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科学探索丛书

THE HUMAN BODY

人 体

Keeping Fit

保持健康

PETER WINKLER (美) 著

外语教学与研究出版社

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人体

保持健康

PIER WINKLER (美) 著

关静瑞 注

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An underwater photograph of three children swimming in a pool. The water is clear blue. A child in a green tank top and dark shorts is in the center, swimming towards the camera. To the right, another child in a red and black swimsuit is swimming. In the bottom right corner, a third child's head with goggles is visible. The background shows the pool's lane lines.

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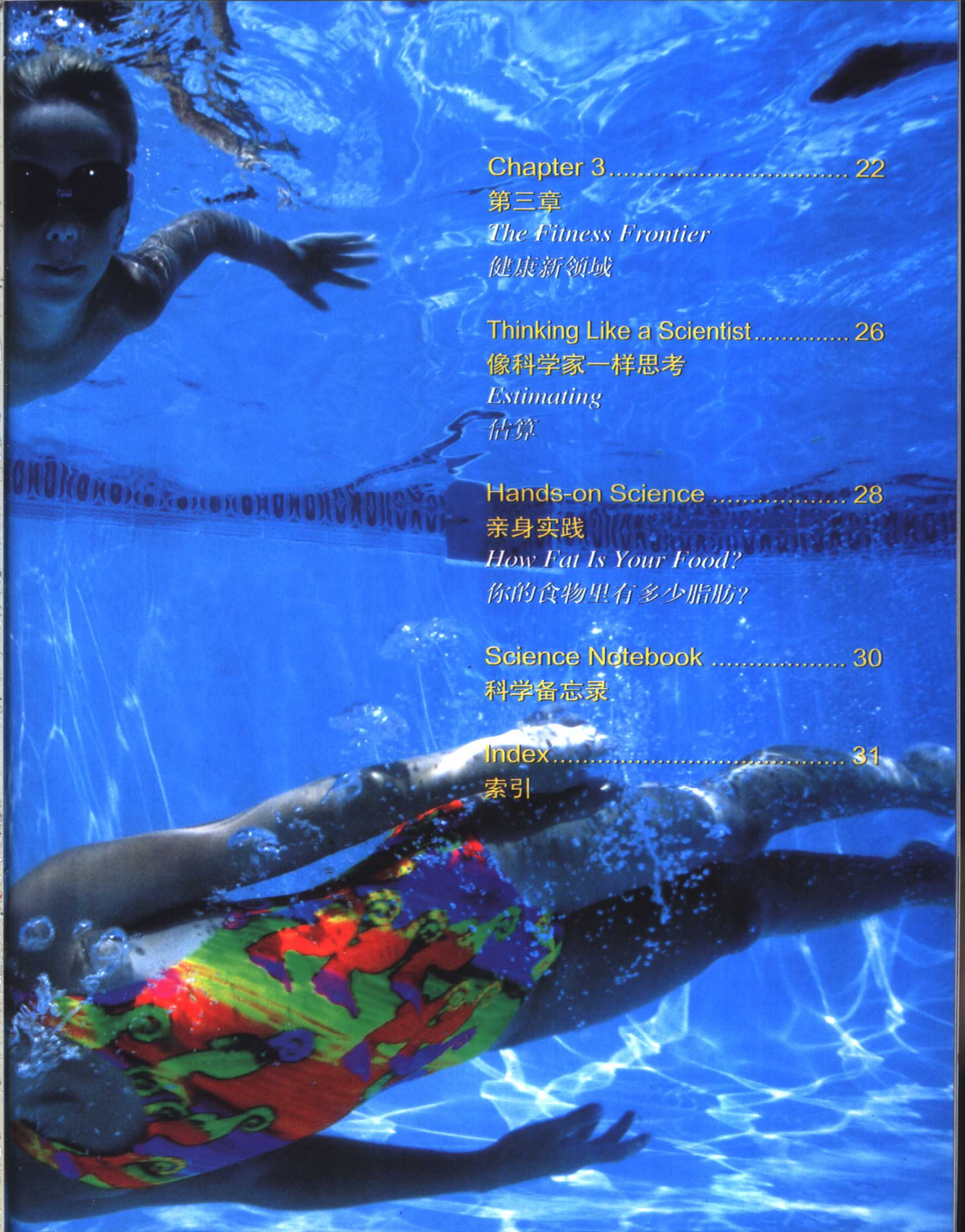
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Introduction

引言

Home, Fit Home

家，健康的家



You may move many times in your life, but there's one home you'll never leave—your body. So you want to make sure it's a place worth¹ living in. And you can!

Your bodily home is under construction². You see that each time you outgrow³ a pair of shoes, try a bigger bike, reach⁴ a higher shelf⁵, tower over⁶ a younger brother, or look at old pictures.

It probably⁷ seems like your body is building itself. In some ways, it is. After all, you don't tell your body to grow. It just does, although maybe not as fast as you'd like.

But there's more to the story. That's where you come in. Whether you realize⁸ it or not, you're constantly⁹ making construction choices: Fruit or fries? Working out or vegging out¹⁰? Water or soda¹¹? You get the idea.

How you handle¹² those choices directly affects¹³ your weight, your strength¹⁴, and your overall¹⁵ health. They, in turn¹⁶, shape¹⁷ the way you feel about yourself. So never doubt¹⁸ your key role in building your body!

This book explores¹⁹ two big topics: nutrition²⁰ and exercise. What you eat and how you exercise are two of the most important choices you make in constructing your body. Eating and exercising wisely will help you build yourself a great home—for today and tomorrow.

1. worth	<i>prep.</i>	值得……
2. be under construction		正在建造中
3. outgrow	<i>v.</i>	长得使……不再适用
4. reach	<i>v.</i>	够到
5. shelf	<i>n.</i>	架子
6. tower over		高出; 超过
7. probably	<i>adv.</i>	很可能; 大概
8. realize	<i>v.</i>	认识到
9. constantly	<i>adv.</i>	经常地
10. veg out		懒洋洋(几乎不动)

11. soda	<i>n.</i>	苏打水; 果汁汽水
12. handle	<i>v.</i>	处理
13. affect	<i>v.</i>	影响
14. strength	<i>n.</i>	力量; 力气
15. overall	<i>adj.</i>	全面的; 综合的
16. in turn		转而; 反过来
17. shape	<i>v.</i>	形成
18. doubt	<i>v.</i>	怀疑
19. explore	<i>v.</i>	探究; 探索
20. nutrition	<i>n.</i>	营养

Chapter 1

第一章

A Map for Smart Eating

聪明的吃法



Ethnic¹ restaurants, TV dinners², organic³ kiwis⁴, jumbo⁵ fries—modern Americans have incredible⁶ food options⁷. So many choices can turn healthy eating into a supersize⁸ challenge⁹.

“What’s for dinner?”

Kids asking that 200 years ago probably knew the answer. Their plates might hold a bit of salty¹⁰ meat, a piece of bread, a hunk of¹¹ cheese¹², and some vegetables. Monday’s dinner looked a lot like Tuesday’s. Tuesday’s looked a lot like Wednesday’s. Menus¹³ were pretty limited¹⁴.

A World of Choices

Things have changed. Trains and trucks speed food across the country in days. Freezers¹⁵, refrigerators¹⁶, cans¹⁷, and preservatives¹⁸ keep things fresh for weeks, even months. Restaurants, supermarkets, magazines, and the Internet¹⁹ introduce us to new foods.

All this means you truly have a world of choices about what to eat. In a single²⁰ week, you might have chicken or chimichangas²¹, spaghetti²² or sushi²³. Those options may make it difficult to find the most healthful foods. But there’s a simple way to explore the world of food choices: Get a map.



1. ethnic	<i>adj.</i>	民族风味的
2. TV dinner		盒装电视便餐
3. organic	<i>adj.</i>	不用化肥的
4. kiwi	<i>n.</i>	猕猴桃
5. jumbo	<i>adj.</i>	特大号的; 巨型的
6. incredible	<i>adj.</i>	难以置信的
7. option	<i>n.</i>	选择
8. supersize	<i>adj.</i>	极大的
9. challenge	<i>n.</i>	挑战
10. salty	<i>adj.</i>	咸的
11. a hunk of		一大块
12. cheese	<i>n.</i>	奶酪

13. menu	<i>n.</i>	菜谱
14. limited	<i>adj.</i>	有限的
15. freezer	<i>n.</i>	冷藏箱
16. refrigerator	<i>n.</i>	冰箱
17. can	<i>n.</i>	罐头
18. preservative	<i>n.</i>	防腐剂
19. Internet	<i>n.</i>	因特网
20. single	<i>adj.</i>	一个的
21. chimichanga	<i>n.</i>	墨西哥食品
22. spaghetti	<i>n.</i>	意大利面条
23. sushi	<i>n.</i>	寿司(日本食品)

Did you ever wonder...

... if vegetarian diets²¹ are healthy?

The answer depends on your food choices. Fruits, vegetables, and whole grains²² give you plenty of fiber²³ without too much fat. But eating too much high-fat cheese is another story!

A key challenge for vegetarians is getting enough protein, vitamins, and minerals. People who eat no animal products at all—called vegans²⁴—need to take vitamin B₁₂. This vitamin is usually found in meat or dairy foods. It helps your body create red blood cells. It also keeps your nervous system²⁵ healthy. Vegans may also need calcium²⁶ supplements.

Climbing the Food Pyramid¹

The best known nutrition map is the food pyramid. The United States Department of Agriculture (USDA²) published³ it in 1992. You've probably glimpsed⁴ the pyramid before, but eye⁵ it carefully. You'll see what a healthful, balanced diet⁶ looks like.

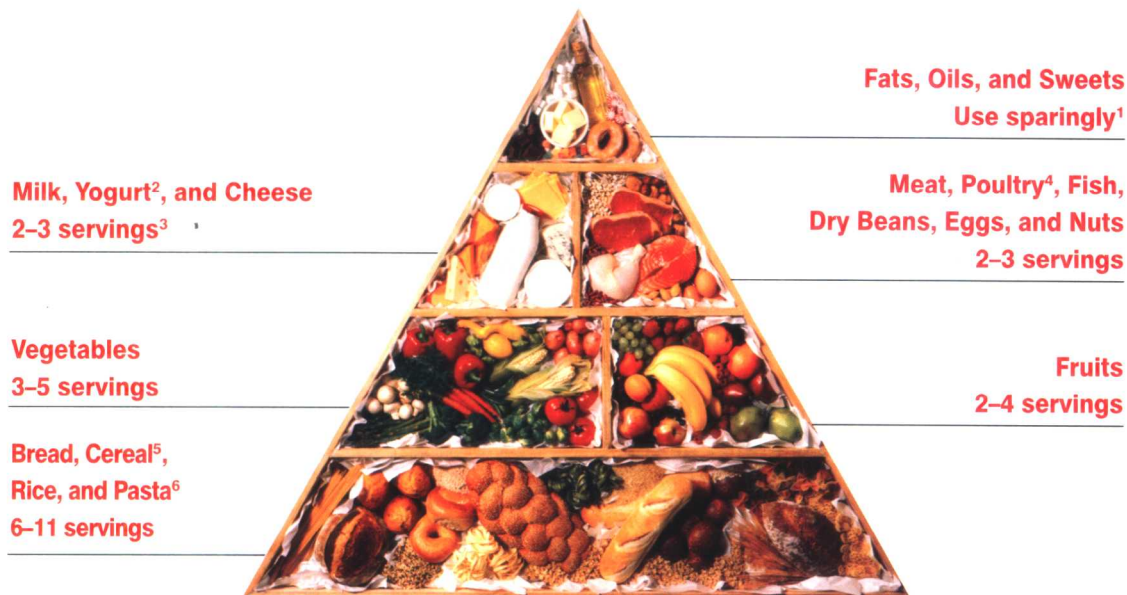
At the base of the pyramid, you'll find foods that contain⁷ mostly carbohydrates⁸. Those are substances⁹ your body uses as a source¹⁰ of energy¹¹. Next come fruits and vegetables. They also provide¹² carbohydrates, along with important vitamins¹³ and minerals¹⁴. Your body needs 13 vitamins and 22 minerals. One easy way to get most of them is to eat a "rainbow"¹⁵ of vegetables and fruits. Each food gives you something different. And all those colors will brighten your plate.

The next level up, you'll find meats, dairy products¹⁶, and other foods rich in protein¹⁷. That is a substance needed to build and repair living cells¹⁸. These foods also provide fat. You need some fat to grow and stay healthy. Just don't eat large amounts. Notice that this level of the pyramid is smaller than the ones below. That's a reminder¹⁹ to eat fewer of these foods.

Eating a variety of²⁰ foods gives your body the nutrients it needs to do its work. The next page gives you some ideas for smart eating.

1. pyramid	it	金字塔	13. vitamin	it	维生素
2. USDA		美国农业部	14. mineral	it	矿物质
3. publish	it	公布	15. rainbow	it	五彩缤纷的排列
4. glimpse	it	瞥见	16. dairy product		奶产品
5. eye	it	看	17. protein	it	蛋白质
6. balanced diet		平衡的饮食	18. living cell		活细胞
7. contain	it	包含	19. reminder	it	提示
8. carbohydrate	it	碳水化合物	20. a variety of		多种的
9. substance	it	物质	21. vegetarian diet		素食
10. source	it	源泉	22. whole grain		全谷类食品
11. energy	it	能量	23. fiber	it	纤维
12. provide	it	提供	24. vegan	it	严格的素食主义者
			25. nervous system		神经系统
			26. calcium	it	钙

USDA Food Guide Pyramid



What counts⁷ as a serving? Each item in the food groups below equals one serving.

Bread, Cereal, Rice, and Pasta

- 1 slice⁸ of bread
- 1 small roll
- 3/4 cup of cold cereal
- 1/2 English muffin⁹
- 1/2 small bagel¹⁰
- 1/2 cup of cooked rice or pasta

Vegetables

- 1 cup of raw¹¹ leafy¹² vegetables
- 3/4 cup of vegetable juice
- 1/2 cup of raw chopped¹³ vegetables
- 1/2 cup of cooked vegetables

Fruits

- 1 medium-size piece (such as an apple or banana)
- 1 cup of berries¹⁴
- 1 wedge¹⁵ of melon
- 3/4 cup of 100% fruit juice
- 1/2 cup of chopped, canned, or cooked fruit
- 1/4 cup of dried fruit

Milk, Yogurt, and Cheese

- 1 cup of milk or yogurt
- 3/4 cup of cottage cheese¹⁶
- 1/2 cup of ricotta cheese¹⁷
- 1½-2 ounces¹⁸ of other cheeses

Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts

- 4 tablespoons¹⁹ of peanut butter²⁰
- 2-3 ounces of cooked lean²¹ meat, fish, or skinless poultry
- 2 eggs
- 1 cup of cooked dry beans

1. sparingly	<i>adv.</i>	有节制地
2. yogurt	<i>n.</i>	酸奶
3. serving	<i>n.</i>	(食物或饮料的)份
4. poultry	<i>n.</i>	家禽
5. cereal	<i>n.</i>	谷类食品
6. pasta	<i>n.</i>	意大利面食
7. count	<i>v.</i>	算作
8. slice	<i>n.</i>	薄片
9. muffin	<i>n.</i>	松饼
10. bagel	<i>n.</i>	硬面包圈
11. raw	<i>adj.</i>	生的

12. leafy	<i>adj.</i>	多叶的
13. chop	<i>v.</i>	剁碎
14. berry	<i>n.</i>	浆果
15. wedge	<i>n.</i>	楔形(物)
16. cottage cheese		农家鲜干酪
17. ricotta cheese		乳清干酪
18. ounce	<i>n.</i>	盎司(英制重量单位)
19. tablespoon	<i>n.</i>	大汤匙
20. peanut butter		花生酱
21. lean	<i>adj.</i>	瘦的





Perils¹ at the Peak²

The triangle at the top of the pyramid represents³ oils, sweets, and fats such as butter. Your body needs only small amounts of these substances to function. But the USDA experts who created the pyramid realize that we're all human. We like cookies. We enjoy butter. We all scream⁴ for ice cream.

That's fine—occasionally. Trouble arises when these fatty or sweet foods become a big part of your daily diet. Then you're likely to gain weight and overwork⁵ your heart. You also increase the risk of getting diabetes⁶, heart disease, and perhaps even cancer.

So should you eat spinach⁷ instead of birthday cake? Of course not. The trick⁸ is to eat a variety of foods and to limit your intake⁹ of foods high in fat and sugar. You can do this, even when you're out with friends. Here are a few tips¹⁰.

- Order baked¹¹, grilled¹², or broiled¹³ meats.
- Eat a pretzel¹⁴ or popcorn¹⁵ (without the butter) instead of chips¹⁶ or fries.
- Substitute¹⁷ frozen yogurt for ice cream and nonfat or low-fat milk for whole milk.
- Try salsa¹⁸ and mustard¹⁹ on a sandwich instead of mayo²⁰.
- Cut back on salad dressing²¹.

One more tip: Try saving special treats²² for special occasions²³. You'll probably enjoy them more. And you'll definitely²⁴ do your body a big favor.

1. peril	<i>n.</i>	危险	13. broil	<i>v.</i>	烤; 焙
2. peak	<i>n.</i>	尖顶; 顶峰	14. pretzel	<i>n.</i>	椒盐卷饼
3. represent	<i>v.</i>	代表	15. popcorn	<i>n.</i>	爆玉米花
4. scream	<i>v.</i>	(因兴奋)尖声喊叫	16. chips	<i>n.</i>	油炸土豆片(条)
5. overwork	<i>v.</i>	过度使用	17. substitute	<i>v.</i>	替代
6. diabetes	<i>n.</i>	糖尿病	18. salsa	<i>n.</i>	(辣)沙司
7. spinach	<i>n.</i>	菠菜	19. mustard	<i>n.</i>	芥末
8. trick	<i>n.</i>	窍门	20. mayo	<i>n.</i>	蛋黄酱
9. intake	<i>n.</i>	吸收	21. dressing	<i>n.</i>	调料
10. tip	<i>n.</i>	提示	22. treat	<i>n.</i>	<口>极好的东西
11. bake	<i>v.</i>	烤	23. occasion	<i>n.</i>	场合
12. grill	<i>v.</i>	(在烤架上)炙烤	24. definitely	<i>adv.</i>	肯定地

Season to Taste

The food pyramid is a *general* map for people seeking¹ a healthy path² through the world of food. But each person has his or her own food needs and preferences.

You may be allergic³ to some foods, in which case you probably need to avoid⁴ them. Milk, eggs, wheat, nuts, and shellfish⁵ are among the most common foods that cause allergies. Health problems may require you to follow a strict diet. Your religion⁶ may have dietary⁷ rules.

Your activities affect your food needs too. If you're an athlete⁸, you use lots of energy. So you can probably feed a large appetite⁹ without gaining weight. If you're a couch potato¹⁰, keep a careful eye on what you eat.

How does your daily diet compare with the one shown in the food pyramid?

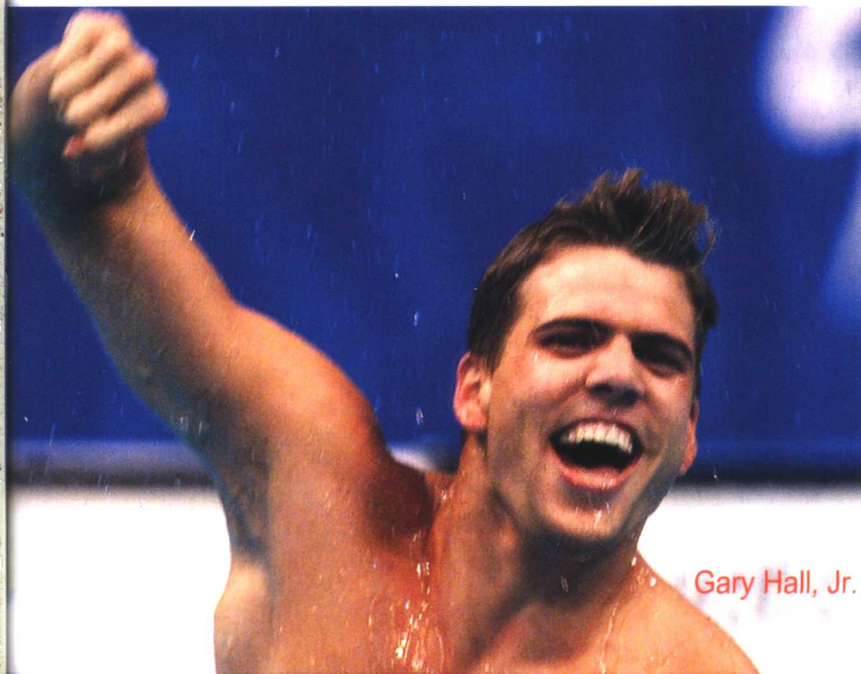
1. seek	v.	寻找	9. appetite	n.	胃口；食欲
2. path	n.	途径	10. couch potato		终日懒散的人； 老泡在电视机前的人
3. allergic	adj.	过敏的	11. absorb	v.	吸收
4. avoid	v.	避免	12. cope with		对付
5. shellfish	n.	有壳的水生动物	13. shot	n.	注射
6. religion	n.	宗教信仰	14. stress	v.	把重点放在
7. dietary	adj.	饮食的	15. pay off		得到好结果
8. athlete	n.	运动员			

Gary Hall, Jr.: Racing Against Diabetes

Swimmer Gary Hall, Jr., won four Olympic medals in 1996. He wanted to win more in 2000. His chances looked good, but then he got sick. Medical tests showed that Hall had diabetes. That's a disease in which the body cannot absorb¹¹ normal amounts of sugar.

Hall's doctor told him to forget about the Olympics. But the 24-year-old athlete didn't give up.

Working with a new doctor, Hall learned how to cope with¹² the disease. He tested his blood 10 to 12 times a day. He took shots¹³ to control his blood sugar levels. He completely changed his diet. And he exercised. "Exercise is so important," says Hall, "and I can't stress¹⁴ that enough." Hall's efforts paid off¹⁵. He swam in the 2000 Summer Olympics—and came home with four more medals.



Gary Hall, Jr.

Thinking Like a Scientist: Estimating

How much water do you drink in a day? You're probably not going to measure¹⁴ every drop. But you can estimate, or make an informed¹⁵ guess.

Start by thinking about how you drink water. You probably get most of your water from a bottle or a glass.

Now walk through a typical¹⁶ day in your mind. On average¹⁷ how much water is usually in your bottle or glass? How often do you refill it? Multiply¹⁸ the average amount of water by the number of refills. You've estimated your water consumption¹⁹ for a day.



A Growing Challenge

In 2001 Surgeon General¹ David Satcher warned² Americans that being overweight³ had become a national⁴ crisis⁵. Government studies found that 61 percent⁶ of American adults were overweight. That's almost *double*⁷ the figure⁸ from 1980. And about 13 percent of children and teens weighed too much. The percentage⁹ of too-heavy teens had *tripled*¹⁰.

A key reason is that people are less active today than ever before. Just think of TV, computers, and video games¹¹. The Surgeon General urged¹² Americans to slim¹³ down by—you guessed it—getting more exercise and eating healthier foods.

Talk to your parents, teacher, school nurse, or doctor if you need help choosing foods and controlling your weight. They can work with you to plan a diet and exercise program that will help you grow better, move better, look better, and feel better.

- | | |
|--------------------|------------------|
| 1. Surgeon General | (美国)卫生局局长 |
| 2. warn | v. 警告 |
| 3. overweight | adj. 超重的 |
| 4. national | adj. 全国的 |
| 5. crisis | n. 危机 |
| 6. percent | n. 百分之…… |
| 7. double | adj. 加倍的; 两倍的 |
| 8. figure | n. 数字 |
| 9. percentage | n. 百分比 |
| 10. triple | v. 使成为三倍 |
| 11. video game | 电视游戏 |
| 12. urge | v. 极力主张 |
| 13. slim | v. (用运动、节食等)减轻体重 |
| 14. measure | v. 测量 |
| 15. informed | adj. 有根据的 |
| 16. typical | adj. 有代表性的 |
| 17. on average | 平均起来 |
| 18. multiply | v. 乘; 使相乘 |
| 19. consumption | n. 消耗(量) |

Water: A Clear Choice

It has no calories¹. It has no fat. It has no artificial² colors or flavors³. It's good for you. In fact⁴, it *is* you (about 65 percent of you, anyway). What's not to like about water?

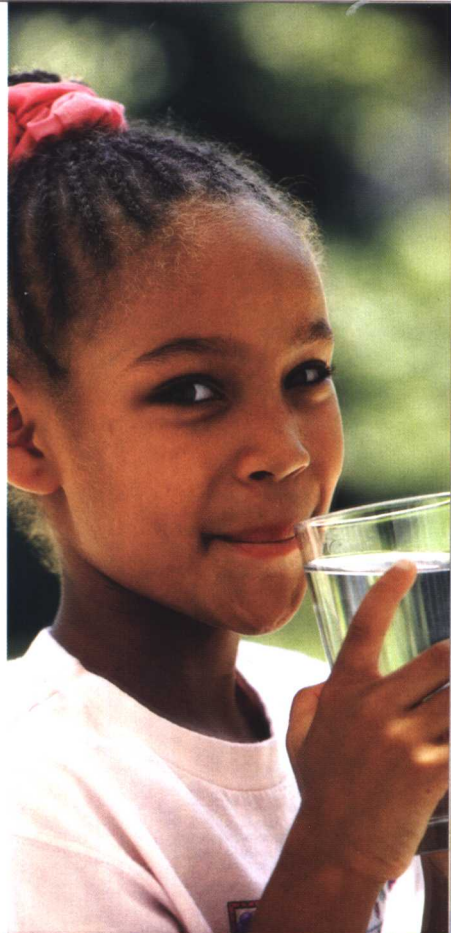
Water is one of the best gifts you can give your body. Every cell needs it. It helps your blood transport⁵ vital⁶ chemicals⁷. It makes your kidneys⁸ work smoothly⁹. It keeps your body at the right temperature¹⁰. It even helps you feel full between meals.

How much water do you need? Aim for¹¹ at least six glasses a day. The glass should hold 227 grams¹² (8 ounces). You'll need to drink even more water during heavy exercise and hot weather. In an hour of strenuous¹³ activity, you may lose from 2–3 liters¹⁴ (2–3 quarts¹⁵) of water. Fitness experts recommend¹⁶ that you drink water before, during, and after exercise.

One last drop of information. Your tap water¹⁷ probably contains fluoride¹⁸, a chemical that helps prevent¹⁹ tooth decay²⁰. Bottled water usually doesn't. So if you mostly drink bottled water, take time to brush and floss²¹ your teeth thoroughly²².

1. calorie	<i>n.</i>	卡(路里)
2. artificial	<i>adj.</i>	人造的
3. flavor	<i>n.</i>	调料
4. in fact		事实上
5. transport	<i>v.</i>	运输
6. vital	<i>adj.</i>	维持生命所必需的
7. chemical	<i>n.</i>	化学物质
8. kidney	<i>n.</i>	肾
9. smoothly	<i>adv.</i>	顺利地
10. temperature	<i>n.</i>	温度
11. aim for		力求

12. gram	<i>n.</i>	克
13. strenuous	<i>adj.</i>	费力的
14. liter	<i>n.</i>	升
15. quart	<i>n.</i>	夸脱(液量单位)
16. recommend	<i>v.</i>	建议
17. tap water		自来水
18. fluoride	<i>n.</i>	氟化物
19. prevent	<i>v.</i>	阻止; 防止
20. decay	<i>n.</i>	腐烂
21. floss	<i>v.</i>	用洁牙线剔(牙齿)
22. thoroughly	<i>adv.</i>	彻底地





Picture This

读图地带

Supermarket Mysteries 超市里的秘密

Do you know what you eat? Really know? How much fat do you eat in a day? How much sugar? Are you getting enough vitamins and minerals? Answering those questions can help you plan healthy meals. Some dietary detective¹ work can get you the information you need. You will find plenty of clues² by exploring the "Nutrition Facts" on most food packages³.

1 VITAMINS AND MINERALS

Vitamin A	15%
Vitamin C	0%
Calcium	2%
Iron ⁴	60%
Vitamin D	10%
Thiamin ⁵	25%
Riboflavin ⁶	25%
Niacin ⁷	25%
Vitamin B ₆	25%
Folic Acid ⁸	25%
Vitamin B ₁₂	25%
Phosphorus ⁹	20%
Magnesium ¹⁰	20%
Zinc ¹¹	15%
Copper ¹²	15%



3 INGREDIENTS¹⁶

Corn Syrup¹⁷,
Sucrose¹⁸,
Modified
Food Starch¹⁹ (Corn
and Potato), Citric
Acid²⁰, Natural and
Artificial Flavor,
Hydrogenated
Coconut²¹ Oil,
Carnauba Wax²²,
Beeswax, Red #3,
Yellow #5, Blue #1,
Red #40, Yellow #6.

1. detective	<i>adj.</i>	探查的; 检测的
2. clue	<i>n.</i>	线索
3. package	<i>n.</i>	包装
4. iron	<i>n.</i>	铁
5. thiamin	<i>n.</i>	硫胺素; 维生素 B ₁
6. riboflavin	<i>n.</i>	核黄素
7. niacin	<i>n.</i>	烟酸
8. folic acid		叶酸
9. phosphorus	<i>n.</i>	磷
10. magnesium	<i>n.</i>	镁
11. zinc	<i>n.</i>	锌
12. copper	<i>n.</i>	铜
13. sodium	<i>n.</i>	钠
14. potassium	<i>n.</i>	钾
15. folate	<i>n.</i>	叶酸
16. ingredient	<i>n.</i>	成分
17. corn syrup		玉米糖浆
18. sucrose	<i>n.</i>	蔗糖
19. modified food starch		改良食用淀粉
20. citric acid		柠檬酸
21. hydrogenated coconut oil		氢化椰子油
22. carnauba wax		巴西棕榈蜡
23. container	<i>n.</i>	容器



2 PERCENT DAILY VALUE

	% Daily Value
Total Fat 0g	0%
Sodium ¹³ 10mg	0%
Potassium ¹⁴ 400mg	11%
Total Carb. 30g	10%
Sugars 27g	
Protein 0g	
Vitamin C 100% • Iron 2%	
Folate ¹⁵ 15%	

4 SERVING SIZE

Nutrition Facts

Serving Size 16 pieces (30g/1.1oz)
Servings Per Container²³ about 5