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EDUCATIONAL BULLETIN

BASIC HEALTH COURSE FOR SECONDARY SCHOOLS OF KENTUCKY

(Grades 9 or 10)

Published by

DEPARTMENT OF EDUCATION

WENDELL P. BUTLER

Superintendent of Public Instruction

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FOREWORD

In addition to rendering assistance in planning the basic health course in Kentucky high schools, an effort has been made to provide an outline for this course. This bulletin, prepared by C. W. Hackensmith, University of Kentucky, Lexington, Kentucky, deals with many of the subjects which are so important in the development of good health habits. I urgently recommend its use in the teaching of health and healthful living in the secondary schools of this state.

WENDELL P. BUTLER
Superintendent of Public Instruction

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(Grades 9 or 10)

1953

by
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Department of Physical Education
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PREFACE

This bulletin has been organized to meet the requirement of the Code for Health and Physical Education (SBE 53-2).

As a general rule, teachers of health have their own ideas of what constitutes and how they will provide health instruction. The materials in this bulletin must not be viewed as the final word in health instruction but rather as a guide to be used on its own merits and limitations or in combination with an accepted textbook.

Regardless of how the basic health course is employed by the teacher of health, emphasis should be on local and state health needs and problems as well as national.

This bulletin was made possible through the interest and assistance of Dr. L. E. Smith, former Executive Secretary of the Kentucky Tuberculosis Association, and Mr. Hambleton Tapp, former Director of Health and Physical Education, Kentucky State Department of Education. The author is also deeply indebted to the following people for suggestions and criticisms of the various units in the basic health course: Miss Martha Van Meter, Director of Health Education, Indiana State Department of Health; Dr. Don Cash Seaton, Head of the Department of Physical Education, University of Kentucky; Mr. E. B. Whalin, Director of the Division of Health Education, State Department of Education; Mr. John Robinson, Superintendent of Schools, Danville, Ky.; Dr. Statie Erickson, College of Agriculture and Home Economics; and Dr. E. M. Thompson, former Director of Public Health, Fayette County.

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INTRODUCTION

This bulletin is the last in a series of four designed to guide and aid the teacher, pupil and administrator in meeting the provisions of the Code for Health and Physical Education.

The volume may be used in planning, establishing, presenting and improving the general health program in the secondary schools of the state. According to several health education specialists, the contents of this work are excellent in every respect, and the Commonwealth is fortunate that the author, Dr. Charles W. Hackensmith, of the Physical Education Department, University of Kentucky, was willing to devote practically a year's time to the strenuous task of preparing the bulletin.

The four bulletins will mean much or little to the children of Kentucky, depending upon the interest and determination of the school administrators, particularly the superintendents. If these, the superintendents, will devote several faculty meetings, or better still conduct workshops (prior to the beginning of the school year) to make the principals and teachers thoroughly acquainted with the four bulletins, the code and the bulletins can be an effective means of establishing an eminently successful health and physical education program in Kentucky—one which will achieve practical results in making for healthier, happier, longer-lived citizens. If the superintendents will lead in launching the program, keep vigilant and concerned as to its success, neither the State Department of Education nor the State Department of Health will have the least doubt as to ultimate success. But the superintendent must take the lead, generate spirit, enthusiasm and determination for the program's success to his principals, supervisors and teachers.

Hon. Wendell P. Butler, State Superintendent of Public Instruction, joins me in expressing gratitude to Dr. Hackensmith for his superb contribution to the betterment of Kentucky. Occasion is taken also to express appreciation to Dr. Ellis F. Hartford (College of Education, University of Kentucky) and to Dr. Don Cash Seaton (Physical Education Department, University of Kentucky) for able contributions toward making the bulletins possible. These bulletins compare favorably with the best contributions done in the fields of health and physical education throughout the nation.

This material was first published in this form May 1948. Dr. C. W. Hackensmith, the author, has made the necessary revisions and it is now re-printed. This publication was prepared with the cooperation of Dr. Hambleton Tapp, who was then Director of Health Education, Department of Education.

E. B. Whalin, Director

Division of Health and Physical Education

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INTRODUCTION

A BASIC HEALTH COURSE FOR THE NINTH OR TENTH GRADES FOR KENTUCKY SECONDARY SCHOOLS

The Code for Health and Physical Education[1] which became effective September, 1948, stated that health shall be included in each pupil's program of daily living and learning and that a specific course in basic health shall be required of each pupil in the upper four years of high school, preferably during the ninth or tenth year. It is evident that the originators of the code were cognizant of the fact that all the health instruction required for efficient participation in daily living in home and community can not be encompassed in one compact course in either the ninth or the tenth grade. The inference is, then, that much of the health knowledge and learning experiences which can not be treated in the basic course must evolve from health instruction in related areas.

It is the purpose of this Bulletin to present units of heath instruction applicable to the ninth or tenth grades that will assist the teacher of health in Kentucky secondary schools. The framework of the units of the suggested basic health course for Kentucky secondary schools has been constructed around the major health needs common to Kentuckians.

A study of the economical and social factors influencing the Kentucky citizen, a review of the incidence of disease, an evaluation of the Vital Statistic Reports of the State Department of Health, and the evaluation of the opinions of county health officers, school administrators and teachers of health education indicate that the content of the health course in the secondary school should include consideration of the following health problems:

1. Prevention and control of communicable diseases.
2. Non-communicable diseases.
3. Sanitation in the school, home and community.
4. Leisure time pursuits.
5. Nutrition.
6. Personal Hygiene.
7. Lack of health service, personnel and facilities.
8. Mental hygiene.
9. Prenatal care.

[1]Kentucky. *Code for Health and Physical Education.* Frankfort, Kentucky: State Department of Education, Division of Health and Physical Education, December 12, 1947. (Mimeographed)

10. Dental hygiene.
11. Maternal and child health.
12. Alcohol, tobacco and drugs.
13. Quackery and superstitions.
14. Sex education.
15. Safety education.
16. Care of the physically handicapped.
17. Preparation for marriage and parenthood.

Method and Materials. A basic health course for the ninth or tenth grade, as stipulated by the Code for Health and Physical Education, must of necessity limit itself in scope and any attempt to encompass all of the Kentucky's health needs in a semester's course is a sheer impossibility. The selection of health materials to serve as a satisfactory guide for teachers in secondary schools, therefore, becomes a paramount problem.

The advice of authorities in the fields of mental health, dental hygiene, nutrition, sanitation, and safety education and representatives of health agencies was sought in an attempt to select the most pertinent and useful materials in the organization of a basic health course. An evaluation was made of health bulletins secured from various state departments of education. Plans of organization contained in these bulletins and health materials suitable and applicable to Kentucky were freely utilized. The sources from which valuable material and guidance was secured included the following:

1. Illinois State Department of Education. *A Program of Safety Education for the Secondary Schools of Illinois,* by Don Cash Seaton. Circular No. 299a. Springfield, Illinois. 1939.
2. Minnesota Department of Education. *Individual and Community Health.* Junior High School Health and Safety Education Curriculum Bulletin No. 16. Minneapolis, Minnesota. 1946.
3. Mississippi State Department of Education. *Manual for Teaching Health for the Schools of Mississippi.* Bulletin No. 118. Jackson, Mississippi. 1947.
4. Ohio State Department of Education. *School and Community Health Education.* Sponsored jointly by the Ohio Department of Education and Department of Health. Columbus, Ohio. 1946.
5. Oregon State Department of Education. *Health Guide Units for Oregon Teachers (Grades 7-12)* by Howard S. Hoyman. Salem, Oregon. 1946.

6. Texas State Department of Education. *Guide to Safe Living for Secondary Schools, Safety Education Including Driver Education.* Bulletin No. 462. Austin, Texas. 1945.

After careful consideration of Kentucky's health needs, the advice of state health authorities, representatives of health agencies, and an evaluation of outstanding state courses of study, the author organized the basic health course for ninth or tenth grade pupils in Kentucky secondary schools into the following sections, units, and topics:

A. Section I, Personal Health (30 class periods)

1. Unit I, Personal Hygiene
2. Unit II, Personal Health Appraisal
3. Unit III, Dental Health

B. Section II, Health Protection (30 class periods)

1. Unit IV, Safe Water Supply
2. Unit V, Protection of Milk
3. Unit VI, Satisfactory Methods of Removal and Disposal of Garbage and Sewage
4. Unit VII, Heat, Ventilation, and Light
5. Unit VIII, Superstitions, Popular Beliefs, Home Remedies, and Health Advertisements

C. Section III, Safe-guarding Health (30 class periods)

1. Unit IX, Communicable and Non-communicable Diseases
2. Unit X, Health Profession and Agencies

D. Section IV, Nutrition and Mental Health (30 class periods)

1. Unit XI, Nutrition
2. Unit XII, Mental Health

E. Section V, Safety Education and First Aid (30 class periods)

1. Unit XIII, Safety
2. Unit XIV, First Aid

F. Section VI, Traffic Safety Education (30 class periods)

1. Unit XV, Pedestrian and Bicyclist Education
2. Unit XVI, Driver education and Pupil Use of the School Bus

G. Bibliography

1. Teacher Reference
2. Pupil Reference
3. Health Agencies

The bulletin issued by the Kentucky State Department of Education containing these units is not intended as a textbook. The bulletin is intended as a teacher guide to provide a fuller and richer organized program in functional health. Teachers' ideas vary greatly as to what should be taught in health but the suggested units will, at

least, insure a fairly uniform program of health instruction. The units are not inflexible and additions and changes will depend on the ability and educational training of the health teacher as well as pupil interest. The basic content in each unit has been presented in such a way that teachers with little or no special training in health education can follow it if they read the references included at the conclusion of each unit. Teachers with special training in health education should have no difficulty in following the plan of the units and teaching from them.

It is intended that each section should be teachable in 30 class periods. The units within each section have been apportioned such time as will permit them to come within the 30-day time limit. The allotment of days to each unit was done as fairly as possible under the circumstances. Only actual teaching of the units will prove the adequacy or inadequacy of the apportionment of time for each unit.

The author is cognizant of the tremendous amount of material contained in the 16 units. It is hoped that in subjects such as general science, science, home economics, biology, and others that treat health phases of this course of study will continue to do so. *It is imperative, however, that the teacher of health in related areas shall have a clear understanding with the health instructor about what shall be and shall not be covered in their subject area.*

The time allotment of 24 class periods for Unit XVI on Traffic Safety Education is, without a doubt, wholly inadequate for effective teaching. Traffic education is too important as a phase of youth's high school education to be compressed in a unit of 24 lessons. Should a division of labor be effected and teachers of health in related areas reduce the teaching time of the course of study on health instruction, behind the wheel training for pupils may be satisfactorily included and is provided for in the unit. The pupil's training may be provided through home-school cooperation, dual control cars furnished by automobile manufacturers, automobiles owned by motor clubs or garages and loaned to the school, and dummy automobiles (a junk car with necessary parts intact).

Teacher references have been selected with care with a view to provide information necessary for the successful teaching of the various units. It is assumed that the school in part will provide the teacher many of these references for her or his use. Where only a few of the books can be secured through the school, the teacher is provided

many additional references which may be secured free or at small charges from official and non-official organizations.

Pupil references include free materials from officials and non-official health agencies and special books which might well be the start of a health section in the school library. The textbooks included as pupil reference at the close of each unit were those books on health instruction utilized and listed most frequently by Kentucky teachers in a survey conducted by the author in the Spring of 1947. It is hoped that the teacher will coordinate the units of this course of study with the text of his or her choice.

Organization for Health Instruction. A survey of health instruction and correlation of health instruction indicated that Kentucky secondary schools use a variety of methods to organize health instruction. In Wyatt's[2] survey of health and physical education in 1946, he found that 40 per cent of the 484 high schools reporting taught health as a specific subject, usually in the junior year, and that only 13 per cent required the subject.

A separate course in health education has particular merit in the senior high school and is recommended by *Health in Schools*[3] as the most effective means of providing an adequate instructional program. Subjects dealing with the field of biology are included in most high school curricula and such a class can be increased in scope to include a variety of human conservation problems, both personal and community, with biological science serving as a background of explanation for many of these problems. As pointed out in *Health in Schools.*

> The emphasis should be shifted [in biological courses in high school] from bones and blood vessels to problems of living. Concepts of racial improvement, public health, and adequate personal and social living are the sources of curriculum materials. Such a course is most profitable in the junior or senior year in high school. It should meet daily for at least one semester, preferably for two, and be recognized as on par with other school offerings. The course might be called "Problems in Human Conservation," "Human Biology," "Personal Living," or something similar.[4]

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[2]Wyatt, Clarence Hodges. *The Status of Health and Physical Education in Secondary Schools in Kentucky (1945-46).* Frankfort, Kentucky: Kentucky Department of Education Bulletin, July, 1946, Vol. XIV, No. 5. p. 434.

[3]*Health in Schools,* Twentieth Yearbook of the American Association of School Administrators. Washington, D. C.: National Education Association, December, 1946, p. 73.

[4]*Ibid.,* pp. 73-74.

If health education is taught in the junior year, which is the prevelant custom in Kentucky secondary schools, it seems less desirable to offer the course for one semester or a year. In this level, health is better taught as an ongoing program throughout the three years on a two-day a week basis, alternating with some other subject in the curriculum. The course should be definitely coordinated with the health topics treated in general science, science, social studies, English, physical education and other subjects to unify and avoid duplication of effort.

Many Kentucky secondary schools practice the alternation of health instruction with physical education. The most common procedure is to schedule health class two days per week and physical education three days. The average class period is 45 minutes per meeting. There are definite advantages in this combination such as (1) the simplification of scheduling classes where one group meets in the gymnasium and the other in the classroom, (2) the close association of the physical education teacher with the pupils places them in an excellent position to know their health needs, (3) the very nature of the physical education period provides opportunities for learning experiences in valuable health habits such as cleanliness, safety, posture, and many others, and (4) the fact that sexes are usually segregated for the activity period which provides opportunity for the discussion of certain phases of body development inherent to both groups.

This plan, however, also has its disadvantages in that (1) the pupils resent being deprived of an activity period in order to study health principles, (2) the fact that some physical education teachers assume the attitude that health instruction is just another burden, (3) the tendency of schedule-makers to overload physical education class enrollment which is a handicap to efficient teaching in both health and physical education, (4) the lack of classrooms for instruction in health, books, library materials, and teaching aids, and (5) the fact that many physical education teachers are not too well-trained to teach the subject. The administrator can, however, eliminate many of these disadvantages through proper scheduling, employment of qualified teachers of health and physical education, and adequate planning.

In Kentucky high schools health instruction is frequently correlated with biology, general science, and science. In addition to this fact, science majors indicated, at least an excellent foundation in the

basic sciences which should assist them in health instruction. Since biology, general science, and science are taught each year, health instruction can be and is quite frequently, in Kentucky high schools, included in the course content. In his interviews with schools administrators, the author frequently found that general science, science, and health instruction are alternated during semesters. The ideal would be to correlate health instruction units throughout the science or general science courses, but such an approach requires a science teacher who is not too concerned with technicalities and who is alert to the health needs and interests of boys and girls.

Whatever the method of organization, the instruction of health must not be looked upon as an incidental affair but rather as a course with the important task of helping pupils to improve living. For that reason, administrators must give the course every chance to succeed as they would any other course in the curriculum. The practice of relegating the health instruction classes to the auditorium or gymnasium should be abandoned and regular classrooms with classes no larger than the average, credit allowed on a par with other subjects, teaching materials provided, and teachers prepared in health education should be the modern trend if school administrators are really sincere in their belief of the value of health instruction to healthful living.

In the organization of health classes that are taught each year, care must be exerted to avoid the overemphasis of general areas. If health instruction is given in the junior high school level, personal health problems may be emphasized in the seventh grade, nutrition in the eighth grade, and safety and first aid in the ninth grade. Flexibility is to be desired but monotonous repetition is to be avoided.

Method of Instruction. Many health teachers in Kentucky secondary schools are already employing definite methods of instruction. The conduct of a class in health instruction does not differ materially from the method used in other courses. The choice of method will vary, however, with the size of the class, maturity of the pupils, availability of source materials, teaching environment, and the training and experience of the teacher.

Methods of teaching listed below are in use at the present time by Kentucky health teachers and much of the material has been drawn from their reports.

1. *Discussion:* As a general rule high school pupils will gain much from a well-conducted class discussion. Pupils will have an

opportunity to fill gaps in their health knowledge and to question health practices based on beliefs that are not substantiated by scientific or authoritative facts. These discussions may be led by groups under pupil leadership. Several Kentucky health teachers employ a panel or round-table discussion which is interesting and can be used occasionally.

2. *Activities and Projects:* Activities growing out of interests and the solution to problems arising from discussion or reading provide excellent opportunities for pupils to work in real situations. As an example, the question of certification of milk may lead to a group visit to the local dairy company, or a reported prevalence of Rocky Mountain Spotted Fever in the area may stimulate reading on the cause and prevention of the disease. This method permits the teacher to break away from the formalistic type of teaching and helps to build initiative and self-direction in pupils. Projects should be carefully planned and enough time permitted to carry them to completion. These projects may be either group or individual and several may be conducted simultaneously in the same class.

Kentucky health teachers, if the survey of methods employed in teaching health is a criterion, do not fully appreciate the significance of community health resources as a valuable aid in originating activities and projects that provide learning experiences. Many teachers admit that health agencies in the community are deeply interested in cooperating but few take advantage of this fact. When community health agencies and facilities are utilized in activities or projects, however, the health teacher must make careful arrangement with the parties concerned and either acknowledge his or her appreciation verbally or preferably by letter for the indulgence shown.

3. *Provision of Scientific Material:* The library or the teacher's classroom should make available to pupils books, pamphlets, magazines, monographs and bulletins to assist pupils in working out their problems. Much of the material of official organizations such as the Kentucky State Department of Health and its divisions as well as non-official organizations such as the Kentucky Tuberculosis Association, National Safety Council, and the National Dairy Council have publications that will add much to the school library or classroom materials on health.

4. *Audio-Visual Instruction:* The value of audio-visual and visual aids in the teaching of health has been established in many

Kentucky high schools. These aids include graphs, charts, posters, slides, silent and sound motion pictures, specimens, objects, and many others which help in effective teaching. Again, many of these audio-visual and visual aids are available to teachers free or at a low cost if they will but take the initiative to write official and non-official organizations. All materials, however, especially from commercial sources, are not satisfactory for classroom teaching and an evaluation committee or the school administrator and teacher should judge the propriety of utilizing various commercial materials.

Posters and charts become worse from wear after use year in and out. Some of these teaching devices have value for many years if stored away properly after use and conditioned before use. When the material arrives through the mail, it should be rolled in reverse to make it flat and bordered with scotch tape to avoid tearing. In storing, posters and charts should be kept flat, enclosed in heavy wrapping paper and the paper held secure with scotch tape. A storage place may be an ordinary paper carton or wooden box kept in a dry area.

5. *Special Lectures and Demonstrations:* This method of instruction is frequently employed in Kentucky secondary schools. Special lecturers are obtained to give health instruction with or without motion pictures in venereal diseases. Classroom teachers utilize the personnel of county or city boards of health, local physicians or health specialists, and occasionally industrial managers. Demonstrations already in use in many Kentucky high schools include those in home nursing, Kentucky State Highway Patrol, safety squads of the Bureau of Mines, U. S. Forestry Service, local fire and police departments, laboratory demonstrations, and many others. These lectures and demonstrations should be integrated with the regular classroom instruction and should not be impromptu.

6. *Teacher Example:* The example set by the teacher may be considered a method of health instruction because youth is influenced by the attitude and practices of the persons with whom he associates.

Coordination of Effort in Health Instruction. One of the serious criticisms of the high school health instructional program is that often several teachers and departments conduct programs in this field without regard to duplication of effort and with little or no interest of what is being done by the other. This situation is an especial hazard in Kentucky secondary schools since correlation of health instruction as well as an organized health course appears to be the future standard of health instruction.

The school administrator, health teachers and representatives from home economics, science, general science, social studies, English, physical education and other related areas in which health instruction is provided should confer and plan together. While every teacher is a "health" teacher in that she recognizes the needs of her pupils and accordingly adapts her program to meet these needs, it is wholly possible for her, even though teaching what she thinks is necessary, to completely lack an understanding of the total health program.

Section I

PERSONAL HEALTH

Personal Hygiene

Personal Health Appraisals

Dental Health

A BASIC HEALTH COURSE FOR KENTUCKY SECONDARY SCHOOLS (GRADES 9 OR 10)

UNIT ONE

Personal Hygiene

Suggested Time: Eight Class Periods

Introduction

Health Education defines personal hygiene as "the application by an individual of scientific information related to the promotion and maintenance of health, including the prevention of disease."[6] Each individual must learn the essentials of personal hygiene and assume responsibility for his own health insofar as he can control the factors influencing his health.

Health practices are a fusion of social and hygienic custom. Cleanliness of the hands discourages the spread of germs, particularly those causing intestinal diseases. Cleanliness of body has a hygienic and social purpose. Cleaning the teeth is partly hygienic and partly social aimed at improving personal appearance.

Health rules are often laid down in desirable food habits, specified number of hours of sleep, so many hours of exercise per day, sensible clothing advice, habits of elimination, and many others that are conducive to good health. It must be appreciated that these are applicable to the healthy individual and subject to many variations. Rather than hygienic rules, it is the general principles of personal hygiene that have significance and need to be explained to the pupil.

Objectives

1. To appreciate that neatness of appearance and cleanliness has social and economic as well as health value.
2. To develop the ability to appraise personal appearance and to capitalize on assets and overcome liabilities.
3. To coordinate into daily habits the proper care of skin, hair, and nails.
4. To learn and to apply the basic principles of personal hygiene.

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[6] *Op. cit.*, p. 93.

Suggested Activities

Encourage class discussion on the factors that need to be considered in making a favorable impression and when it is important to make a favorable impression. Any practical suggestions or ideas worth further study growing out of the discussion should be incorporated in the unit. In addition to those activities of interest to the class, a list is presented from which additional activities may be selected.

1. Evaluate advertisements in magazines and newspapers of products sold for the care of skin, hair, feet, and body.

2. Select group photographs from a current pictorial magazine and let the class pick out the most prominent figure in the group and have them list the reasons for their choice.

3. Prepare reports on the following topics:
   a. Safe and sane reducing.
   b. On what factors does the lustre of the hair depend?
   c. Are pimples a necessary evil of youth?
   d. Does heredity affect the eventual stature of the individual?
   e. Hereditary conditions that can not be controlled such as baldness and tanning.

4. Discuss the care of the feet in hiking. Why is it essential that socks be clean in athletics?

5. Conduct a demonstration for girls, through the home economic teacher or local beauty operator, on hair styles and the use of cosmetics.

6. Conduct an experiment with a Petri dish of sterile agar to show the presence of bacteria on the skin.

7. Look through a microscope at a piece of epidermis, fingernail, or hair and make drawings of the studies.

8. Draw and label a diagram of a section of skin including the three layers, hair follicles, and sweat glands.

9. Explain the meaning of allergies and how tests are given to determine them.

10. Demonstrate and explain good posture and the correct usage and treatment of the feet.

11. Demonstrate, with or without the assistance of the home economic teacher, the correct carriage for girls in:
    11.1. Walking.
    11.2. Ascending and descending stairs.

11.3. Stooping to pick up an object.
11.4. Sitting and arising from a chair.
11.5. Crossing legs.

12. Discuss the relation of sleep, relaxation, rest, and fatigue to health.

13. Explain the importance of proper clothing, fresh air, and sunshine to health.

14. Discuss the importance of physical fitness to daily living.

15. Discuss the importance of clean uniforms and towels and soaping, showering, and drying body in athletics and daily living.

Basic Content

A. How does the condition and care of the skin affect personal appearance?

1. Function of the skin.
   1.1. Protective agent.
   1.2. Elimination of waste products.
   1.3. Regulator of body temperature.
   1.4. Contains sense organs.
2. Functions carried out by skin structures.
   2.1. Epidermis.
   2.2. Dermis.
   2.3. Oil glands.
   2.4. Sweat glands.
   2.5. Nerve endings.
3. Maintenance of the health of the skin.
   3.1. Daily washing removes dead cells and oily dirt.
   3.2. Right choice of food as an aid in the control of skin eruptions.
   3.3. Adequate rest, fresh air, and sunshine helps skin texture and kills bacteria.
   3.4. Sensible exercise assists in the nourishment of the skin.
   3.5. Proper clothing helps the skin in its normal function of elimination and temperature regulation. Absorption of wastes, oil, and dirt requires frequent changes to clean clothes and bathing to guard against body odor.
4. Procedures in the care of the skin.
   4.1. Washing the hands and face.
   4.2. Daily bath or shower.
   4.3. Proper method of washing and drying.

5. Skin conditions that arise from the lack of care, or irritation.
    5.1. Pimples.
    5.2. Blackheads.
    5.3. Warts.
    5.4. Abrasions.
    5.5. Athletes foot.
    5.6. Sunburn.
    5.7. Cold sores and fever blisters.
    5.8. Allergies.
    5.9. Freckles.
    5.10. Callouses and corns.
    5.11. Eczema.
    5.12. Boils and Carbuncles.
    5.13. Poison ivy.

B. How does the condition and care of the hair affect personal appearance?
    1. Characteristics of hair.
        1.1. Texture.
        1.2. Color.
        1.3. Type (curly or straight).
    2. Structure of hair.
        2.1. Outer layer of epidermis.
        2.2. Three layers of cells.
        2.3. Oil glands.
    3. Appearance of hair is related to general health.
    4. Good grooming.
        4.1. Shampoo.
        4.2. Combing.
        4.3. Brushing.
        4.4. Hair styles for girls.

C. How does the condition and care of nails affect personal appearance?
    1. Function of nails.
        1.1. Protective.
        1.2. Assist in picking up objects.
    2. Structure of nails.
        2.1. Outgrowth of epidermal layer.
        2.2. Location of nails on skin.
        2.3. Formation of a new nail.
    3. Care of the fingernails.
        3.1. Cleanliness.
        3.2. Manicuring fingernails and toenails.

D. How does clean, neat and proper clothing add to personal appearance?

1. Purpose of clothing.
   - 1.1. Insulation.
   - 1.2. Absorption of color.
   - 1.3. Absorption and evaporation of moisture.
   - 1.4. Exercise in relation to clothing.
   - 1.5. Care of clothing.
2. Choice of color and style of clothing.

E. How does posture affect personal appearance?

1. Posture reflects mental attitude.
2. Good grooming and clothes add to general appearance as does good posture.
3. Factors that influence good posture.
   - 3.1. Heredity in terms of body build and congenital malformation.
   - 3.2. Environmental influences such as sickness, nutrition, injuries, occupational and physical defects.
   - 3.3. Play as a factor in growth and development.
   - 3.4. Physical work as a factor in growth and development.
   - 3.5. Correction of physical defects such as vision, adequate rest, and satisfactory diet are prerequisite to good posture.

Evaluation

1. Have the pupil make a report on the particular items in this unit that have been most valuable to him.

2. Organize an *Inspection Day* at the close of this unit devising a chart of factors to be checked.

3. Discuss the importance of personal appearance to daily living and job getting.

4. Discuss or report on the relation of exercise to posture.

Teacher References

Books

Fishbein. *Modern Home Medical Advisor.*
Health Education. National Education Association.
Health in Schools. American Association for School Administrators.
Lane. *Your Carriage, Madam!*
Lane. *Sitting Pretty.*

Pamphlets and Other Materials

American Medical Association. *The Skin in Health and Disease.* 10 cents.

American Medical Association. *Acne: The Plague of American Youth.* 5 cents.

American Medical Association. *Posture and Gait.* 10 cents.

Bristol-Myer Company. List of publications on good grooming and other topics. Free upon request.

Central Dairy Council. *Health Materials.* A catalog listing free and Inexpensive materials relating to this unit and others.

Cleanliness Bureau. *A Cleanliness Quiz for Girls.* Free.

Cleanliness Bureau. *A Cleanliness Quiz for Boys.* Free.

Cleanliness Bureau. *From Tip to Toe.* Free.

Dwight Posture Model No. 1664390. Philip C. Aspinwall, 222 Beacon Street, Boston, Massachusetts. Cardboard models 17" high—50 cents; 51" high—$5.00; and wood model 51" high—$7.50.

Kentucky Tuberculosis Association. *Why Sleep? A Scientific Study of Rest.* Free.

Metropolitan Life Insurance Company. *Standing Up to Life.* Free.

U. S. Public Health Service. *Ivy and Sumac Poisoning.* 5 cents.

Pupil References

Books

Burkard and others. *Health and Human Welfare.* pp. 403-413.

Burkard and others. *Health for Young Americans.* pp. 1-48; 164-180.

Charters and others. *A Sound Body.* pp. 197-230.

Charters and others. *Growing Up Healthily.* pp. 37-51; 199-208.

Crisp. *Be Healthy.* pp. 15-82; 146-153; 227-263; 285-297.

Crisp. *Health for You.* pp. 12-71; 137-148; 258- 281.

Fishbein and others. *Health and First Aid.* pp. 15-99.

Williams. *Healthful Living.* pp. 1-43; 461-470.

Wilson and others. *Modern Ways to Health.* pp. 24-48.

Pamphlets and Other Materials

University of Kentucky, College of Agriculture and Home Economics:

Circular 383—*Sewing.*
Circular 384—*School Frocks.*
Circular 385—*Sleeping or Lounging Ensemble.*
Circular 386—*Play and Work Clothes.*
Circular 387—*"Dress-Up" Costume.*
Circular 388—*4-H Girls' Formal Dress.*
Circular 389—*Semi-Tailored Garments.*
Circular 429—*Tailored Suit or Ensemble.*

University of Kentucky, Film Library:

3047—*Re-Creation,* silent, 3 reels. U. S. Department of Agriculture.

506—*Bacteria,* silent, 1 reel. Eastman.
516—*Body Framework,* silent, 1 reel. Eastman.
537—*The Skin,* silent, 1 reel. Eastman.
541—*Muscles,* silent, 1 reel. Eastman.
566—*For Health and Happiness,* sound and color film, 1 reel. U. S. Department of Agriculture.
571—*Posture and Exercise,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.
576—*Posture,* silent, 1 reel. Eastman.
5079—*Keeping Fit,* sound, 1 reel. Office of War Information.
5126—*Care of Feet,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.
6001—*Teen Togs,* sound and color, 1 reel. Georgia Agricultural Service.

UNIT TWO

Suggested Time: Fourteen Class Periods

Personal Health Appraisal
Introduction

A functional health course for high school pupils must recognize pupil health needs. Through personal health appraisement and participation in various screening tests, the pupil will learn about himself and his health needs. The value of the health examination should be stressed. Where county health boards do not exist, or the personnel of the county health board is inadequate to provide a health examination, the logical outcome of the unit should stimulate the pupil to seek a regular examination from the family physician and to have remedial defects corrected.

Objectives

1. To appraise health assets and liabilities.
2. To improve present health status by making the necessary changes in living habits and by obtaining necessary dental and medical aid.
3. To recognize the value of periodic health examinations.
4. To develop a wholesome attitude toward nurse, physician, and the health examination.

Suggested Activity

Discuss personal health evaluation through a health examination with the class. Encourage them to list what they think should constitute a complete health examination. Find out what they believe

the examination should lead them to do in terms of follow up and regular periodic examinations. Ideas of practical value may be used in the unit and substituted for any of the following suggestions:

1. Personal health survey.

After a discussion of the advantages and disadvantages of self-evaluation of present health status have the pupils copy or furnish them mimeographed copies of the *Personal Health Survey*[7] on pages 158-160. The class should then be organized as needed to fill it out. (Some items require that pupils work in pairs.)

2. Health history record.

After a discussion of the value of a health history record, have the pupils copy or furnish them mimeographed copies of the Health History Record[8] to be filled out. Some of the items listed in the form will require the assistance of the parent.

3. Discuss the health record form provided by the Kentucky State Department of Education with the class.

4. Invite a physician or nurse to class and ask them to discuss informally the purpose, content and use of the items on the Kentucky form.

5. Compare pupil appraisal of health with actual health examination record.

6. Observe the daily newspapers, books, radio, and movies for pertinent facts relating to the health examination.

7. Discuss the type of health examination in the school and offer suggestions for its improvement.

8. Visit a clinic, local county or city-county health department with especial interest in laboratory analysis, blood pressure recording, and X-ray.

PERSONAL HEALTH SURVEY

Some Items the Pupil May Check Himself

Name ..... Ht. ..... Wt. ..... Age .....

Pulse: Sitting ..... After exercise ..... 2 min. later .....
(30 hops)

Temperature .....Respiration .....

[7]Ohio. *Teacher's Guide for An Activity Course in Healthful Living for Ohio School Youth.* Columbus, Ohio: Ohio Department of Education, 1946. pp. 37-38. (Sponsored jointly by the Ohio Department of Education and the Ohio Department of Health.)

[8]*Ibid.*, p. 39.

Vision: Snellen Chart R.....L.....Jeager Chart R.....L.....
With glasses R.....L.....With glasses R.....L.....
Color vision tests .....
General condition of eyeballs and lids .....
History of difficulties in seeing or reading, blurred vision, or headaches .....

Hearing: Whisper test R.....L.....Watch R.....L.....
Audiometer R.....L..... T.....
History of earaches, discharges, or difficulty in hearing .....

Teeth:

(Upper)

	8	7	6	5	4	3	2	1		1	2	3	4	5	6	7	8	
(R)																		(L)
	8	7	6	5	4	3	2	1		1	2	3	4	5	6	7	8	

(Lower)

Repair:		Pathology:	
Filled	x	Restorable decayed tooth	a
Crowned	(x)	Non-restorable decayed tooth	(a)
Bridge	(	Missing tooth	o
		Malocclusion	/
Hygiene: (Underline)		Any abnormality	ab
Tartar			
Stain			
Unclean		Condition of gums	

Posture: Head ..... Shoulders .....Spine .....
Hips ..... General estimate .....
Feet: Arches .....Shape ..... Condition.....
Skin: General Color ..... Breaking out .....
Mouth and throat: Coated tongue .....Tonsils.....
General condition .....
Any unusual signs not noted above .....
.....
Family physician .....
Date of last physical examination: Family physician .....
School physician .....Other .....
Dentist .....Date last visit.....

Estimate of general nutritional status (such as, very thin, slightly overweight, etc.): .....

Estimate of general musculature (such as, rather frail, very strong, etc.): .....

Conditions to be corrected or improved (explain how and when):

.....

.....

.....

.....

Rating of habits, feelings, or appearance: (Check in column)

	High	*Average*	*Low*
General feeling of well-being	.....	.....	.....
Sleep soundly at night	.....	.....	.....
Sleep enough (state number of hours on average)	.....	.....	.....
Good habits of recreation	.....	.....	.....
Balanced working hours	.....	.....	.....
Freedom from undue worry	.....	.....	.....
Happy disposition	.....	.....	.....
Neat, well-groomed appearance	.....	.....	.....
General popularity	.....	.....	.....
Good eating habits	.....	.....	.....

HEALTH HISTORY RECORD

Some Items the Pupil Should Keep As a Permanent Record

Name ..... Sex.... Race.... Birthdate....

Address .....

Schools .....

Elementary (Grad. Date) Secondary (Grad. Date) Other

Father .....Occupation .....
Given name

Mother ..... Occupation ..... Guardian .....
Given name Name and occupation

Family history of illness .....

.....

.....

Communicable Diseases	*Date*	*Immunizations and Tests (dates and results)*
Chicken Pox		Smallpox
Measles		Diphtheria
Whooping Cough		Whooping Cough
Mumps		Tetanus
Scarlet Fever		Tuberculin
Tuberculosis		Chest X-ray
Poliomyelitis		Other
Other		

Other Illnesses—Dates and comments on unusual severity and reaction: (Include such details as frequent colds, sore throat, cough, or sinus infection; trouble with ears, stomach, kidneys, or heart; rheumatic fever, convulsions, diabetes, etc.)

Operations

Accidents

Allergic manifestations (hay fever, asthma, etc.) Give cause if possible.

Personal problems

9. Talk to ex-service men or women about the military examination and follow-up treatment.

10. Secure information on examinations in the community of food handlers and other employees in terms of forms used and the eventual treatment of findings.

11. Discuss the value of an examination to an aviator and the motorist.

12. Explain why a candidate for athletics should have an examination before participation in sports.

13. The value of recognizing one's physical limitations and the individual's responsibility to tell the truth in giving his personal history. (Epilepsy and vision in relation to the driver's test are examples.)

Basic Content

A. What is the purpose of the health examination?
   1. To discover one's physical assets and deviations from the normal.
      1.1. Heart.
      1.2. Blood.
      1.3. Blood pressure.
      1.4. Urine.
   2. To discover defects of the eye, ear, nose, throat, and mouth (teeth).
   3. To assure an early recognition of infections of the lungs.
   4. To find skin infections.
   5. To check if weight is normal for age, sex, and body build.
   6. To discover deviations from the normal in the nervous and lympahatic system.
   7. To check the abdomen, kidneys, genitalia, and extremities for abnormalities.

B. What are some of the tests and instruments the physicians use in the health examination?
   1. Checking the sounds of the heart and lungs by means of a stethoscope.
   2. Testing vision by the Snellen Chart or the telebinocular.
   3. Examining the ears with an otoscope and with an audiometer.
   4. Examining the teeth, lungs, and other areas of the body not visible to the eye requires an X-ray.
   5. Checking the kidneys requires a urinalysis.
   6. Examination for anemia and possible appendicitis requires a check of red and white blood cells, respectively.
   7. Checking on susceptibility to disease is done through the Shick Test for diphtheria and Dick Test for scarlet fever. The Tuberculin Test for tuberculosis will disclose early infection.

C. What is the value of a periodic health examination?
   1. To discover one's physical assets.
   2. Early diagnoses of conditions that may become malignant.
   3. Early diagnoses encourage correction of defects or adjustments in living to alleviate immediate danger.

D. How should a physician or dentist be selected?
   1. It is best to select your physician and dentist before illness occurs for self and family.
   2. Talk to your county health officer or nurse.
   3. Call the local medical society and explain your need.
   4. Ask a citizen who has standing in the community.
   5. Talk to the principal of your school.

Evaluation

1. Participation and interest in the activities of this unit.
2. Motivated to seek correction of existing physical defects.
3. Motivated to have an examination by the family physician.
4. Objective or essay examination over material.

Teacher References

Books

Deaver. *Fundamentals of Physical Examinaton.*

Health Education. National Education Association.

Health in Schools. American Association for School Administrators.

Pamphlets and Other Materials

American Hearing Society:

Gardner, W. H. *Instructions for Conducting Audiometer Tests.* 25 cents.

Kelley, J. B. *Finding the Hard of Hearing Child.* 10 cents.

Stoval, L. *The Rural Child Who Is Hard of Hearing.* 10 cents.

Tritt, J. A. *The School as a Unit in a Program for Better Hearing.* 10 cents.

Metropolitan Life Insurance Company:

The School Health Program. School Health Monograph No. 12.

Free. Pounds and Inches. (Height and Weight Record.) Free.

National Society for the Prevention of Blindness:

An Eye Health Program for Schools. Publication 398 (Method of testing visual acuity). 5 cents.

Eye Inspection and Vision Testing: A Screening Process. Free.

"Screening." Eye-Examination and Follow Up. Publication 443. 10 cents.

Rogers, J. F. *What the Teacher Should Know About the Physical Condition of the Pupils.* U. S. Office of Education Pamphlet No. 68 (Revised 1945). 10 cents.

Pupil References

Books

Anders and others. *The Healthy Home and Community.* pp. 2-19.
Burkard and others. *Health and Human Welfare.* pp. 103-135; 540.
Health for Young Americans. pp. 271-290.
Charters and others. *A Sound Body.* pp. 63; 90-118.
Growing Up Healthily. pp. 1-23.
Crisp. *Be Healthy.* pp. 117-145.
Health for You. pp. 106-137.
Wilson and others. *Modern Ways to Health.* pp. 163-179.
Williams. *Healthful Living.* pp. 1-25; 415-440.

Pamphlets and Other Materials

University of Kentucky Film Library:

558—*Preventing Blindness and Saving Sight,* silent, 1 reel. Eastman Society for the Prevention of Blindness.
578—*The Heart and Circulation,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.
5048—*The Work of the Kidneys,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.
5076—*Lease on Life, sound,* 2 reels. Kentucky Tuberculosis Association. (Medical examinations)
5163—*Eyes and Their Care,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.
5104—*How the Ear Functions,* sound, 1 reel. McCrory.

UNIT THREE

Suggested Time: Eight Class Periods

Dental Health

Introduction

In A Report on Health,[9] by the Kentucky State Department of Health, it is pointed out that 7 of every 10 school children in Kentucky need some kind of dental care. In the early stages of the Selective Service program in Kentucky more men were rejected for dental defects than any other single factor. The incidence of dental disease and defects among the entire population of Kentucky, as well as the nation, is generally recognized.

The dental health problem in Kentucky is doubly difficult because of the poor distribution of dental service. It has been generally accepted that there should be at least one dentist for each 2,000 persons, while in this state the Kentucky State Department of Health reports only 1 dentist for each 4,000 persons. In rural areas this ratio in our state amounts to 1 dentist for each 6,400 persons.

[9] *A Report on Health.* Louisville, Kentucky: Committee for Kentucky, 427 South Fourth Avenue, 1945.

The role of the health teacher and the classroom teacher in interesting pupils in dental health and correction of dental defects is highly significant. Nyswander, in her Astoria, New York, survey, reported after four years of study that,

> Experience indicates that the dental health of school children in Astoria would not be improved by better case finding techniques in the school. What is needed is education in the values of dental service in order to secure earlier detection of caries and treatment. . . . The child cannot be helped to assume responsibility for his health through campaigns carried out by specialists. Sound attitudes can be developed only through unified teaching and through one source of instruction—the teacher . . .[10]

Objectives

1. To understand the function and structure of the teeth.
2. To learn how to care for teeth and the value of regular dental service.
3. To develop an appreciation of the significance of good dental health to appearance.

Suggested Activity

Discuss with the class the importance of regular dental check ups and the importance of dental health to appearance and general health. Ideas worthy of consideration should be noted and incorporated in the unit, or substituted for some of the items in the suggested list of activities.

1. Discuss the theories as to the causes of dental caries.
2. Discuss the function of the teeth in daily living.
3. Study a chart of the teeth and identify the various classifications.
4. Discuss the important relationship of "milk" or "baby" teeth (deciduous) to the permanent teeth.
5. Discuss six-year molars and their pertinent value; how to keep them.
6. Study a chart diagramed and labeled to demonstrate the structure of the teeth. (Bristol-Myers free chart.)
7. Secure a dentist or nurse to discuss the care of the teeth.
8. Visit a dental office and note the type of equipment used.
9. Discuss abscessed teeth and their effect on the rest of the body.

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[10]Nyswander, Dorothy B. *Solving School Health Problems.* New York 22, New York: The Commonwealth Fund (The Astoria Demonstration Study), 41 East 57th Street, 1942. pp. 220-221.

10. Demonstrate types of toothbrushs, how to brush teeth properly, and the use of dental floss.

11. Make a report on the cause and prevention of diseases of the gums.

12. Make a report on irregularities of teeth (malocclusions, etc.) and indicate the handicaps accompanying these various abnormalities.

13. Discuss the relationship of nutrition to dental health.

14. Discuss the importance of good dental care and diet for expectant mothers.[11]

Basic Content

A. Function of teeth.
   1. Mastication.
      1.1. Incisors.
      1.2. Cuspids and bicuspids.
      1.3. Molars.
   2. Teeth and speech.
   3. Teeth influential to shaping mouth and face.

B. Relation of teeth to healthful living.
   1. Decayed and abscessed teeth result in infections to other parts of the body.
   2. Irregular or insufficient teeth interfere with proper mastication.
   3. Irregular teeth detract from personal appearance.
   4. Decayed teeth and lack of personal hygiene in the care of teeth cause unpleasant breath which interferes with social and business success.
   5. Delayed dental care increases the cost of service and entails the risk of losing teeth that may have been useful for many years.

C. Structure of teeth.
   1. The tooth.
      1.1. Crown.
      1.2. Neck.
      1.3. Root.
   2. Composition of the tooth.
      2.1. Dentine.
      2.2. Pulp center.
      2.3. Cementum of the root of the teeth.
      2.4. Enamel of the crown.

[11]Only opportunity many pupils will have for this instruction.

D. Classification and arrangement of teeth.
   1. Deciduous teeth.
   2. Permanent teeth.

E. Diseases and abnormalities of the teeth.
   1. Decay.
      1.1. Bacterial growth in mouth.
      1.2. Food remaining in mouth a media for bacterial growth.
      1.3. Chipped or broken enamel provides an entrance for bacteria and decay results from acids formed from bacteria action on food.
   2. Abscessed teeth.
   3. Gums.
      3.1. Vincent's infection (trench mouth).
      3.2. Pyorrhea.
      3.3. Gingivitis.
   4. Causes of malocclusion.

F. Dental care.
   1. Periodical dental checkups.
      1.1. Phophylaxis necessary to remove tartar which causes inflammation of the gums (gingivitis).
      1.2. Teeth are more easily aligned at an early age by orthodontists with the aid of braces.
   2. Home care of the teeth.
      2.1. Brushing the teeth to remove food particles which cause unpleasant breath and encourage decay.
      2.2. Technique of brushing teeth.[12]
      2.3. Massaging gums to prevent pyorrhea.
      2.4. Advantages and disadvantages of mouth washes.
      2.5. Proper use of teeth.
   3. Importance of diet.
      3.1. Foods that provide calcium, phosphorous, and vitamins assist in the formation of teeth.
      3.2. Foods that encourage decay.
   4. Importance of diet and periodical dental examinations in the prenatal care of the mother.

Evaluation

1. Draw a sketch of your permanent teeth and note arrangement of teeth, cavities, and fillings.

[12]Salt and soda in equal proportions make a good dentifrice.

2. Make a report on the importance of periodical checkups on teeth.
3. Motivated to visit dentist for necessary treatment.
4. Examination over material including terms and concepts.

Teacher References

Books

Health Education. National Education Association.
Health in Schools. American Association of School Administrators.
Teeth, Health and Appearance. American Dental Association.

Pamphlets and Other Materials

American Dental Association:
The Why and How of Toothbrushing.
Your Teeth—How They Grow.
Diet and Dental Health.
Dental Questions and Answers.
Program on Dental Health for High Schools.
Posters and charts on dental health. Set of eight. $1.00. Also write for free material on dental health for high school.

Bristol-Myers:
Request catalog of free health and grooming material. Excellent charts.

National Dental Hygiene Association:
Facts . . . . About Teeth and Their Care. 10 cents. (Excellent for pupil use and reduced price for large quantities.)

Pupil References

Books

Burkard and others. *Health and Human Welfare.* pp. 314-317.
————. *Health for Young Americans.* pp. 49-80.
Charters and others. *A Sound Body.* pp. 34-48.
Crisp. *Be Healthy.* pp. 82-99.
————. *Health for You.* pp. 72-89.
Wilson and others. *Modern Ways to Health.* pp. 92-113.

Pamphlets and Other Materials

University of Kentucky Film Library:
542—*Care of the Teeth,* silent, 1 reel. Eastman.
5044—*How Teeth Grow,* silent, 1 reel. Eastman.
5155—*Our Teeth,* sound, 1 reel. McCrory.
5106—*Forms and Uses of the Teeth,* silent, 1 reel. Eastman.
5155—*The Teeth,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.
—*About Faces,* sound and color, 1 reel. Division of Health Education, Kentucky State Department of Health.

Section II

HEALTH PROTECTION

Safe Water Supply
Protection of Milk
Satisfactory Methods of Removal and Disposal of Garbage and Sewage
Heat, Ventilation and Light
Superstitions, Popular Beliefs,
Home Remedies and Health Advertisements

UNIT FOUR

Suggested Time: Six Class Periods

Safe Water Supply

Introduction

Ever since the pioneer days in Kentucky, a safe water supply has been one of its chief problems. The shelves of porous limestone that lie beneath the earth encourage the formation of subterranean streams and rivers. The earth formations so necessary for filtration and retention of ground water are absent in most of Kentucky.

The need for an adequate water supply has led to the use of "wet-weather" springs, springs, cisterns, reservoirs, and streams. Schools, homes, and communities use water from questionable sources which encourage such diseases as typhoid and paratyphoid fever, diarrhea, and dysentery.

Larger communities of 3,000 or more population generally have an adequate water supply maintained under public health supervision. Communities, however, of 200-3,000 generally have no public water supply and this situation, in addition to the many isolated farm homes which use unsafe sources, creates a perplexing health problem. Education of the future citizens of Kentucky is one method of attack.

Objectives

1. To understand the characteristics of safe water and how water can be contaminated.

2. To understand the measures taken to make water safe for domestic use.

Suggested Activities

Discuss the water supply situation in Kentucky since the state was first settled and how attempts have been made to solve the situation. After class discussion, retain practical suggestions for activity that indicate pupil interest and add or substitute these for the items in the list below:

1. Secure a sample of water from a pond or rain barrel and place a droplet under the microscope on a slide. List the things seen and discuss the significance of the findings in relation to the water supplies.

2. Demonstrate the action of chemical treatment on the droplet of pond water. Note the reaction of the one-celled animals when a drop of chlorine is placed in the solution.

3. Relate the incident of the cholera epidemics in Kentucky, 1833, and 1849.

4. Demonstrate filtration, using a large beaker, glass funnel, coarse, medium, and fine gravel,[13] and filter paper and a soil solution of water. Place the filter paper in the bottom of the funnel and follow with layers of fine to large gravel. Pour soil-water slowly into funnel. Note the results of filtration.

5. Discuss the tendency for water in Kentucky to follow channels and subterranean rivers through the porous limestone and its significance in terms of springs and wells.

6. Demonstrate sedimentation by mixing soil in a jar of water and allowing it to stand. Near the close of the period note the result.

7. List a number of factors that may contaminate a rain-water cistern.

8. Ask an ex-service man to relate how the U. S. Army purified drinking water.

9. Visit a local water plant and secure information as to sources of water, purification, and the number of gallons supplied per day.

10. Secure a sample of drinking water from farm or home and have it analyzed.

Basic Content

A. Source of water supply.

1. To be satisfactory for drinking, cooking, and other domestic uses water must have the following characteristics:
   - 1.1. Free of discomfort or disease.
   - 1.2. Clear and odorless (does not mean water is safe).
   - 1.3. Pleasant to drink.
   - 1.4. Free from poisonous salts and excessive amount of minerals in solution.
2. Rainfall supplies and replenishes water supply.
   - 2.1. Rain water contaminated by bacteria on the surface of the earth.
   - 2.2. Some rain water "runs off" to form streams and lakes, some is utilized by plants, some evaporates, and some soaks into the ground to furnish ground water supply.

[13] Charcoal may be substituted.

2.3. "Run off" water is always contaminated and should be boiled ten minutes or chlorinated before used for drinking water.

2.4. Ground water supply filters through earth formations and bacterial count is reduced (natural filtration) but the ground water takes with it, in solution, mineral substances.

2.5. As ground water is brought to the surface some of the minerals become oxygenated and percipitate ($CaCO_3$, K_2CO_3, and others). Examples, sediment in teakettle, boiler pipes, and water pipes.

B. Factors to be considered in locating a source of community water supply.

1. A safe supply of water is essential for the comfort and health of every individual.

1.1. The number of people in the locality determines the adequacy of water supply.

1.2. The site should be adequately drained and not liable to contamination by flood waters.

1.3. The site should have suitable earth formations which are conducive to good filtration.

1.4. The site should not be in areas contaminated by polluted waters, from liquid wastes of factories, gasoline stations, outhouses and barns.

C. How do communities maintain a water supply and how is water purified?

1. Some communities in Kentucky secure water supplies from reservoirs and rivers which are transported by pipe lines to a purifier.

1.1. Water is run into a reservoir and allowed to stand—sedimentation.

1.2. Water transported through a series of filters—filtration.

1.3. Water treated with chlorine in a definite proportion to kill harmful organisms—chlorination.

D. How do rural families secure water?

1. Ground water.

1.1. Wells dug, bored, drilled or driven where the nature of rock formation and depth of well makes it practical.

1.2. Springs which are subject to contamination from surface drainage if not protected or a chlorinator installed on the pumping unit.

2. Surface water.

2.1. Cisterns, which are reservoirs for the storage of rain water and common form of water supply in Kentucky. Cistern water is not considered safe because it is impossible to keep contaminated material from entering. Chlorine tablets, a chlorinator on the pumping unit, or boiling for ten minutes will reduce hazards.

2.2. Lakes, ponds, and streams are always contaminated, and the water from these sources should not be used unless filtered or treated chemically, or boiled for ten minutes.

E. Methods by which an unprotected water supply may become contaminated.

1. Infected water used for priming.
2. Flooding with surface water.
3. Leakage of sewage or polluted surface water through the casing of well.
4. Contact of water with fingers, hands, and unclean utensils.

F. Diseases common to contaminated water.

1. Typhoid fever.
2. Paratyphoid fever.
3. Diarrhea.
4. Dysentery.

Evaluation

1. Make a survey of the home water supply and check the possibility of contamination. How can the situation be corrected?

2. Prepare a written report on school and community water supply, including source, purification, and service. If unsatisfactory, suggest a remedy.

3. Prepare a written report on purification methods.

Teacher References

Books

Kentucky Public Health Manual. Kentucky State Department of Health.

Health Education. National Education Association.

Health in Schools. American Association of School Administrators.

Pamphlets and Other Materials

University of Kentucky, College of Agriculture and Home Economics. Circular 125—*Pitcher Pump Installation.*

U. S. Department of Agriculture. Farmers' Bulletin No. 1978. *Safe Water for the Farm.*

Pupil References

Books

Anders and others. *The Healthy Home and Community.* pp. 78-89.

Burkard and others. *Health and Human Welfare.* pp. 523-524.

————. *Health for Young Americans.* pp. 69-70.

Charters and others. *Growing Up Healthily.* pp. 131-150.

Crisp. *Be Healthy.* pp. 342-347.

———. *Health for You.* pp. 423-426.

Pamphlets and Other Materials

University of Kentucky Film Library:

544—*Purifying Water,* silent, 1 reel. Eastman.

587—*The Work of Rivers,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.

588—*Ground Water,* sound, 1 reel. Encyclopaedia Britannica Films, Inc. (Springs, wells, etc.)

5054—*City Water Supply,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.

6124—*Water, Friend or Enemy,* sound and color, 1 reel. Office of Inter-American Affairs. (Disney; water supplies from various sources, testing by health department, and purification).

UNIT FIVE

Protection of Milk

Suggested Time: Six Class Periods

Introduction

According to *A Report on Health.*[14]

Two-thirds of the total milk consumed in Kentucky homes is not pasteurized, and 45 counties have no pasteurized milk available. Relatively few dairies are above doubt as to cleanliness. Milk and cream brought to cheese plants and creameries are often filthy. Though milk is probably our most complete food, it is potentially a dangerous carrier of disease unless clean and pasteurized.

Several sections of Kentucky are located too far from the milk shed or areas and the people that live in these sections are dependent upon farmers who have a surplus or use canned milk. Milk from untested cows and collected in an unclean and unsanitary method promotes many milk borne diseases.

[14] *Op. cit.,* p. 7.

Objectives

1. To understand the necessity of protecting the milk supply.
2. To acquire an appreciation for the handling of milk by sanitary methods.

Suggested Activities

Finding out what the pupils know of the local milk situation through discussion and utilize activities suggested by pupil interest.

1. Discuss diseases to which cattle are subject and which, in turn, may affect man.
2. List diseases that are milk borne through diseased cows and unsanitary methods of handling milk.
3. Visit a local dairy in the community and note sanitary precautions—cleanliness of utensils and environment for milking, screening of milk house, and other items.
4. Demonstrate the heat treatment of milk and cooling that can be used in homes.
5. Visit a pasteurization plant and observe the steps in pasteurization. Note sanitary precautions taken.
6. Secure the service of the county agent or a veterinarian to discuss the prevalence of disease among cattle and their relation to man.
7. Demonstrate how a bacterial count is made.
8. Visit the school cafeteria or lunchroom and note how the milk supply is kept from contamination in storage and dispensing.

Basic Content

A. The value of milk as a food.
   1. Milk is Nature's most nearly perfect food.
      1.1. Milk contains calcium, phosphorous, proteins, carbohydrates, fats and a rich supply of vitamins A and B. If enriched or irradiated, it will contain adequate amounts of vitamin D.
      1.2. Milk is deficient in copper and iron and not a dependable source of vitamin C.
      1.3. Skimmed milk possesses as much protein and calcium as whole milk but vitamin A content is lost in the removal of cream.
      1.4. The use of skimmed milk requires supplementary feeding of cod-liver oil and vegetables rich in vitamin A.
   2. Young people should include a quart of milk in their daily diet and adults at least one pint per day as a beverage and in cookery.

B. Milk as a potentially dangerous food.

1. Milk is not only an excellent food for man but also an excellent media for disease-producing organisms.
   1.1. Humans may contact undulant fever and tuberculosis from diseased cows.
   1.2. Milk may be contaminated through persons who handle milk or milk products. Diseases that may originate through contamination include typhoid fever, scarlet fever, diptheria, and septic sore throat.
2. Disease-producing organisms found in milk are easily destroyed by heating milk to a temperature that does not affect its food value. This process is called pasteurization and is one of importance in preventing the spread of disease **through milk.**
3. Other factors that contribute to a safe milk supply include:
   3.1. Regular testing of milk cows through local or state veterinarian at least once every 12 months.
   3.2. Clean and sanitary utensils and containers.
   3.3. Storage of milk in sterile containers at low temperature (less than 50°F.).
   3.4. Transportation of milk by producers to the pasteurizing plant as soon as possible.
   3.5. Dispensing of milk in sanitary containers and protective covers.
4. Pasteurization of milk.
   4.1. All pasteurizing plants in Kentucky offering for sale pasteurized milk and cream must obtain a permit from the State Department of Health as well as the local health department. Pasteurization is the process of heating every particle of milk or milk products to a temperature of not less than 142°F., and holding at such temperature for not less than 30 minutes.
   4.2. Home pasteurization. Quantity of milk desired is placed in pan over direct heat. While continuously stirring, heat the milk to a temperature of 165°F. (use dairy thermometer). Remove milk from heat and cool quickly in a larger pan partly filled with cold water. Stir once in awhile with a metal spoon as milk cools. When the temperature is under 150°F. cover pan and stir less frequently. Cool milk to 60°F. or less.

C. How to keep milk safe in the home.
   1. Keep milk cold but no not freeze.
   2. Keep top of container clean to avoid contamination when poured from container.
   3. Keep receptacles into which milk is poured clean.
   4. Keep milk covered at all times to keep out dirt, dust, flies, and odor.
   5. Avoid pouring and repouring milk, keep in original container.
   6. Demand pasteurized milk delivered in sealed containers.

D. Safeguarding the milk supply.
   1. Milk is graded according to sanitary quality and nutritive value by health authorities.
      1.1. Graded once every 6 months by health officers in city and county.
      1.2. Grade "A" or "B" pasteurized vitamin D milk.
      1.3. Certified milk (meets the requirement of the American Association of Medical Milk Commissions, and is produced under the supervision of the medical milk commission of any Kentucky county and of the State Department of Health and city or county health offiicers).
      1.4. Grade "A" raw milk. (Average bacterial count must not exceed 50,000 per cubic centimeter, or the average reduction time not less than 8 hours and conform to the rules of sanitation of dairy farms required by the Kentucky State Department of Health.)

Evaluation

1. Check the milk production in the local area. If limited, find out why.

2. Develop a check list for the protection of milk in the home and use this list for one week.

3. Conduct and organize an exhibit of literature on milk and milk products.

Teacher References

Books

Kentucky Public Health Manual. Kentucky State Department of Health.

Health Education. National Education Association.

Health in Schools. American Association of School Administrators.

Pamphlets and Other Materials

Central Dairy Council:

HB2 —*Safe Milk.* 5 cents.

HB84—*We All Drink Milk.* 25 cents.

HB47—*Milk from Farm to Family.* 12 cents.

Write for catalog on *Health Education Materials.*

Pupil References

Books

Anders and others. *The Healthy Home and Community.* pp. 90-98.

Burkard and others. *Health and Human Welfare.* pp. 203; 212; 232; 238; 427.

————. *Health for Young Americans.* p. 69.

Crisp. *Be Healthy.* pp. 350-354.

———. *Health for You.* pp. 430-432.

Pamphlets and Other Materials

University of Kentucky Film Library:

501—*Food and Growth,* silent, 1 reel. Eastman. (Entire subject on the food value of milk)

506—*Bacteria,* silent, 1 reel. Eastman. (Effect of light and temperature on growth of bacteria)

130—*Vitamin A,* sound, ¼ reel. National Film Board of Canada. (Value of vitamin A to pilots)

160—*The Dairy Industry,* sound, 1 reel. Vocational Guidance.

673—*The Milky Way Out,* sound, 2 reels. U. S. Department of Agriculture. (Transformation of worn out soil to pasture for cows by one-crop farmers)

UNIT SIX

Satisfactory Methods of Removal and Disposal of Garbage and Sewage

Suggested Time: Six Class Periods

Introduction

In Kentucky there are many evidences that the sanitation problem is not only that of a safe water and milk supply. For an example, public health authorities state that one-half of our population is served by open outdoor toilets and these attract flies that contaminate food and milk. Almost all garbage is untreated and generally placed in dumps infested by flies and rats. Typhoid fever is still too prevalent and Kentucky is only outranked by few states in the number of deaths from this disease. Diarrhea-enteritis still remains the leading cause for infant deaths and one-fifth of our population harbor intestinal parasites such as hookworm or roundworms. As stated in *A Report on Health,* "Sanitation can be achieved and filth-borne

diseases controlled only when Kentuckians realize that sanitation is more a matter of public recognition and demand than legislation and enforcement."[15]

Objectives

1. To understand sanitary methods of disposing of home wastes.
2. To know the common methods of sewage disposal in urban and rural areas.
3. To appreciate the difficulties encountered in garbage and sewage disposal.

Suggested Activities

Discuss Kentucky's health situation in regard to the sanitary disposal of garbage and sewage. Draw out the class' experience and knowledge whether in an urban or rural area. Utilize problems that may arise in the discussion as activities for this unit. Add or substitute these activities to the suggested list below.

1. Report how garbage and sewage were cared for at the summer camp.
2. Investigate how garbage and sewage are cared for in the community.
3. Visit a sewage disposal plant and note the method by which sewage is rendered harmless.
4. Report on ancient methods of garbage and sewage disposal and the dire consequences resulting.
5. List the diseases that may result from unsanitary methods of garbage and sewage disposal.
6. Find out from an ex-service man how the U. S. Army solved the problem when in the field.

Basic Content

A. Satisfactory methods for home waste disposal.

1. Rubbish and trash should be separated from garbage and placed in separate containers.
2. Much of the combustible materials can be burned in an incinerator.
3. Tin cans, bottles, wire, and other non-combustible materials should be used for filling gullies or placed in dumps designated by community officials.

[15] *Op. cit.*, p. 7.

4. Garbage consisting of waste foods may be disposed of in several ways.
   4.1. The community officials generally have ordinances or regulations stating how the home-owner should care for garbage of this nature.
   4.2. The most sanitary method of disposal is to burn in an incinerator.
   4.3. The grinding and mixing of garbage with water by a device in the kitchen sink.
   4.4. The feeding of garbage to animals on the farm.
   4.5. The garbage may be hauled to a pit in the ground and buried.
   4.6. In seacoast communities the garbage may be hauled out to sea and dumped. This practice, whether ocean or stream, pollutes the water.

B. Precautions in the care of garbage.
   1. Garbage should be placed in metal containers with tight covers.
   2. It is a good practice to wrap garbage in a paper before placing in the metal container.
   3. The garbage can should be cleaned periodically with soap and hot water.
   4. The place in which garbage cans are kept should be screened in and away from other areas of the home.
   5. If garbage is fed to hogs on the farm, the double treatment for hog cholera should be given and special precautions taken to avoid contamination.

C. The disposal of body wastes without a sewerage system.
   1. *Septic tank:* This is a large concrete basin built underground containing one or two compartments. Through running water, body and kitchen wastes are carried to the basin where the solids settle out and are acted on by bacteria converting these into an odorless form. The liquid rising to the top drains off into outlet pipes into drain tiles located underground, a safe distance from the water supply and the house. The liquid filtrates into the soil.
   2. ***Cesspool:*** This is constructed like a large well and made of concrete, brick, tile, or stone so arranged that water carrying the sewage can pass into the soil. The cesspool should be so located that it will not contaminate the water supply.

3. Chemical closets are sometimes used when running water is not available. These closets consist of a porcelain jar or an iron tank. The body wastes are treated with caustic soda which dissolves, disinfects, and destroys odors. After several months use the storage container is emptied by drainage into a cesspool.
4. Outdoor toilets to meet sanitary regulations must have the following requirements.
    4.1. The pit must be at least five feet deep and have wood curbing on the sides projecting one inch above the level of the ground to prevent the entrance of flies. Allowance of at least one and one-half feet at the foot of the curbing must be made to permit the entrance of liquid into the soil.
    4.2. The outdoor toilet should be located so drainage is away from water supply and convenient to the house.
    4.3. Flies, insects, and rodents should not be able to gain access. The toilet should have tight fitting doors, screened-over ventilators, and covers for the seats when not in use.
    4.4. The toilet and the area about the toilet should be kept clean.
    4.5. Toilet paper should always be furnished as it dissolves easily and reduces the accumulation of solids.
    4.6. When the pit is filled within one and one-half feet of the top, the toilet building should be moved to a new site and the old pit filled to the ground level with clean dirt.

D. Community sewage systems.
1. Sewage in a community generally consists of ground water or surface water, household wastes, and wastes from industrial plants.
2. Household and industrial wastes are collected by conduits or sewers and sometimes discharged in rivers or large lakes. Since this practice has resulted in pollution of streams and lakes the modern tendency is to provide a more sanitary treatment of sewage.
    2.1. Screening.
    2.2. Sedimentation.
    2.3. Chemical precipitation.
    2.4. Biological oxidation.
    2.5. Disinfection with chlorine.

3. Any sewage system generally provides a combination of several of the above methods.

E. The dangers to home, school, and community in improper garbage and sewage disposal.

1. The contamination of food by flies, insects, and rodents which may result in the transmittal of such communicable diseases as typhoid fever, dysentery, cholera, and diarrhea.
2. The pollution of water supply because of seepage or surface drainage from poorly located outdoor toilets, cesspools, and filtration systems for septic tanks.
3. The pollution of lakes and streams which render these unsatisfactory for recreational and other purpsoses.
   3.1. Destroys fish and other aquatic life.
   3.2. Makes the water unsatisfactory for aquatic sports.
   3.3 Devaluates property adjoining lakes or streams.

Evaluation

1. Draw a diagram of a previously chosen site indicating where the outdoor toilet should be located in relation to the house and water supply.

2. Design a storage place for metal garbage cans for the school cafeteria or lunchroom that will insure protection against, flies, insects, and rodents.

3. Inspect the school's indoor or outdoor toilets from a sanitary standpoint (including wash bowls in schools with indoor toilets) and list suggestions for improvement.

4. Plan a campaign for the promotion of sanitary procedures in the community in the disposal of garbage and sewage.

Teacher References

Books

Kentucky Public Health Manual. Kentucky State Department of Health.

Health Education. National Education Association.

Health in Schools. American Association of School Administrators.

Pamphlets and Other Materials

University of Kentucky, College of Agriculture and Home Economics. Circular 345. *Common Household Insects.*

University of Kentucky, College of Agriculture and Home Economics. Circular 431, *Septic Tanks for Dwellings.*

U. S. Department of Agriculture. Farmers Bulletin No. 1950, *Sewage and Garbage Disposal on the Farm.*

Pupil References

Books

Anders and others. *The Healthy Home and Community.* pp. 130-138.
Crisp. *Be Healthy.* pp. 347-349.
————. *Health for You.* pp. 426-429.
Wilson and others. *Modern Ways to Health.* pp. 65-69.

Pamphlets and Other Materials

University of Kentucky Film Library:
532—*Sewage Disposal,* silent, 1 reel. Eastman.

UNIT SEVEN

Heat, Ventilation, and Light

Suggested Time: Six Class Periods

Introduction

The provision of a physical plant and equipment which furnish opportunities for healthful living is a responsibility of the administration but the school staff is responsible for the knowledge and application of desirable standards that make these opportunities effective.

The indoor existenee of modern life and the use of the eyes in arduous and fine visual tasks have placed a premium on factors that conserve eyesight. Better lighting and a knowledge of factors that enhance better vision should be the goal of every school in Kentucky. Better lighting not only means more efficient seeing but also better general health.

Objectives

1. To understand that proper indoor temperature and ventilation contribute to mental efficiency, comfort, and resistance to fatigue.

2. To know the proper health standards of heating and ventilation of home and school.

3. To know the factors that constitute proper lighting and how to evaluate them.

Suggested Activities

Discuss, in general, the heating, ventilation, and lighting of the school. What are the implications to pupil health? Include or substitute items of pupil interest in the suggested list of activities presented below.

1. Discuss the importance of remaining out-of-doors as much as the weather will permit.

2. Report on any one of the different types of heating systems and the principle involved.

3. Discuss the meaning of glare and how it can be overcome.

4. Invite an electrician in to explain the comparative value of usual lighting methods and fluorescent lighting.

5. Check natural and artificial lighting, heating, and ventilation in classrooms on the opposite sides of the school building, corridors, lunchroom or cafeteria, gymnasium, and toilet rooms. Evaluate and make recommendations.

6. Discuss desirable standards of ventilation including temperature, humidity, and convection.

7. Secure materials on standards on home and farm lighting.

8. Discuss the value of adequate lighting to personal health.

Basic Content

A. Types of heating and ventilating systems in Kentucky schools and homes.
   1. Direct heating with window air supply and gravity exhaust. Cast iron radiation installed beneath all the windows along the window, and sometimes the blind side of the room.
      1.1. Temperature control; thermostatic and hand valve.
      1.2. Windows equipped with deflectors, and when slightly open incoming cold air is warmed by either passing down through part of the radiation or by blending directly with the rising warm air.
      1.3. Two or three exhaust openings are usually located near the ceiling connecting with gravity ducts.
      1.4. Principle involved is that cool air moves toward the floor and, as it is warmed by the bodies of the pupils, rises again on the inner side of the room and moves up to the exhaust ducts near the ceiling.
   2. Direct heating with window air supply and exhaust duct with central fans.
   3. Direct heating with forced unit ventilator air supply and corridor exhaust.
   4. Forced warm air with central or zone fans.
   5. Steam radiation, coal and gas furnaces, gas, oil, coal and wood stoves, and fireplaces in the home.

B. Factors in heating and ventilation.
   1. Is each classroom supplied with a thermometer? The thermometer should be hung 3 feet from the floor and at least 10 feet from the source of heat. A temperature of 70°F. should be maintained.[16]
   2. Is there an adequate central heating unit? If not, and jacketed stoves are employed, are doors kept closed, area about the stove kept clean, and water container kept on stove?
   3. Sources of heat—steam, gas, oil, coal, and wood.
   4. Humidity and method of determination.
   5. Convection and radiation.
   6. Conservation of fuel.
   7. Regulation of temperature in hot weather.

C. Lighting in home and school.
   1. Natural lighting.
      1.1. Ratio of window area to floor space. One square foot of glass area to 6 square feet of floor space.
      1.2. Elimination of obstructions that affect natural lighting such as trees, shrubs, decorations on window sills and panes, and dirty panes.
      1.3. The employment of colors in paper and paint that reflect rather than absorb light waves.
      1.4. Proper adjustment of window shades. Light colored translucent shades of the double roller type which permit lowering from top and raising from the bottom to eliminate direct sunlight on work.
      1.5. Light-testers should read 15 foot-candles in every part of the classroom to provide eye comfort, ease in working and reading, and the consequent reduction of fatigue.
   2. Artificial lighting.
      2.1. Artificial light outlets and wattage of bulbs should be sufficient to reenforce natural lighting and bring illumination to a point of visual comfort—15 foot-candles.
      2.2. Fixtures should be shaded to eliminate glare and shadows.

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[16]Southern States Work Conference on Educational Problems. *Tentative Report on Committee on Health and Health Education.* Daytona Beach, Florida: June 2-13, 1947. (Unpublished and subject to revision)

2.3. The same principles of reflection and absorption applicable to natural lighting hold for artificial lighting.

3. Adjustments generally necessary for efficient lighting.

3.1. Rearrangement of seating to give every pupil full advantage of natural and artificial lighting.

3.2. Increasing the wattage on the blind side of the classroom.

3.3. Rearrangement of classroom materials and equipment that absorbs light.

3.4. Provision of window shades, increased wattage and number of fixtures, shades for fixtures, and redecoration of rooms.

3.5. Possible installation of fluorescent lights which are economical and efficient when properly installed.

Evaluation

1. Draw a diagram of the heating and ventilating system employed in the school building.

2. If the school uses coal or wood burning stoves, suggest factors that will improve health and safety conditions for pupils and school.

3. Conduct light meter readings of the classroom, natural and artificial light, with the help of a representative of the utilities company and make suggestions for improvement.

4. Report on the reflective and absorption ability of colors and plan the colors of the classroom as though preparing for redecoration.

Teacher References

Books

Health Education. National Education Association.
Health in Schools. American Association of School Administrators.

Pamphlets and Other Materials

General Electric Company:
A Home Lighting Survey. Free.
Living with Light. Free.
Seeing. Free.
The New Story of Light. Free.
Light and Sight. Reprint.
Electrical Developments of 1946. (Write for list of other materials.)

Kentucky State Department of Education:

Division of Health and Physical Education. *Code for School Sanitation Survey.*

Division of School Buildings and Grounds. *Regulations Concerning School Grounds and Schoolhouse Construction.*

Kentucky State Department of Health. *Kentucky Public Health Manual.*

National Education Association and National Better Sight Bureau. *Teaching About Light and Sight.* 10 cents.

New York State Department of Education, Division of School Buildings and Grounds. *Heating and Ventilating Recommendations for New York State Schools.*

Pupil References

Books

Anders and others. *The Healthy Home and Community.* pp. 20-51.
Burkard and others. *Health and Human Welfare.* pp. 522-536.
————. *Health for Young Americans.* pp. 216-218.
Charters and others. *A Sound Body.* pp. 82-83; 110-112.
Crisp. *Be Healthy.* pp. 227-239.
———. *Health for You.* pp. 247-257.
Wilson and others. *Modern Ways to Health.* pp. 58-65; 208-218.

Pamphlets and Other Materials

University of Kentucky Film Library:

378—*Clothing,* sound, 1 reel. Encyclopaedia Britannica Films, Inc. (Effect of temperature and climate on clothing)

529—*Illumination,* silent, 1 reel. Eastman. (Photometer, footcandles meter, correction of glare in home and factory; character of direct, indirect, and combined system of lighting)

539—*Hot Air Heating,* silent, 1 reel. Eastman.

547—*Heat and Light from Electricity,* silent, 1 reel. Eastman.

565—*Home Electrical Appliances,* sound, 1 reel. Encyclopaedia Britannica Films, Inc. (Fluorescent lighting and principle of thermostat)

569—*Heat and Its Control,* sound, 2 reels. Bureau of Mines. (Heat transfer, convection, radiation, and conduction)

5060—*Curves of Color,* sound and color, 1 reel. General Electric. (Relation of color to wave length reflection and transmission of wave lengths)

5099—*Fuels and Heat,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.

5100—*Distributing Heat Energy,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.

UNIT EIGHT

Superstitions, Popular Beliefs, Home Remedies, and Health Advertisement

Suggested Time: Six Class Periods

Introduction

Superstitions and popular beliefs are couched in traditions and ignorance. Frequently, the individual leans upon these for assurance and delays treatment of a condition that needs immediate medical attention. Superstitions can be an influence upon the mental health of the individaul and often the result of passive acceptance.

Home remedies in Kentucky have their origin in the pioneer days, and repetition by generation after generation has made many of them an accepted practice. Instead of amelioration of the injury or condition, home remedies frequently delay proper medical attention, interfere with the healing processes of the body, or cause additional infections.

As the pupils enter their adult lives, it will be necessary for them to evaluate health advertisements which make exaggerated claims. Facts and sources of facts to help evaluate claims of manufacturers should be furnished the pupil.

Objectives

1. To develop a healthy attitude toward superstitions and popular beliefs.
2. To appreciate the limitations of home remedies.
3. To develop a critical attitude toward health advertisements.

Suggested Activities

Ask members of the class to list superstitions, popular beliefs, and home remedies. Delete duplications and use the list for a discussion. (In many cases pupils can cite cases that they will claim are proof that such things do happen. Keep in mind that he has heard these verifications in the home and parents are looked upon as final authorities. Antagonism will never convince him especially when the source of his information is considered practically infallible.) Add the superstitions, popular beliefs, and home remedies to those provided in the basic content.

1. Invite a physician or nurse to speak on the scientific basis of health advertisement.

2. Study labels found on common foods, drugs, and cosmetics products and discuss them in terms of the Federal Pure Food, Drug, and Cosmetic Act.

3. Clip advertisements from pulp magazines and classify and evaluate them.

4. List health advertisements heard over the radio and television and study the various claims.

5. Assign readings for reports from *Shattering Health Superstitions* and 100,000,000 *Guinea Pigs*.

Basic Content

A. Superstitions.

1. General superstitions.

1.1. Knocking on wood to keep luck from changing.

1.2. Interlocking little fingers with an individual who started to say the same thing.

1.3. Spitting on fingers and slapping on palm of hand to keep luck from changing.

1.4. Dropping a knife from the table indicates a female visitor and a fork a male visitor.

2. Bad luck.

2.1. Three on a match.

2.2. Black cat crossing the path.

2.3. Friday, thirteenth, or any other situation involving the number thirteen.

2.4. Walking under a ladder.

2.5. Whistling or singing before breakfast.

2.6. Singing in bed.

2.7. To look at a new moon over the right shoulder.

2.8. Baby looking at reflection in mirror will die before it is one year.

2.9. Owl hooting or dog howling at night indicates someone will soon die.

3. Good luck.

3.1. Horseshoe over house or barn door with caulks up.

3.2. Finding a penny or four-leaf clover.
3.3. Wearing the same socks or athletic equipment without washing.
3.4. Carrying a rabbit's foot or kissing a rabbit's foot.

B. Popular beliefs.

1. General beliefs.
1.1. A high or low forehead indicates intelligence or ignorance respectively.
1.2. Tall men marry women shorter than they.
1.3. Health can be stored up and drawn on later in life.
1.4. Red cheeks indicate good health.

2. Food beliefs.
2.1. Fish is a brain food.
2.2. Athletes should eat raw meat.
2.3. Certain food combinations are poisonous such as milk and fish.
2.4. Raw carrots make girls beautiful.
2.5. An apple a day will keep the doctor away.
2.6. Soak pealed cucumbers in salt to remove poisons.
2.7. Oysters should be eaten only in months that have an "r" in them.
2.8. Goat's milk will guarantee old age.

3. Beliefs concerning the skin.
3.1. Pimples, rashes, and blackheads are caused by bad blood.
3.2. Warts are caused from handling toads.
3.3. Lemon juice will remove freckles.
3.4. Boils are nature's way of cleaning the system.

4. Beliefs concerning the hair.
4.1. Wearing of hats causes baldness.
4.2. Eating burnt boast or drinking black coffee will produce curly hair.
4.3. Cutting the hair at the time of the new moon guarantees a thick growth.
4.4. A hairy chest is a sign of strength.
4.5. Every gray hair pulled will cause seven to appear.

5. Beliefs concerning the eyes.
5.1. A sty is cured by rubbing the eyes with a wedding ring.
5.2. Gold earrings strengthens vision.
5.3. Sleeping in the moonlight will cause blindness.

6. Beliefs concerning diseases.
   6.1. Colds may be cured by wearing asafetida in a bag about the neck.
   6.2. Sore throat can be cured by wearing a dirty sock about the neck.
   6.3. Colds can be sweated out by exercising or working.
   6.4. Colds can be cured by whiskey.
   6.5. Rheumatics can be cured by wearing a buckeye about the neck, carrying an agate in the pocket, or wearing red flannels.
   6.6. Appendicitis is caused from eating grape seeds.
   6.7. Children should be exposed to diseases.
   6.8. Tuberculosis is inherited.

C. Home Remedies.
   1. Dipping an injured part or washing area with kerosene.
   2. Placing a tobacco cud on a cut.
   3. The use of soot from a stove or fireplace on an open cut.
   4. Hastening the coagulation of blood with a cobweb.

D. Health Advertisements.
   1. Methods of advertisements. Radio, television, newspaper, magazines, billboards, drugstores, and salesmen.
   2. Basis of reliable advertisement.
      2.1. Scientific research.
      2.2. Reliability and reputation of firm.
   3. Protection of consumer by research foundations, federal, and state laws.
      3.1. Consumer's Research.
      3.2. Federal Pure Food, Drug, and Cosmetic Act.
      3.3. Kentucky State Department of Health.
      3.4. Publication by individuals interested in public welfare.

Evaluation

1. Make a survey of superstitions among the members of the athletic squad or an area in the community and discuss the fallacies of these superstitions.
2. Make a report of home remedies used in the community and indicate the dangers involved.
3. Study the labels on several products and discuss why these products meet the regulations of federal and state laws.

Teacher References

Books

Fishbein. *Shattering Health Superstitions.*

Health Education. National Education Association.

Health in Schools. American Association for School Administrators.

Kallet. 100,000,000 *Guinea Pigs—Dangers in Everyday Foods, Drugs, and Cosmetics.*

Pamphlets and Other Materials

Boston Better Business Bureau. *Facts You Should Know About Health Cures.*

U. S. Food and Drug Administration. *Annual Report of the Federal Security Agency.*

Kentucky State Department of Health. *Kentucky Public Health Manual.*

Pupil References

Books

Anders and others. *The Healthy Home and Community.* pp. 121-125.

Burkard and others. *Health and Human Welfare.* pp. 62-82.

Charters and others. *A Sound Body.* pp. 213-229.

Crisp. *Be Healthy.* pp. 349-350; 452-463.

————. *Health for You.* pp. 348-360; 429-430.

Wilson and others. *Modern Ways to Health.* pp. 338-341.

Pamphlets and Other Materials

University of Kentucky Film Library:

5076—*Lease on Life,* sound, 2 reels. Kentucky Tuberculosis Association. (Taking advantage of modern science's knowledge)

Section III

SAFEGUARDING HEALTH

Communicable and Non-Communicable Diseases

Health Professions and Agencies

UNIT NINE

Communicable and Non-Communicable Diseases

Suggested Time: Twenty-four Class Periods

Introduction

The understanding of the cause of disease and how disease organisms are spread is a step in the direction of prevention and control of communicable diseases. In this respect the program of most health agencies is one of health education because it is recognized that the effective control of disease depends, in a large measure, upon public understanding of control measures. The school also must share this responsibility for public education with recognized health agencies because the most effective work can be done during the school years.

The teacher of health should not, therefore, devote too much time to details such as incubation period, and period of communicability, but rather place the greater emphasis on methods of prevention and control. The *Communicable Disease Manual*[17] of the Kentucky State Department of Health and *The Control of Communicable Diseases*[18] published by the American Public Health Association both have an excellent treatment of control measures and other facts pertinent to communicable diseases. The teacher should have either one of these publications as a reference but in no case should she order copies for an entire class unless she first inquires if such a procedure is permissible.

In 1951, the leading causes of death in Kentucky were heart diseases, cancer, cerebral hemorrhage, accidental deaths, and nephritis. Many of these causes of death are classified as ''middle age'' diseases and non-communicable.

On the other hand, the leading causes of death from communicable diseases the same year included tuberculosis, influenza, syphilis, measles, diphtheria, whooping cough, dysentery, meningitis, typhoid fever, infantile paralysis, encephalitis, scarlet fever, and malaria.[19] Although many of these communicable diseases have shown a de-

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[17]Kentucky State Department of Health. *Communicable Disease Manual.* Louisville 2, Kentucky: 620 South Third Street, 1947.

[18]American Public Health Association. *The Control of Communicable Diseases.* Sixth Edition. New York 19, New York: 1790 Broadway, 1945.

[19]Kentucky. ''Vital Statistics Report 1951,'' *Bulletin of the State Department of Health,,* pp. 4-9.

cline over the years in Kentucky, they are still too prevalent considering the scientific and medical knowledge available today. More than 115,000 Kentuckians have died of tuberculosis since 1911, and yet it can be prevented and cured when found early.

Diphtheria, typhoid fever, and dysentery continue to claim lives year after year in spite of the availability of immunization and knowledge of sanitation in the home and community.

The teacher should emphasize that the control of chronic diseases in youth is possible through the correction of physical defects, habits of moderation, habits of good nutrition, proper rest and seeking early and regular medical care. Many persons found to have chronic and even incurable diseases live long and useful lives under the supervision of a physician who can help them guard their health and live happily with their limitations.

Objectives

1. To develop an appreciation for the contributions of men of science to disease prevention and control.
2. To acquire a knowledge of the prevention and control of disease.
3. To appreciate the necessity for the recognition of diseases in their early stages and the importance of securing immediate medical aid.
4. To appreciate the role of health authorities in the control of communicable diseases.
5. To understand the dangers inherent in self-medication.

Suggested Activities

If possible, secure a copy of bulletins published by the Kentucky State Department of Health and assign the class members reading assignments on tuberculosis, cancer, venereal disease, diseases of later life, and the plan of action proposed by the State Department of Health.

Discuss the report with the class and record any interests which might serve as learning activities for this unit.

1. Discuss the vital statistics report of the Kentucky State Department of Health, 1952 (pages 4-10) from the standpoint of death rates from leading causes and communicable diseases. This activity should lead to an explanation of the method of computing.

1.1. Mortality rate by leading causes.
1.2. Mortality rates from selected causes.
1.3. Mortality rates at birth.
1.4. Infant, neonatal, and maternal death rates.
1.5. Mortality rates by occurrence and residence.

2. Discuss the importance of registering births and deaths.

3. Arrange a talk by a physician who might give some interesting facts on diseases which are classified as leading causes of death.

4. Discuss the value of periodical medical examinations in the early recognition of diseases.

5. Prepare an exhibit of informational material on the prevention and control of communicable diseases.

6. Secure information on the cost of sickness to industry in terms of time and economic loss.

7. Arrange a talk by the school or visiting nurse on the value of immunization.

8. Prepare reports on the contribution of medical science to the prevention and control of communicable diseases.

9. Discuss the present concern of health authorities on the gradual increase of mortality rates of middle-age diseases.

10. Secure information on the effect of poverty, occupation and race on the incidence of tuberculosis.

11. Discuss why tuberculosis "runs in the family" even though facts indicate that it is not inherited. Write a talk on this subject for radio presentation over the local station.

12. Find out how many sanatoriums are provided by Kentucky for its people sick with tuberculosis. Can every one sick on this disease go to a sanatorium? If not, how many additional beds are needed?

Basic Content

A. The contributions of medical science to the prevention and control of communicable diseases.
   1. Harvey's (1578-1657) discovery that blood circulates through the body.
   2. Leeuwenhoek's (1632-1723) discovery of the microscope.
   3. Jenner's (1749-1823) development of a method of vaccination.
   4. Pasteur's (1822-1895) discovery that bacteria causes disease.

5. Lister's (1827-1912) introduction of antiseptics in surgery.
6. Koch's (1843-1910) isolation of the tubercular germ.
7. Trudeau's (1848-1915) discovery that adequate rest, sunshine, air, and diet were essential in arresting tuberculosis.
8. Ehrlich's (1845-1915) treatment of diseases by chemical injections.
9. Noguchi's (1876-1928) isolation of the organisms causing communicable diseases (infantile paralysis, rabies, syphilis, and yellow fever).
10. Reed's (1851-1902) heroic work in the control of yellow fever.
11. Roentgen's (1845-1923) discovery of the X-ray.
12. Pierre (1859-1906) and Marie Curie's (1867-1934) discovery of radium.
13. Recent discoveries in sulfa drugs, antibiotics such as penicillin and its derivatives, and the application of atomic rays in the fight against disease.

B. Communicable disease control measures established by the State Board of Health.
   1. Control measures in the school.
      1.1. Readmission to school after illness with communicable disease.
      1.2. Inspection of school building and water supply.
      1.3. Medical examinations of school children, and school employees including teachers, food handlers, janitors, and bus drivers.
      1.4. Make the decision when school shall remain open or closed during epidemics.
   2. Direct control measures for the public.
      2.1. Isolation and quarantine.
      2.2. Right of entrance and inspection.
      2.3. Isolation and removal to hospital.
      2.4. Release from isolation and quarantine.
      2.5. Travel and transportation restrictions.
   3. General control measures for the public.
      3.1. Sanitation of water supply.
      3.2. Sanitary measures with respect to milk supply.
      3.3. Sanitary food handling in homes, markets, and eating establishments.
      3.4. Scientific or sanitary disposal of garbage.
      3.5. Scientific or sanitary disposal of sewage.

C. Communicable diseases.

1. **Anthrax.** Individuals who work with animals or products of animals contract this disease. The bacteria causing the disease enters through cuts, respiratory and the alimentary tract. It may be carried by flies.

The spread of the disease is controlled by isolation and disinfection of all articles handled by the infected person. Animals infected with anthrax should be killed and burned.

2. **Chickenpox.** Children are very susceptible to chickenpox and 9 of 10 have had the disease by the time they are 15 years old. A virus which is transmitted through secretions of the upper respiratory tract and by means of the crusts which form on the skin cause the disease. The secretions from the sick person and all articles they used should be disinfected. One attack of this disease usually gives the individual immunity from further attacks. Death is rare but complications may arise because of susceptibility to other diseases through weakened condition. This situation is true of many childhood diseases. Care must be taken and time permitted for full recovery before returning to regular living habits.

3. **Common Colds.** A cold is an acute infection of the mucous membranes of the upper respiratory tract. Colds alone caused 45 per cent of all the absences in the Louisville Public School system, September 1938 to June 1939.[20] The common cold is caused by a virus present in the nasal and throat secretions of infected persons. A cold is transmitted through coughing, sneezing, talking, spitting, and the use of articles handled by an infected person. Infected persons should shield the mouth and nose with a handkerchief or tissue when sneezing or coughing to prevent the spread of colds. Putting the fingers in the mouth and articles such as pencils, coins, and others of like category should be avoided. Another good practice in prevention is washing the hands before eating.

Colds should always be looked upon with suspicion and care because diseases such as whooping cough, scarlet fever, and diphtheria, in their initial stages have the appearance of a common cold and constant infection with a cold may lead to a more serious respiratory infection such as pneumonia or influenza. It is generally conceded that there is little natural immunity developed against colds.

There is little benefit to be derived in treating a cold with some highly advertised patent medicines. The best procedure in case of a cold is to go to bed and call a doctor.

4. **Diphtheria.** Fifty-eight children died in Kentucky because of diphtheria in 1946 and 97 per cent of them were under 9 years of age. It is a dangerous, contagious disease caused by the diph-

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[20]Taylor, H. T. "The Implications of Sickness Records of Public School Pupils," *The Research Quarterly of the American Association for Health, Physical Education and Recreation*, Vol. 13, No. 1 (March, 1942), pp. 37-42.

theria germs which invade the nose or throat and produces toxins that affect the heart and nerves. This disease is spread through nasal and throat discharges of the infected person or through healthy children or adults (carriers) who harbor the germs in their nose or throat.

The prevention of diphtheria is immunization and susceptibility is determined by the Schick test. Immunization is a responsibility of the family and each child should be protected before one year of age.

5. **Dysentery, Amebic and Bacillary.** Amebic dysentery is caused by a unicellular organism which is discharged in the feces of the infected person. It is transmitted from person to person by drinking contaminated water or by eating contaminated food in much the same manner as typhoid fever is spread. The disease is more prevalent in warm climates. The symptoms of amebic dysentery consist of diarrhea with loose stools containing blood and mucous.

Bacillary dysentery is an acute, sometimes chronic, disease by a germ that resembles the typhoid bacillus. It is transmitted essentially like amebic dysentry. This disease is of common occurrence in infants under 2 years of age.

Prevention includes sanitary toilets, proper preparation and preservation of food, especially during warm weather, washing the hands before eating, and a safe supply of drinking water.

6. **German Measles.** This disease is caused by a filterable virus and sources of infection are discharges from the mouth and possibly the nose of the infected person. It first appears on the skin as a diffused rash like the rash of scarlet fever. German measles is less dangerous than measles and its complications less frequent. Clean personal habits and avoidance of crowded areas are the best preventive measures.

7. **Gonorrhea.** Gonorrhea is a specific infection due to gonococcus. It is classified as a venereal disease and is contracted mainly by sexual intercourse with an infected person. In female children, it may be contracted by the use of contaminated linen, or from the hands of infected persons.

In the male, the disease is first manifested by an inflammation of the urethra and the first stage is a discharge and painful micturition. In the female, the initial manifestation involves the urethra, or the cervix uteri. In either sex the gonococci occasionally gain access to the blood stream, in which case 2 important diseases may develop gonococcal arthritis (inflammation of joints) and gonococcal endocarditis (vegetations form on the pulmonary valve or other valves of the heart).

Prevention includes a healthful and wholesome attitude toward the opposite sex and self. Set high standards of conduct and share in activities in which there are participants of both sexes. Develop recreational interests such as sports and hobbies.

8. **Hookworm Disease.** Hookworm disease (ground itch) is largely a rural disease, occurring especially in warm damp climates. The worms live in the intestines and feed on the blood through the wall of the intestine. The female worms lay eggs which are discharged in the feces and the eggs develop into **larvae.** These larvae are capable of penetrating the skin of man. When picked up by the skin (generally through the soles of the feet when going barefooted) the larvae gain access to the blood stream, and carried by the blood to the lungs they are coughed up and swallowed. Thus the larvae return to the intestines where they become mature worms.

Prevention involves cleanliness of person, wearing shoes, sanitary toilets, cleaning raw fruits and vegetables, and properly preparing foods. A physician should be seen instead of trying home remedies. The hookworm disease should not be tolerated because it undermines the health and reduces efficiency.

9. **Impetigo.** This disease is characterized by lesions on the skin which later become pustules filled with serum. It is transmitted by lesions of an infected person; possibly discharges from nose and throat. The infection is easily innoculated from place to place on the body by scratching.

Prevention is an individual responsibility. The person infected should carefully dispose of dressings and sterilization of articles such as combs, wash cloths, towels, and underclothing worn or used. General precautions include personal cleanliness and the avoidance of common use of toilet articles.

10. **Influenza**. Whether occurring in a pandemic,[21] endemic,[22] or epidemic[23] form, this disease is characterized by sudden onset. It is usually manifested by aches and pains in limbs and back, fever, sore throat, and bronchitis. Two types of virus have been identified and the source of infection is probably due to discharges from mouth and nose of infected person and articles freshly soiled by discharges. Methods of control include abstaining from visiting an infected person, use of and destruction by fire of paper tissues used on nose, and immunization by influenza virus A and B.

11. **Malaria.** The word malaria once meant "bad air" which was thought to arise from gaseous pollution of the air from marshes. swamps, or decomposing animal matter. The cause of malaria is a one-celled animal transmitted to man by a specific species of mosquito (anopheles). The mosquito is infected by biting a person suffering from acute or chronic malaria. The parasite develops in the body of the mosquito which after a time appears in its salivary gland and is reintroduced into the bodies of persons who are bitten. Within the blood of humans the parasites multiply

[21]Pandemic is a general or universal prevalence of disease.
[22]Endemic is restriction to a particular locality of disease.
[23]Epidemic is a disease affecting a relatively large group of people in a locality, but not permanently prevalent there.

and increase in size until they almost fill the blood cell. They continue to multiply and to occupy other blood cells and produce alternatingly chills and fever.

Control of malaria includes measures to eliminate mosquitoes from swamps and other breeding places, screening of homes and other areas used by humans for occupancy, and use of poisons to kill larvae. Quinine is specific for malaria, and the disease may be cured by its use.

12. **Measles.** This disease is characterized by a sudden onset with severe catarrhal inflammation of the upper respiratory tract and the eyes (conjunctivitis). A rash appears about the second day at which time the fever returns to normal. The rash fades rapidly followed by a flaky disquamation (comes off in scales of the epidermis). It is believed, but not certain that measles is caused by virus.

Epidemics occur in Kentucky every 3 or 4 years, usually during the winter. This disease is caused by the exposure of well persons to those who are infected.

Measles is a serious disease and all people must cooperate with the instructions of the physician and health officer in its control. Although the mortality rate is low, measles may cause complications such as pneumonia, middle ear infection, and sinus infection.

13. **Meningococcus Meningitis.** The onset is usually sudden fever, headache, nausea, and often vomiting which are signs of meningeal irrition. Meningococci are the cause of the disease. The meningococci are transmitted by discharges from the nose and throat of persons infected or carriers. Prevention includes avoidance of contact, droplet infection, and overcrowding such as is common in living quarters and transportation conveyances.

14. **Mumps.** The disease manifests itself in the inflammation of the salivary glands located just below the ears, and it occurs in epidemics. One attack usually assures lifetime immunity. Suspected cases should be isolated, discharges from nose and throat disinfected, and the instruction of health officer should be followed in controlling the disease.

15. **Paratyphoid Fever.** The disease is caused by paratyphoid bacilli characterized by continued fever, sometimes rose spots on the trunk and usually diarrheal disturbances. The bacilli are transmitted through contact with the infected person or carrier, contaminated food, water, milk, and shellfish, and under some conditions, flies.

General control measures include: protection and purification of water supply from contamination, sanitary toilets, pasteurization of milk, supervision of food-handling practices and food supplies, prevention of fly breeding, and isolation of those who are infected.

16. **Whooping Cough.** Pertussis, or whooping cough, is an acute infection involving the trachea and bronchial tubes and is characterized by a typical cough. The initial catarrh is manifested

by an irritating cough which gradually becomes paroxysmal within two weeks. The disease is transmitted by contact with an infected person, or with articles freshly soiled with the discharges of such a person.

The disease is prevalent and a common disease among children everywhere. Although 15 per cent of the cases occur in children 2 years of age, 85 per cent of the deaths occur in this age group.

Control measures include disinfection of discharges and articles handled by infected person, quarantine and exclusion of non-immuned children from public gatherings, artificial active immunization preferably before the sixth month, a brief passive immunity by the administration of convalescent serum.

17. **Pneumonia.** This disease is generally preceded by a lowering of the body resistance which may result from overwork, excess fatigue, chilling, colds, and overindulgence of liquor. The cause of pneumonia is a round-shaped bacteria called pneumococcus. The bacteria produce a toxin which is absorbed by the body. These toxins may poison other vital organs of the body and cause death. Penicillin and sulfanamides have been used successfully in combatting pneumonia. General measures of control in pneumonia are the same as in other respiratory infections. The general resistance should be conserved by good food, fresh air, sufficient sleep, and other hygienic measures. On recovery from pneumonia restrict activities to a minimum and follow sane hygienic practices because failure to do so may lead to complications.

18. **Poliomyelitis** (Infantile Paralysis). Infantile paralysis is caused by a filterable virus which enters the body by way of the nose or mouth, probably from a carrier. The virus has been found on flies subject to fecal contamination. Reliable evidence is lacking to show that the virus is present in the water supply. The virus causes inflammation of the gray matter of the spinal cord and destroys the motor cells located there. The muscle fibers which were dependent upon these motor cells are no longer able to contract and the muscle deteriorates, or is said to be paralyzed. Control measures include following the advice of public health authorities during epidemics, such as the avoidance of crowded areas and unnecessary travel, avoidance of physical strain and fatigue, and the postponement of nose and throat operations in the presence of an epidemic.

19. **Rabies.** This disease is caused by a filterable virus which enters through a break in the skin caused by the bite of a rabid animal, chiefly dog. The person should have an immediate antirabic treatment unless the animal is proved not to have rabies. Dogs suspected of having rabies should be kept under observation and should not be killed immediately. If clinical diagnosis of the victim or observations indicate that he has rabies, he should be destroyed and the head sent, as directed by the health department, to the bacteriological laboratory, Experiment Station, College of Agriculture, University of Kentucky, Lexington, Kentucky, for

examination. In destroying the dog, he should never be shot through the head because this interferes or renders laboratory examination difficult or impossible. Preventive vaccination of dogs is practical but control of stray or ownerless dogs is also necessary.

20. **Ringworm.**[24] Ringworm is caused by a fungus. Inspection of the scalp shows localized round, scaly patches with short broken off hairs. The mode of transmission is from person to person by contact through articles of clothing, especially hats and caps containing the fungus or its spores, or infected hairs or scales shed by individuals. Infected children should be excluded from school until recovery. Stocking caps or other types of inexpensive head covering should be worn to stop the spread of infection and should be burned after use. General measures of control include cleanliness of hair and scalp, prompt and persistent treatment of infection and provision for individual storage of clothing in school.

21. **Rocky Mountain Spotted Fever.** Persons suffering from this disease show a history of a tick bite or exposure to ticks. Fatality for all ages in the United States is approximately 20 per cent. In the eastern and southern United States the cause of the disease is the dog tick. The infection is passed from generation to generation in ticks and is probably maintained by infected and non-infected larvae feeding upon susceptible wild rodents. General measures of control include avoidance of tick-infested areas, removal of ticks from person or dog without crushing and by some means other than the hands, and the use of vaccine. The vaccine is prepared by the U. S. Public Health Service at Hamilton, Montana.

22. **Scabies.** This disease is caused by the itch mite and is transmitted by direct contact with infected persons. Method of control includes cleanliness of body, underclothing, and bed covering, exclusion of infected children from school until adequately treated by painting the body with benzyl-benzoate emulsion, and exclusion of infected person from common recreation and bathing facilities.

23. **Smallpox.** The causative agent of this disease is a filterable virus and is transmitted by contact through articles or persons freshly contaminated by discharges from the sick. Acquired immunity usually follows recovery from an attack of the disease and artificial immunity by vaccination is commonly considered effective for from 5 to 20 years. General measures of control include vaccination in early infancy, revaccination of children on entering school, and the entire population when the disease appears in severe form and the public health authorities advise.

24. **Streptococcal Infection.**

a. Scarlet Fever: The distinguishing characteristics of a

[24]See also ringworm of the body, *Communicable Disease Manual, of. cit.*, p. 104.

scarlet fever infection are a rash and sore throat. The source of infection is discharges from the nose, throat, contact with carriers, and articles contaminated by discharges from an infected person. General control measures include pasteurization of milk supply, exclusion of infected persons handling milk or milk products, exclusion of the sale or raw milk from cows suffering with mastitis, and avoidance of contact in the home with an infected person or articles handled by him.

b. Septic Sore Throat: This infection is characterized by a sore throat and fever. Mode of transmission and method of control is similar to scarlet fever.

25. **Syphilis.** This veneral disease is caused by discharges from obvious or concealed lesions of the skin or mucous membrane, semen, blood of an infected person and, rarely, by indirect contact with articles freshly soiled with such discharges or blood. The mode of transmission is by direct contact with infected persons or through the blood of such persons (transfusions), chiefly by sexual intercourse and occasionally by kissing. General measures of control are provisions at public expense of adequate clinical and laboratory facilities for diagnosis, treatment facilities, and follow-up to insure completion of treatment, repression of commercial prostitution, restriction of advertising of services or medicine for self-treatment, public education as to the nature of syphilis and other venereal diseases, their clinical characteristics prevalence, mode of transmission, and particularly how to avoid infection.

26. **Trachoma.** The causative agent is a filterable virus which is transmitted by direct contact with infected persons and indirectly by contact with articles freshly soiled with infectious discharges from such persons. The disease is characterized by chronic inflammation of the eye, leading ultimately to the formation of scar tissue, deformity of the eyelids and involvement of the cornea of the eye. Method of control includes exclusion of infected person from school, disinfection of discharges from eye and articles soiled by the discharges, search for cases by examination of school children, elimination of towels and articles used in common, and personal cleanliness.

27. **Tuberculosis.** There are two forms of tuberculosis—(1) that which is caused by a type of bacteria which attacks the lungs (pulmonary) of human beings and (2) that which attacks the bones, glands, skin and other tissue and is usually due to the type of bacteria which causes the disease in cattle (bovine type). Pulmonary tuberculosis is transmitted from person to person chiefly by means of infected sputum. The bovine type is transmitted from infected cows to human beings through unpasteurized milk. Tuberculosis is not inherited but is caused by contact with people who have active cases of the disease.

When the tubercular germ enters the lungs comparatively little harm is done. Certain cells of the lungs build a wall about the

germs and imprison them, thereby protecting the lung tissue from damage. The germs so imprisoned usually die but may lie dormant awaiting a chance to escape their enclosure to become active. There is no known method of immunization against tuberculosis and control measures include keeping the body in good health, avoidance of exposure to infected persons, pasteurization of milk, eradication of tuberculosis from dairy cattle, removal of babies from tubercular mothers, and the provision of adequate sanatoriums and clinical facilities.

Tuberculosis can be arrested in the early stage and the quicker the discovery, the quicker the recovery. The tuberculin or Mantoux test is a method of determining the presence of tubercular germs in the body. A positive reaction indicates a need for further examination by X-ray of the chest and a physical examination by a physician.

28. **Tularemia**. The disease may be acquired by the bite of the blood-sucking horse fly, wood tick, from infected abrasion or skin trauma, or by the ingestion of insufficiently cooked meat of infected rabbits. Other sources of infection include infected cats, quails, skunks, dogs, foxes, hogs, woodchucks, opossums and tree squirrels. The mode of transmission is through bites of infected flies, ticks, and inoculation through handling infected animals. Control measures are the use of rubber gloves in dressing wild rabbits, thorough cooking of wild game, and the avoidance of drinking water where disease prevails among wild animals.

29. **Typhoid Fever.** The causative agent of this disease is the typhoid bacilli and the mode of transmission is through direct or indirect contact with the infected person or carrier. Among the indirect means of transmission are contaminated food, water, fish, milk, and under some conditions, flies. The source of infection is the bowel discharges and urine of infected persons. About 2 to 5 per cent of the people infected by typhoid fever become carriers and family contacts may develop transient carriers. Control measures include protection and purification of home and community water supply, sanitary disposal of human excreta, pasteurization of milk and milk products, supervision over food supplies and food handling practices, prevention of fly breeding and screening of open areas, immunization and discovery and supervision of carriers.

D. Non-Communicable Diseases.

1. **Diabetes.** A disease in which the cells of the body lose the ability to utilize glucose (a simple form of sugar). The transformation of glucose into a form of sugar usable by the body in the liver and tissue is dependent upon a hormone (insulin) secreted by the islands of Langerhans of the pancreas. If the body lacks sufficient insulin, the hormone made from the pancreatic tissue of animals is supplied in proper amounts by injection. Nearly all abnormalities of this disease can be corrected or prevented by proper medical care.

2. **Cancer.** This disease begins with a single cell or group of cells which start to grow more rapidly and independently from the rest of the body tissue. As these cells grow they envelope more tissue and eventually interfere with the normal function of the invaded organs, or the cancer cells are carried by the blood stream to other organs in the body to start new growths. Cancerous tissue frequently disintegrates and produces open sores, or gives off poisonous substances in the system. If cancerous growths are not checked or removed, they will finally cause death. No tissue of the body is free from attack and only early diagnoses followed by the use of radium, X-ray, or surgery are effective. Cancer is classified as a middle-age disease and is more prevalent among women than men.

3. **Heart Disease.** Various parts of the heart may be attacked by disease, such as the sac that surrounds the heart, heart muscles and valves of the heart. Heart disease may be caused by infections, arteriosclerosis (hardening of the arteries), high blood pressure, congenital malformations, and nutritional deficiencies. Heart disease, like cancer, is looked upon as a middle-age disease. Proper medical care and careful supervision can help many people with heart conditions to live happy and useful lives.

4. **Nephritis.** The kidneys may be the seat of infections which enter through the blood stream or ascend to them from the bladder by way of the ureter. The kidneys may also be invaded by tumors and are subject to the harmful effects of chemical agents. A person with nephritis must have special medical and nursing care.

E. Self-Medication.

1. Self-medication is dangerous. The diagnosis and treatment of disease requires long years of preparation and a special knowledge not possessed by the ordinary individual.
2. Patent medicines are generally harmless but some are injurious to health and may lead to serious illness.
3. No one ever devised a medicine to cure every human illness, although advertisements may claim that.
4. Self-medication generally delays adequate medical treatment.
5. Qualified physicians and health agencies are always ready to assist those in need.
6. Kentucky state laws make certain control measures a requirement and ability to pay for the services is not a first consideration.

Evaluation

1. Make a report on preventive and control measures employed against communicable diseases in the school or in the community.

2. Discuss the responsibility of the individual to the community in the control of communicable disease.

3. Make a scrapbook of newspaper and magazine articles on communicable diseases, collected over a period of a month.

4. Write a report on what can be done to improve the present situation on the farm or in the home to protect the family from the invasion of communicable diseases.

5. Write a paper on why self-medication is unwise.

6. Choose a disease not discussed in this unit but which has appeared in the community and give a talk to the class, treating its cause, mode of transmission and measures of control.

7. Conduct an exhibit of literature secured from health agencies on either tuberculosis, cancer, or venereal disease.

Teacher References

Books and Booklets

Health in Schools. American Association of School Administrators.

American Public Health Association. *The Control of Communicable Diseases.*

Chadwick and Pope. *The Modern Attack on Tuberculosis.*

Fishbein. *Home Medical Advisor.*

Kentucky State Department of Health. *Communicable Disease Manual.*

Kentucky State Department of Health. *Kentucky Public Health Manual.*

National Education Association. *Health Education.*

Pamphlets and Other Materials

American Cancer Society, Kentucky Division:

Pamphlets on Cancer of breast, mouth, skin, uterus, digestive tract, genito-urinary tract, and respiratory tract. Free.

American Medical Association. *Suggested School Health Policies.* (Free to teacher if requested on official letterhead stationery) Write for list of publications suitable for this unit.

American Social Hygiene Association, or Social Hygiene Association of Kentucky: (Write for list of publications)

What You Should Know About Syphilis and Gonorrhea. 10 cents.

The A-B-C of Syphilis. Free

Questions and Answers about Syphilis and Gonorrhea.

Committee for Kentucky. *A Report on Health.*

Kentucky State Department of Health Bulletin, Vol. 20, No. 3. "The Kentucky State Hospital Plan."

(Request to be placed on mailing list for monthly bulletin. It has excellent articles on school health, health movements in the state, and health legislation.)

Kentucky Tuberculosis Association:

Air and Sunshine.

Classroom Unit (For use with motion picture "They Do Come Back")

Do You Know the Answers?

Facts Tuberculosis Patients Should Know

Help Fight Tuberculosis

Home Care of Tuberculosis

Steps to Safety, The Tuberculin Test

Take-Off

TB—How Your Body Fights Tuberculosis

TB—Through the Teens

The High School's Share in Solving the Community's Tuberculosis Problem

Tuberculosis Facts in Picture Language

What You Should Know About Tuberculosis

(All publications free. Write for list of copies of additional publications.)

Metropolitan Life Insurance Company:

Colds, Influenza, Pneumonia

Diabetes

Health Heroes Series. (Pasteur, Reed Trudeau, Nightingale, Jenner, Koch, and Curie. Also 35 m.m. film strips accompanying this publication which may be retained permanently).

Health Through the Ages

Health Bulletins for Teachers, Vol. 18, 1946-47 and Vol. 19, No. 1, 1947. (Request to be placed on mailing list for bulletins.)

The Nature of Bacteria (Monograph No. 7)

Tuberculosis

What About Rheumatic Fever?

What Teachers See (Booklet in color concerning communicable diseases. Accompanied by 35 m.m. film strip in color entitled, *Teacher Observations of School Children.* Film strip loaned on request.) All publications free on request.

National Foundation for Infantile Paralysis:

Poliomyelitis, A Source Book for High School Students. Publication No. 61. Free.

Teachers' Guide in the Use of a High School Unit on Poliomyelitis. Free.

Write for list of publications.

Nebraska State Department of Education. *Unwelcomed Travelers. A Resource Unit in Health Education for High School Teachers.* (An excellent booklet. Do not request more than one copy.)

University of Kentucky, College of Agriculture and Home Economics. *Common Household Insects,* Circular No. 345. (Write for list of publications. Especially look for bulletins on testing of dairy cattle for tuberculosis, home pasteurization of milk, home care of sick, septic tanks, and safe water supply).

United States Public Health Service:
Common Colds. 5 cents.
Communicable Diseases. 25 cents.
Write for list of publications.

Pupil References

Books

Library References:

de Kruif. *Microbe Hunters.*
Chambers. *Conquest of Cholera.*

Textbook References:

Anders and others. *The Healthy Home and Community.* pp. 182-231; 252-255.
Burkard and others. *Health and Human Welfare.* pp. 2-62; 579-605; 607-614.
————. *Health for Young Americans.* pp. 229-242.
Charters and others. *A Sound Body.* pp. 230-256.
————. *Growing Up Healthy.* pp. 172-199.
Crisp. *Be Healthy.* pp. 301-304; 289-297.
———. *Health for You.* pp. 303-330; 313-324; 382-421.
Fishbein and others. *Health and First Aid.* pp. 1-14.
Williams. *Healthful Living.* pp. 471-507.
Wilson and others. *Modern Ways to Health.* pp. 1-23; 70-91; 136-162.

Pamphlets and Other Materials

University of Kentucky Film Library:

502—*Choose to Live* (Cancer), sound, 2 reels. U. S. Department of Agriculture.
506—*Bacteria,* silent, 1 reel. Eastman.
520—*They Live Again,* sound, 1 reel. Teaching Film Custodians, Inc. (Diabetes).
522—*The Story of Dr. Jenner,* sound, 1 reel. Teaching Film Custodians, Inc. (Smallpox).
523—*One Against the World, (Dr. Ephraim McDowell),* sound, 1 reel, Teaching Film Custodian, Inc. (Surgery).
525—*Man's Greatest Friend,* sound, 1 reel. Teaching Film Custodians, Inc. (Louis Pasteur).
556—*A Report to the People,* sound, 1 reel. National Foundation for Infantile Paralysis.
560—*The Story of My Life,* silent, 1 reel. Kentucky Tuberculosis Association (Ezra Buzzle).
561—*Delay is Dangerous,* silent, 1 reel. Kentucky Tuberculosis Association.
573—*Behind the Shadows,* sound, 1 reel. Kentucky Tuberculosis Association.
579—*Body Defenses Against Disease,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.
5014—*Let My People Live,* sound, 1 reel. Kentucky Tuberculosis Association.

5017—*Three Counties Against Syphilis,* sound, 2 reels. U. S. Department of Agriculture.

5037—*They Do Come Back,* sound 1½ reels. Kentucky Tuberculosis Association.

5038—*Goodbye, Mr. Germ,* sound, 1½ reels. Kentucky Tuberculosis Association.

5042—*Man Against Microbe,* sound, 1 reel. Metropolitan Life Insurance Company. (Van Leeuwenhoek, Pasteur, Lister, Koch, and many others).

5048—*Endocrine Glands,* sound, 1 reel. Encyclopaedia Britannica Films, Inc. (Insulin production for diabetes and others).

5062—*Another to Conquer,* sound, 2 reels. Kentucky Tuberculosis Association.

5108—*Pneumonia,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.

5119—*Romance of Radium,* sound, 1 reel. Teaching Film Custodians, Inc.

5122—*Defense Against Invasion,* sound and color, 1 reel. office of Inter1American Affairs. (Walt Disney on Vaccination).

5124—*The Winged Scourge* (Malaria), sound and color, 1 reel. Office of Inter-American Affairs. (Walt Disney).

5144—*Magic Bullets,* sound, 3 reels. Kentucky State Department of Health. (Ehrlich and syphilis).

5145—*In Defense of a Nation,* sound, 1 reel. Kentucky State Department of Health. (Syphilis and gonorrhea).

5146—*Fight Syphilis,* sound, 1 reel. Kentucky State Department of Health.

5147—*Plain Facts About Syphilis and Gonorrhea,* sound, 1 reel. Kentucky State Department of Health.

5149—*Health Is Victory,* sound, 1 reel. Kentucky State Department of Health. (Gonorrhea).

5150—*Know for Sure,* sound, 2 reels. Teaching Film Custodians, Inc.

UNIT TEN

Health Professions and Agencies

Suggested Time: Six Class Periods

Introduction

Since the basic course in health will be taught only in the ninth or tenth grade, it is essential that high school pupils become acquainted with the many health professions and agencies.

The pupil must realize that numerous people and organizations are cooperating to protect his personal welfare and that the knowledge and use of these health activities are basic to individual and community efficiency.

Objectives

1. To know the health professions and agencies active in the community.

2. To appreciate the contributions of the national and state agencies to health in the community.

3. To gain a knowledge of how the individual may participate and contribute to the public health effort of these agencies.

Suggested Activities

Discuss the health agencies known to the pupils that are active in the community and list them on the blackboard. As far as possible have the pupils list the services rendered by these agencies. Practical interests should be added or subtracted to the following list of suggested activities.

1. Survey the activities of service clubs and voluntary agencies in the community to determine the various health activities which they sponsor.

2. Report on the story of the origin of the Christmas seal and how the money is apportioned.

3. Prepare an exhibit of bulletins and materials from national state, and local health agencies.

4. Invite the doctor who is county health officer or nurse to speak of their duties and relationships to state and national health agencies.

5. Report on the role of the American Red Cross in floods and mine disasters.

6. Discuss the function of the U. S. Department of Agriculture in the promotion of health through its various subdivisions.

7. Secure the annual report of the Kentucky Crippled Children's Commission and make a summary of its activity of the previous year.

8. Prepare a directory of the various health agencies in the community. (Do not omit the school as a health agency.)

9. Ascertain whether or not the community has a health council. How does the council assist in the development of a unified health program in the community?

10. List community health problems on the basis of existing health agencies, vital statistics, and the opinion of the community health authorities.

Basic Content

A. Local agencies and professions.

1. Professional organizations such as physicians, dentists, and nurses.
2. Hospitals and clinics.
3. Governmental agencies supported by public funds.
   - 3.1. Local health department and its personnel.
   - 3.2. County and home demonstration agents.
   - 3.3. Public schools (Independent and county).
     - 3.31. School physician and nurse.
     - 3.32. Health council.
     - 3.33. Health instruction.
     - 3.34. Health examination.
     - 3.35. Cumulative health records.
     - 3.36. Health publications in library.
4. Voluntary agencies that are supported by donations, subscription, membership fees, or assessment. These organizations promote health education and provide service.
   - 4.1. The American and Junior Red Cross.
   - 4.2. The Safety Council.
   - 4.3. The Parent-Teacher Association.
   - 4.4. Save the Children Federation.
   - 4.5. Voluntary agencies, such as 4-H Club, Boy and Girl Scouts, Campfire Girls, American Legion, Legion Auxiliary, Lions Club, Kiwanis Club, Rotary Club, Shriners, Mothers Club, Chamber of Commerce, and Junior Chamber of Commerce.
5. Contributions of local health professions and voluntary agencies.
   - 5.1. The physicians perform health examinations and inspections, make recommendations for correction of physical defects, provide treatment and operations.
   - 5.2. The dentist performs dental examinations and corrects and repairs dental conditions.
   - 5.3. The nurse provides service in the school and home. She may assist the physician in screening and immunization. She also carries on an educational program in the community by giving lectures, demonstrations and conducting individual conferences.

5.4. The hospital provides care for those who are seriously ill, laboratory technicians, facilities, equipment and personnel for nursing service and surgical treatment.

5.5. Local governmental agencies make some of the following contributions:

5.51. Local health departments provide tests and immunizations for communicable diseases, regulations on sanitation, enforcement of quarantine and isolation in relation to communicable diseases.

5.52. County and home demonstration agents provide instruction and information on canning, rotation of crops, improvement of livestock, and organize farm groups for agricultural and recreational projects.

5.53. The school contributes through the activity of the school or county nurse, school health council, cumulative health record, and the dental health program.

5.6. Some of the voluntary agencies and their contributions are as follows:

5.61. The National Tuberculosis Association through state and local chapters disseminates information on the prevention and control of tuberculosis.

5.62. The American Red Cross, through national and local chapters, assist in emergencies and enlists membership and funds for the national program. The Junior Red Cross, through the school, acquaints pupils with the work of the Red Cross and in the promotion of assistance for children and adults in hospitals.

5.63. The Safety Council promotes safety for pedestrians, automobiles, and bicyclists in the community.

5.64. Parent Teacher Association provides follow up in the correction of physical defects of school children, purchases of glasses and clothing, and promotes school lunchrooms, summer round-ups, and clinics.

5.65. Save the Children Federation through local organization provides clothing, vitamins, layettes, seeds for gardens, and sponsors school services.

5.66. Service clubs and other organizations provide clinics, glasses and dental aid, care of cripple children, clothing, and summer camps for the underprivileged.

B. State agencies that contribute to personal welfare.

1. Examples of state agencies are Kentucky State Departments of Health, Education, Welfare, Highways, and the Kentucky Fire Marshal.

2. Function of state health agencies.

2.1. The Kentucky State Department of Health sets up reglations on sanitation, records vital statistics on birth and death, supervises sanitation of hotels, restaurants, eating establishments, hospitals, and rest homes; controls communicable diseases; promotes child and maternal hygiene, and mental hygiene; conducts a dental health program, and promotes industrial hygiene.

2.2. The Kentucky State Department of Education sets up standards for school curricula, teacher certification, and programs in health, physical education, and safety.

2.3. The Kentucky State Department of Welfare provides services in old age assistance, aid to the needy blind, and aid to dependent children.

2.4. The Kentucky State Department of Highways promotes safety through the maintenance, patrolling, and marking highways and educating the public in traffic safety through the Department of Education.

2.5. The State Fire Marshal promotes safety by enforcing laws pertaining to fire prevention.

C. Federal and national agencies.

1. Example of federal health agencies are: U. S. Public Health Service, U. S. Bureau of Census, U. S. Office of Education, U. S. Department of Agriculture, and U. S. Post Office Department.

2. Functions of these agencies.

2.1. U. S. Public Health Service seeks to prevent the spread of disease from state to state and from foreign countries to the United States, fosters public education in common diseases, produces vaccines and drugs, provides money through state departments of health for

research and control of tuberculosis and venereal diseases, and cooperates with state and local health agencies.

2.2. The U. S. Bureau of Census collects information on births, deaths, occupations, illiteracy, and many other facts.

2.3. The U. S. Office of Education promotes health education and healthful school living in the schools.

2.4. The U. S. Department of Agriculture provides information on farm sanitation, handling and storing food, and production of food.

2.5. The U. S. Post Office Department checks the mail to intercept harmful substances (explosives or poisonous), patent medicines and fraudulent claims for foods.

3. Examples of national agencies are: American Public Health Association, American Red Cross, National Tuberculosis Association and National Safety Council.

4. Functions of these national agencies.

4.1. The American Public Health Association is an advisory body to local health officials.

4.2. The American Red Cross in peace-time provides aid in local and national disasters, conducts first aid, water safety, accident prevention, and nutrition and home nursing classes. During war, the American Red Cross functions under the War Department and provides blood plasma, aid to the sick and wounded, assistance to members of the armed forces overseas and at home, and surgical supplies.

4.3. The National Tuberculosis Association functions through state and county associations to prevent and control the spread of tuberculosis. This agency provides clinics, materials and visual aids for public education, and assists other agencies in the promotion of public welfare. The Kentucky Tuberculosis Association at Louisville represents the national association in Kentucky.

4.4. The National Safety Council promotes safety on a nation-wide basis and assists state and local safety councils in their program.

Evaluation

1. Make a survey of community health agencies and report on their services.

2. Organize a panel discussion on how the individual can contribute to make community health agencies really work.

3. Would it be worthwhile to have a community health council for all health agencies and interested citizens to plan measures to impress health in the community?

Teacher References

Books

Goldberger and Hallock. *Health and Physical Fitness.*
Health Education. National Education Association.
Health in Schools. American Association of School Administrators.

Pamphlets and Other Materials

Breathitt County Board of Education:
Breathitt Grows: Chapter IV, Resources and Agencies Relating to Health.
Kentucky State Department of Health. *Kentucky Public Health Manual.*

Pupil References

Books

Anders and others. *The Healthy Home and Community.* pp. 52-77.
Burkard and others. *Health and Human Welfare.* pp. 82-102.
———. *Health for Young Americans.* pp. 10-11.
Crisp. *Be Healthy.* pp. 365-383.
———. *Health for You.* pp.443-460.
Wilson and others. *Modern Ways to Health.* pp. 308-329.

Pamphlets and Other Materials

University of Kentucky Film Library:
3002—*I Pledge My Heart,* sound, 1 reel. U. S. Department of Agriculture. (4-H Club conclave at Washington, D. C.)
556—*A Report to the People,* sound, 1 reel. National Foundation for Infantile Paralysis.
689—*Nursing,* sound, 1 reel. Vocational Guidance.
3076—*Lease on Life,* sound, 2 reels. Kentucky Tuberculosis Association.
5123—*The Role of the Public Health Nurse,* sound, 1½ reels. Kentucky Tuberculosis Association.
6262—*The Army Nurse,* sound, 2 reels. U. S. Army.

Section IV

NUTRITION AND MENTAL HEALTH

UNIT ELEVEN

Nutrition

Suggested Time: Twenty Class Periods

Introduction

Although it is recognized today that instruction in proper food habits should begin in early childhood, the secondary school can do much to establish good food practices and develop proper attitudes toward nutrition. As outlined in *Health Education*:[25]

> Good food education demands special study in subject matter and methods on the part of the teacher. In the junior high school grades, if not earlier, the help of a nutrition specialist may be indispensable in effective teaching.
>
> If intelligent, controlled food selection on the part of every person is to be realized, boys and girls who are developing their own personalities and ways of life should understand some of the fundamental principles which must guide food selection. They should be able to select a wholesome well-assorted diet under a great variety of circumstances and should appreciate the value of hygiene practices, such as those concerned with sleep, rest, fresh air, and habits of cheerfulness in helping the body utilize good food when eaten.

Objectives

1. To develop an understanding of the value of food for growth and development.
2. To know the food essentials, their sources and functions.
3. To appreciate health problems related to the lack of essential foods in the diet.
4. To recognize some of the problems associated with the preparation and production of food.

Suggested Activities

Discuss the prevalent lack of food in European and Asiatic countries. Clippings from newspapers, magazines and circulars on this topic may be presented to the class as an exhibit or excerpts read. As the discussion progresses note specific references to causes such as economic status, lack of education, soil depletion, and others. Especially retain nutritional interests of a local nature and apply

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[25] *Health Education. Op. cit.*, pp. 118-119.

other needs and interests to a common category such as selecting foods, consequences of an insufficient diet, and others.

1. Plan and organize a display on the seven basic food groups.

2. Check the school lunchroom menu, or plan a menu from the offerings of the school cafeteria based on the seven basic food groups.

3. Study advertisements of food products in relation to food content and nutrition.

4. Illustrate the law of conservation of matter and the law of conservation of energy and show how they apply to the human body.

5. Use wall charts of the digestive system and trace the process of digestion.

6. Prepare a list of foods that will reduce or increase caloric intake.

7. Prepare a list of allergies and foods that cause them.

8. Discuss features of the lunch program that are not conducive to good health and take positive steps through the student council to correct them.

9. Expose a piece of bread to the air and room temperature in a container. When mold appears, gently remove the mold, place on a slide under a microscope and draw what is seen.

10. Conduct a survey of the neighboring area and record the number of gardens and types of vegetables grown. Evaluate.

11. List various ways of preparing foods and the effects on vitamins and food content.

12. Conduct an inventory of home-canned foods and look for leaking cans and jars, and mold. Set these aside and empty contents.

Basic Content

A. The reasons why the body needs food.
   1. For growth and repair of cells and tissues.
   2. The production of energy and heat.
   3. The regulation and protection of body processes.
      3.1. The elimination of water, salts, vitamins, and bulky foods.
      3.2. Protection against diseases and vitamin deficiencies.

B. The essential foods.
   1. Carbohydrates.
      1.1. Starchy foods such as bread, cereals, macaroni, spaghetti, rice, and potatoes.

1.2. Common sugars such as cane and beet (table sugar), maple sugar, sorghum and cane molasses.

1.3. Carbohydrates provide quick energy and heat for the body.

2. Fats.

2.1. Animal fats include butter, lard, and fish oils.

2.2. Vegetable fats include coconut, peanut, corn, cotton-seed, olive, palm, and nut oils.

2.3. Fats provide reserve energy and heat for the body.

3. Proteins.

3.1. Animal tissues such as meat, fish, and poultry provide protein for the body.

3.2. Special storage by nature such as in milk and eggs.

3.3. Seeds of plants such as in beans, nuts, legumes, cereals and grains.

3.4. Proteins provide body growth, cell repair, and energy.

4. Vitamins.

4.1. Vitamin A. Present in dark green leaves and yellow vegetables and meat. Essential to normal development and maintenance of skin, mucous membranes and eyes.

4.2. Vitamin B. (1) Thiamin; present in cereal products, meat, fish, poultry, eggs, and dairy products. Essential to the proper functioning of nervous system and the use of carbohydrates. (2) Riboflavin; present in eggs, milk, enriched cereal products, vegetables, fruits, nuts, and liver. Essential to growth. (3) Niacin; present in enriched cereal products, meat, fish, vegetables, eggs, milk, fruits, and nuts. Essential in the prevention of pellegra.

4.3. Vitamin C. (ascorbic acid). Present in citrus fruits green leaf vegetables, potatoes, white turnips and fruits. Essential for normal development and maintenance of intercellular substances.

4.4. Vitamin D. Present in milk, fish, liver oils, eggs, liver, cheese, and ultra violet rays in sunlight. Essential to normal development of bones and teeth.

4.5. Vitamin E. Present in wheat germ oil and green, leafy vegetables. Essential to prevent weakness in muscles, injuries to the nervous system, and sterility.

4.6. Vitamin K. Present in green leafy vegetables (alfalfa), eggs, and soy beans. Essential to the coagulation of blood.

5. Minerals.

5.1. Common minerals necessary to the proper functioning of the body include (1) calcium present in milk, cheese, and cabbage, (2) iron present in dried apricots, liver, oysters, turnip greens, and lean meat, (3) phosphorous present in barley, beans, liver, milk products, and soy beans, and (4) iodine present in seafoods and iodized salt.

5.2. The function of common minerals is as follows:
Calcium—Responsible for rigidity of bone and teeth and involved in muscular contraction.
Iron—Essential to hemoglobin.
Phosphorous—Involved with calcium in muscle contraction.
Iodine—Necessary for normal function of thyroid gland which has an important role in body regulations.

6. Water.

6.1. Sources of water include drinking water and that contained in foods themselves.

6.2. Functions of water are: acts as a solvent, maintains equilibrium of tissue fluids, aids cell functions, acts as a cleanser, serves as a basis for all fluids in the body, and regulates the body temperature.

C. An understanding of the seven basic food groups:

1. Group 1—Raw, cooked, frozen or canned green and yellow vegetables. Two servings per day.
2. Group 2—Oranges. tomatoes, grapefruit, raw cabbage, or salad greens. One serving per day.
3. Group 3—Raw, dried, cooked, frozen or canned fruits. Potatoes and other vegetables. Two servings per day.
4. Group 4—Milk and milk products such as evaporated and dried milk and cheese. Children 1½ pints to 1 quart per day; 1 quart a day for expectant and nursing mothers; 1 pint a day for other individuals.
5. Group5—Meat, poultry, fish, eggs, or dried beans, peas, nuts, or peanut butter. One serving of meat, poultry, or fish a day;

occasionally peas and beans may be served instead; 3 or 4 eggs per week for each individual.

6. Group 6—Bread, flour, and cereals; whole grain, enriched, or restored. Three servings per day.
7. Group 7—Butter and margarine fortified with vitamin A. To be used as a spread and for seasoning as desired and supply permits.

D. Digestion.

1. The alimentary canal.
   - 1.1. Mouth. Tongue, teeth, and salivary glands.
   - 1.2. Esophagus. Peristalsis moves food to stomach.
   - 1.3. Stomach. Contraction and relaxation of muscle walls, gastric juice and its action or proteins and milk, and bacterial destruction by gastric juices.
   - 1.4. Small intestines. Action of bile on fats, pancreatic juice on carbohydrates, fats, and proteins, and intestinal juices on proteins and sugar.
2. Absorption and assimilation in the small intestines.
3. Large intestines.
   - 3.1. Indigestible parts of food from small intestines.
   - 3.2. Absorption of water from waste material.
   - 3.3. Prepares residue for elimination (defecation).
   - 3.4. Appendix located at junction of small and large intestines. An appendage with no function but provides a place for food to lodge. Decay of food by bacterial action causes inflammation (appendicitis).
   - 3.5. The rectum serves as a storage place for residue until elimination.

E. Digestive disturbances.[26]

1. Allergies.
2. Appendicitis.
3. Belching.
4. Constipation.
5. Diarrhea.
6. Halitosis.
7. Heartburn.
8. Indigestion.
9. Nausea.

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[26]Minnesota State Department of Education. *Individual and Community Health, Efficiency for Living.* p. 93.

10. Ulcer.
11. Vomiting.

F. Dietary deficiency diseases.
   1. Xerophthalmia. Night blindness and dry skin. Caused by lack of vitamin A.
   2. Pellagra. A deficiency disease affecting skin, alimentary tract and nervous system. Lack of nicotinic acid.
   3. Beriberi. General rundown condition. Lack of vitamin B, or thiamin in diet.
   4. Scurvy. General weakness, spongy gums and hemorrhage of mucous membrane. Lack of vitamin C (ascorbic acid).
   5. Rickets. Causes deformities of bones. Lack of vitamin D which enables the body to use calcium and phosphorous in building bones.
   6. Anemia. Reduces the capacity of the blood to carry oxygen. Iron salts assist the body in the formation of hemoglobin which combines with oxygen.
   7. Goiter. Lack of iodine causes an enlargement of the thyroid gland. Insufficiency is corrected generally with iodized salts.

G. Problems associated with food.
   1. Loss of food value in preparation.
      1.1. Temperature. High temperatures destroy vitamin A, thiamin and vitamin C.
      1.2. Soaking. Nutritive materials are dissolved in water. Sugars, minerals, vitamin C, thiamin, riboflavin and niacin go into solution which foods are soaked.
      1.3. Peeling, slicing, chopping, and crushing.
      1.4. Cooking. The greatest loss is in cooking and discarding fluids.
      1.5. Salting. Salt can affect food value and taste of food.
      1.6. Use of soda. Soda causes the destruction of vitamin C, thiamin, riboflavin, and niacin. This ingredient should never be added to vegetables before cooking and excessive use avoided in baking.
   2. Rules for retaining nutritive value of foods.
      2.1. Foods should be purchased only in amounts that can be kept fresh in the refrigerator.
      2.2. Avoid peeling fruits and vegetables.
      2.3. Prepare foods like salads just before serving.
      2.4. Wash foods quickly and do not soak.

2.5. Heat canned foods in liquid in which they were canned and use liquid.

2.6. Do not stir foods while cooking (oxygen combines with vitamins and destroys them).

2.7. Avoid the use of baking soda in cooking vegetables.

2.8. Place vegetables in water already boiling and raise temperature to boiling as quickly as possible.

2.9. Do not overcook foods.

2.10. Do not throw away liquids but use as gravies, sauces, and soups.

3. Fertility of land and food values.

3.1. Good soil produces plants with higher food value necessary for healthful conditions to man and animals.

3.2. Poor soil can cause plants to be low in minerals, vitamins, proteins, carbohydrates, fats, and water. These food values are as necessary to the animals we eat as well as they are to man.

3.3. Prevention of soil erosion and leaching by putting land to use for which it is best suited. Level land to row crops, rolling land to hay, steep land to pastures, and rough mountain land to woodland for timber, wildlife, and recreation.

3.4. Conservation practices. Contouring row crops, rotation of crops, winter cover crops, commercial fertilizers and wastes about farm (manure and tobacco stalks) for high quality and nutritious crops, legumes, and grass, and protection of woodlands from fire and grazing livestock.

3.5. The soil is one of Kentucky's greatest assets and it is the Lord's land. It must be conserved and handed on to our children better than we found it.

Evaluation

1. Draw up a menu for one week as a guide for home use in terms of the seven basic foods.

2. Find out from someone experienced in gardening in the community what vegetables can be raised successfully. Plan a garden to supply the family. Take into consideration your location (in respect to early frosts), fertility of soil, enrichment of the soil, and vitamin content of vegetables selected to plant.

3. Discuss why an individual should not engage in strenuous activity shortly after eating a meal.

4. Secure posters on nutrition and arrange an exhibit.

5. Visit the county soil conservation agent and ask to see and have him explain a soil conservation program typical of the neighborhood.

Teacher References

Books

Health Education. National Education Association.

Health in Schools. American Association of School Administrators.

Pamphlets and Other Materials

American Can Company:

Canned Food Facts. Free.

American Institute of Baking:

The Wheel of Good Eating. A poster, 20¼"x27". Free.

Our Daily Food. Free.

American Medical Association:

Publications and Posters. Free.

Armour and Company:

Publications and posters. Free

Breathitt County Board of Education:

Breathitt Grows. (Limited)

California Fruit Growers Association:

Materials on meal planning, setting table, serving meals, vitamins, and baking.

Central Dairy Council:

Catalog of inexpensive publication on request.

Evaporated Milk Association:

List of literature on request.

General Mills, Inc.:

The Teacher's Guidebook. Free.

A Nutrition Guide. Free.

Nutrition Education. Free.

Program of Assistance in Nutrition and Health Education. A community diet survey on request.

John Hancock Mutual Life Insurance Company:

What To Eat and Why. Free.

Kentucky State Department of Education:

Division of Vocational Education. Request bulletin on school lunch program and nutrition.

Kraft Cheese Company:

Publications. Free.

Lily-Tulip Cup Corporation:

Nutrition for You!

Metropolitan Life Insurance Company:
List of health publications. Free.

National Education Association, The Association for Supervision and Curriculum Development. *Building America—Food.*

National Livestock and Meat Board:
Suggestions for Teachers. Free.
Publications and Charts. Free.

National Research Council:
Food charts. Free.
Bread and Flour Enrichment, 1946-47. Free.
Medical Survey of Nutrition in Newfoundland. Reprint.

Swift and Company:
Publications. Free.

The Borden Company:
Plan Before You Eat. Free.

The Sears-Roebuck Foundation:
The Lord's Land. Free

University of Kentucky, College of Agriculture and Home Economics:
Request list of bulletins.

U. S. Department of Agriculture, Bureau of Human Nutrition and Home Economics. Monthly list of publications, charts, and motion pictures. Excellent teaching materials.

U. S. Department of Agriculture, Soil Conservation Service:
Anchoring Farmlands in the Ohio Valley Region. (See county soil conservation district for literature on soil conservation published by the government or commercial agencies.)

U. S. Children's Bureau, Federal Security Agency:
Write for a list of publications.

U. S. Office of Education, Federal Security Agency:
Write for a list of publications.

Wheat Flour Institute:
Blackboard Lessons on Food. Free.

Pupil References

Books

Anders and others. *The Healthy Home and Community,* pp. 106-125; 152-181.

Burkard and others. *Health and Human Welfare.* pp. 191-253; 363-379.

Burkard and others. *Health for Young Americans.* pp. 83-139.

Charters and others. *A Sound Body.* pp. 1-33.

————. *Growing Up Healthily.* pp. 52-130; 151-172.

Crisp. *Be Healthy.* pp. 157-190.

————. *Health for You.* pp. 150-207; 232-245.

Fishbein and others. *Health and First Aid.* pp. 100-113.

Williams. *Healthful Living.* pp. 180-277.

Wilson and others. *Modern Ways to Health.* pp.179-189; 330-338.

Pamphlets and Other Materials

University of Kentucky Film Library:

393—*Conservation of Natural Resources,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.

501—*Food and Growth,* silent, 1 reel. Eastman.

507—*Digestion,* silent, 1 reel. Eastman.

524—*The Training Table,* sound and color, 2 reels. Royal Canadian Air Forces.

566—*For Health and Happiness,* sound and color, 1 reel. U. S. Department of Agriculture.

582—*Digestion of Foods,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.

667—*Grassland,* sound, 1 reel. U. S. Department of Agriculture.

670—*Sugar Cane,* sound, 2 reels. U. S. Department of Agriculture.

676—*Principles of Cooking,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.

5002—*Roots and Plants,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.

5025—*The Man Who Missed His Breakfast,* sound, 1 reel. U. S. Department of Agriculture.

5039—*Kids Must Eat,* sound, 1 reel. U. S. Department of Agriculture.

5051—*The Alimentary Tract,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.

5052—*Foods and Nutrition,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.

5072—*Something You Didn't Eat,* sound and color, 1 reel. U. S. Department of Agriculture. Disney animated.

5116—*Vitamin B,* silent, 1 reel. Eastman.

5117—*Vitamin D,* silent, 1 reel. Eastman.

5127—*Fundamentals of Diet,* sound, 1 reel. Encyclopaedia Britanica Films, Inc.

*5130—*Vitamin A,* sound, ¼ reel. National Film Board of Canada.

*5131—*Vitamin B, sound,* ¼ reel. National Film Board of Canada.

*5132—*Vitamin C,* sound, ¼ reel. National Film Board of Canada.

*5133—*Vitamin D,* sound, ¼ reel. National Film Board of Canada.

5158—*Proof of the Pudding,* sound, 1 reel. Metropolitan Life Insurance Company. (Essentials of diet and deficiencies.)

613—*Save the Soil,* sound, 1 reel. U. S. Department of Agriculture.

630—*Community Canning,* sound, 2 reels. U. S. Office of Education.

635—*Blessing of Grass,* sound, 2 reels. U. S. Department of Agriculture.

6019—*Hidden Hunger,* sound, 3 reels. Federal Security Agency.

6060—*Wartime Nutrition,* sound, 1 reel. Office of War Information.

*Four films on vitamins may be obtained as a combined film.

6134—*The Way to a Man's Heart,* sound, 3 reels. National Livestock and Meat Board. (Food preparation.)

6173—*You Can, Too,* sound, 3 reels. Ball Brothers. (Story of three high school girls and their home-canning problems.)

6198—*Grow Your Own,* sound, 1½ reels. U. S. Department of Agriculture.

UNIT TWELVE

Mental Health

Suggested Time: Ten Class Periods

Introduction

The prevalence and cost of mental disease are facts which are recognized by anyone who is interested in community welfare. For an example, the Committee for Kentucky report on health in 1945 stated that six of our citizens are admitted daily to one of the four institutions for the mentally ill. This report stated further that,

> Mental hygiene assistance is not available to most Kentuckians, although it is estimated that one out of every ten persons at some time during his life has a mental illness to a degree that some mental hygiene assistance should be obtained. Facilities for guidance of either children or adults are very limited. Teachers receive little mental hygiene training.[27]

Dr. Charles Myers in his discussion of mental health in the school and the teacher's role in prevention made the following startling observation,

> In the average class of about forty children, there are at least ten children whose mental health is so poor as to interfere seriously with their chance of success not only in school work but in life work. Of these ten children, there are probably two who will at some time later in life become so mentally ill that they will have to enter a mental hospital. It is a somewhat uncomfortable fact that there are about as many children in the average class in school who will later enter a mental hospital as there are children who will enter a university. It is clear that we can no more escape our responsibility to the former than to the latter.[28]

It has been common practice to confuse children who are dull or mentally inferior with those who are in poor mental health. Children in poor mental health *are normal children.* They are not dull-witted, mentally defective, or mentally inferior. On the contrary, those pupils who may later enter mental hospitals are usually superior in ability

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[27] *Op. cit.,* p. 9.

[28] Myers, Charles R. *Toward Mental Health in School,* p. 13.

and among the better scholars. It is the teacher's task to prevent these normal children from beginning abnormal through the early recognition of the symptoms of poor mental health.

It is not only sufficient that the teacher recognizes early symptoms of poor mental health in pupils, but it is also of paramount importance that the teacher, herself, maintain good mental health. As stated by W. Carson Ryan,

> There is general agreement on the part of scientific workers in mental hygiene that teachers can be of most service, not by trying to be specialists in this field in any highly technical sense, but by having some insight into a few fundamental principles and endeavoring to apply these in their own everyday lives and in their living and working with children.[29]

In the past twenty years there has been a rapidly increasing recognition of the problems of mental and emotional health which has gradually found its way into the school health program. Teachers have become more interested in the personality adjustments of pupils and schools are organizing guidance personnel with health counsellors, visiting teachers, and less frequently guidance clinics.

Many interests influence the emotional state of the growing boy and girl that are of immediate importance to them. Such factors as being accepted and belonging to their immediate group, achievement of economic independence, emancipation from the family (being on their own), interest in and association with the opposite sex, development of new recreational interests and activities and many others loom high as pertinent items in every boy's and girl's daily living.

Objectives

1. To develop a healthy attitude toward the subject of mental disease.

2. To appreciate that mental health of the individual is dependent upon the harmonious blending of the intellectual, physical, social, emotional, and spiritual traits into an integrated whole.

3. To realize that courtesies extended to and considerate actions towards others in daily living are evidences of mental and social maturity.

4. To appreciate that addition to narcotics and stimulants are symptoms of poor mental health.

5. To develop a wholesome attitude toward the opposite sex.

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[29]Ryan, W. Carson. *Mental Health Through Education.* pp. 29-30.

Suggested Activities

Discuss a balanced personality as objective evidence of good mental health. Retain factors brought out in the discussion which may be used as activities.

1. List symptoms of poor mental health and give suggestions how these may be avoided.

2. Study the life of a prominent individual who has overcome physical defects to become a recognized success in life.

3. Invite a member of the community who has a hobby to speak to the class. Have class members tell about their hobbies, or have them plan exhibit of their hobbies.

4. Make an inventory of recreational opportunities in the school and community. Suggest improvements for both school and community from a recreational standpoint.

5. Discuss courtesies in specific situations that will prevent awkwardness and embarrassment such as the right and wrong conduct at the table, on the street, and making and acknowledging introductions.

6. Plan a simple tea, with or without the assistance of the home economics teacher, and invite parents and teachers.

Basic Content

A. False notions about mental disease.

1. The general assumption that "insanity" is a mysterious calamity that suddenly attacks an individual.

1.1. The unfortunate victim is supposed to become uncontrollable, destructive, and dangerous.

1.2. Public misconceptions are stimulated by sensational newspaper accounts, bad fiction, and cheap movie thrillers.

1.3. General ignorance of public as to what mental disease really is.

2. The terms "insanity" and "asylum."

2.1. "Insanity" is a legal term used in court of law and should be restricted in its use to that legislative branch.

2.2. Since the legal definition of "insanity" is not comprehended by the public, the term "mental illness" should be used by the public in speaking of those who have become mentally ill.

2.3. Dr. Charles R. Myers states that the term "insane asylum" should be stricken from the vocabulary and the term "mental hospital" substituted.

2.4. The term "mental hospital" is based on the idea that mental disorders are real illneses in the medical sense of the term.

3. Mental illnesses are all alike.

3.1. Patients in mental hospitals are suffering from as wide a variety of illnesses as those in a general hospital.

3.2. Since patients in mental hospitals are suffering from a wide variety of illnesses, it follows that all persons with mental disorders are not in hospitals anymore than all persons suffering from general physical illnesses are in general hospitals.

4. Mental disease is due solely to one cause.

4.1. Poor hereditary background, excessive use of alcohol, masturbation, bad sex practices, worry, syphilis, and overwork are not causes of mental illness in themselves.

4.2. These conditions sometimes precede mental illness and are symptoms.

5. Mental disease is incurable.

5.1. Patients from mental hospitals are discharged after treatment when they have recovered or improved sufficiently just as in the case of patients from general hospitals.

5.2. Mental patients, as in the general hospitals, are subject to recurrence of illness and consequently must return for treatment.

6. Mental illness is sudden.

6.1. Mental hygienists now know that mental illness has a long history of slow and gradual development.

6.2. The warning signs have been present but have gone unheeded.

7. Mental disease is inevitable.

7.1. Smallpox, typhoid fever, and other diseases were once thought of as inevitable.

7.2. Enough is known now of the causes of mental disease to make them definitely preventable.

8. The mentally ill are mentally defective.
   8.1. Hospitals for mentally ill are also assigned the task of caring for the mentally defective.
   8.2. The mentally ill are generally of average intelligence and have an average education.
   8.3. The mentally defective are those who are suffering from some degree of intellectual inferiority and whose subnormality of intelligence existed at birth and remains unchanged throughout life.
   8.4. Like mental illness, the mentally defective can no longer be blamed on one cause (feebleminded parents) but rather on many causes.[30]

B. Mental disease (organic type).
   1. Injuries to the brain.
      1.1. Falls, bruises, fractures, and other accident which cause injury to the brain or nervous system.
      1.2. Prevention involves observation of safety practices in daily living.
   2. Diseases of the brain.
      2.1. Specific organisms and agents attack the brain and nervous system.
      2.2. Reasonable attention to general personal hygiene with the assistance of medical supervision is sufficient as a prevention.
   3. Advanced age (senility).
      3.1. With advanced age the brain as other parts of the body functions less efficiently.
      3.2. In certain cases mental confusion, childish outbursts, and forgetfulness makes it desirable that the aged be cared for in a hospital.
   4. Substances such as alcohol and drugs produce marked changes in mental functioning.
      4.1. Alcohol is a narcotic drug classed by itself because of its use and sale.
         4.11. Alcohol inhibits the higher centers of the central nervous system and releases primitive response.

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[30]Myers, Charles R. *Toward Mental Health in School.* pp. 30-35.

4.12. Alcohol substitutes for the more nutritional foods and creates deficiencies in diet.

4.13. Habitual use of alcohol leads to personality deterioration, mental aberrations and increases susceptibility to disease through loss of physical vigor.

4.2. A narcotic is a drug which in moderate doses relieves pain and produces profound sleep, but which, in large doses, produces stupor, coma, and convulsions.

4.21. Narcotics are habit forming.

4.22. Some common narcotics are morphine, codeine, heroin, cocaine, and marijuana.

4.23. Attempts to satisfy the drug desire may lead to crime and, if supply is interrupted, may drive the addict to self-destruction.

4.3. Hypnotic drugs such as barbiturates (nembutal and seconal) are habit forming.

4.31. These drugs dull senses and eventually lead to mental deterioration.

4.32. At present, there is federal and state control of the sale of barbiturates.

5. Epilepsy (convulsive seizures).

5.1. Epilepsy, in some cases, is accompanied by mental disturbances.

5.2. Epilepsy can now be controlled if medical treatment is started promptly.

C. Mental diseases (functional type).

1. Functional mental illnesses have, at present, no known physical or organic basis.

1.1. Functional mental illnesses are found in adults who have developed unhealthy habits of adjusting to difficulty.

1.2. Although unhealthy habits of adjustment are employed by everyone, the mentally ill use them in a form so extreme that the normal conduct of life is impossible.

2. Avoiding reality.

2.1. Instead of facing disagreeable facts these individuals withdraw from social contacts, or to an imaginary world of their own creation.

2.2. Seclusiveness, inattention, day-dreaming, lack of application, and shyness are a few symptoms of this functional mental illness.

2.3. Participation to a larger extent in social group activities, connecting day-dreams with useful activity, and participation in activities in which the individual is a *part* rather than up in *front* of the group aid in the prevention of unhealthy mental habits.

3 Lack of emotional balance.

3.1. Individuals indicate absence of emotional balance when they engage in violent emotional outbursts or become extremely depressed for long periods of time when desires are blocked.

3.2. Early training in childhood of control of emotion and achieving emotional maturity are basic to sound mental health.

4. Alibing for failure.

4.1. These individuals twist their thinking to escape the personal responsibility for their failure.

4.2. Mistakes are blamed for their failure which they claim are not their fault.

4.3. Some individuals feel that others are persecuting them and blame their failures on these people.

5. Escape through subterfuge.

5.1. Some individuals avoid disagreeable situations by feigning illness.

5.2. Some idividuals are "to tired" to do those things they do not want to do.

5.3. Some individuals become "microbe hunters" or develop symptoms of diseases which, while generally nonexistent, are very real to them.

D. Prevention of functional mental illness.

1. Development of recreational interests and hobbies.
2. Participation in social group activities where the individual is a *part* rather than in *front* of the group.
3. Connect day-dreaming with useful activities rather than activities in a world of fantasy.
4. Encourage those with physical disabilities to overcome them, or adjust themselves to them.

5. Learn to distinguish between beliefs that arise from personal preference and those that arise from rational thinking.
6. Maintain an attitude favorable to acceptance of any conclusion regardless of how disagreeable it may be.
7. Realize that though a decision is made does not imply that it must always be favored.
8. Be ready to criticize own ideas and beliefs as readily as those of others.

E. Components of personality.

1. Intellectual development.
   - 1.1. Heredity as a determinant of intellect.
   - 1.2. The individual should capitalize on the mental capacity he has been given and not spend his life wishfully hoping, "Things are not what they seem."
   - 1.3. An evidence of intelligence is reflective thinking.
   - 1.4. Reflective thinking is demanded constantly in responses and adjustments to life's problem.
   - 1.5. The antithesis of reflective thinking is rationalization, sublimation, projection, and day-dreaming.
2. Physical growth and development.
   - 2.1. Growth is an increase of mass and development is the functional integration of this mass into a unity.
   - 2.2 Every individual requires play and exercise for proper growth and development.
   - 2.3. Physical defects that arise from hereditary and environmental factors must be looked upon with a sensible and wholesome attitude.
   - 2.4. A healthy body increases the chances of personal and social satisfaction in life.
3. Social development.
   - 3.1. Social development is dependent upon a sincere interest in others.
   - 3.2. Getting along with others is a sign of "growing up" socially.
   - 3.3. Consideration of others and respect of the other individual's limitations are desirable social traits.
   - 3.4. Social development depends upon a satisfactory rapport with those in authority, those of the opposite sex, older and younger people, and members of the family.
   - 3.5. The importance of the family as a social unit.

3.6. The recognition that the interaction of play, under proper supervision, is the best laboratory in which to teach desirable social behavior.

3.7. The realization that good manners are an outward expression of kindness and consideration for others.

3.71. The significance of good manners.

3.72. Desirable table manners.

3.73. Introductions and meeting people.

3.74. Participation in a conversation.

3.75. Courtesies to older individuals.

3.76. Courtesies in public places and on the street.

3.77. Courtesies to those visiting the home.

3.78. Courtesies to visiting team and coach.

4. Emotional development.

4.1. A fine balance must be maintained between intellectual and emotional controls in meeting personal problems.

4.2. Emotional conflicts arise when the individual is unable to adjust himself intelligently to the problem at hand.

4.3. Emotional control implies an adjustment through the stimulation of desirable emotions or the inhibition of undesirable ones.

4.4. Indications of emotional maladjustment are:[31]

4.41. Worry.

4.42. Fear.

4.43. Lack of self-control.

4.44. Lack of self-confidence.

4.45. Feelings of inferiority.

4.46. Feelings of superiority.

4.47. Feelings of guilt.

4.48. Use of compensation mechanic.

4.49. "Sour-grapes" attitude.

4.410. Feelings of persecution.

4.411. Rationalization.

4.412. Homesickness.

4.413. "Passing the buck."

4.414. Fantasy and day-dreaming.

4.415. Compulsions.

4.416. Phobias.

[31]Hoyman, Howard S. *Health Guide Units for Oregon Teachers,* pp. 339-40.

5. Spiritual development.
   5.1. The inability of the individual to arrive at a belief satisfactory to his intellectual attainment creates emotional conflicts.
   5.2. Opportunities should be provided the individual that will help to stabilze his thinking such as church attendance, experience with nature, talks with respected associates, and worth-while reading.
   5.3. The development of a philosophy of life compatible to harmonious living.
   5.4. The development of an attitude of religious tolerance.

F. Adolescence.
   1. The meaning of adolescence (growing into adulthood).
   2. Physical changes.
      2.1. Boys (13-18).
         2.11. Sex glands become active.
         2.12. Increased rate of growth.
         2.13. Hair appears on legs, arms, face, and pubic region.
         2.14. Muscular development.
         2.15. Change of voice.
         2.16. Nocturnal emissions.
         2.17. Physical attraction for girls.
      2.2. Girls (12-17).
         2.21. Sex glands become active.
         2.22. Increased rate of growth.
         2.23. Hair appears as on boys with the exception of the beard.
         2.24. Breasts enlarge, thighs fill out, and pelvic region broadens.
         2.25. Onset of menstruation.
         2.26. Physical attraction for boys.
   3. Changes in mental attitudes and interests.
      3.1. Changes of attitude toward parental and family relationships.
      3.2. Assumption of responsibility for self-control and family group.
      3.3. Accepting adverse decisions of parents in good spirit.
      3.4. Desire to want to be somebody.

3.5. Development of recreational interests, sports and hobbies.

3.6. Developing ability to make decisions and assuming the responsibility for these decisions.

3.7. Increased interest in social affairs and the opposite sex.

3.8. Appreciation of recreational activities and work as releases for emotions.

4. A gradual development of a wholesome attitude and standards of conduct with respect to opposite sex.

4.1. Interest in the same sex and members of the family (Homosexual).

4.2. Interest in the opposite sex (Hetrosexual).

4.21. Enjoyment of social activities together.

4.22. "Puppy" love, infatuation, and crushes on teachers and friends.

4.23. Romance and creation of ideals required of life partner.

4.3. Marriage and the home as a social agency and a means of perpetuating the race.

4.4. The harmful effects of premarital relationships on personality.

4.5. The importance of establishing a wholesome standard of conduct toward opposite sex.

Evaluation

1. Make a comparative study between mental and general illness.

2. Write a short biography of a famous individual like Abraham Lincoln, Theodore Roosevelt, Franklin Delano Roosevelt, or Robert Louis Stevenson who surmounted handicaps to reach a position of respect.

3. Compile a set of rules for common courtesies.

4. Appoint a committee representative of the school and community and establish a *Code of Sportmanship,* or conduct a school campaign aimed at the improvement of courtesies shown to visiting team, coach, and officials.

5. Conduct a survey of recreational opportunities in the community for youth and adults.

6. Conduct a survey of the school curriculum and note the opportunity for vocational training. Is the vocational training in keeping with the number of students who go on to college, the number who return to the farm, and the number who never graduate from high school, yet who must somehow make a living?

7. Discuss the value of narcotics to medicine and surgery.

Teacher References

Books

American Association of School Administrators. *Health in Schools.*
National Education Association. *Health Education.*
Ryan. *Mental Health Through Education.*
Myers. *Toward Mental Health in School.*

Pamphlets and Other Materials

American Association for Health, Physical Education and Recreation:
Bibliography on health, physical education, and recreation.

Kentucky Tuberculosis Association:
Building A Better World. Free.

National Committee for Mental Hygiene:
Development of the Wholesome Personality. Five cents.
Write for list of publications.

National Recreation Association:
Request list of publications.

McKnight and McKnight:
As Others Like You. 25 cents.
How Do You Do. 25 cents.
Test on Manners for Juniors. 10 cents.

U. S. Children's Bureau, Federal Security Agency:
Guiding the Adolescent. Publication No. 225.

U. S. Public Health Service:
High Schools and Sex Education. (Publication No. 7.)

Pupil References

Books

Library References:

American Social Hygiene Association:
626—*From Boy to Man.* Free.
604—*Health for Girls.* Free.
644—*Dating Do's and Don'ts for Girls.* 5 cents.
349—*Social Life for High School Boys and Girls* (Popenoe). Free.

Corner. *Attaining Manhood.*
————. *Attaining Womanhood.*

American Medical Association:
How Life Goes On and On. 25 cents. (For high school girls).

International Cellucotton Products Company:
As One Girl to Another. Free.

Metropolitan Life Insurance Company:
How Old Are You? Free

Social Hygiene Association of Kentucky:
Healthy Happy Womanhood. Free. Write for list of publications.

Textbook References:

Anders and others. *The Healthy Home and Community.* pp. 290-322.

Burkard and others. *Health and Human Welfare.* pp. 103-190; 458-513.

Burkard and others. *Health for Young Americans.* pp. 243-274; 291-308.

Charters and others. *A Sound Body.* pp. 256-278.

Crisp. *Be Healthy.* pp. 419-482.

————. *Health for You.* pp. 331-347; 361-380.

Fishbein and others. *Health and First Aid.* pp. 114-128.

Williams. *Healthful Living.* pp. 508-523; 542-551.

Wilson and others. *Modern Ways to Health.* pp. 115-135; 214-236; 286-307.

Pamphlets and Other Materials

University of Kentucky Film Library:

3047—*Re-Creation,* sound, 3 reels. U. S. Department of Agriculture. (A family escapes from overwrought nerves and visits national parks.)

3102—*Junior Prom,* sound, 2 reels. Simmel-Meservey. (Proper etiquette in getting date for dance, appropriate dress, introductions, dance itself, and supper after dance.)

5053—*Heredity,* sound, 1 reel. Encyclopaedia Brittanica Films, Inc.

5077—*It's the Brain that Counts,* sound, 2 reels. Women's Christian Temperance Union. (Effect of alcohol on the brain.)

662—*I Want a Job,* sound, 2 reels. Forum Film.

683—*Finding Your Life Work,* sound, 2 reels. Vocational Guidance.

6195—*A Child Went Forth,* sound, 2 reels. Brandon. (A well-rounded camp program—a child's experience.)

6256—*It's Your America,* sound, 3½ reels. U. S. Army.

Section V

SAFETY AND FIRST AID

Safety

First Aid

UNIT THIRTEEN

Safety

Suggested Time: Fifteen Class Periods

Introduction

It is generally recognized that the high school has been a much neglected field for safety education. As stated in *Health Education,*

> Altho elementary schools have been carrying on safety instruction for many years, it is only recently that high schools have been turning their attention to this important subject. It is a significant fact that the accident frequency for several kinds of accidents—drowning, athletic, firearms and traffic—reaches a higher point at the high-school age level than in any other period in the life span.[32]

A knowledge of the causes and preventive measures of common accidents can reduce the mounting toll of daily accidents in the home, on the farm, and in public places. Safety, then, is concerned with the conservation of human life.

Objectives

1. To recognize that accidental deaths and injuries are avoidable.
2. To create a desire to practice safety in daily living.
3. To appreciate the seriousness of the safety problem in modern life.
4. To recognize the causes and prevention of fire.
5. To appreciate the dangers of firearms and other weapons and to develop safe habits in their use.
6. To develop habits of safety in the use of electrical and mechanical devices.
7. To recognize that foresight will prevent many accidents due to poisoning and drowning.

Suggested Activities

Look up and study the causes of accidental deaths reported in the Vital Statistics Report Kentucky State Department of Health, for a three year period and note the more common causes of accidental death such as motor vehicle, industrial and agricultural, conflagration and accidental burns, drowning, and falls or crushing. Discuss the implications of the slight variation in percentages year

[32] *Health Education, op. cit.,* p. 148.

after year. Does this indicate that the average citizen is safety-minded? What can be done to improve the situation? Add or substitute worthwhile ideas in the suggested list of activities below:

1. Prepare a report on safety problems such as some specific phase of transportation, agriculture, or recreation.

2. Develop a traffic system that will eliminate hazards in your school such as falls and collisions on crowded steps and halls.

3. Load a fire extinguisher and demonstrate its use.

4. Draw up a list of preventive measures relating to fire in camping.

5. Invite the local fire chief in to speak on fire hazards in the home.

6. Develop a set of safety rules in the handling of fire-arms.

7. Report on safety guides issued by rural electric associations to consumers.

8. Ask rural members of the class to report on saftey hazards connected with farm machinery.

9. Invite an electrician to talk about the safe use of home appliances.

10. Check medicine bottles in the medicine cabinet in the home, destroying unnecessary bottles and labeling and putting all poisons together out of reach of children.

11. Demonstrate what should be done immediately in the treatment of an individual overcome by gas.

12. List the precautions an individual should take in swimming, or if the community has a pool, check on the safety precautions taken by the management.

Basic Content

A. Common causes of falls.

1. Accidents by falls and crushing constituted at least one-fourth of the accidents in Kentucky.

2. Many falls take place on stairs and steps. Prevention should include:

2.1. Sturdy handrail of proper heights.

2.2. Removal of obstructions on the steps.

2.3. Fastening of rubber strips on treads.

2.4. Safety guards at top and bottom to protect small children.

2.5. Light stairways properly.
2.6. Spread ashes or sand on icy treads.

3. Special care should be taken on smooth and slippery surfaces.
   3.1. Place rubber mats in the bath and shower.
   3.2. Place heavy mat on floor to step on.
   3.3. Wax floors with a preparation that provides polish but does not make floor slippery.
   3.4. Wipe up spilled water, soap, or grease from floor.
4. Falls sometime result from failure to replace objects in their proper places.
   4.1. Remove toys from sidewalk and floor.
   4.2. Keep soap in its container.
   4.3. Hang up implements after use.
   4.4. Replace or remove loose stones and bricks.
5. Accidents often result from improper use of ladders.
   5.1. Standing on the front shelf.
   5.2. Stretching beyond reach.
   5.3. Leaning from instead of toward the ladder.
   5.4. Placing ladder on slippery surface.
   5.5. Using furniture and other objects for a ladder.
6. Balconies, porches, and windows.
   6.1. Fasten window screens securely.
   6.2. Sitting on porch railing.
   6.3. Use special precautions in removing or replacing screens and washing windows.
7. Hazards common to the farm.
   7.1. Permitting children to ride farm equipment.
   7.2. Failure to hang up implements.
   7.3. Starting and stopping motorized equipment.
   7.4. Standing on machinery when terrain is rough.
   7.5. Wearing loose clothing when near belts and pulleys.
   7.6. Jumping from vehicles.
   7.7. Poor construction of farm buildings such as absence of rails around haymow, weak tobacco rails, uncovered wells and cisterns, and crudely constructed steps without handrails.
   7.8. Work of the farmer presents many hazards such as stacking hay, tinning, painting, and home carpentry.
8. Conditions found in the school which lead to falls.
   8.1. Running up stairs and halls, pushing, and shoving.

8.2. Cutting in front of others.

8.3. Rushing through doorways without first looking.

8.4. Rough play in the gymnasium and obstructions on the floor such as support posts, building cornices, heating stoves, official benches, insufficient clearance under the basket, encroachment of the stage or bleachers on playing floor, water fountains, and decorations.

8.5. Running in the shower room and insufficient soap containers which results in soap on the floor.

9. Playgrounds and recreational facilities can encourage falls.

9.1. Climbing apparatus.

9.2. Poorly constructed equipment.

9.3. Careless use of equipment such as overloading swings and leaving balls and bats lying around.

9.4. Lack of proper supervision such as crowding and shoving on steps or runways, running while carrying sharp objects, and playing jokes and tricks.

B. Precautions to be taken in the prevention of fires.

1. The safe construction of buildings is important for fire prevention.

1.1. Use of fireproof materials.

1.2. Use of high grade materials.

1.3. High standards of construction.

1.4. Proper electrical installation.

1.5. Fireproof roof.

2. Stoves, furnaces, heaters, fireplaces, and lamps may be causes of fire if improperly used.

2.1. Fireplace screens.

2.2. Satisfactorily constructed flues and chimneys.

2.3. Cleaning out soot.

2.4. Placing ashes in a metal container.

2.5. Cover furnace pipes with asbestos.

2.6. Regular inspection of controls.

2.7. Never use kerosene or gasoline to start fires.

2.8. Use damper and drafts properly.

3. Petroleum fuels.

3.1. Petroleum fuels are highly inflammable.

3.2. Never store inflammable fluids in the house or barn.

3.3. Label all tanks or containers, or paint them red.

3.4. Wipe off kerosene or gasoline spilled on the outside of supply source.
3.5. Fill tanks or containers outside and never fill completely to the top to allow for expansion in warm weather.

4. Cleaning fluids such as naptha, benzene and gasoline are very dangerous.
4.1. Dangerous even out-of-doors.
4.2. Friction can ignite gasoline vapors.
4.3. Noninflammable cleaning fluids should be used in a well-ventilated room where no flame is present.

5. Spontaneous combustion is self-ignition as a result of chemical reaction.
5.1. Rags soaked with grease, oil or paint should be placed in a metal container.
5.2. Remove all rubbish and refuse.
5.3. Allow hay and grain to dry out before storing.

6. Fires started by individuals for the "fun of it" should be reported to proper authority. This is a felony punishable by law.

7. Fires started by smokers and matches.
7.1. Use safety matches or break "kitchen" matches in two before throwing away.
7.2. Be sure cigarettes and cigars are out before discarding.
7.3. Never empty ash trays in a waste basket.
7.4. Strike a match away from the body.
7.5. Store matches in a metal container and away from children.
7.6. Do not carry matches loose in pockets.

8. Improper use of electrical equipment may cause fires.
8.1. Overheating irons.
8.2. Leaving hot irons near combustible materials.
8.3. Using worn plugs and cords.
8.4. Running cords under rugs and doors.
8.5. Using pennies in fuses.

9. Conditions in the school that may cause fire.
9.1. Protect with asbestos woodwork exposed to the heat of metal.
9.2. Supervise storage of chemicals, paints and varnishes in metal containers.

9.3. Light matches only in supervised class activities.
9.4. Clean up shavings accumulated in workshop.
9.5. Combustible materials such as oil mops, paints and varnishes, cleaning fluids and polishes should not be stored in furnace room.
9.6. Have janitor maintain an orderly room with combustible materials in metal containers.
9.7. Remove decorations immediately after use.

10. Fire hazards on the farm.
10.1. Kerosene, gasoline, wood, coal stoves, kerosene and gasoline lamps, and make-shift electrical wiring.
10.2. Barns and outbuildings may catch on fire from careless use of lanterns, smoking, storing green or wet hay, defective wiring, careless use of coke stoves in curing tobacco, and the use of gasoline engines.

11. Careless habits of people engaged in recreation may cause fires.
11.1. Throwing away lighted cigarettes, cigars, and matches.
11.2. Building of campfires and bonfires.

12. Making the kitchen a safe place to work.
12.1. Pour liquids slowly in cooking pans.
12.2. Keep hot liquids away from children and handles of pans to the inside.
12.3. Use a deep kettle not more than two-thirds full when frying in deep fat.
12.4. Direct spout away from individual when pouring.
12.5. Use sufficient water in cooking.
12.6. Never pass a cup of hot liquid over someone sitting at the table.

13. What to do when fire occurs.
13.1. Always attack a fire at the place where the flames originate; the first 5 minutes are the most important.
13.2. Small fires can be beaten out with a broom, rug, or towel; or it can be smothered with dirt, rug, or blanket.
13.3. Encircling area with water.
13.4. Flaming grease can be extinguished with salt, flour, soda, or replacing cover on pan. Never use water.
13.5. Use a chemical extinguisher if available.
13.6. When an individual with his clothing on fire starts to run, do not try to catch him; trip or tackle him so that

he will fall to the ground and attempt to smother flames with a coat or some other garment.

13.7. When caught in a building which is on fire, close all windows, tie a wet cloth over mouth and nose, and crawl along the floor using the wall as a guide. When the exits are closed off, go to the window and call for help but do not jump unless distance is very short. A rope can be improvised from sheets.

13.8. In arriving at hotels, note fire exits. Most states require that they be clearly indicated.

14. Reporting a fire.

14.1. Call operator and state you have a fire to report and do not hang up until fire department officials have all the desired information.

14.2. When using a fire alarm box, stay there until the firemen arrive to direct them.

14.3. Never send in a fire alarm for a joke.

C. The use of firearms and other weapons.

1. Accidental deaths by firearms constitute 4 per cent of total deaths by accidents in Kentucky.

2. BB guns and 22 rifles are dangerous.

2.1. BB gun pellets may penetrate the skin or enter the eye.

2.2. BB pellets striking the eye may cause severe hemorrhage, lacerations, and cataract.

2.3. The 22 bullet has a range up to a mile and will ricochet from water and hard surfaces.

3. Prevention of accidents by firearms.

3.1. Keep guns away from children.

3.2. Never point a gun at anyone.

3.3. Never look in the muzzle of a gun, or rest the muzzle on the ground.

3.4. Do not lean a gun against a tree, fence, or place it so that it will fall.

3.5. Dismantle gun when traveling in an auto and remove shell or shells before taking in home.

3.6. When carrying a gun, point the muzzle toward the ground or sky.

3.7. Hand gun over fence to companion, or lay it on the ground on the other side of the fence before climbing over or through fence.

3.8. Use the safety device when carrying gun. While hunting, never hunt with more than 2 others; one or two adults best.

3.10. Never leave your gun unattended unless the shells have been removed.

4. Precautions in the use of bow and arrows and sling-shots.

4.1. The arrow or slingshots should never be aimed at another individual or used in an area where people may cross.

4.2. Stones from a slingshot may ricochet and seriously injure someone.

D. The causes of the high rate of injuries due to electrical and mechanical devices on the farm.

1. The farmer does not have the opportunity to become familiar with all the multiplicity of electrical and mechanical devices on the farm.
2. Many specialized machines are used for short duration and the farmer forgets the safety principles involved in their operation.
3. Carelessness is responsible for most farm accidents in the use of electrical and mechanical devices.
4. Many accidents are due to failure to operate electrical and mechanical devices according to directions.

E. Elimination of accidents in the use of electrical and mechanical devices in the school.

1. Observance of safety rules in the shop and laboratory.
2. Observance of safety rules in the home economics room.
3. Strict adherence to a "Hands Off" policy on such devices as belts, pulleys, and shafts.

F. Prevention of accidents from electrical and mechanical devices while participating in recreational activities.

1. Children should never play near electrical equipment such as high tension wires; climb telephone posts, or touch control mechanisms of machines.
2. Automobiles, motors, motorcycles, fishing equipment, and other devices used for recreational purposes should be checked and repaired by a trained person before use.

G. Common causes, prevention, and first aid for poisoning.

1. Poisonous drugs commonly taken are carbolic acid or phenol, lysol, bichloride of mercury, iodine, arsenic, Paris green,

strychnine, strong acids, strong alkalies, medicines used to produce sleep, and wood alcohol or denatured alcohol.

2. Poisonous powders and sprays for rodents and insects.
3. Household cleaning preparations that contain poisonous substances such as bleaches, germicides, disinfectants, paint removers, paint cleaners, furniture polish, waxes, plumbing cleaners, silver polish, lysol, ammonia, and varnish.
4. Cosmetics and hair dyes.
   - 4.1. A few cosmetics contain substances to which certain individuals are allergic.
   - 4.2. Hair dyes are not recommended because of the danger that the preparation may get into the eyes.
5. Prevention of poisoning.
   - 5.1. Keep all bottles labeled and never trust an unlabeled bottle.
   - 5.2. Keep all poisons on one shelf out of reach of children.
   - 5.3. Identify poison bottles by special labels or methods such as pins in the cork, or a red string around neck of bottle.
   - 5.4. Never take medicine in the dark.
   - 5.5. Never pour contents from one bottle into another.
   - 5.6. Always read a label 3 times.
   - 5.7. Take the exact dose prescribed.
   - 5.8. Discard and never use old medicine.
6. Prevention of poisoning on the farm.
   - 6.1. Use non-poisonous sprays and exterminators.
   - 6.2. Label all bottles or boxes containing poison.
   - 6.3. Store poisons out of reach of children.
   - 6.4. Use poison sprays and powders, and solutions (nicotine-sulfate for chicken roosts, bichloride of mercury for potatoes, etc.) with care.
   - 6.5. Always dump containers after use to protect children and animals.
7. First aid for the victim of poisoning. (Unit Fourteen.)

H. Plants and animals that cause poisoning.

1. Oils found in roots, stems, berries, and leaves of poisonous plants may cause painful irritation.
   - 1.1. Poison ivy, a three-leaf cluster which grows first as a bush and later as a vine.
   - 1.2. Poison oak which grows as a bush and has a deeply notched three-leaf cluster.

1.3. Poison sumac is a shrub that grows as a shrub or small tree with greenish-white berries.

2. First aid and treatment on exposure to poisonous plants.

2.1. The oils of poisonous plants are unsaturated hydrocarbons and washing with soap and water will close unsatisfied bonds of carbons. Dilution is effective with alcohol and cool water.

2.2. If rash develops, make a paste of soap and water and apply to area. Calamine that has a 2 per cent solution of carbolic acid is effective; or apply wet dressings of a cold solution of Epsom salts.

2.3. The present practice of 4 periodic sub-cutaneous injections of poison ivy extract has been successful in most cases. A booster inoculation each year reduces severity of attack.

I. The bites of some animals, insects, and snakes are poisonous.

1. Dog, cat, squirrel, and the bites of other animals may be dangerous and should have the immediate attention of the doctor.

2. The itch of mosquitoes and chiggers is best relieved by calamine solution. Constant scratching may cause infection. Powdered sulphur applied to exposed areas of the body is a good preventive measure against chiggers.

3. Poisonous snakes in Kentucky include the rattlesnake, moccasin, copperhead, and coral.

4. Dogs are good companions on hikes or on excursions in areas where snakes may be. They are especially alert and warn by barking or action. High boots or leggings and being on the alert are excellent preventive measures.

J. Prevention of poisoning by inhalation.

1. The inhalation of gas causes death by suffocation.

1.1. The gas breathed replaces oxygen in blood uniting with hemoglobin.

1.2. Respiratory center becomes paralyzed.

2. Safety precautions can eliminate dangers of gas poisoning.

2.1. Examination of gas pipes, valves, and connections.

2.2. Metal pipe and not rubber tubing should be used in connecting gas appliances.

2.3. Always check gas odors. Ventilate rooms and call gas company.

2.4. In cooking on the gas stove watch boiling liquids since, in boiling over, they may extinguish the gas flame.
2.5. Close all gas valves after using.
2.6. Allow coal gas fumes to escape before banking the fire for the night.
2.7. Carbon monoxide poisoning from the exhaust of motor vehicles may be prevented by (1) running an automobile motor with the garage doors open, (2) repairing leaks in the exhaust pipe, (3) providing cross ventilation by keeping windows partly open, and (4) extending the exhaust pipe beyond the rear of the automobile.
2.8. Stay away from buildings being fumigated with poisonous gases.
2.9. First aid measures include getting individual to fresh air, calling a physician, and administering artificial respiration.

K. Common mistakes of swimmers and boaters.

1. Swimmers overrate their ability.
   1.1. Swimming beyond safe areas.
   1.2. Attempting to rescue another without proper knowledge of techniques.
   1.3. Swimming when fatigued or after illness.
   1.4. Leaving capsized boat.
2. Failure to observe common sense safety rules.
   2.1. Swimming too soon after eating.
   2.2. Diving in unknown or in shallow or rocky water.
   2.3. Relying on an inner tube for support.
   2.4. Swimming in unguarded areas.
   2.5. Swimming under boats, docks, or rafts.
3. Careless play in or on water.
   3.1. Shoving others off diving boards.
   3.2. Pushing and holding under water.
   3.3. Making and taking foolish dares.
   3.4. Diving or jumping on someone in the water.
   3.5. Playing tag and running on slippery surfaces.
4. Lack of foresight in the use of boats cause accidents.
   4.1. Overloading.
   4.2. Using a leaky boat.
   4.3. Canoeing or boating alone.
   4.4. Standing up or changing seats.
   4.5. Failure to observe weather changes.

4.6. Failure to stay with and hold on to the capsized craft.

5. Procedure for rescuing a person in danger in water.

5.1. Rather than swim, row to the victim and throw a rope or use the oar to assist him.

5.2. Swim out to rescue a drowning person as the last resort. Make approach from behind and do not allow victim to grasp you. Hold his head out of water and tread water until help arrives.

5.3. If enough strength remains, tow victim by hair or cross-chest carry to shore.

5.4. If victim is unconscious, use artifical respiration.

Evaluation

1. Plan a "clean up" campaign for the community through articles, posters and talks during Fire Prevention Week.

2. Make a survey of fire hazards in the home using the Red Cross Form.

3. Draw up a code of safety for hunters.

4. Construct a check list and use it to evaluate the home for mechanical and electrical hazards.

5. Organize an exhibit of common household products used in urban and rural home that contain poisons and list remedies.

6. Discuss and demonstrate artificial respiration.

Teacher References

Books

American Association of School Administrators. *Safety Education.*

American Fire Insurance Company. *Home Fire Hazards.* A chart. Free.

American Red Cross. First Aid Textbook (Revised issue, 1945).

Pamphlets and Other Materials

Aetna Life Insurance Company:
Safety posters series. Free.

American Red Cross:
First Aid.
Life Saving and Water Safety.
Swimming and Diving.

Girl Scouts, Inc.:
Home Health and Safety Survey. Free
Comfortable Homes are Safe Homes. Free.

Good Housekeeping Institute:
Safety in the Home. Free.

International Association of Electrical Inspectors:
Electric Service with Safety.

International Harvester:
Farm Safety.

Metropolitan Life Insurance:
Industrial Safety Education in Schools. Monograph No. 10. Free.
Keep Accidents Out of Your Home. Free.
Safe Swimming. Free.

National Board of Fire Underwriters:
Facts About Fires. Free.
Prevent Fires. A set of posters.
Safeguarding Home Against Fire. Free.

National Conservation Bureau:
Complete list of publications upon request. Free.

National Education Association:
Check list of safety and safety education. 25 cents.
Report of the Committee on Fire Prevention Education. 10 cents.
"Safety Education Thru Schools." *(Research Bulletin.)* 25 cents.

National Fire Protection Association:
Junior Firefighter's Report. Free.
List of free and inexpensive publications upon request. Free.

National Rifle Association:
Rule Book for Junior Marksmen. Free.

National Safety Council:
List of publications upon request. Free.
Safety Education Methods, Secondary School. 50 cents.
Safety Lesson Units and Posters (Grades 7-9). 20 cents.
Safety Lesson Units and Posters (Grades 10-12). 20 cents.
Safety in Physical Education and Recreation for Elementary and Secondary Schools. 50 cents.
Safety in the Rural Schools. 35 cents.
Safety in the School Shop. 50 cents.

National Society for the Prevention of Blindness:
Pamphlets on hazards in workshop, in play and athletics. Complete list upon request. Free.

Sporting Arms and Ammunition Manufacturer's Institute:
The 10 Commandments of Safety. Free.

Pupil References

Books

Anders and others. *The Healthy Home and Community.* pp. 256-266.

Burkard and others. *Health and Human Welfare.* pp. 254-273.

————. *Health for Young Americans.* pp. 309-317; pp. 321-331.

Charters and others. *A Sound Body.* pp. 156-169.

————. *Growing Up Healthily.* pp. 209-242.

Crisp. *Be Heathy.* pp. 384-402.

———. *Health for You.* pp. 482-512.

Fishbein and others. *Health and First Aid.* pp. 317-342.

Stack and others. *Safety in the World Today.* pp. 144-149; 184-185; 213-215; 77-93; 95-99; 149-153; 158-163; 195-201; 240-246; 63-73; 110-118; 153-156; 187-190; 201-204; 284-292; 99-110; 132-139; 246-265.

Wilson and others. *Modern Ways to Health.* pp. 193-208; 237-242; 248-257.

University of Kentucky Film Library:

364—*Worst of Farm Disasters,* sound, 1 reel. U. S. Department of Agriculture. (Fire hazards on the farm).

696—*Fight that Fire,* sound 1 reel. Transfilm.

3011—*Safety in the Home,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.

3030—*Stop Forest Fires,* sound, 1 reel. U. S. Department of Agriculture.

5016—*Fire Weather,* sound, 2 reels. Weather Bureau.

5071—*Velocity of Chemical Reactions,* sound 1 reel. Encyclopaedia Britannica Films, Inc.

5157—*Chemistry of Fire,* sound, 4 reels. U. S. Navy.

6026—*Your American Tragedy,* sound, ¼ reel. U. S. Department of Agriculture. (Fire prevention).

6054—*Swim and Live,* sound, 2 reels. Office of War Information.

6234—*Pliers and Screwdrivers,* sound, 1¼ reels. Plomb Tool Company. (Proper use of these tools)

6235—*Hammers,* sound, 1 reel. Plomb Tool Company.

UNIT FOURTEEN

First Aid

Suggested Time: Fifteen Class Periods

Introduction

The tempo and hazards of modern life have increased at such a rapid rate that each individual is obligated to become familiar with first aid procedures. Only to the degree that an individual is familiar with first aid is he able to render service and perhaps even save the lives of his associates.

This unit in first aid is elementary and only essential facts and information suitable to ninth or tenth grade pupils are presented. Should the teacher feel that some of the important first aid procedures have been omitted in the basic content, she has the privilege of making those additions which, in her judgment, will make a more complete unit.

Pupils of this level of high schools should be instructed primarily in prevention and caution in dealing with sick and injured individuals. It is just as important to know what not to do as to

know what to do. One of the general mistakes in teaching first aid procedures is to cover too much material too thinly. Rather than do this, the teacher should strive to concentrate on a few topics with many practical experiences so that true learning will take place. *In the main there are three emergencies for which pupils should be prepared and these are* (1) *severe bleeding,* (2) *cessation of breathing, and* (3) *poison taken by mouth.* Regardless of how much material is covered in this unit, it is essential that they understand the first aid procedures for these emergencies. The time to learn first aid for these situations is now because there is never a time when an accident happens.

The ninth or tenth grade pupil can in serious accidents keep the victim quiet while securing help of a responsible adult or doctor. They should be cautioned against transporting seriously injured individuals. A knowledge, however, of arresting hemorrhages and artificial respiration should be learned because many lives have been saved by these methods.

Objectives

1. To learn skills of specific first aid procedures.
2. To secure a basic knowledge of first aid.
3. To learn how to cooperate with others who might be rendering first aid.

Suggested Activities

1. Discuss why getting a physician to the scene of the accident is one of the most valuable helps a pupil can render.
2. Demonstrate and practice the application of a tourniquet and pressure bandages.
3. Demonstrate and practice artificial respiration.
4. Identify and locate the six pressure points to arrest bleeding.
5. Demonstrate and practice the application of splints for fractures. (Do not teach traction splints.)
6. Discuss first aid for minor cuts and the possible consequence of neglect.
7. Demonstrate and practice transportation of the injured.
8. Discuss fainting and first aid procedures.
9. Invite the athletic coach to discuss and demonstrate bandaging of athletic injuries.

Basic Content*

A. The value of first aid knowledge and general directions.
   1. Definition: First aid is the immediate and temporary care given the victim of an accident or sudden illness until the services of a physician can be obtained.
   2. General directions.
      2.1. Keep the injured person lying down in a comfortable position, head level with the body.
      2.2. Look for hemorrhages, cessation of breathing, signs of poisoning, wounds, burns, fractures, and dislocations. Do not overlook any injury.
      2.3. Keep injured person warm.
      2.4. Send for physician or an ambulance and get victim to a hospital.
      2.5. Keep calm and do not be in a hurry to move person unless absolutely necessary.
      2.6. Never attempt to give water or other liquids to an unconscious person.
      2.7. Keep spectators away from the injured.
      2.8. Keep person cheerful and comfortable.
      2.9. Do not let injured person see his injury.

B. Wounds.
   1. A wound is a break in the skin, or in the mucous membrane lining of one of the body cavities.
      1.1. Abrasions.
      1.2. Incised wounds.
      1.3. Lacerated or torn wounds.
      1.4. Punctured wounds.
   2. Wounds are subject to infection and loss of blood.
   3. Regardless of the size of the wound, it is large enough to allow thousands of germs to enter and cause infection.
   4. Wash wound with soap and water and apply a sterile bandage.

C. Care of wounds with severe bleeding.
   1. Blood is a sticky red fluid circulating through arteries, capillaries, and veins and consists of red and white corpuscles and plasma.

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*Note: The basic content in the main, has been secured from the American Red Cross First Aid, Textbook (1945 edition).

2. The average individual has 10 to 12 pints of blood and a loss of as much as two or three pints may be fatal.
3. Blood from an artery comes in spurts and that from a vein in a steady flow.
4. If the wound is bleeding in spurts from an artery, pressure should be applied between the cut and the heart at a point where the main artery lies close to the bone. There are six points where pressure may be applied on an artery close to the bone with hand or fingers.
   For the arteries of the head and neck:
   4.1. In the neck at the side of the windpipe, against the backbone.
   4.2. Just in front of the ear, against the skull.
   4.3. About an inch forward from the angle of the jaw, where a large artery crosses the jawbone.
   4.4. Behind the inner end of the collarbone, down against the first rib.
   4.5. On the body side of the upper arm, halfway between the shoulder and elbow.
   For the arteries of the lower limbs:
   4.6. In the mid-groin as it passes over the pelvic bone.
5. Apply dressing and pressure. Release pressure for a trial period.
6. Elevate bleeding part if possible.
7. Pressure of fingers or hand is difficult to maintain and if possible apply a tourniquet.
8. Shock is generally present in serious bleeding and a stimulant such as tea or coffee should be given after bleeding has been stopped.
9. Bleeding from a vein can be stopped by applying a compress and bandaging snugly until a clot is formed.

D. Wounds that require special consideration.
1. Punctured wounds such as those caused by gunshot, nails, wire, or other sharp instruments.
   1.1. Punctured wounds usually do not bleed freely and satisfactory cleansing is almost impossible.
   1.2. Air can not get to the area and this situation favors the growth of certain germs, particularly the one causing tetanus, or lockjaw.
2. Infected wounds.

2.1. Symptoms of an infected wound are pains, swelling, redness, heat, pus, red streaks, and swollen glands in the vicinity of the area.

2.2. A physician should be consulted at once, hot packs soaked in boiled water and salt should be applied, and the injured part elevated to relieve pain.

3. Special danger from dog bites.

3.1. Always consult a physician at once.

3.2. Wash area with weak alcohol solution or soap and water to remove saliva.

3.3. An immediate application of iodine may be used.

3.4. Confine animal and keep under observation for two weeks.

3.5. The physician or county health doctor will have information on proper procedure on checking and preparing animal for rabies examination by the University of Kentucky, Experiment Station laboratories.

4. Poisonous snakes.

4.1. Rattlesnakes.

4.2. Moccasin (cottonmouth).

4.3. Copperhead.

4.4. Coral snake.

4.5. First aid procedures.

4.51. Call or take person to a physician.

4.52. Apply a tourniquet between the bite and the heart.

4.53. Wash area with soap and water.

4.54. Make a crisscross incision at fang marks and apply suction to wound with mouth* or suction cup.

4.55. Treat victim for shock.

5. Wounds in which foreign bodies remain.

5.1. Small pieces of glass or splinters should be removed if near surface with sterile needle or tweezers.

5.2. Apply light pressure and encourage wound to bleed.

5.3. Apply antispetic and bandage.

5.4. If object is too deep, call a physician.

6. Foreign objects in the eye.

6.1. Unskilled attendants may injure eye beyond repair.

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*Note: If the mouth is used for suction, it should be rinsed out each time.

6.2. Best procedure is to tape a bandage over the eye until trained professional services can be secured.

E. Shock and how to care for such cases.

1. Shock is a depressed state of all body functions due to failure of circulation.
2. Shock may result from a severe injury to the body, starvation, and disease. An injury leading to shock may include severe hemorrhages, burns crushing injuries, fracture of bones, shell, bomb, and bullet wounds.
3. Factors that increase susceptibility to shock include old age, malnutrition, exposure, fatigue, rough transportation, and too much handling.
4. Symptoms of shock.
   - 4.1. Pale face.
   - 4.2. Cold sweat.
   - 4.3. Cold and clammy hands.
   - 4.4. Weakness and faintness.
   - 4.5. Dizziness.
   - 4.6. Nausea.
   - 4.7. Wide and dilated pupils.
   - 4.8. Vomiting.
   - 4.9. Shallow and rapid breathing. Later deep and irregular breathing (sighing respiration).
5. Treatment for shock.
   - 5.1. Conserve body heat. (Wrap individual in blankets and apply artificial heat if possible.)
   - 5.2. Keep individual's head low. (In case of chest injury this procedure should be avoided if difficulty in breathing results.)
   - 5.3. Give fluids by mouth unless individual has an abdominal injury, nausea, or an operation may be indicated.

F. Artifical respiration.

1. The Schafer method was introduced in the United States in 1907. In 1927 the U. S. Public Health Service and many national organizations approved this method of artificial respiration.
2. Description of the standard technique of artificial respiration. (American Red Cross First Aid Textbook, pp. 87-110.)

H. First aid procedures when poisonous foods or drugs have been swallowed.

1. First aid treatment in poisoning demands immediate action in order to remove the poison from the stomach before it can be absorbed.
2. Preventive measures are particularly important to protect children from poisonous drugs and poisons.
3. Two factors are essential in first aid treatment for poisoning.
   3.1. A poison diluted in a large volume of water will not absorb as rapidly as the concentrated form. Vomiting is induced easier on a full stomach.
   3.2. Induce vomiting until fluid from the stomach is clear as it was when swallowed.
4. Epsom salts should not be used as it is dehydrating. Castor oil is less dehydrating and has a healing effect.
5. Acid and alkali poisons require different first aid precedures.
   5.1. Avoid the use of emetics (anything that induces vomiting) as they cause perforations.
   5.2. Acids should be neutralized with a solution of magnesia, chalk, sodium bicarbonate, or limewater. Give a demulcent such as milk, olive oil, or egg white and keep individual warm.
6. Food poisoning.
   6.1. The causes of food poisoning include food improperly prepared, stored, refrigerated, and homecanned improperly preserved.
   6.2. Prevention includes cleanliness in preparing and serving food, protection of foods from flies and insects, and hot foods should be served hot or cooled immediately and adequately refrigerated.
   6.3. Symptoms include (1) uncomfortable feeling in the upper abdomen, pain, cramps, nausea, and vomiting, diarrhea, and prostration.
   6.4. First aid procedures, with some exceptions,* is the same as for poisoning by drugs.

G. General directions for proper transportation of an injured person.
   1. Improper or careless methods adds to the severity of the injury and may result in the death of the injured person.

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*Note: In simple food poisoning, the offending food has been absorbed before symptoms occur and emetics are unnecessary. Symptoms in acute appendicitis are frequently mistaken for food poisoning and cathartics should never be given or self-administered until a physician is consulted.

2. General directions for transportation.
   2.1. First aid should be rendered and any tight clothing loosened. The injured individual should be covered with a blanket except when the face is red and the body hot.
   2.2. The type of transportation used will depend upon the injury.
   2.3. Seriously injured should be transported on a stretcher or in a lying position except when it is necessary to prop the individual to facilitate breathing.
   2.4. There is generally no hurry to render first aid and it is usually best to wait for the ambulance and to move the injured individual only on the physician's order.
   2.5. All fractures and suspected fractures should be handled carefully. A simple fracture may be converted into a compound fracture by carelessness.
   2.6. When a stretcher is not available, the following methods may be used: Three-man carry, eight-man carry, chair used as a litter, carrying by extremities, two-man carry, and walking with assistance.

H. Fractures and their care.
   1. A fracture is a broken bone.
      1.1. In a simple fracture the bone is broken but there is no connecting wound between break in the bone and the skin.
      1.2. In a compound fracture, the bone is broken and there is also a wound from the piercing or cutting of the bone through the skin.
   2. General procedure in the treatment of simple fracture includes:
      2.1. Call a physician and before he arrives apply first aid.
      2.2. Avoid handling of the injury to prevent further injury.
      2.3. Do not move injured individual until some kind of a splint has been applied to immobilize the fractured bone ends.
      2.4. Control shock by keeping individual in a comfortable position and warm.
   3. General procedure in the treatment of compound fracture.
      3.1. Call a physician and in the meantime control profuse bleeding with compresses or by applying a tourniquet.
      3.2. Apply a sterile bandage and bind firmly in place.

I. Dislocations, sprains, strains, and bruises.

1. Dislocations occur when a bone leaves a joint.

1.1. Except in emergencies a physician should be called because of further injury to ligaments, blood vessels, nerves, membranes, and muscles around the joint.

1.2. General first aid includes (1) make individual as comfortable as possible, (2) apply cold compresses, (3) treat for shock if present, and (4) support the injured body part during transportation.

2. Sprains are injuries from partial or complete tears of ligaments of the joint by forced movements beyond normal range.

First aid includes:

2.1. Elevation of the part.

2.2. Cold applications.

2.3. Restricted use of the body part until a physician examines it.

3. A strain is an injury to a muscle or tendon which is generally the result of severe exertion. First aid includes:

3.1. Rest.

3.2. Heat applications.

3.3. Massage area toward heart.

4. Bruises are caused by a blow to some part of the body which results in the hemorrhaging of the small blood vessels. First aid includes:

4.1. Ice and compresses wrung out in cold water applied immediately.

4.2. If skin is broken follow precedure for any open wound.

J. Injuries due to heat or cold.

1. Injuries caused by contact with heat are called *burns.* A burn caused by contact with hot vapor is called *scald.*

2. Burns are classified according to the depth to which the body tissues are injured.

2.1. When skin is reddened—first degree.

2.2. When skin is blistered—second degree.

2.3. When skin is showing charring or cooking—third degree.

3. General first aid for burns consists of relieveing the pain, preventing infection and treating shock.

4. Severe sunburn may be dangerous.
   4.1. Prevention of its occurrence important.
   4.2. General first aid includes (1) an application of calamine lotion, (2) application of olive oil or coca butter, (3) wet dressings of Epsom salt solution, and (4) call a physician if the person is restless or in distress.
5. Exposure to excessive heat produces sunstroke* (heat stroke), heat exhaustion,* or heat cramps.
   5.1. Prevention includes (1) drinking an abundance of water, (2) add salt in large amounts to food and drink, (3) wear loose and thin clothing, (4) eat moderately, (5) reduce muscular exertion during the hottest period of the day, and (6) avoid exposure to the direct rays of the sun.
   5.2. First aid for heat stroke includes (1) cool body with bath or cold applications, (2) elevate individual's head, and (3) use no stimulants and get patient immediately to hospital and physician.
   5.3. First aid for heat exhaustion includes (1) place head low or level, (2) apply external heat, (3) give stimulant, and (4) get individual to a hospital and call a physician.
   5.4. First aid for heat cramps is the same as for heat exhaustion.
6. Frostbite is produced by freezing part of the body.
   6.1. Exposed areas should be covered to prevent occurrence.
   6.2. First aid procedure includes (1) warming the part gradually, (2) giving the individual a warm drink, (3) massaging the area near damaged tissue but not rubbing the badly frozen tissue itself, and (4) never rubbing the frozen area with or without snow.

K. Recommend contents for first air kits. (American Red Cross First Aid Textbook, 1945 Edition, pp. 242-246.)

L. First aid in civil defense. (atomic and biological warfare)

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*Note: In sunstroke the body temperature is elevated as evidenced by red face, hot and dry skin, and strong rapid pulse. In heat exhausion the temperature is subnormal as evidenced by pale, moist, and cool skin and weak pulse. Hence, stimulants are contraindicated in sunstroke or heat stroke and indicated in heat exhaustion.

Evaluation

1. Divide the class into teams and give each team an imaginary accident situation. Score each team on its ability to handle the situation.

2. List the items that should be included in the first aid kit in the home or on the farm.

3. Conduct practical examinations in the application of tourniquets, artificial respiration, and in the transportation of an injured individual.

Teacher References

Books

American Red Cross. *First Aid Instructor's Manual.*

Pamphlets and Other Materials

Aetna Life Insurance Company:

First Aid to the Injured. Free.

Manual on First Aid. Free.

American Red Cross:

Ask local chapter for publications.
First aid instruction charts. $1.00.

John Hancock Mutual Life Insurance Company:

When the Unexpected Happens. Free.

Johnson and Johnson:

First Aid Chart. Free.

Metropolitan Life Insurance Company:

Be Ready to Save a Life. Free.
First Aid. Free.

McKesson and Robbins:

First Aid in Emergencies. Free.

Federal Civil Defense Administration: (Write for booklets and materials on first aid.)

Pupil References

Books

Library References:

First Aid Textbook, American Red Cross. pp. 1-6, 30-54, 18-49, 54-59, 229-237, 61-86, 7, 10-17, 87-110, 111-117, 176-193, 118-155, 155-161, 162-175, 194-203, 242-246.

Textbooks:

Anders and others. *The Healthy Home and Community.* pp. 266-287.
Burkard and others. *Health and Human Welfare.* pp. 274-285.
Burkard and others. *Health for Young Americans.* pp. 331-342.
Charters and others. *A Sound Body.* pp. 170-196.
Crisp. *Be Healthy.* pp. 403-417.
————. *Health for You.* pp. 462-481.
Fishbein and others. *Health and First Aid.* pp. 131-138, 172-316.
Stack and others. *Safety in the World Today.* pp. 295-322.
Williams. *Healthful Living.* pp. 555-564.
Wilson and others. *Modern Ways to Health.* pp. 258-285.

University of Kentucky Film Library:

578—*The Heart and Circulation,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.
5063—*First Aid for Wounds and Fractures,* sound, 1 reel. Encyclopaedia Britannica Films, Inc.
5064—*Before the Doctor Comes,* sound, 3 reels. American Red Cross.
5101—*First Steps in First Aid,* sound, 3 reels. Up-John—Bureau of Mines.
5102—*Help Wanted,* sound, 3 reels. Johnson and Johnson—Bureau of Mines.

Federal Civil Defense Administration:

No. MN-299A—Essentials of First Aid. (Write State Civil Defense Office, Frankfort, Kentucky.)

Section VI

TRAFFIC SAFETY EDUCATION

Safety Education for Pedestrian and Bicyclist

Safety Education for the Driver and Pupils in the Use of the School Bus

UNIT FIFTEEN

Safety Education for Pedestrian and Bicyclist

Suggested Time: Six Class Periods

Introduction

In spite of the efforts of traffic safety officials, hundreds of persons are killed and many thousands injured annually while crossing the streets at intersections and walking along Kentucky highways. The general opinion of safety experts is that it is more difficult to educate pedestrians than motorists. The motorist is required to have a license and, if he should injure someone, he can be fined, summoned to court, and even jailed. Even though the carelessness of motorists causes about one-third of the deaths and injuries, they are generally blamed for most of the accidents. It is evident that the pedestrian must be more cooperative if accident tolls are to be reduced.

Cycling is included in this section for convenience but it must be remembered that a bicycle is a vehicle and is, therefore, governed by vehicular laws and also by pedestrian laws.

Cycling at one time was a fairly safe activity, but cycling, today, has become more hazardous on busy streets and highways. The cyclists must not only be more skillful but must also be familiar with the rules and regulations of traffic safety.

Objectives

1. To realize that cooperation must exist between motorist and pedestrian if accidents are to be reduced.
2. To develop an understanding of the responsibility of the cyclists in the observance of traffic regulations.
3. To recognize the importance of the function of the school safety patrol.

Suggested Activities

1. Collect newspaper clippings on pedestrian, bicycle, motorcycle, and automobile accidents and post on the bulletin board.
2. Discuss hitchhiking and the laws pertaining to hitchhiking.
3. Discuss local traffic rules that protect pedestrians.
4. Discuss the work of the safety patrol in the school. If a safety patrol does not exist in the school, present a plan of organization to the proper school authority.
5. Demonstrate the correct method of signaling for bicyclists.

Basic Content

A. The rights and duties of the pedestrian.

1. Pedestrians must make a habit of crossing the street at intersections.
   - 1.1. Motorists expect pedestrians to cross at intersections rather than the middle of the block.
   - 1.2. Traffic signals controlling pedestrians and motorists are located at intersections.
2. Pedestrians should stay within the boundaries of the cross walk.
   - 2.1. On yellow and green signals, parallel to his direction, the pedestrian should not cross the intersection.
   - 2.2. The pedestrian should wait on the curb until the signal is red before crossing the intersection.
3. A pedestrian crossing a roadway at any other point than the crosswalk must yield the right of way to all traffic upon the roadway.
   - 3.1. A pedestrian who steps out into the street from behind a parked car may be stepping directly into the path of an approaching vehicle.
   - 3.2. An automobile traveling at 20 miles an hour will travel approximately 50 feet before coming to a full stop.
4. Pedestrians keep to the right on sidewalks and crosswalks.In crossing a street, especially one without a traffic signal, look first to the left and then to the right, then to the left again, and cross only if clear.
5. When a pedestrian is caught in the flow of traffic, he should not act impulsively. Sudden running and indecisive movements baffle the driver.
   - 5.1. Cross the street with a steady and cautious pace.
6. Avoid boarding or dismounting from an automobile in the path of moving traffic. Board or dismount on the right or curb side only.
7. Pedestrians should always wait in the safety islands for streetcars and at the curb for buses. Many accidents happen in the frantic rush of pedestrians to board streetcars or buses.
8. No individual should solicit a ride from an unknown driver of a vehicle.
   - 8.1. The hitchhiker takes a chance of being injured or killed by walking on the right side of the road.
   - 8.2. The driver takes a chance of being robbed or murdered.

8.3. The driver of the car is liable for injuries to the hitchhiker.

9. In walking along a highway or road, the pedestrian should walk on the sidewalk or shoulder on the left side in order to have a full view of the oncoming traffic.
   9.1. At night the pedestrian should wear light-colored clothing, carry a white handkerchief, or a light so that he can be seen at great distances.
10. A drunken pedestrian, as well as a drunken driver is a traffic hazard.
11. Factors in reducing pedestrian hazards.
   11.1. Communities should provide playgrounds and parks to keep children out of the street.
   11.2. Children should not coast on roadways because the slippery surface makes immediate stopping impossible for driver. Coasting streets should be roped off for the children.
   11.3. Roller skaters should take precautions in skating on roadways and crossing streets.
   11.4. Hitching a ride on a vehicle with a sled or a bicycle is a dangerous pastime.

B. The rights and duties of the bicyclist.
1. Fatalities and injuries (or accidents) from bicycle-motor vehicle accidents result from:
   1.1. Improper or unskilled riding.
   1.2. Failure to observe the right of way.
   1.3. Disregard of traffic rules and signals.
   1.4. Operating defective bicycles.
2. Bicyclists must realize that they are subject to the same traffic regulations required of motorists.
3. Bicycles used on roadways after dark must be equipped with a lamp and reflectors or a red light to the rear, according to state traffic laws.
4. Some cities in Kentucky require registration and licensing of bicycles. This requirement assists in the identification of the bicycle in traffic violations or if stolen.
5. Before license is issued a bicycle should be examined to determine whether or not it is in good mechanical condition.
6. When a bicycle is equipped with a motor it is classified as a motor vehicle and subject to the laws of registration, licens-

ing, and liability applicable to motor vehicles. (The same applies to scooters.)

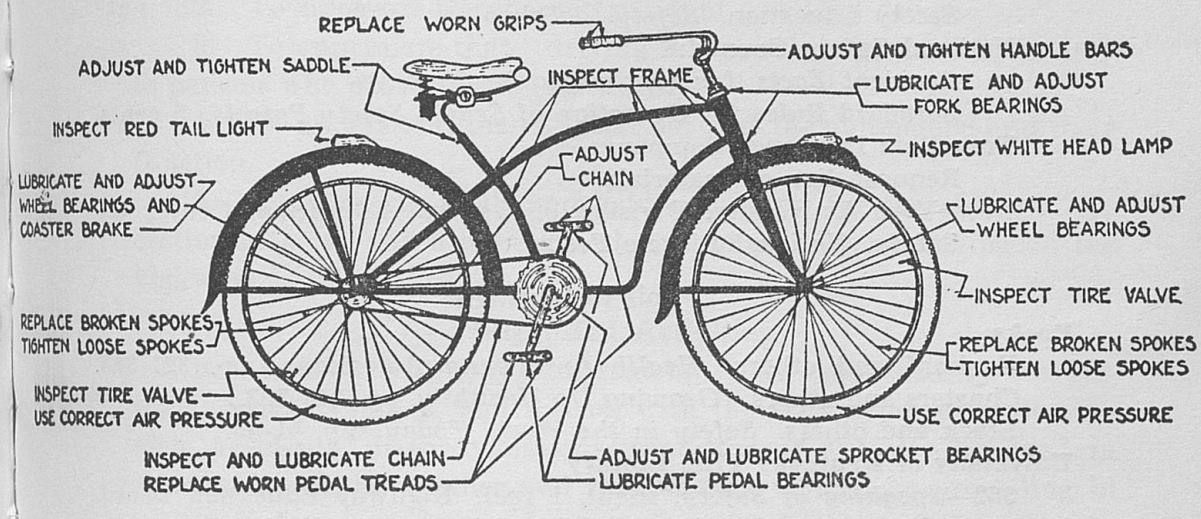
7. The bicyclist like the pedestrian must learn and conscientiously observe traffic rules in doing his part to eliminate accidents.

Bicycle Safety Rules[33]

Observe every traffic law, sign and signal.
Ride single file.
Refuse to carry passengers or large packages.
Walk, do not ride, across busy intersections.
Make all bicycle repairs off the road.
Do not stop or park on paved portion of the highway.
Come to a full stop before entering main streets and highways.
Do not ride out from between parked cars.
Do not weave in and out of traffic.
Never "hitch" rides nor ride too closely behind any vehicle.
Do not allow others to hitch on your bicycle.
Keep to the right side of the road.
Keep both hands on handlebars except to signal a turn or stop.
Pass another vehicle only after you see that the way ahead is clear.
Never pass a vehicle on a hill, curve or road intersection.
Adjust speed to the conditions of the road.
Hold left arm straight out to signal left turn.
Hold left arm up and out to signal right turn.
Hold left arm out and down to signal slow or stop.
Have bicycle seat adjusted to fit comfortably.
Keep brakes in good working order at all times.
Have steering apparatus checked frequently.
Have a headlight and rear lamp or reflector for night riding.
Carry parcels only in an approved rack or carrier.
Refuse to accept dares or to take foolish chances.
Equip bicycle with a bell or other warning device.
Make left turns from the inside traffic lane.
Give the right of way to pedestrians and automobiles.
Avoid crowded or rough streets.
Do not squeeze between two moving vehicles.
Park bicycles in designated places.
Use guard clip on trousers or slacks.
Do not ride when tired or ill.
Ride on bicycle paths whenever provided.
Do not ride in bad or stormy weather.
Use caution when emerging from alley or driveway.
Wear light-colored clothing when riding at night.
Turn only at street corner.
Obey all local traffic ordinances.
Be a good sport; ride with caution and courtesy.

[33]Minnesota State Department of Education. "Individual and Community Health, Efficiency for Living." *Curriculum Bulletin*, No. 10 (1946). pp. 324-325.

CHART SHOWING POINTS THAT REQUIRE REGULAR ATTENTION IN ORDER TO KEEP A BICYCLE IN A SAFE CONDITION *



C. The school safety patrols.[34]

1. The organization and administration of the school safety patrol.
2. Legality and liability.
3. Parent-Teacher cooperation with patrols.

Evaluation

1. List safety precautions for pupils going to and from school.
2. Draw up a bicycle safety code and distribute mimeographed copies to bicyclists.
3. Visit the sheriff's office or the local police department and secure a list of town or city ordinances effecting pedestrians and bicyclists.

Teacher References

Pamphlets and Other Materials

Bicycle Institute of America:

Bicycle safety bulletins. Free.

Poster: *Points for Pedalers.* Free.

Chicago Motor Club:

Bicycle Safety. Free.

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*Illinois State Division of Highways, Centennial Building, Springfield, Illinois.

[34]National Safety Council. *Standard Rules for Operation of School Safety Patrols.* Revised Edition, 1937. In the process of revision by representatives of the American Automobile Association, International Association of the Chiefs of Police, National Congress of Parents and Teachers, National Commission on Safety Education of the National Education Association, National Safety Council, and United States Office of Education.

Cycle Trades of America:
Bicycle for Health and Pleasure. Free.
Safety posters. Free.
National Congress of Parents and Teachers, National Commission on Safety Education. *Safety to School.*
National Safety Council:
Accident Facts (current edition). 50 cents.
Standard Rules for Operation of School Safety Patrols. 5 cents.
Travellers Insurance Company:
Request list of materials.
New York University, Division of General Education, Center for Safety. *National Bicycle Tests.*

Pupil References

Books

Burkard and others. *Health for Young Americans.* pp. 321-323.
Charters and others. *Growing Up Healthily.* pp. 243-252.
Stack and others. *Safety in the World Today.* pp. 41-45.

University of Kentucky Film Library

362—*Speaking of Safety,* silent, 1 reel. Highway Education Board. (Dangerous situations to children in street traffic.)
396—*Bicycling with Safety,* sound, 1 reel. Bicycle Institute of America.
911—*One, Two, Three, Go,* sound, 1 reel. Teaching Film Custodians, Inc. (Our Gang of the movies; meant for elementary level).

UNIT SIXTEEN

Safety Education for the Driver and Pupils in the Use of the School Bus

Suggested Time: Twenty-four Class Periods

Introduction

Traffic accident reports indicate that more than 40,000 people are killed and over a million are injured annually in this country. This is primarily due to the fact that drivers do not know how to use the powerful and too speedy automobile of today. The *Vital Statistics Report,* 1951, of the Kentucky State Department of Health recorded 769 deaths from motor vehicle accidents.

Boys and girls of high school age and post-high-school age are establishing an unenviable reputation for accidents from driving. Fifteen per cent of the deaths due to motor vehicle accidents in Kentucky, including driving and pedestrian fatalities, in the 1951 report were in the 10-19 year age group.

Objectives

1. To recognize that most automobile accidents are avoidable because over 90 per cent are due to the human factor.
2. To recognize the characteristics of a skillful driver.
3. To appreciate that "driving is a privilege granted by society to persons who prove themselves worthy."
4. To understand the essential parts of the automobile and their function.
5. To learn the skills and habits required for the efficient operation of a car and a basic knowledge for intelligent driving on the highway.

Suggested Activities

Secure a current copy of *Accident Facts,* published by the National Safety Council, and discuss with the class types of motor vehicle accidents, driver violations, condition of vehicles involved in accidents, and the weather and road surface conditions prevailing in accidents. It is a good procedure to mimeograph copies of these reports by the National Safety Council for distribution among class members. As the discussion proceeds, record apparent needs for additional information on particular phases and include interests which may be added to or substituted for any of the suggested activities listed below:

1. Discuss in detail what should be done at the scene of an automobile accident.
2. Arrange a visit to a local garage and have a mechanic explain the operation of a motor and the gears.
3. Explain the necessity of lubrication. Use a lubrication chart to show the parts of the automobile that require grease and oil.
4. Invite an automobile insurance agent to visit the class and ask him to discuss property damage, fire and theft, collision and liability.
5. Use the rating chart furnished by the Kentucky State Highway Department in *Behind the Wheel,* page 36, to check the driving ability of class members.
6. Diagram the correct procedure of making right and left turns.
7. Diagram the movements of the gearshift lever in a passenger car and a one and one-half ton truck.
8. Study Kentucky regulations on speed limits for highways and those established in the community.
9. Enumerate factors which may cause a driver's license to be revoked.

10. Discuss the hazards of riding on the running board or fender, dismounting from a moving automobile, and riding on the rear of a truck.

11. Request the Kentucky State Highway Department to schedule a driver and pedestrian education show featuring Lee Allen Estes, magician.

12. Discuss road improvement plans for your community or county. Find out how tax money is apportioned for city and county roads.

13. Discuss state regulations in regard to the use of lights on the truck.

14. Give the *Project on Traffic and Driving Knowledge for High School Students* provided by the American Automobile Association and inform pupils of score.

Basic Content

A. The motor vehicle and modern life.
   1. The automobile and how it has changed the lives of people.
      1.1. American family's dependence on the automobile.
      1.2. The effect of the automobile on rural life.
      1.3. Transportation by motor bus.
   2. The story of the motor car.
   3. The motor truck in modern business and agriculture.
   4. The automobile and employment.
   5. The automobile and crime.
   6. Motor vehicle accidents.
   7. Construction and maintenance of highways.
   8. Protective services for the automobile.
   9. What the automobile has done.[35]
      9.1. Made rapid individual transportation available.
      9.2. Extended recreational opportunities.
      9.3. Provided employment for new industries.
      9.4. Enabled city dwellers to live in more attractive suburbs.
      9.5. Increased marketing areas.
      9.6. Lessened isolation of rural areas.
      9.7. Assisted in the consolidation of schools and churches.
      9.8. Decreased provincialism.
      9.9. Improved services rendered by physicians, hospitals, police, and firemen.

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[35]American Automobile Association. *Sportsmanlike Driving.* p. 12; National Conservation Bureau. *Man and the Motor Car.* pp. 5-19.

B. The physical qualities of the driver.

1. The health status of the driver.

1.1. General physical fitness.

1.2. Chronic diseases and temporary illness such as epilepsy, high blood pressure, heart disease and nervous ailments.

1.3. Disabilities such as an amputated limb or a crippled condition. These handicaps are often overcome by special devices.

1.4. Fatigue. Driving while fatigued may result in falling asleep at the wheel or increase the state of nervous tension leading to misjudgment of distance and retardation of reaction time.

1.5. Alcohol and drugs. Drunken driving is fast becoming one of the leading causes of automobile accidents. Alcohol reduces visual acuity and interferes with muscular coordination. Drugs cause a loss of reasoning ability and judgment.

1.6. Carbon monoxide poisoning. (See Unit Twelve).

2. Vision.

2.1. Visual acuity.

2.2. Nearsightedness (myopia). A condition of the eyes in which distant objects are indistinct.

2.3. Tunnel vision or "barrel" vision. The inability to see from the outer edge of the eye.

2.4. Double vision. A condition of vision in which two of every object is seen instead of one.

2.5. Resistance to glare. High degree of sensitivity of the eyes to bright lights.

2.6. Color blindness. Absence of cones in eyes necessary for the identification of color such as red and green.

2.7. Night blindness. A condition of the eye due to the lack of vitamin A which interferes with night vision.

3. Hearing. Hard of hearing persons are handicapped in responding to signals of horns and sirens and noises which may be present in the automobile.

4. Psychological conditions.

4.1. Coordination. Ability to coordinate muscles for speed and economy of movement in emergencies.

4.2. Reaction time. Reaction time is the period of time during which the driver is aware of the danger and responds to it. The normal reaction time is about one-half

to three-quarters of a second. Men, as a rule, have a slightly faster reaction time than women. Reaction time is associated with the ability to apply the brakes on a vehicle and bring it to a halt. *Accuracy of reaction is far more important than speed of reaction!*

TABLE V

REACTON, BRAKING, AND STOPPING DISTANCES IN RELATION TO SPEED[36]

Miles Per Hour	Feet Per Second	Reaction Distance	Braking Distance	Total Stopping Distance
10	14.7	9.8	7	16.8
15	22.	14.7	15	29.7
20	29.3	18.5	28	46.5
25	36.7	24.5	43	67.5
30	44.	29.3	62	91.3
35	51.3	34.2	84	118.2
40	58.7	40.3	109	149.3
45	66.	44.	135	179.
50	73.4	49.	172	221.
55	80.7	53.8	210	263.8
60	88.	58.7	248	306.7

4.3. The formation of habits that operate automatically in emergencies.

4.4. Anticipated emergency decisions such as reducing speed on slippery surfaces or shifting in low gear on a steep descent.

5. Mental and emotional qualities.

5.1. The accident prone driver. More than 85% of the accidents are caused by 15% of the drivers. These drivers are responsible for repeated traffic violations and form habits unfavorable to safe driving.

5.2. The egotistical driver who figures laws are made for others. He demands the right-of-way, turns in the wrong lane and always relies on his own judgment.

5.3. The show-off driver who passes red lights and stop signs, brags about his speed and narrow escapes, and his ability to drink and drive at a fast clip.

5.4. The irresponsible driver. He gambles on poor brakes, disregards pedestrian rights, drives on the wrong side

[36]Adopted from Minnesota State Department of Education *Curriculum Bulletin, op. cit.*, p. 275.

of the road and inside curves, and disregards standing buses or streetcars.

5.5. The temperamental driver. He is the impatient type in congested traffic and a horn-leaner, everybody else is wrong, and becomes disturbed over trifles.

5.6. The inattentive driver who is lost in his own thoughts carries on an animated conversation with the other passengers, listens to programs on the car radio, and has a failing for reading signs or gazing at scenery. Persons with high I.Q.'s often fall into this category.

C. The construction, mechanical operation, and servicing of the automobile.[37]

1. The major units of the automobile and their function.

1.1. The engine—cylinder, piston, valve, cycle of operation, intake compression, power exhaust.

1.2. Types of engines—four-stroke cycle and two-stroke cycle.

1.3. The essential functions in the operation of the engine are: (a) full system which includes the carburetor (mixes air and gasoline in proper proportions), fuel pump which furnishes the carburetor with gasoline, and the fuel storage tank; (b) electrical system which includes the ignition system that supplies the spark to ignite the fuel; generator which furnishes the source of electricity, starter, lights, ampmeter, and accessories; (c) cooling system which includes the radiator, water pump, coolants, fan and thermometer, and (d) lubrication system which includes the oil pump, circulating tubes, and oil pressure gauge.

2. Other systems that serve important functions in the operation of the automobile.

2.1. The steering mechanism.

2.2. The braking system.

2.3. The lubricating system.

2.4. The suspension system designed to absorb shocks on road.

3. Servicing to maintain a high level of safety and efficiency.

3.1. A regular check of the automobile by a mechanic.

3.2. Checking unusual sounds and peculiar performance.

[37]Adapted from Texas State Department of Education. "Guide to Safe Living for Secondary Schools," *Bulletin* No. 462 (1945).

3.3. Lubrication as specified by manufacturers.
3.4. Inspection of hand and foot brake.
3.5. Check steering gear, wheel alignment, and tire condition and pressure.
3.6. Check headlights to correct direction and height of beams and other lights for operation.
3.7. Check operation of windshield wiper and keep rear-view mirror adjusted and clean.
3.8. Check battery and fill regularly with distilled water.
3.9. Check oil pressure gauge for proper pressure and ampmeter for generator operation.

4. The function of each unit through which the power is transmitted from the motor to the wheels.
4.1. The clutch permits a gradual application of power from the motor.
4.2. The gear system of the transmission permits forward and backward motion of the automobile, and the selection of gear ratio which uses the power of the motor to the best advantage.
4.3. The differential permits equal distribution of power to the wheels whether driving on a straight course or on a curve and also applying the power at a sharp angle to the axle shafts.

D. The techniques and skills in driving.
1. The laws of nature that affect driving.
1.1. Friction.
1.2. Momentum.
1.3. Centrifugal force.
1.4. Gravity.
1.5. Inertia.
2. Safe practices in city or town driving.
2.1. Driving in the proper lane.
2.2. Observing the right-of-way.
2.3. Observing proper driving speeds.
2.4. Making proper turns.
2.5. Making proper hand signals.
2.6. Correct interpretation of traffic signs and signals.
2.7. Parking according to city ordinances.
2.8. Recognition of pedestrian and bicyclists' rights.
2.9. Observing regulations in regard to streetcars and buses.
3. Safe practices in rural driving.

3.1. Observing no-passing area warnings over hills and curves.
3.2. Dim to approaching vehicles.
3.3. Following at a correct distance.
3.4. Proper technique in overtaking and passing.
3.5. Observing sound driving practices at intersections, grade crossings, and side roads.
3.6. Observing sound driving practices in open range driving.

4. Techniques necessary for driving under varying conditions.
4.1. Driving according to condition of highway and topography of the country.
4.2. Sound driving practices at night.
4.3. Driving according to weather conditions such as snow, fog, rain, ice, and sleet.

5. The benefits of following good driving practices.
5.1. Privilege of using the family car.
5.2. Greater ease and pleasure in driving.
5.3. Minimize traffic congestion.
5.4. Greater recreational opportunities.
5.5. Economy in the operation of car through reduction in cost of operation and probability of accident.

E. Learning the driving skills.

1. Procedures in acquiring driving skills.
1.1. Understanding the driver compartment.
1.2. Checking the automobile.
1.3. Starting the car.
1.4. Taking the car through the gear pattern.
1.5. Steering and stopping the automobile.
1.6. Braking and turning.

2. Advance skills and how they are acquired.
2.1. Parking properly.
2.2. Starting the automobile on a grade.
2.3. Stopping on grade.
2.4. Driving through traffic.
2.5. Driving on the open highway.
2.6. Meeting and overtaking vehicles.

3. Characteristics of a good driver.
3.1. Exhibits control and self-confidence.
3.2. Smoothness in operation and reliable.

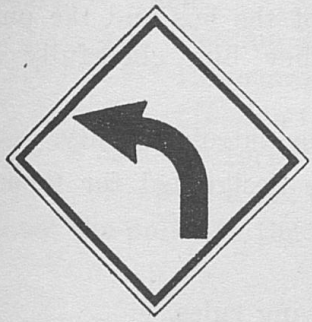
3.3. Alert and attentive.
3.4. Shows sportsmanship, patience, and courtesy.

F. Traffic regulations and laws of Kentucky.
1. The necessity for traffic regulations.
1.1. To control expected increase in vehicles and consequent increase in drivers.
1.2. To reduce the high death and injury rate.
1.3. To prevent the use of the automobile in criminal pursuits.
1.4. To offset the lack of uniformity in traffic regulations in various states and in the use of traffic signs, signals, and markings.

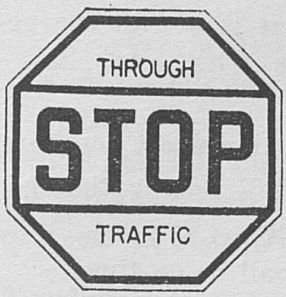
2. Speed limits in Kentucky.
2.1. Driving speed beyond 45 miles an hour is considered dangerous and unreasonable.
2.2. In passing through a closely built business section or a portion of a city or town a speed limit of 20 miles is required unless city ordinance stipulates differently.
2.3. Where the highway passes through the residential portion of city or town a speed limit of 25 miles an hour is required unless otherwise stipulated.

3. In all parts of the State of Kentucky road signs are provided, marking sideroads, junctions, intersections, curves or angles, schools, underpasses, narrow bridges, railroad crossings and other places where the law requires the driver to slow down.

4. Where passing is against the law.
4.1. When passing a car on a hill or curve where the driver's view is obstructed.
4.2. When approaching 100 feet of any bridge, viaduct or tunnel, or when coming within 100 feet of or traversing any intersection or railroad grade crossing.
4.3. Where official signs are in place directing that traffic keep to the right.
4.4. Where there is a yellow line in the center of the highway or road.
4.5. It is the law that a driver of a vehicle on the highway shall come to a complete stop upon meeting or overtaking a school bus stopped for or unloading passengers and then proceed with due caution.



ALL DIAMOND SIGNS INDICATE SLOW; REDUCE SPEED, PREPARE FOR SUDDEN STOP.



ALL OCTAGONAL SIGNS INDICATE STOP AND ARE ERECTED ONLY AT POINTS OF EXTREME DANGER.



STATE ROUTE MARKER



ALL RAILROAD CROSSINGS ARE MARKED BY THE ABOVE SIGN AND SHOULD BE APPROACHED WITH EXTREME CAUTION.



ALL SQUARE SIGNS INDICATE CAUTION; LOOK, HAVE CAR UNDER CONTROL, SLOW DOWN IF NECESSARY.



U.S. ROUTE MARKER

5. Driving while intoxicated.
   - 5.1. A person convicted of such a violation shall be fined from $100.00 to $500.00 for the first offense, and his license revoked for a period of one year.
   - 5.2. On second and each subsequent offense he shall be fined $100.00 to $500.00 and imprisoned for not more than six months and his license revoked for an additional like period.
6. Safety requirements.
   - 6.1. Hand and foot brake.
   - 6.2. Rear lights.
   - 6.3. Headlights.
   - 6.4. Wagons and buggies.
   - 6.5. Red light in front.
   - 6.6. Flashing lights.
   - 6.7. Lowering beam.
7. Examination for operator's license.
8. License may be revoked or suspended.
9. The driver's duty in accidents.

10. Regulations for pupils on school bus.[38]

10.1. The driver is in full charge of the bus and the pupils who ride with him shall obey him cheerfully and promptly.

10.2. Pupils shall respect monitors or patrols on duty.

10.3. Pupils shall occupy the space designated for them by the driver.

10.4. Pupils shall be on time.

10.5. Pupils shall observe the following rules.

10.51. Never stand in the road while waiting for the bus.

10.52. Clean feet before entering the bus.

10.53. Abstain from the use of tobacco and profane and indecent language.

10.54. At all times keep head and arms inside the window.

10.55. Get on and off bus or change seats in the bus only when it is not in motion.

10.56. Refrain from leaving the bus without the driver's consent, except at home or at school.

10.57. Walk on the left side of the road facing the traffic.

10.6. Pupils who must cross the road after alighting from the bus should pass in front of the bus and not behind it. The driver should see that the road is clear before the child is permitted to cross the road.

10.7. Should any pupil persist in violating any of these regulations, it shall be the duty of the driver to notify the principal. (See, *Standards for School Buses: Laws and Regulations for Their Operations.*)

Evaluation

1. Cite a road in the community or rural area which has unsafe features and list suggestions for correcting the situation.

2. Prepare a report on the effect of the automobile on modern life.

3. List the regular services that should be performed on an automobile to maintain it in good operating condition.

4. Conduct a vision test by means of the Snellen eye chart.

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[38]Kentucky State Department of Education. "Standards for School Buses: Laws and Regulations for Their Operation," *Educational Bulletin,* Vol. 14, No. 10 (December, 1946). pp. 712-713.

5. Diagram on the blackboard the following sound driving practices when:

5.1. Passing and overtaking a slower driver.

5.2. Returning the automobile to the highway when it runs off onto the shoulder.

5.3. Performing right and left turns.

6. Prepare a list of 5 ways in which a law-abiding citizen may assist the police in the enforcement of traffic regulations.

Teacher References

Pamphlets and Other Materials

American Automobile Association:

Check Lists and Score Sheet for Exercises for Driving Skill.

Cost of High School Driver Education and Training Course.

Project on Traffic and Driving Knowledge.

Road Test in Traffic.

Sportsmanlike Driving.

Training Drivers Through High School and Home Cooperation.

Ford Motor Company. *How to Be An Expert Driver.*

Illinois State Department of Education. *A Program of Safety Education for the Secondary Schools of Illinois.*

Kentucky State Department of Education. *Standards for School Buses: Laws and Regulations for Their Operation.*

Kentucky State Department of Highways:

Behind the Wheel.

Your Duty! Drive Carefully.

National Conservation Bureau. *Man and the Motor Car.*

National Education Association:

Checklist of Safety and Safety Education.

Dramatizations in Safety Education: An Annotated Bibliography.

Safety Education Projects, Research Division for Secondary-School Teachers. Correlation of safety with related areas—art, English and other subjects.

Safety and Safety Education: An Annotated Bibliography.

School Bus Standards.

Traffic Safety Unit for Junior High Schools.

Traffic Safety Unit for Rural Schools.

Visual Aids in Safety Education.

National Safety Council:

Safety Education Methods, Secondary School. 50 cents

Safety Materials for Schools.

Safety Education Memo.

Society for Visual Education. (National Safety Council and *Coronet Magazine*)

Safety in Pictures.

Texas State Department of Education. *Guide to Safe Living for Secondary Schools.*

The Pure Oil Company. *So—You're Going to Drive.*

Pupil References

Books

Burkard and others. *Health for Young Americans.* pp. 317-321.

Charters and others. *A Sound Body.* pp. 149-156.

Stack and others. *Safety in the World Today.* pp. 35-61; 325; 335-354.

Wilson and others. *Modern Ways to Health.* pp. 243-247.

University of Kentucky Film Library

387—*Once Upon a Time,* sound, 1 reel. Metropolitan Life Insurance Company.

616—*Making a V-Type Engine,* silent, 2 reels. Bureau of Mines.

622—*The Story of a Storage Battery,* silent, 2 reels. Bureau of Mines.

623—*The Story of a Spark Plug,* silent, 2 reels. Bureau of Mines.

639—*Lubrication,* silent, 3 reels. Bureau of Mines.

642—*Automotive Service,* silent, 1 reel. Vocational Guidance.

3056—*We Drivers,* sound, 1 reel. General Motors.

6281—*Know Your Car,* sound, 1½ reels. U. S. Office of Education.

6282—*Your Driving Habits,* sound, 1½ reels. U. S. Office of Education.

6283—*Keeping Your Car Fit,* sound, 1 reel. U. S. Office of Education.

6284—*Trouble Shooting Your Car,* sound, 1 reel. U. S. Office of Education.

BIBLIOGRAPHY

General Books

Betz, Betty. *Your Manners Are Showing.* New York, New York: Grosset and Dunlap.

Chadwick, A. D., and Pope, A. S. *The Modern Attack on Tuberculosis.* Revised Edition. New York, New York: The Commonwealth Fund, 41 East 57th Street, 1946.

Chambers, John S. *Conquest of Cholera.* New York, New York: The Macmillan Company, 1938.

de Kruif, Paul. *Microbe Hunters.* New York, New York: Harcourt, Brace and Company, 1926.

Deaver, George G., *Fundamentals of Physical Examination.* Philadelphia, Pennsylvania: W. B. Saunders Company, 1939.

Fishbein, Morris. *Shattering Health Superstitions.* New York, New York: Liveright Publishing Corporation, 1935.

Fishbein, Morris. *Modern Home Medical Advisor.* New York, New York: Garden City Publishing Company, 1942.

Goldberg, I. H., and Hallock, Grace T. *Health and Physical Fitness.* Chicago, Illinois: Ginn and Company, 1943.

Kallett, A., and Schlenk, J. J. *100,000,000 Guinea Pigs.* New York, New York: Grosset and Dunlap, 1933.

Lane, Janet. *Sitting Pretty.* New York, New York: John Wiley and Sons, Inc., 440 Fourth Avenue. 1947.

Lane, Janet. *Your Carriage, Madam!* Second Edition. New York, New York: John Wiley and Sons, Inc., 440 Fourth Avenue, 1947.

Myers, C. R. *Toward Mental Health in School.* Toronto, Canada: The University of Toronto Press, 1939.

Ryan, R. W. *Mental Health Through Education.* New York, New York: The Commonwealth Fund, 41 East 57th Street, 1938.

Turner, E. C. *Principles of Health Education.* Second Edition. Atlanta, Georgia: D. C. Heath and Company, 1939.

Williams, J. F. and Shaw, Fannie B. *Methods and Materials of Health Education.* New York, New York: Thomas Nelson and Sons, 1937.

Textbooks

Anders, J. M., Goldberger, I. H., and Hallock, Grace T. *The Healthy Home and Community.* Revised Edition. Columbus, Ohio: Ginn and Company, 1945.

Burkard, W. E., Chambers, R. L., and Maroney, F. W. *Health and Human Welfare.* Atlanta, Georgia: Lyons and Carnahan, 1944.

Burkard, W. E., Chambers, R. L., and Maroney, F. W. *Health for Young Americans.* Atlanta, Georgia: Lyons and Carnahan, 1946.

Charters, W. W., Smiley, D. F., and Strang, Ruth M. *A Sound Body.* Chicago, Illinois: The Macmillan Company, 1947.

Charters, W. W., Smiley, D. F., and Strang, Ruth M. *Growing Up Healthily.* Chicago, Illinois: The Macmillan Company, 1946.

Crisp, Katherine B. *Be Healthy.* Chicago, Illinois: J. B. Lippincott Company, 1938.

Crisp, Katherine B. *Health for You.* Chicago, Illinois: J. B. Lippincott Company, 1946.

Fishbein, Morris, and Irwin, L. W. *Health and First Aid.* Atlanta, Georgia: Lyons and Carnahan, 1944.

Stack, H. J., Seaton, D. C., and Hyde, Florence S. *Safety in the World Today.* Chicago, Illinois: Beckley-Cardy, 1941.

Williams, J. F. *Healthful Living.* Fourth Edition. Chicago, Illinois: The Macmillan Company, 1947.

Wilson, C. C., Bracken, J. L., Pryor, Helen B., and Almack, J. C. *Modern Ways to Health.* Indianapolis, Indiana: Bobbs-Merrill Company, 1943.

Health Agencies

NOTE: In contacting official and non-official health agencies and commercial concerns for free and inexpensive materials, the following rules should be observed by the teacher:

1. Type your request on official letterhead paper.
2. The teacher or one member of the class under the supervision of the teacher should make the request.
3. Order only enough copies to meet the needs of the class.
4. State in your letter the purpose for which you intend to use the materials.
5. Check on local agencies or commercial representatives before you make a request to the home office. They may have the materials on hand or will secure them for you.
6. Anticipate your needs ahead of time. Normally two weeks should be allowed for exchange of letters and shipping.

7. As you accumulate materials, establish a filing system for ease of reference and preservation of materials in the classroom or school library. Talk this over with the school librarian and she will have some suggestions for suitable methods of classification and other details.

Aetna Life Insurance Company, New Haven, Connecticut.

American Automobile Association, Pennsylvania Avenue at 17th Street, Washington 6, D. C. (Inquire at local AAA or Motor Club)

American Can Company, Home Economics Department, 230 Park Avenue, New York, New York.

American Cancer Society, Kentucky Division, 321 Brown Building, Louisville, Kentucky.

American Dental Association, 222 East Superior Street, Chicago 11, Illinois.

American Hearing Society, 1537 35th Street, Northwest, Washington 6, D. C.

American Institute of Baking, 1135 West Fullerton Avenue, Chicago, Illinois.

American Fire Insurance Company, Research Department, 80 Maiden Lane, New York, New York.

American Association for Health, Physical Education, and Recreation, 1201 Sixteenth Street, Northwest, Washington, D. C.

American Medical Association, Bureau of Health Education, 535 North Dearborn Street, Chicago 10, Illinois.

American Public Health Association, 1790 Broadway, New York 19, New York.

American Social Hygiene Association, Inc., 1790 Broadway, New York 19, New York.

American Red Cross, 17th and East Streets, Northwest, Washington, D. C. (Inquire at local chapter)

Armour and Company, Union Stockyards, Chicago, Illinois.

Bicycle Institute of America, 122 East 42nd Street, New York, New York.

Borden Company, 350 Madison Avenue, New York 17, New York.

Boston Better Business Bureau, Boston, Massachusetts.

Breathitt County Board of Education, Jackson, Kentucky.

Bristol-Myers Company, Educational Service Department, 630 Fifth Avenue, New York 20, New York.

California Fruit Growers Association, Sacramento, California.

Central Dairy Council, 128 East Chestnut Street, Louisville, Kentucky.

Chicago Motor Club, Safety and Traffic Engineering Department, 66 East South Water Street, Chicago, Illinois.

Cleanliness Bureau of the Association of American Soap and Glycerine Producers, 11 West 42nd Street, New York 18, New York.

Cycle Trade of America, Chanin Building, New York, New York.

Evaporated Milk Association, 307 North Michigan Avenue, Chicago 1, Illinois.

Federal Civil Defense Administration, Cleveland Regional Office, 33467 West Lake Road, Avon Lake, Ohio.

Ford Motor Company, Dearborn, Michigan.

General Electric Company, Illuminating Laboratory, 1 River Road, Schenectady, New York.

General Electric Company, Lighting Research Laboratory, Nela Park, Cleveland, Ohio.

General Mills, Inc., Educational Relations, Department of Public Services, Minneapolis 15, Minnesota.

Good Housekeeping Institute, 57th Street and 8th Avenue, New York, New York.

Illinois State Department of Education, Centennial Building, Springfield, Illinois.

International Association of Electrical Inspectors, Public Relations Committee, 85 John Street, New York, New York.

International Cellucotton Products Company, Post Office Box 3434, Merchandise Mart Station, Chicago, Illinois.

International Harvester, 180 North Michigan Avenue, Chicago, Illinois.

John Hancock Mutual Life Insurance Company, Life Conservation Service, Post Office Box 111, Back Bay Station, Boston 17, Massachusetts.

Johnson and Johnson, New Brunswick, New Jersey.

Kentucky State Department of Education, Division of Health and Physical Education, Frankfort, Kentucky.

Kentucky State Department of Education, Division of School Buildings and Grounds, Frankfort, Kentucky.

Kentucky State Department of Education, Division of Vocational Education, Frankfort, Kentucky.

Kentucky State Department of Conservation, Division of Recreation, Frankfort, Kentucky.

Kentucky State Department of Health, 620 South Third Street, Louisville 2, Kentucky.

Kentucky State Department of Highways, Frankfort, Kentucky.

Kentucky Tuberculosis Association, 620 South Third Street, Louisville 2, Kentucky.

Kraft Cheese Company, 1725 Dixie Highway, Louisville 10, Kentucky.

Lily-Tulip Cup Corporation, New York, New York, or Kansas City, Missouri.

McKesson and Robbins, 217 East Sixth Street, Cincinnati, Ohio.

McKnight and McKnight, Bloomington, Illinois.

Metropolitan Life Insurance Company, School Health Bureau, Health and Welfare Division, 1 Madison Avenue, New York 10, New York.

National Better Light Better Sight Bureau, 420 Lexington Avenue, New York 17, New York.

National Board of Fire Underwriters, 85 John Street, New York, New York.

National Committee for Mental Hygiene, Inc., 1790 Broadway, New York, New York.

National Congress of Parents and Teachers, 600 South Michigan Boulevard, Chicago, Illinois.

National Conservation Bureau, 60 John Street, New York, New York.

National Dental Hygiene Association, 934 Shoreham Building, Washington 5, D. C.

National Education Association of the United States, 1201 Sixteenth Street, Northwest, Washington 6, D. C.

National Fire Protection Association, 60 Batterymarch Street, Boston, Massachusetts.

National Foundation for Infantile Paralysis, 120 Broadway, New York 5, New York.

National Live Stock and Meat Board, 407 South Dearborn Street, Chicago 5, Illinois.

National Recreation Association, 315 Fourth Avenue, New York, New York.

National Research Council, Food and Nutrition Board, 2101 Constitution Avenue, Washington 25, D. C.

National Rifle Association of America, 1600 Rhode Island Avenue, Washington, D. C.

National Safety Council, 20 North Wacker Drive, Chicago, Illinois.

National Society for the Prevention of Blindness, 1790 Broadway, New York 19, New York.

Nebraska State Department of Education, State Capitol, Lincoln, Nebraska.

New York State Department of Education, Division of School Buildings and Grounds, Albany, New York.

New York University, Division of General Education, Center for Safety Education, New York.

Ohio State Department of Education, Superintendent of Public Instruction, Columbus, Ohio.

Pure Oil Company, 35 East Wacker Drive, Chicago, Illinois.

Sears-Roebuck Foundation, Chicago, Illinois.

Social Hygiene Association of Kentucky, 620 South Third Street, Louisville 2, Kentucky.

Sporting Arms and Ammunition Manufacturers Institute, 343 Lexington Avenue, New York, New York.

Swift and Company, Union Stockyards, Chicago 9, Illinois.

Texas State Department of Education, Superintendent of Public Instruction, Austin, Texas.

Travellers Insurance Company, Hartford, Connecticut.

United States Department of Agriculture, Bureau of Human Nutrition and Home Economics. Bulletins from Superintendent of Documents, Washington 25, D. C.

United States Department of Agriculture, Farmers' Bulletins, Superintendent of Documents, Washington 25, D. C.

United States Department of Agriculture, Soil Conservation Service. Bulletins from Superintendent of Documents, Washington 25, D. C. (Inquire at county headquarters or contact county agent.)

United States Children's Bureau, Federal Security Agency, Bulletins from Superintendent of Documents, Washington 25, D. C.

United States Food and Drug Administration, Federal Security

Agency. Bulletins from Superintendent of Documents, Washington 25, D. C.

United States Office of Education, Federal Security Agency. Bulletins from Superintendent of Documents, Washington 25, D. C.

United States Public Health Service, Federal Security Agency. Bulletins from Superintendent of Documents, Washington 25, D. C.

University of Kentucky, College of Agriculture and Home Economics, Lexington, Kentucky.

University of Kentucky, College of Education, Bureau of School Service, Lexington, Kentucky.

University of Kentucky, Department of Extension, Frazee Hall, Lexington, Kentucky.

Wheat Flour Institute, 309 West Jackson Boulevard, Chicago, Illinois.