## Index

Acne, of adolescence, 45
Adams, Zola, 155, 171
Adamson, J. D., 14
Adolescent weight, 84
Adults, protein in daily diet, 64
Advertisements, radio and television, 108
Age groups
differences within, 132
goals, 129-32
Aitken, F. C., 37
Alcohol, in beverages, 67
Allergy, 45
Amino acid, 58, 59, 63, 70
Analysis of propaganda, 108-9
Anemia
causes, 60
prevented by good nutrition, 80
Animal
exhibit, 111
feeding experiments, 109-14
sources of protein, 64
Antisocial behavior, of hungry children, 13
Apathy, 51
Appearance, effects of nutrition on, 44-50
Appetite, and hunger, 142
Ascorbic acid, deficiency in, 25
Athletes, 53
Attitudes
toward food and eating, 138-55
toward health and food, 87

## B

B complex vitamins, 60, 63
Babcock, M. J., 37
Baking soda, and loss of vitamins, 68
Barbour, Helen, 120, 171
Barrick, Mary Jean, 171

Basic Seven, 26, 27, 173-75
Beef, 64
Benedict, F. G., 13
Beriberi, 64, 80
Berresford, K., 155
Beverages, alcoholic, 53, 67
Blair, R., 14
Blood constituents
carotene, 34
indicative of nutritional state, 34
vitamin C, 34
Blood tests, 86
Body
build, inherited characteristics, 54
"is like a house," 32
Body measurements
comparison, 85
nutritional status, 34
record, 83
to determine development, 31
Body size, 54
of school-age children, 8
Body weight gain, 48
Bones
malformed, 50
pelvic, 50
Booher, Lela E., 121
Boys
calcium needs, 31
daily food intake, 18,20
Breads and cereal products
enriched, 78
students' acceptance, 146-47
whole-grain or enriched, 63
Breakfast, nutritious
for boys and girls, 83
need for improvement, 28
of rural girls, 29
skipping, 83
vitamin C consumption, 28

Breen, W. J., 155
Bring, S. V., 36
Bruch, Hilde, 155
Butter, 66

## C

Cabbage, 65
Caffeine, in beverages, 53
Calcium, 49, 59, 64
body needs, 82
boy's needs, 33
deficiencies, Iowa children, 23
growth in, 31-32
individual needs, 59
lack, 22
main source in U. S., 62
man's needs, 33
Calories, 57
in candy and desserts, 67
distribution among meals and snacks, 27-28
major sources, 24
percentage distribution among food groups, 26
percentage distribution among foodstuffs, 22, 23
Candy, 67
Carbohydrate-rich foods, 63
Carotene, 34-35, 67
Carotenoids, 65
Case problems
in group discussion, 106-7
for nutrition teaching, 107
Caso, E. K., 120
Cereal foods
enriched, 78
nutritive values, 63-64
Chadderdon, H., 171
Check lists, of food plans, 86
Chemical growth, of children, 31
Children
chemical growth, 31
nutrition status, 29
poorly nourished, 30, 31
underweight, 48
well-nourished, 30
Children's meals, nutritional adequacy, 128
Chlorine, 59
Citrus fruits, 65
Cobalt, 59
Cod-liver oil, 50
Colds, avoidance, 82
Connecticut studies
children's diets, 25
meals missed, 29
Coons, Irma, 37

Copper, 59, 60
Cream, 66
Criteria
for generalizations, 42
for judging propaganda, 108

## D

Daily food plan, 26
for adults, 64
revised by Agr. Res. Serv., USDA, 27
for school-age children, 35
Dairy foods, students' acceptance, 146, 148
Data, ability to interpret, 162
Daum, Kate, 37
Davis, B. C., 37
Dean, W. T., 37
Decision group, 99, 100
Deficiency diseases, dietary, 64, 80
Dental caries, 46, 60
in children of U. S., 35
control, 45
protection from, 35, 67
related to nutrition, 80
Dental hygiene, 67
Desserts
calories, 67
students' acceptance, 147
Development, influence of nutrition on, 54-55
Developmental tasks, 130-32
Dickins, Dorothy, 120
Diet
best vs. poorest, 24
daily record, 86
"good," during school years, 22
of heavy teen-age girls, 33
high-calorie, 23, 66
high-fat, 23, 66
of Iowa children rated, 21
low in calcium, 23
low calorie, 58
low-cost, 72
need to check, 85-86
and nutrition, 15-37
quality, 21, 86
rated in 3 classes, 21
special, 73
Diet, good
Leitch description, 29
for people in U. S., 61-62
Diet, poor, effects of, 33, 125
Dietaries
check lists for rating, 90
method of scoring, 187-93
Dietary deficiencies
chronic, 51
of teen-age girls, 20
resulting diseases, 64,80
Dietary records
of food served at home, 91, 188-92
of 3 to 7 days, 16
Discussion-decision
method, 99-102
research, 99-102
DiVesta, Francis J., 137
Dreizen, S., 14
Duncker, K., 155
Durant, William J., 13

## E

Eating and emotions, 142-43
Eating habits, family, 54
Efficiency, physical and mental, 52-54
Egg white, raw, 67
Egg yolk
fat content, 65-66
vitamin A, 66
Eggs
nutritive value, 64
student acceptance, 146, 148
use, 26
well-cooked, 69
Emotional
disturbances, effect on body weight, 49, 74
problems, expressed through overeating, 143
stability, 73
Emotions and eating, 142-43
Energy
from food, 57
rich foods, 52
Enriched foods, 77-78
Enrichment of foods, 83, 122-23
Environmental factors, 55
Eppright, Ercel S., 14, 36, 37, 155
Essay tests, 161
Evaluation, 156-71
of ability to apply generalizations, 165
of ability to think, 162-66
of attitudes and values, 166
data, 167
effective, 156
of effectiveness of teaching, 136
of facts, 159
for improving teaching, 170
interpreting data from, 170
of an objective, 157
purpose of, 156-57
of success in teaching, 157
of willingness to try new foods, 169
Evaluation process, four steps, 157-58
Exercise
and energy-rich foods, 52
prolonged, 54
Excess weight, 49
Exhibits and posters
making and using, 111, 116
as means of evaluation, 165
Experiments
animal, 126
rat-feeding, 11-12, 110-14, 200-201

## F

Family
eating habits, 54
food practices, 127
tendencies in body size, 54
Fat
accumulations, 31
calories in, 58
deposits, 48
diets high in, 23
effects of excess, 24
foods, 65,66
in national diet, 22
Fatty tissue, 48
Feeding, mass, 88-89
Field trips, 103-5
Films
lesson plans for using, 194-98
for teaching nutrition, 102-3
Fish
acceptance, 146
nutritive value, 64
Fish-liver oils, 66, 76
Flavors, students' acceptance, 147-48
Flour, enriched, 78, 83
Fluoridation of city water supply, 46, 60, 83
Fluorine, 59
Food
advertising, radio and television, 108-9
attitudes toward, 81, 138-55, 166
availability, 127-29
discarding portions of, 70
energy from, 57
enjoyment influenced by texture, 141
fads, 73
fallacies, 72
frozen, defrosted, 70
informality in serving, 75
misinformation, 126
preparation at school, 114-15
processing plant, 104
production, home, 127
questionnaire, of likes and dislikes, 166
sustaining interest in, 140
sweet, 76
texture, reactions to, 141

Food, choice of
through following "authority," 94
individual differences, 138
through intelligent decision, 94
responsibility for, 94
Food acceptance
effect of age, 141
family influence, 144
group leader influence, 144
by nursery school children, 144
psychological aspects, 142-43
sex differences, 149
and social pressure, 149
Food dislikes
in family diet, 153
sex differences in, 149
among 645 homemakers, 152
Food distribution, among meals and snacks, 74
Food energy
in fat foods, 65
sources, 63
in sweets, 66
Food groups
Basic Seven, 173-75
use by Iowa school children, 18
Food guide, Basic Seven, 173-75
Food habits
attempts to change, 91, 122
complexity, 91
improvement, 38, 122
of Iowa adults and young people, 150
Food habits, good
assuming responsibility for, 82
establishing, 80-82
factors influencing, 82-83
Food intake, for weight control, 78-79
Food practices
accepting responsibility for, 94,169
changes in, 93
community influence, 127
criteria for judging, 127
evaluating, 90
home influence, 127
individual, 143
methods of evaluation, 90, 187-93
radio and television influence, 108
Food preferences
of Iowa adults, 150
of Iowa teen-agers, 150
among school children, 144-48
Food records
interpretation, 166
3-day score, 188-92
3- to 7-day, 165-66
Food selection
good, 5
to provide nutrients, 61

Foods
acceptability, 140
acidity, 70
consumed by Iowa children, 16-18
cooked with added alkali, 68
enrichment, 77-78
exposure to light, 69
fortification, 77-78
handling and using, 68
made safe for human consumption, 69-70
neglected, 89
new, introducing, 88
palatability, 69
students' acceptance, 144-47
For Health and Happiness, 102, 196
Foreign dishes, 92
Forgetfulness, 54
Fortified foods, 77-78
Frozen food, defrosted, 70
Fruits
citrus, 65
students' acceptance of, 145
yellow, 65
Fundamentals of diet, 102, 195

## G

General Mills, Inc., 36
method of scoring dietaries, 187-93
study, 22
Generalizations
application, 44, 95, 98
criteria for, 42
defined, 41
developing, by lesson plan, 97-98
evaluating ability to apply, 161
explanation of terms, 182-86
formulating, 95-98
vs. generalities, 41
identified by number, 44
qualified, 42
stating, 98-99
and supporting facts, 44-86
uniqueness, 42-43
use of, 44, 99
Gerard, R. W., 37
Girls
average daily intake, 20
importance of good nutrition, 20
Goals
changing, 94
of different age groups, 129-32
Goiter, endemic, 80
Grapefruit, 65
Graph or poster, 116
Graubard, M., 155
Greider, M., 14

Groton Township studies, 15
Group discussion
case problems, 106-7
-decision, 99-102
role playing, 105-6
Group feeding, 89
Growth
adolescent spurt, 48
influence of nutrition, 54
optimum rate, 33
retardation, 7-8, 33

## H

Hall, Calvin S., 155
Hall, Irene S., 155
Hambidge, Gove, 13
Hawkes, Glenn, 137
Health
aids, 73
attitudes toward, 87
factors related to, 124-25
foods, 73
vs. friendship, 134
as motivation, 133
safeguards in adulthood, 10
Heart disease, 23.
Height
accurate measurement, 85
children's periodic measurement, 34
"Helping With the Family Meals," 92
Hemoglobin
concentration, 34
function, 60
maintained by good nutrition, 80
Hereditary factors, in growth and development, 54
Home practices, teaching geared to, 92
Hundley, J., 37
Hunger
and appetite, 142
excessive, 75
pangs, 142
prolonged, 54
Hurt, Mary Lee, 120
Hyperactivity, 74

## I

Ice cream, 63
Illustrated talks, 117
Independence, as motivation in nutrition, 94
Individual instruction, 100
Information, organization of, 39, 41
Intellectual capacity, 54
Intestinal hygiene, 79-80
Iodine, 59, 66

Iodized salt, to prevent goiter, 78
Iowa children
classified food consumed, 16-18
diets with calcium deficiencies, 23
distribution of calories, 23, 26
with liberal diets, 10
with poor diets, 10
quality of boys' and girls' diets, 21
use of food groups, 18
Iowa studies, 8, 10
body size of children, 33-34
breakfast, 28, 129
children's diets, 25
diets and physical development, 10
inadequately represented food groups, 90
meals and snacks, 27-28
school lunch planning, 115-16
use of meat substitutes and eggs, 26
vitamin C sources, 28
Iron, 59, 60, 63, 64, 70
Irresponsibility, 54
Irving, Evelyn, 155

## J

Jebe, Emil, 37

## K

Kansas study, children's diets, 25
Keys, A., 13, 14
Klisurich, D., 120
Kwashiorkor, 80

## L

Laird, D. A., 154
Lamb, in diet, 64
Larsen, Rosemary, 37
Lecture
discussion-decision techniques, 99-102
group, 101
Legumes, 64, 65
Leitch, I., 37, 86
Lenning, B., 14
Leverton, R. M., 36
Lewin, Kurt, 120
Literature, effective use, 118-19
Liver, 63
Low-cost diets, 71-72
Lowenberg, Miriam E., 120

## M

McCarthy, D., 155
McCluney, K., 155
McConnell, S. L., 37

MacLeod, Grace, 14
Macy, I., 154
Magnesium, 59
Malnutrition symptoms, 31
Manganese, 59
Mann, A. W., 14
Martin, E. A., 37
Mass feeding, 88-89
Mayer, J., 154
Meal patterns
of children, 16
of parents, 16
Meals and snacks, calorie distribution, 27-28
Meat, 64
acceptance, 146
cooking, 69
fats, 66
substitutes, 26, 64
Melons, 65
Mental achievement, maximum, 54
Menu planning, for school lunch, 115
Methods and tools, 87-121
Michigan study, of 9 th grade girls' attitudes, 92
Middle age
goals, 132
weight gain, 58
Milk
calcium source in U. S., 62
economical nutrient source, 72
evaporated, 63
fat content, 65-66
pasteurization, 69
plain vs. flavored, 63
skim, 63
use by young women, 75
vitamin $D, 62,78$
whole, 63
Milk solids, nonfat dry
added to foods, 77
benefits of, 9
equivalence to skim milk, 63
Milk-in-school plan, Scotland, 12
Mineral oil, 67
Morse, E. H., 36
Moschette, D., 37
Motivation
through desire for independence, 94
to improve nutritional status, 94
of students, 132-35

## N

National Research Council, 14, 137
Nervous tension, 74
New York, Groton Township studies, 15
Newfoundland, nutritive failure in, 13

Niacin, 63, 64
Nichol, Verna, 171
Nonfat dry milk solids
added to foods, 77
benefits, 9
equivalence to skim milk, 63
Northeastern region study, of dietary adequacy, 24
Nutrient
intake computation, 85
needs of individuals, 56
shortage, 8
supplement, consumption, 17
Nutrient supplements, effect of on growth failure, 9
on height and weight gains, 9
Nutrient supply
individual needs, 18
of second decade of life, 19
Nutrients
lack of certain, 80
loss in discarded food, 70
major sources and contributions, 24
in snacks of teen-age girls, 28
utilization, 73, 124-25
Nutrition
a community concern, 5
in conservation of resources, 6
as cornerstone of health, 4-5
criteria for judging, 85-86
and diets, 15-37
experiments with animals, 109-14
factors influencing, 82-83
of school children during 1954-55, 15
in school curriculum, 3, 123
selected references, 176-81
Nutrition, good
accomplishments, 7-13
attainment, 61-67
characteristics, 10-11, 96
community influences, 83
demands, 72-73
diet check for, 85-86
enriched foods for, 77-78
example, 30,96
importance for girls, 20
influence on body size, 8-10
influence on deficiency diseases, 80
life and growth sustained, 8
promotion of, 68-83
requirements, 56-61
by supplementing foods, 76-78
to help prevent dental caries, 80
to improve play, 12, 53
to improve work ability, 12, 52
to promote well-being, 13
through wise budgeting and buying, 70-72
through wise distribution of food, 74-76
Nutrition, human, problems in studying, 124
Nutrition, influence of
on body size, 48-49
on different parts of body, 44-50
on growth and development, 54
on personality traits, 50-52
on physical and mental efficiency, 52-54
on posture, 49-50
on vim and vigor, 51-52
Nutrition, methods of teaching, 87-120
Nutrition, poor
example, 30, 96
responsibility for, 4
social and economic implications, 5
Nutrition education, 3-13
vs. child's desire for independence, 134
cooperation required, 6-7
motivation, 132-35
objective, 39-40
organizing information, 41-43
over-all objective, 73
points of emphasis, 35-36
readiness to learn, 135
for school curriculum, 3-4
transfer of learning, 136
Nutrition films, lesson plans for, 19 t
For Health and Happiness, 196
Fundamentals of Diet, 195
More Life in Living, 195
Something You Didn't Eat, 194
What Makes Us Grow, 197
Whenever You Eat, 197
Nutrition information, gaps in, 125-26
Nutrition poster
making and using, 116
selecting ideas, 116
Nutrition requirements, change with age, 5-6
Nutrition research, 15-37, 125, 138-55
Nutritional adequacy, of children's meals, 15-36, 128
Nutritional appraisal, methods, 90
Nutritional requirements
generalizations, 44-68
during pregnancy, 57
of undernourished persons, 74
Nutritional state, checks for, 83-86
Nutritional status
of children, 29-31
different interpretations, 93
good, characteristics, 10, 30, 96
poor, characteristics, 30,96
for reaching goals, 38, 44-68

Nutritive failure
in children of Newfoundland, 13
in children of West Germany, 13
chronic, in children, 8-9

## 0

Objectives
achievement, 38, 156-57
for nutrition education, 39-40, 93
selection, 40
Ohio study of children's diets, 25
Oleomargarine, vitamin $A$ fortified, 66, 78
Orange juice, 65
Orange-grapefruit juice, 65
Oranges, 65
Overweight, 33
Oxalic acid, 67

## P

## Parents

getting information to, 120
personal contact, 119
recognizing difficulties of, 119
ways to work with, 119-20
Parran, Thomas, 13
Pattison, Mattie, 121
Pellagra, 64, 80
Pelvis malformation, 50
Personal records of growth, 169
Personality, effect of nutrition on, 50-52
Pett, L. B., 120
Phipard, Esther F., 36
Phosphorus, 49, 59
Physical activity, 58
Physical perfection, marks of, 10-11
Pictograms, 17, 20, 23, 32, 34, 117
Pilcher, H. L., 36
Plate waste, checking, 115
Poorly nourished child, description, 31, 96
Pork, 64
Poster or graph
living, 116
making and using, 116
selecting ideas, 116
Posture, 49
Potassium, 59
Potato story, 88
Potatoes, 65
Potgieter, M., 36
Poultry
acceptance, 146
nutritive value, 64
Pregnancy, nutritional requirements, 57
Problem-solving techniques, 117

Problem-type question, 160, 164-66, 168
Problems in nutrition education, 122-37
Propaganda analysis, 108-9
Protein
from animal sources, 64
insufficient, 59
need, children vs. adults, 58
need, during pregnancy and lactation, 59
sources, 62, 63, 64
storage, 59
Prunes, 65

## R

Racial tendencies, in body size, 54
Radio, use of, 107
Radke, M., 120
Rat experiments, mediocre vs. excellent diets, 11-12
Rat-feeding
experiments, 109-14
to develop generalizations, 111-12
Rats
care and feeding, 199-201
characteristics, 201
disposing of, after experiments, 114
Recommended dietary allowances, 14, 36
Records
anecdotal, 167
of food eaten, 90
Red blood cells, normal life, 60
Reducing diet, 49
References in nutrition, selected, 176-81
calories, 180
dental caries, 180
food intake and nutritional status of children, 177
food intake of older people, 178
general, 176
nutritional status of older people, 179
Relaxation, 73, 74
Renner, H. D., 154
Rest, 74
Riboflavin
lack, 47
loss, 68, 69
sources, 62, 63
Richter, C. P., 154
Roberts, Lydia, J., 14
Roderuck, C., 36
Rodewald, Shirley, 120
Role-playing, in group discussion, 105-6
Rutabagas, source of vitamin A, 65

## S

School curriculum, nutrition education for, 3-4
School lunch
managers, 116
menu planning, 115
program, to improve diets, 122-23
Score sheet, for 3-day food record, 188-92
Scotland, milk-in-school plan, 12
Scott, M., 14
Scurvy, 80
Second decade of life, 19
Selecting objectives and organizing information, 38-43
Sense organs, 140
Servings, defining, 173-75
Seven basic food groups, 173-75
Sex differences in food acceptance, 149
Shaw, James D., 37
Sherman, H. C., 14
Sidwell, V. D., 14, 37, 155
Silberberg, M., 36
Silberberg, R., 36
Skin rashes from foods, 45
Snacks
calories in, 28
for good nutrition, 74, 76, 83
of teen-age Iowa girls, 28
Snapper, Isadore, 154
Social pressures, and food acceptance, 149
Soda, in cooking foods, 68
Sodium, in body, 59
Soft drinks, 67
Spies, T. D., 14
Spinach, 67
Sports, 53
Starches, 58
Stare, Frederick J., 13
Starvation, results of, 7
Statements of fact, explained, 43
Stearns, Genevieve, 36, 137
Steele, Betty F., 36
Stone, J. G., 120
Storvick, C. A., 36
Student evaluation of teaching, 169
Sucrose, 66
Sugar, 58, 66, 67
Sulfur, 59
Sun, direct rays, 76
Swanson, Pearl P., 36, 155
Sweeney, Mary, 120
Sweets, 66

## T

Talks, illustrated, 117
Taste, individual variations, 139
Taste buds, changes, 141
Taylor, Clara Mae, 14
Taylor, H. L., 13
Teachers, middle class, 92
Teaching
improvement by evaluation, 170
student evaluation, 169
Teaching methods
analysis of propaganda, 108-9
case problems, 106-7
discussion-decision, 99-102
illustrated talks, 117
making and using posters, 116
planning school lunch, 115
preparation of food at school, 111
problem-solving, 117
role-playing, 105-6
use of field trips, 103-5
use of films, 102-3, 194-98
Teen-age girls
dietary deficiencies, 20
diets of obese, 33
need for nutrition education, 18
skipping breakfast, 29
Teeth, 45-46
Television programs, for case studies, 107
Tennessee, University of, workshop group, 103
Test, for values associated with food, 168-9
Tests
basis for, criteria, 108, 162
matching, 159
paper and pencil, 159
problem-type, 160-61, 164-65
short-answer, 159, 164-65
true-false, 160
Textures, students' acceptance of, 147-48
Thiamine
loss, 68
morale vitamin, 51
sources, 63, 64
Thyroid gland, 60
Tomatoes, and tomato juice, 65
Tooth decay, control, 45
Training table
function, 53
regimes, 53
Trichinae, 70
Tuttle, W. W., 37, 137

## U

Undernourished person, nutritional requirements, 74
Undernutrition, signs of, 84
Underweight children, 48
USDA, 121, 155
U. S. Dept. of Commerce, 137

## V

Value patterns, differences in, 132
Values test, 168
Vegetables
cooking, 69
green and yellow, 63, 65
for improving diets, 153
popularity, 16
students' acceptance, 144, 148
students' unfamiliarity, 144, 149
Visual materials, effectveness of, 162
Vitamin A, 45, 47, 63, 64, 65, 66, 67, 70
Vitamin B complex, 45, 60
Vitamin C
at breakfast, 28
content, standards for juices, 78
in controlling tooth decay, 45
dangers of too small supply, 49
dietary source, 65
loss in food preparation, 68
minimal content criteria, 65
in potatoes, 65
supplementing diets with, 64
Vitamin D
concentrates, 66
for control of tooth decay, 45
diets poor in, 49
in milk, 62
need of, by adults and children, 17,59
supplied through supplements, 50, 76
Vitamin D milk, 78
Vitamin pills, 61, 72
Vitamin preparations, 77
Vitamins
as aid to the body, 61
attitudes toward, 87
consumption, 17
and other nutrients, 52

## W

Waldner, B. G., 155
Wallen, R., 155
Warnick, K. P., 36
Weeks Junior High School study, 101

Weight
children's, periodic measurement, 34
control, 78-79
gain, middle age, 58
growth during adolescence, 84
-height-age-tables, 83-85
reduction, goals, 49
Well-nourished child, description, 30
West Germany study, 13
West Texas study, 140
Wetzel, N. C., 14
Wetzel Grid, 9
Willerman, B., 120

Women's Food Council of India, 89
Woods, Ella, 36
Workshop group, University of Tennessee, 103
World Health Organization, 4

## X

Xerophthalmia, 80

## Y

Young, C. M., 36, 155

