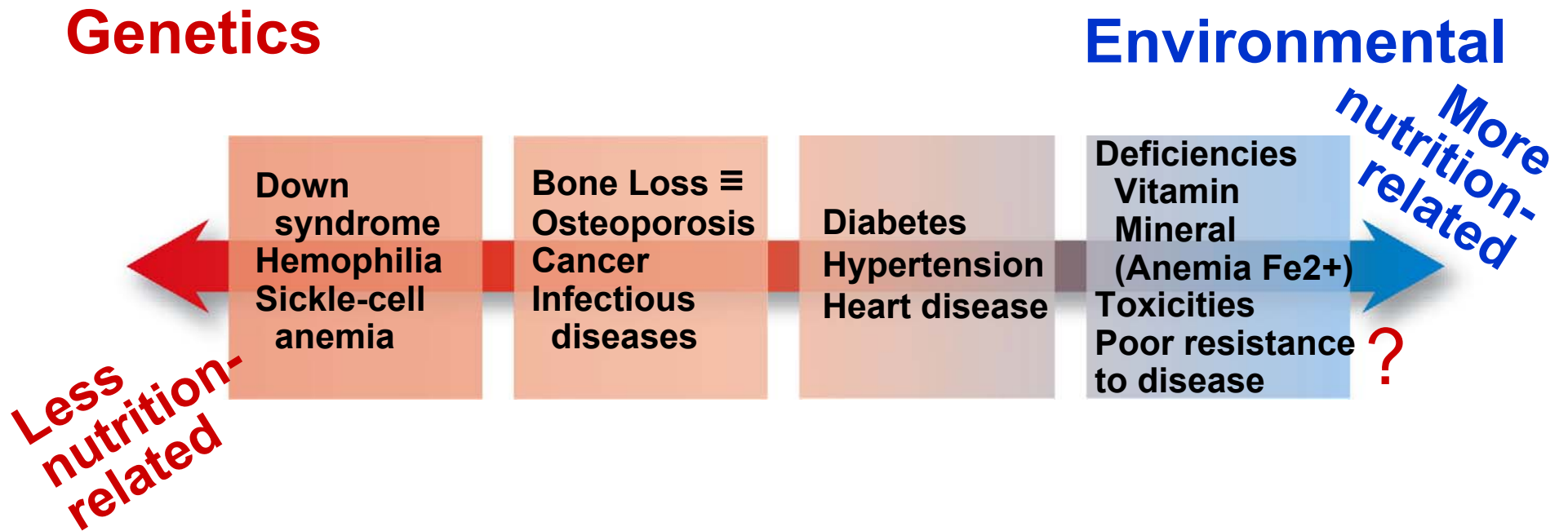
Table 1-1**Leading Causes of Death in the United States**

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



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

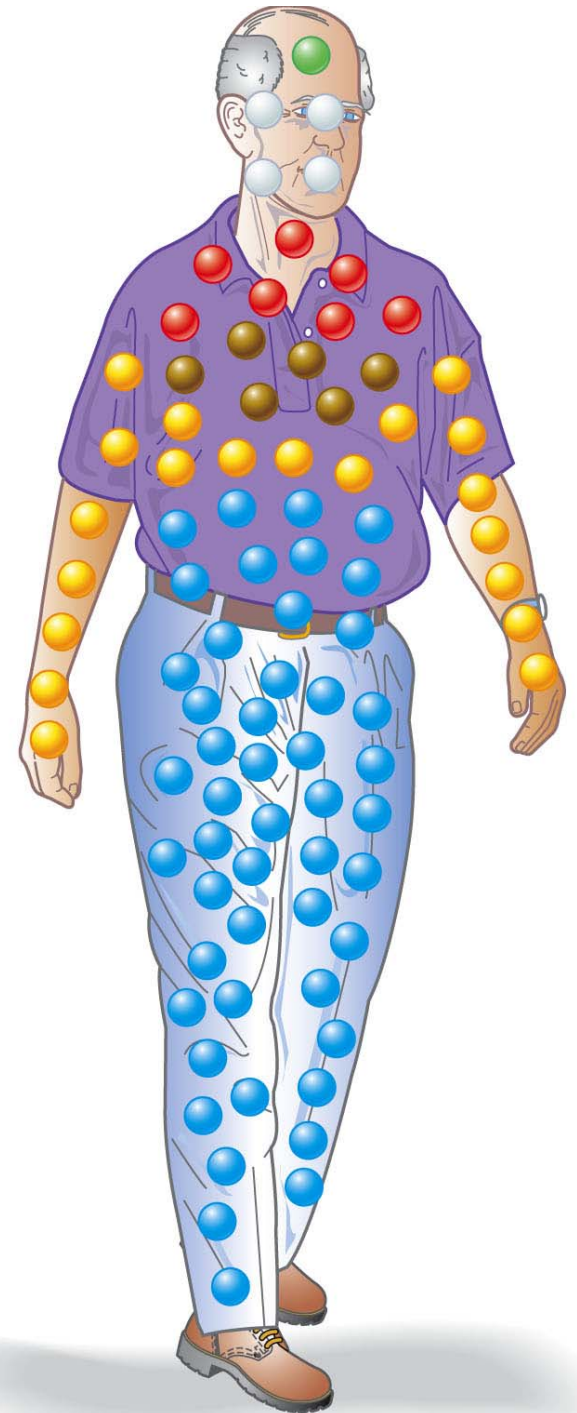
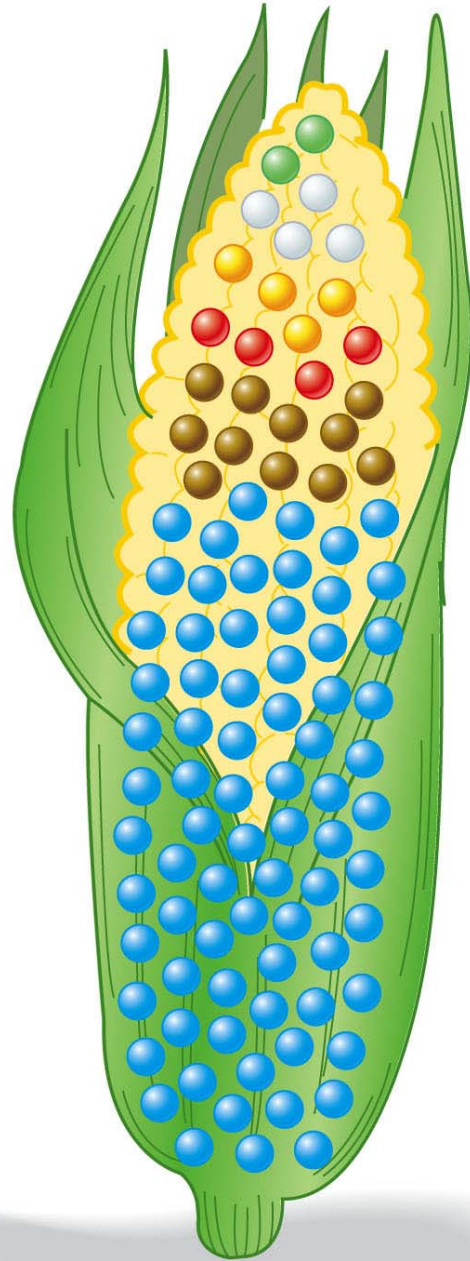


Table 1–4

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

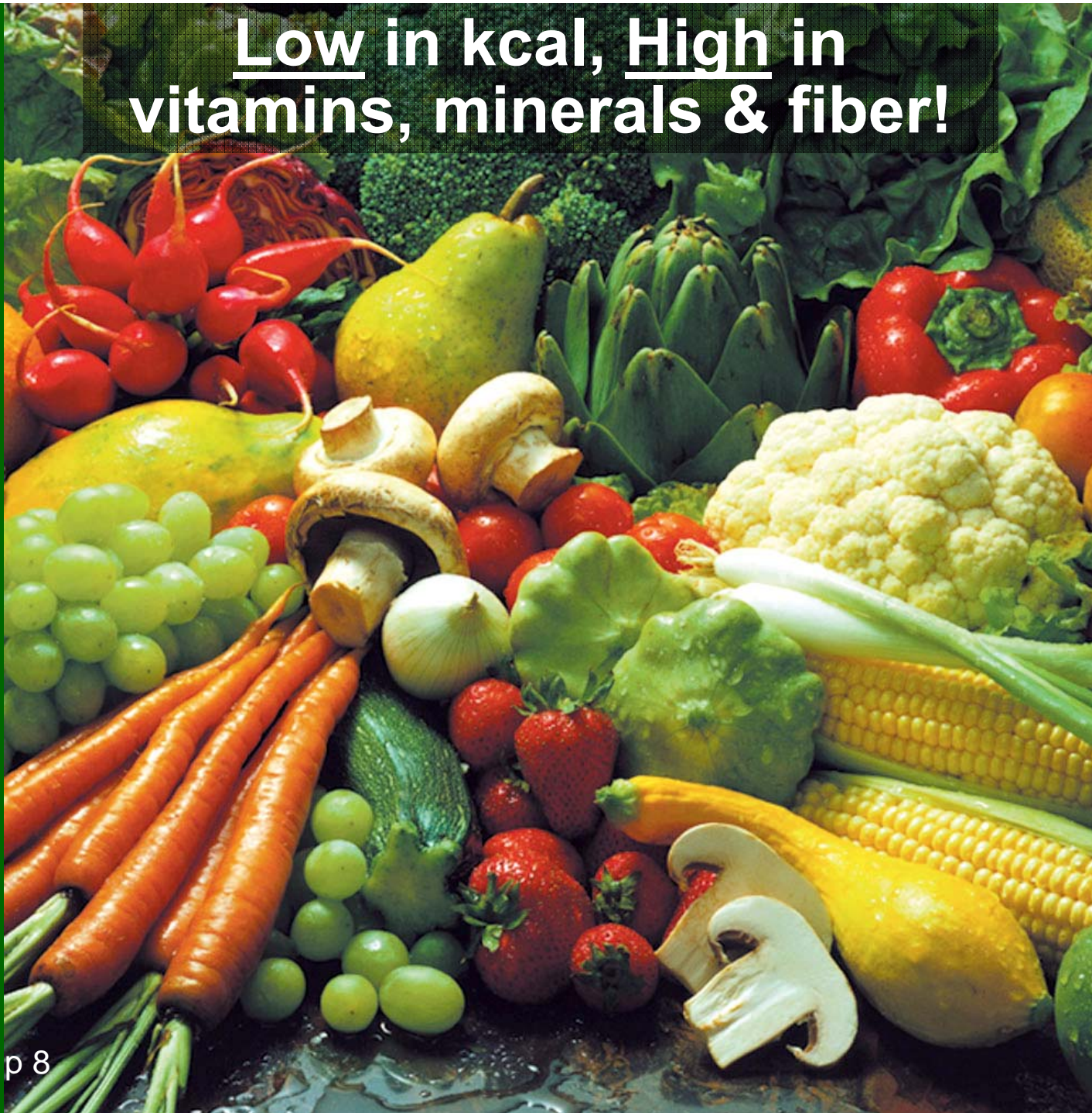
© Cengage Learning

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

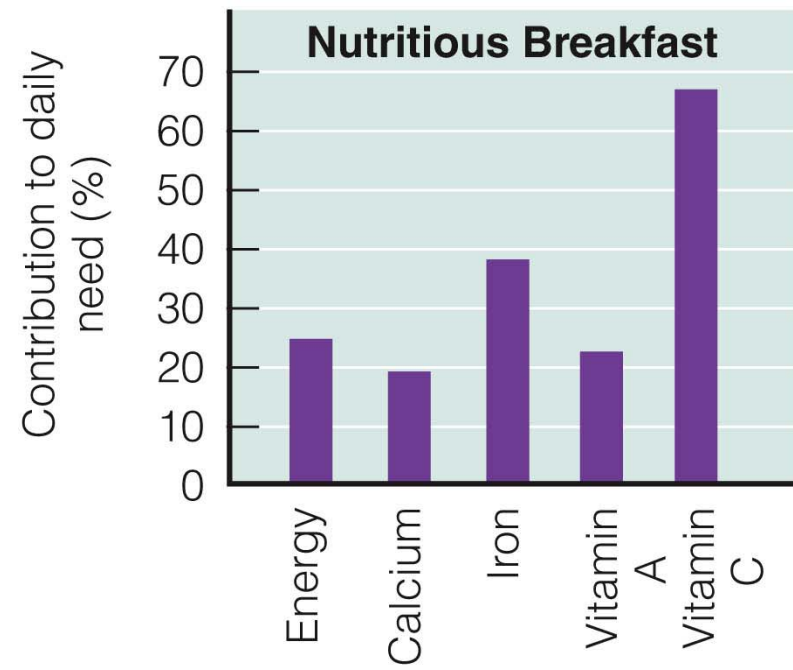
- 1. Choose a diet rich in variety of plant-based foods.**
- 2. Eat plenty of vegetables & fruits.**
- 3. Maintain a healthy weight & be physically active.**
- 4. Drink alcohol only in moderation, if at all.**
- 5. Select foods low in fat & salt.**
- 6. Prepare & store food safely.**

And always, remember...

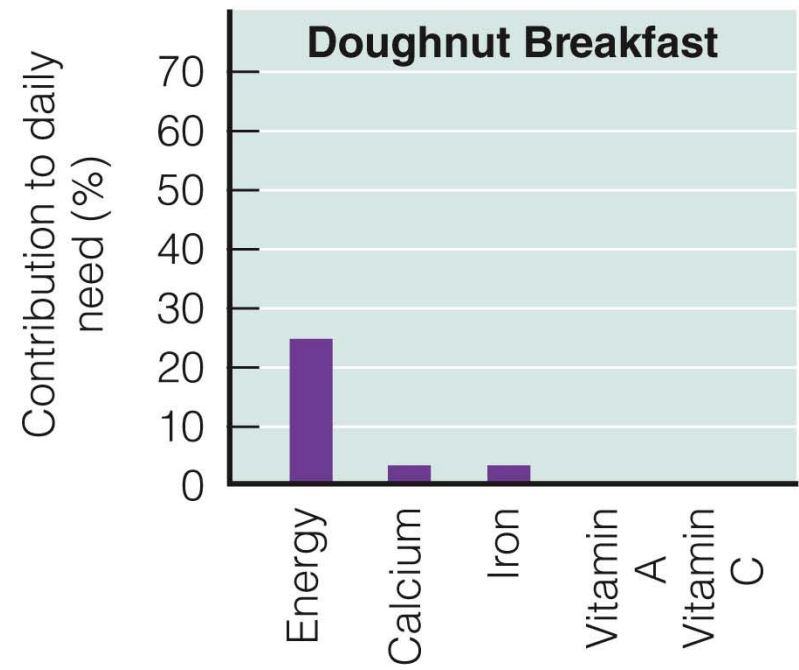
Do not smoke or use tobacco in any form.



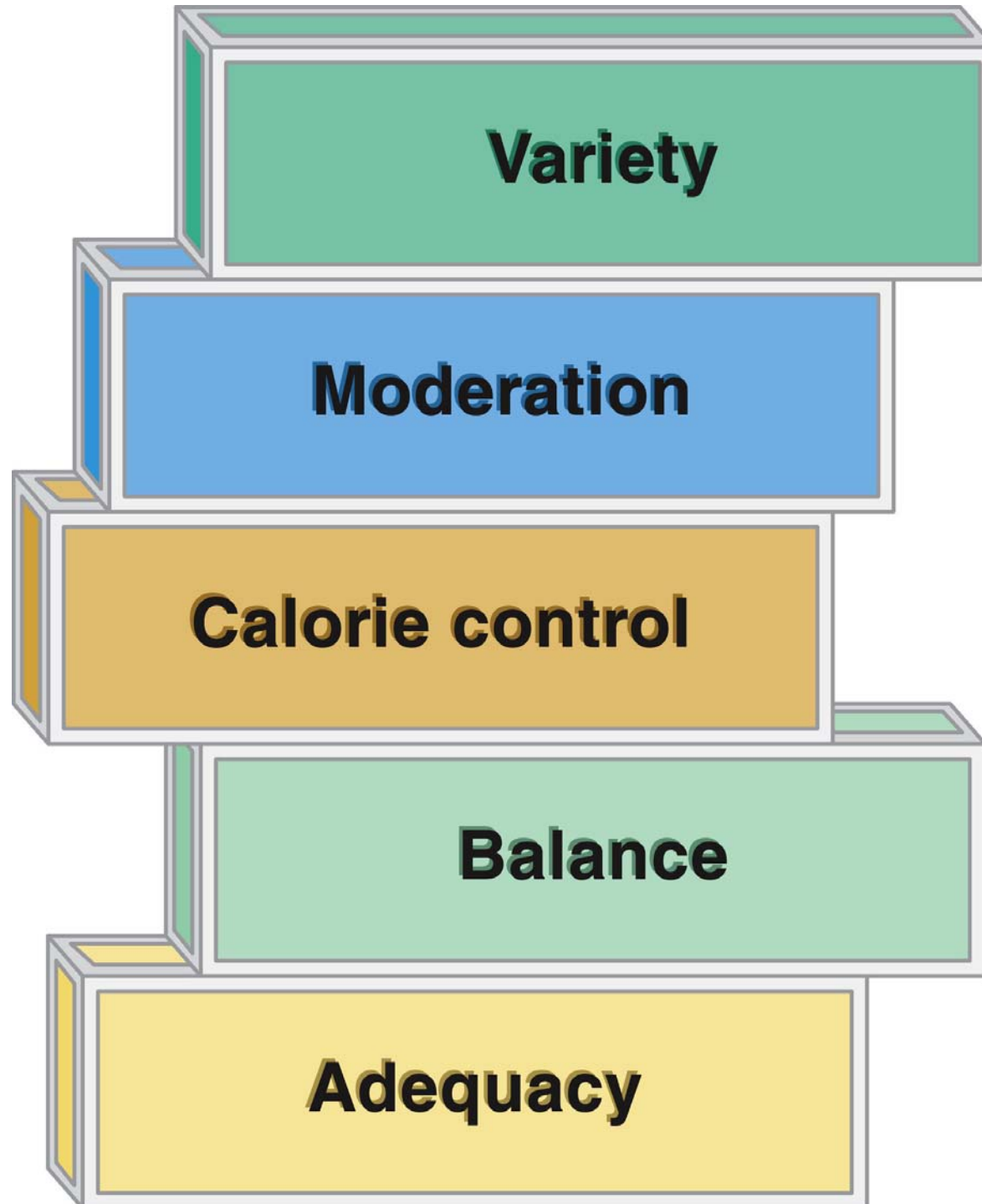
American Institute for Cancer Research (AICR)



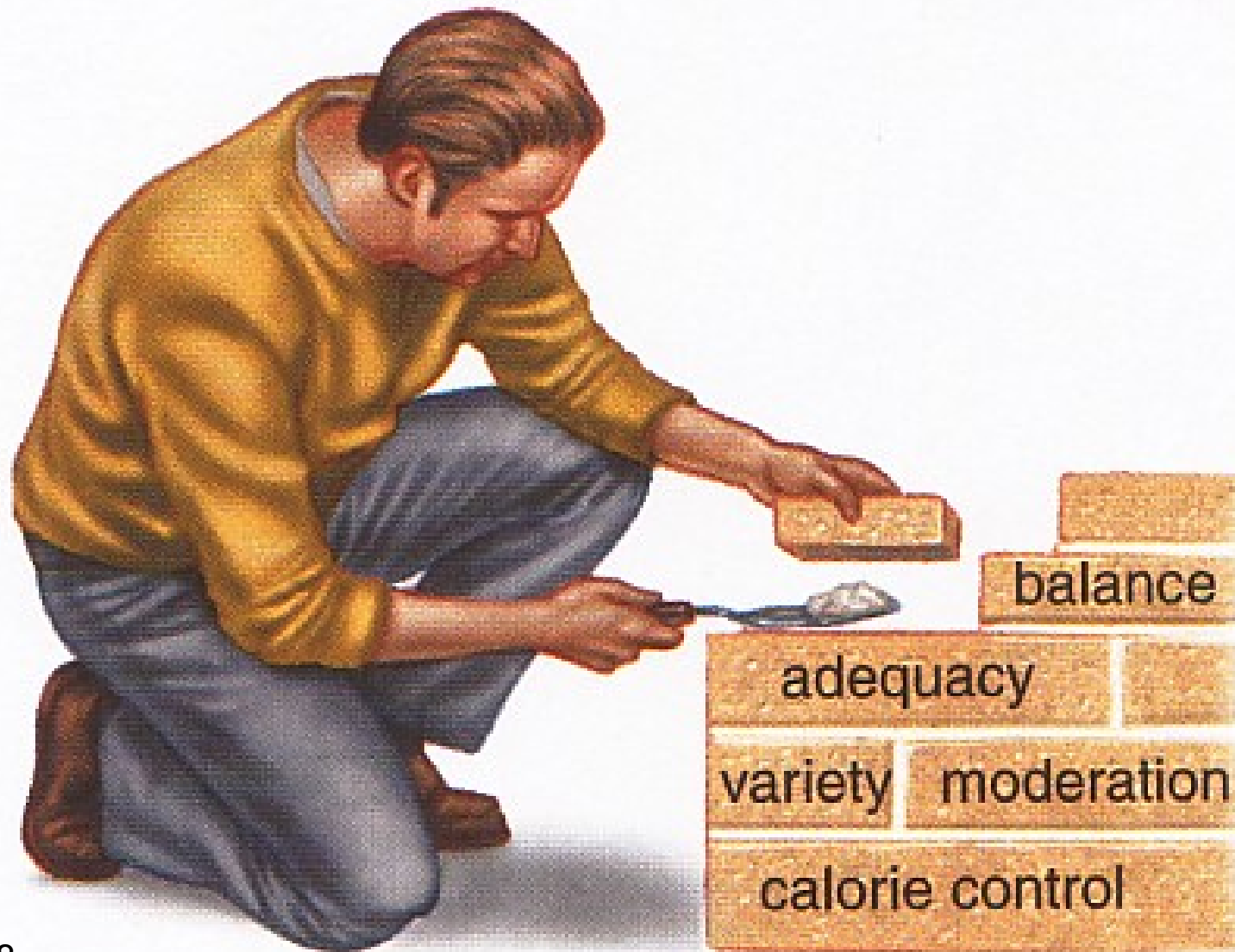
Higher Nutrient Density



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.

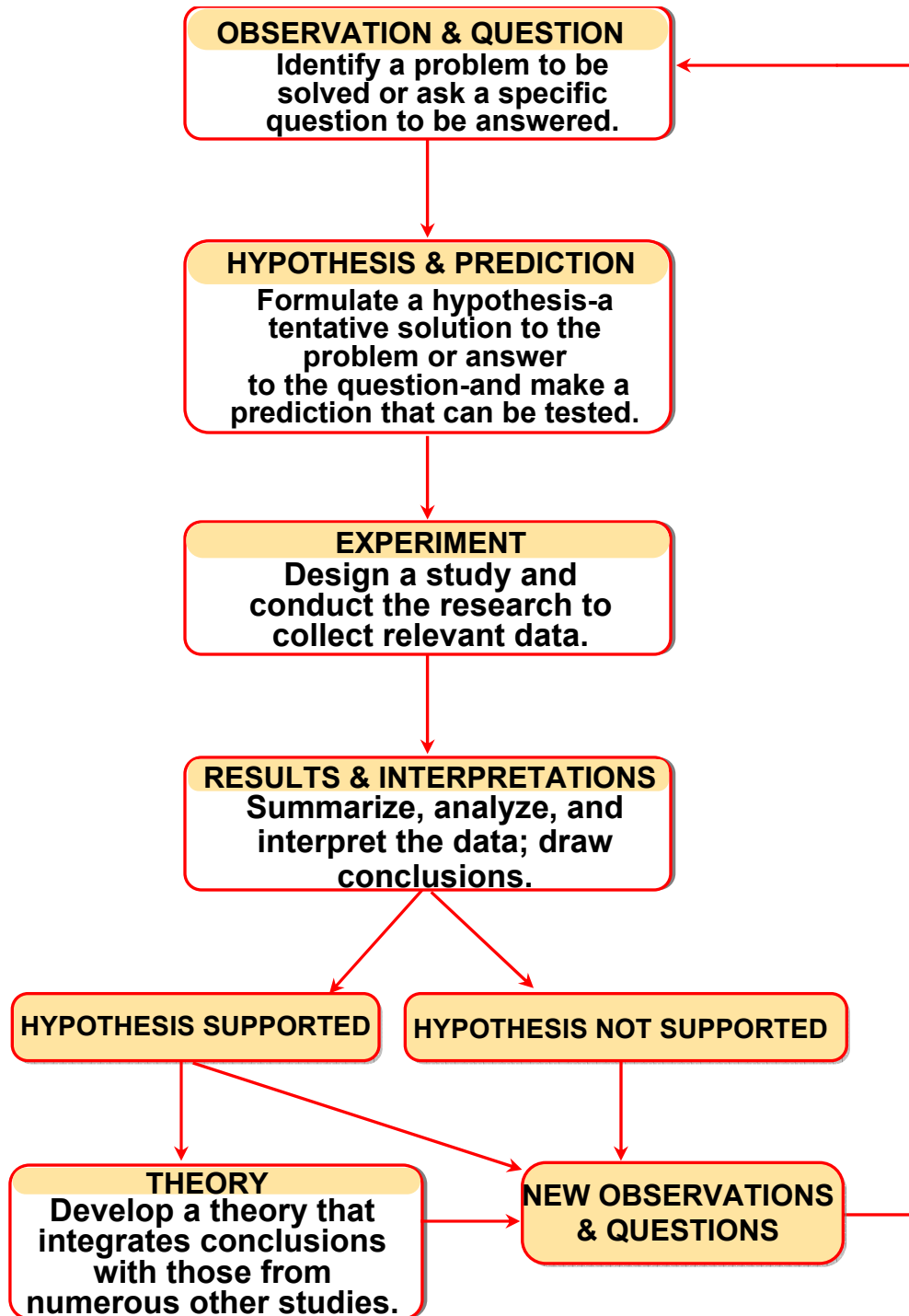
But some active people are eating a linear diet: bagels, bagels, bagels; apples, apples, apples. One of my clients ate spaghetti for breakfast, lunch, and dinner day after day and month after month. This repetitive eating kept life simple, minimized decisions, and simplified shopping. But it also resulted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

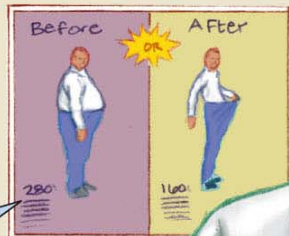
Fake credentials

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!



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

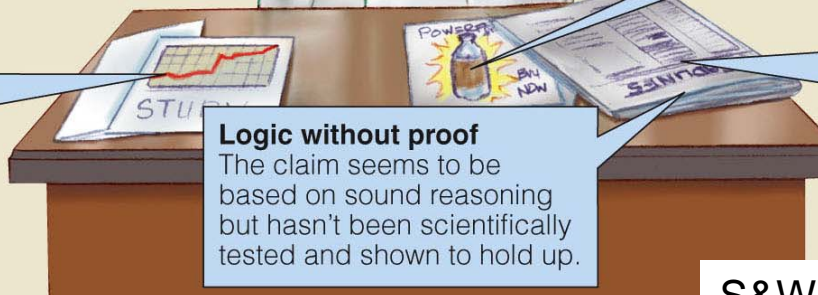
Claims are made by an advertiser who is paid to promote sales of the product or procedure. (Look for the word "Advertisement," in tiny print somewhere on the page.)

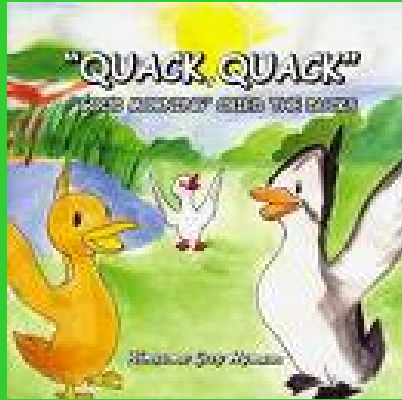
Latest innovation/Time-tested

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

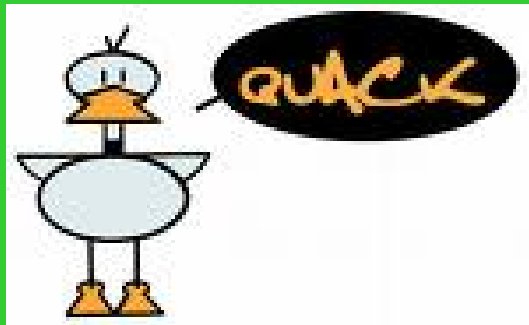
Logic without proof

The claim seems to be based on sound reasoning but hasn't been scientifically tested and shown to hold up.





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!



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

Eat out = eat more, p. 8

Learning to love your bacteria, p. 9

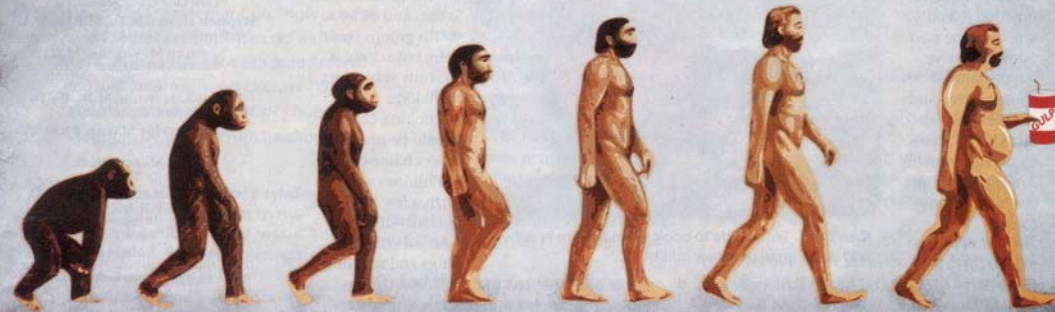
The best salad dressings, p. 13

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.