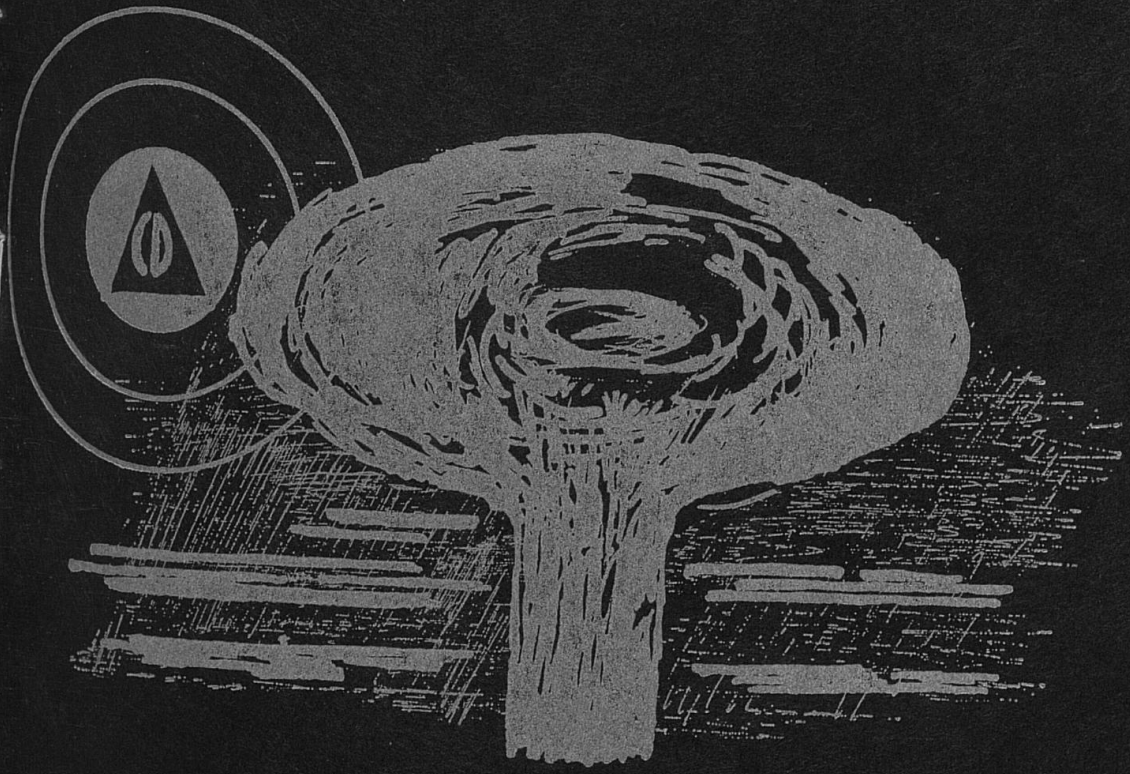
Commonwealth of Kentucky

EDUCATIONAL BULLETIN

A CIVIL DEFENSE CURRICULUM GUIDE FOR KENTUCKY SCHOOLS



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ROBERT R. MARTIN
Superintendent of Public Instruction

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FOREWORD

A short time ago my office distributed to all schools in the Commonwealth the publication "A Survival Plan for Kentucky Schools." That plan emphasized that the nuclear age places new responsibilities upon our schools in instructing children in effective survival behavior. To meet these responsibilities, it called for the integration of civil defense education into the curriculum at all levels of instruction.

We do not suggest that a new "packaged program" of Civil Defense be superimposed on an already crowded curriculum, but rather that it be appropriately included at many points in the existing curriculum where its application might reinforce or extend the intended educational concepts.

I know that all our teachers are aware of the difficulties of our task in these times of world tension and fear. Certainly we have the responsibility of preparing a generation which can help to achieve and maintain peace in the world. However, at the same time we must teach in the world of today, and we must prepare children for living and staying alive in today's world. Both aspects of this "teacher's dilemma" must receive their proper emphasis in the classroom.

This bulletin contains sample lesson plans, instructor's guides, and other education aids designed to facilitate the introduction of civil defense education at elementary, secondary, and college levels. It was organized and prepared by Mr. Norbert Rechtin, Special Assistant to the Superintendent of Public Instruction for Civil Defense, and it is hoped that this material will be of real value to our schools in meeting the challenge of adequately equipping our youth for nuclear age survival. To ignore our responsibility in this regard is to imperil the safety of our children and endanger our American way of life.

ROBERT R. MARTIN
Superintendent of Public Instruction

INTRODUCTION

We live in one of the most promising ages of civilization; but, at the same time, one which is fraught with fears, dangers and tensions. We have developed and harnessed undreamed-of sources of energy capable of contributing untold benefits to mankind; but, paradoxically, sources which, misused, can plunge us to the very depths of destruction. And here we educators stand—scanning the future for some assurance that tomorrow's world will be free of war that we might interpret for our youth, shining horizons of peace and human progress. But alas, such assurance is not easy to find. Rather, we observe the dismal, yet necessary prospect of perhaps years of military preparedness in efforts to maintain a balance of power in this nuclear age. Being realistic, we face up to the incontrovertible conclusion that while we are dedicated to the task of preparing children for the full life for war-free tomorrows, we must not neglect the basic instruction in how a child might better stay alive in this time of the super-bomb, of the guided misssile, of the atomic submarine.

Throughout the years since World War II—a period that we have known as "The Cold War"—it has been made abundantly clear to us that our responsibility as educators is to teach the means of survival as an integral part of preparing children for effective citizenship in this nuclear age. We have no other choice. Paraphrasing the thought expressed by a teen-age boy who had been reprimanded for disturbing a class in a London school at the height of the World War II blitz bombings, "The time might well have arrived when life is as important as 'Latin'."

ACKNOWLEDGEMENTS

In preparing this work a number of publications have been relied upon for ideas, techniques, or subject matter. References in the body of the work have been made in several instances, but special acknowledgement is hereby given the following publications:

Civil Defense and Vocational Education, American Vocational Associaton, Washington 5, D. C.

Civil Defense Curriculum Guide, Milawukee Public School Curriculum Planning Council, Milwaukee, Wisconsin.

Civil Defense Education, Connecticut Pilot Project, Hartford, Connecticut.

Civil Defense Education thru Elementary and Secondary Schools, Commission on Safety Education, National Education Association, Washington 6, D. C.

Civil Defense for Schools, State Council of Civil Defense, Harrisburg, Pennsylvania.

Civil Defense in Schools, TM-16-1, Federal Civil Defense Administration, Battle Creek, Michigan.

Civil Defense in the Classroom, Department of Public Instruction, Lansing, Michigan.

Curriculum Guide for Civil Defense and Disaster Relief Education, Texas Educational Agency, Austin, Texas.

Defense for Survival, Roesland District #92 Schools, Johnson County, Mission, Kansas.

Education for National Survival, Office of Education, Washington 25, D. C.

Organizing Colorado Schools for Civil Defense, Department of Education, Denver, Colorado.

The Parent-Teacher Association in Civil Defense, Educational Bulletin Number 7, August, 1957, Kentucky Department of Education.

CONTENTS

CHAPTER I

GENERAL SUGGESTIONS TO TEACHERS

1. Familiarize yourself with all available literature on how to survive nuclear attack. (See bibliography in "A Survival Plan for Kentucky Schools" released by Office of Superintendent of Public Instruction in March, 1958 or write Division of Civil Defense, P.O. Box 656, Cherokee Station, Louisville 5, Ky., for complete bibliography). Adapt this information to the particular group of children with which you are working. If there are questions you cannot answer, contact either your local or your State Civil Defense officials.

2. Sometimes children are troubled or worried by stories about war or bombings. They hear of such possibilities in the conversation of adults or over the radio or TV. If they express fear, encourage them to talk. By so doing you can help them in two ways: first, merely expressing fears helps reduce "tensions". Second, you can give them correct information on how to protect themselves from nuclear attack and thereby increase their confidence.

3. A possible method of presenting the subject of nuclear bombs and instructions concerning safety procedures is outlined immediately following these comments. The proper presentation of this material is most vital. Children must not be frightened, yet actual dangers must not be minimized. By a calm, realistic approach on your part, children will be impressed with the seriousness of the instruction without being emotionally overwhelmed by it.

4. At the end of each day's lesson, review with the children the information they should talk over that night with their parents. Copies of informational pamphlets on the H-bomb, on radioactive fallout, on fighting small fires, on emergency communications, on survival kits, on first aid kits, and on a number of other civil defense subjects are presently available **free** at the State Division of Civil Defense. You will want to give some of these to the children for their own information and to be taken home. Some materials may be duplicated by the school; or,

older children may take notes and summarize them under the direction of the teachers.

5. Encourage children to discuss with their parents all materials taken home, and then to keep them for later reference. Also encourage the children and their parents to bring to the school any questions they may have after home discussion of the materials.
6. From time to time, review essential information with the children. Immediately following a school disaster drill might be a favorable time to reemphasize key safety points.
7. Explain to children that their parents also will know these protection rules, and will follow the same ones wherever they may be. In this way, you may relieve a child's anxieties about his parents' safety, and reinforce his own interest in learning the rules and procedures.

A Sample Presentation—Kindergarten to Grade Three

"How many of you have ever seen the television shows 'Living Wonders' or 'The Zoo Parade'? What have you learned about the ways in which plants and animals protect themselves?"

"How have the people in our country had to protect themselves in days gone by from Indian attacks, storms, floods, etc.?"

"What dangers do we face every day from automobiles, fires, and on the playground?"

"What are some of the things we have already learned about taking care of ourselves?"

Likely answers include: (list on blackboard)

a) We walk through a building, we do not run.

b) We stop at the red light when we are walking to school.

c) We watch for the policeman's signal before crossing streets.

d) In a fire drill, we walk quickly and quietly.

"How many of you like to see cowboy movies, or watch Roy Rogers and the Lone Ranger on television?"

"Have you seen any pictures, in the paper or on television, of soldiers fighting in Korea?"

"How is the fighting in Korea different from the kind you see in cowboy pictures?"

In the discussion which follows, the kinds of weapons will probably be mentioned. This should lead to some reference to the atomic bomb. (It may be that the last two questions above should not be used in kindergarten classes. Perhaps the most we should expect of kindergarten children is that they understand the necessary safety rules and follow them.)

"On the Fourth of July, you have seen or heard firecrackers. They make a loud noise and a bright flash. If you are not too close, they do you no harm. But if you are even a little careless, you can be hurt. A bomb is something like a big firecracker. It makes a loud noise and a very bright flash. We hope that a bomb may never fall on our town or on any part of our country. But let's find out enough about bombs to learn to take care of ourselves should they fall."

"First of all, the best way to protect ourselves from bombs is not to be too close to them when they go off—just like the firecracker. We have been practicing fire drills even though we have never had a school fire here. But we have needed to learn how to take care of ourselves if a fire ever started. The same way with bombs; we are going to have some new drills to learn how to take care of ourselves if a bomb were ever to drop. Not being too close is the best protection, so some drills will teach us how to leave the building quickly and quietly. Other drills will take us to special places inside our building (or, for some schools, inside a nearby building.) Let us plan now how to go quickly and quietly."

Make a chart of the following, being sure all points are understood by the children:

a) When we hear the signal, we must STOP, LOOK at the teacher, and LISTEN.

b) We must FOLLOW THE INSTRUCTIONS at once.

c) We must GO QUIETLY.

d) We must NOT PUSH against each other as we walk in line.

CHAPTER II

CURRICULUM EXTENSIONS AND ADAPTATIONS

Many areas of the curriculum can be modified or extended to include civil defense education. And the areas are to be found at the elementary as well as at the secondary school level.

The elementary school curriculum is designed primarily to train children in the habits of orderly thinking and help them to become mentally alert, observant, and emotionally balanced. What the child experiences during these early, impressionable school years, usually remains in his consciousness through life. It is here, then, that the roots of civil defense education must carefully be planted, and, in the middle and upper elementary grades, it can be effectively introduced as an extension or expansion of existing instructional concepts in citizenship, science, health and physical education fields.

Secondary school students are more mature and their courses are more highly specialized. Thus they can learn more about civil defense, even to participating in responsible roles in school and community protection programs. The social studies, science, mathematics, health and physical education fields, all represent secondary school areas wherein civil defense education can be appropriately introduced.

In the table which follows, a number of civil defense educational activities are presented. Rather than attempt to delineate the curriculum area wherein each activity might best be integrated, we have preferred to show appropriate grade levels, leaving the curricular points of departure to the ingenuity and judgment of the teacher.

The suggestions included are grouped around five concepts designed to develop gradually and effectively proper civil defense skills and attitudes in grades one through twelve: 1) An understanding of the skills necessary for living in emergency situations. 2) A better understanding of the hazards we face in time of natural and man-made disasters. 3) A better understanding of the protective measures which have been developed for dealing with disasters. 4) A more complete recognition of the individual's relationship to defense against disaster. 5) An understanding of world issues and technological developments as they influence disaster defense planning.

The suggestions are arbitrarily divided according to grade levels. If you find a more acceptable way of dividing or classifying them we suggest that you use it and let others know that it works.

CONCEPT (Goal or objective)	GRADE LEVEL	SUGGESTIONS FOR CLASSROOM ACTIVITIES*
1. An understanding of the skills necessary for living in emergency situations.	Kindergarten; Grades 1 & 2	1. Teach children to know their names, addresses, and parents' name, and why they must identify themselves in times of emergency. 2. Teach youngsters the necessity of following instructions during an emergency. 3. Discuss the procedures developed by the school for fire, natural disasters and emergency wartime emergencies. 4. Acquaint pupils with school emergency signals. 5. Teach students games and other recreational activities which can be enjoyed in small areas with little confusion. (See Suggested Recreational Activities for Shelter Areas on pages 828-833.) 6. Use Safety Patrol as example of responsible authority which exists for the good of all.
	Grades 3–6	1. Acquaint students with school and community emergency signals. 2. Give students an understanding of the different types of fires and how they are extinguished. 3. Introduce students to radiation from heat; common sources of thermal radiation. 4. Help students to develop the skills necessary to live without modern conveniences. 5. Introduce students to the rules of First Aid.
	Grades 7–9	1. Provide youngsters with outdoor education experiences or discuss ways to live with the resources of nature. 2. Discuss the Survival Plan of the community. 3. Discuss Civil Defense preparations in the home. 4. Introduce students to sources of radiation other than normal.
	Grades 10–12	1. Provide students with the Red Cross and First Aid Course. 2. Provide students with home nursing instruction including disaster situations. 3. Train students for leadership in recreational activities with small children. 4. Analyze the steps a family can take to prepare for disaster. 5. Develop menus which could be used during emergencies. Bring nutrition and health into the study. 6. Discuss the psychology of panic and how it affects people during a disaster. 7. Provide students with survivals skills for outdoor living. Include emergency shelter, food, water and sanitation.

* This outline is an amended form of a similar outline published by the Connecticut Pilot Project in Civil Defense Education in cooperation with the U. S. Office of Education.

2. A better understanding of the hazards we face in time of natural and man-made disasters.	Kindergarten; Grades 1 & 2	1. Help youngsters identify the meaning of emergency.
	Grades 3–6	1. Analyze the disasters which have been faced by the students and their community or in neighboring communities. 2. Acquaint students with the origin of disasters and their effects on people and other resources. 3. Introduce students to the emergencies which can occur during wartime and natural disasters.
	Grades 7–9	1. Make a survey of the local community locating resources available for emergency purposes and potential hazards. 2. Make a large map of the community indicating the essential centers in community life. 3. Study the growth of local industries and the dangers they face in emergency situations. 4. Acquaint pupils with the principles of atomic energy and the effects of nuclear weapons. (See Instructor's Gude "Limitatons of Nuclear Weapons", page 795.) 5. Prepare maps of the State indicating target areas and their resources. 6. Explore the development of aircraft, missiles, and atomic-powered vehicles during the past years. 7. Analyze the effect of the loss of power or water to the community. 8. Construct graphs of H-bomb damage zones. 9. Study the effects of radioactive material upon the human body.
	Grades 10–12	1. Develop projects dealing with fires, floods, hurricanes, tornados, explosions, and epidemics. 2. Study the needs of the human body and how they can be satisfied during an emergency. 3. Make a study of the resources of our country and how they can be depleted by the actions of man. 4. Study atomic energy showing its wartime and peacetime uses. 5. Secure radiological monitoring instruments and demonstrate their use in recording radiation. 6. Study the effect on our community when its resources are cut off. 7. Study the weather and climate conditions facing the Southeastern part of the United States. 8. Study the causes of natural disaster and their effects on our resources. 9. Indicate the reasons why the larger cities in the State are considered critical target areas. 10. Study the potential of chemical and biological warfare. 11. Report on past experiments and tests associated with atom and hydrogen bombs.

3. A better understanding of the protective measures which have been developed for dealing with disasters.

3. A better understanding of the protective measures which have been developed for dealing with disasters.	Kindergarten; Grades 1 & 2	1. Acquaint pupils with civil defense signals as well as other emergency warnings. 2. Introduce students to policemen, firemen, civil defense and Red Cross workers. 3. Make frequent use of fire drills with pupil participation in leadership. 4. Learn what to do to protect eyes, ears, face, etc., from bomb blasts.
	Grades 3–6	1. Study the functions of government during a disaster, e.g., civil defense functions of police, firemen, health officers, etc. 2. Acquaint students with protective equipment developed for emergency purposes: fire extinguishers, first aid kits, rescue equipment, devices for detecting radiation. 3. Teach youngsters to appreciate the advantages of shelter and evacuation during emergencies. 4. Make a study of the disaster agencies of a community. 5. Indicate how civil defense is structured in the local community. 6. Acquaint students with the disaster plans of the school. 7. Explain reason for dialing radio stations at 640 and 1240. 8. Learn precautions that can reduce fires due to bomb blasts. 9. Discuss and make a survival kit.
	Grades 7–9	1. Acquaint students with emergency equipment used by civil defense organizations. 2. Acquaint students with the disaster plans of the school and community. 3. Prepare maps showing roads, parks, schools, hospitals, municipal buildings, civil defense stations, and water resources. 4. Know what tests to apply before using water or food after an air attack.
	Grades 10–12	1. Investigate the radar systems being developed in North America. What are their strengths and weaknesses. 2. Analyze the evacuation and reception plans of the State Civil Defense Office, identifying the role reception and evacuation will play during a wartime attack. 3. Analyze the protection plans of the school and develop an information procedure for other students. 4. Analyze the civil defense plans developed for a community and discuss the problems being faced. 5. Study the functions of local, state, and federal governments in civil defense planning. 6. Prepare a community booklet to give families a resource for emergency preparation and action.

4. A more complete recognition of the individual's relationship to defense against disaster.	Kindergarten; Grades 1 & 2	1. Help youngsters to understand how their parents and neighbors bear major civil defense responsibilities. 2. Discover and understand responsibilities which can be assumed by children of this age. 3. Talk about relatives and friends who are in the service, going into service, or who have been in the service.
	Grades 3–6	1. Have students check the fire hazards in their community. 2. Discuss the responsibilities of young children during a disaster. 3. Study the defense activities of the pioneer and how we face similar problems today. 4. Use children as leaders in fire and evacuation drills.
	Grades 7–9	1. Make a study of the individual responsibility within the family in preparation for disaster. 2. Discuss reasons for rationing of food, clothing, and petroleum products under emergency conditions.
	Grades 10–12	1. Discuss the feelings of people toward civil defense. 2. Explore the responsibilities which can be shouldered by youth during an emergency. 3. Study the actions of people during a disaster. 4. Develop a model family plan for emergency. 5. Study the effects of wartime disaster on other peoples of the world. 6. Practice various activities of the school survival plan to attain skill and confidence in execution. 7. Impress importance of several alternates for each place of leadership in a disaster plan.
5. An understanding of world issues and technological developments as they influence disaster defense planning.	Kindergarten; Grades 1 & 2	1. Help youngsters to understand the effect new inventions have had on our way of life. (Cars kill people, planes bring us closer together, etc.) 2. Study the interdependence of people and other nations as close neighbors. 3. Help children understand need for alert thinking and acting.
	Grades 3–6	1. Discuss examples of friendliness and the need for this quality in associations with other people and nations.
	Grades 7–9	1. Study the air routes to Europe, Asia, and Latin America. 2. Prepare a display of our means of transportation. 3. Analyze the problems faced by local people as a result of world issues. 4. Analyze causes of death and injury in our State and Nation.
	Grades 10–12	1. Discuss the present world situation and the policies being followed by our government. 2. Study the civil liberties and basic tenets of our government in relation to other nations. 3. Study the problems of civilian protection faced by other nations and earlier civilizations. 4. Show through a study of World History the rise and decline of earlier civilizations through wartime activity.

	Grades 10-12 cont'd	5. Develop an understanding of the cultural patterns of other nations of the world. 6. Study the geography of the world and its effects on people and world issues. 7. Analyze the materials used in a community which are secured from other parts of the world. 8. Identify the forces working for and against world peace both within the nation and in the world at large. 9. Develop understanding of fact that war is by no means the only source of disasters for which we prepare. 10. Compare technological development of our country with our social and political development.

CHAPTER III

LESSON PLANS

There are presented here a group of sample lesson plans which can either be taught as a "block" of civil defense units in social study, health and physical education, or science fields; or which can be offered separately as correlated units in these fields. Whichever approach is taken, it is essential that the units be appropriately introduced into the subject matter being studied, and that they be presented as an additional means of achieving the intended fundamental educational purpose. The sample lesson plans are reprinted from State Department of Education Bulletin, "The Parent-Teacher Association in Civil Defense", August, 1957.

LESSON 1

THE WHY, WHO AND WHAT OF CIVIL DEFENSE

Objectives:

I To acquaint students with the purposes of a civil defense organization:
1. To save lives
2. To protect property
3. To prevent panic
4. To be prepared to live without ordinary comforts
5. To restore life to normalcy through cooperative efforts

II To inform students of the necessity for preparation for the protection of themselves and others during and following a disaster

III To give pupils an overview of what is to be included in the six lessons of this civil defense education project.

Content:

I Reason for civil defense lessons
See "foreword"

II Types of emergencies

Naturally the words "civil defense" call to mind wartime crises. But emergencies of other kinds at times reach the stage of disaster. It is good for us to learn what to do and how to act under such conditions, whatever the cause—hurricane, tornado, blizzard, fire, or flood.

While we think of the military service taking charge in a time of enemy attack, we should realize that those of us in civilian life must participate in defense and disaster relief also. Civil defense calls upon the cooperative efforts of all individuals and all organizations during and following a disaster.

III Present-day plans for protection

Circumstances today bring up wholly new problems in self-protection for all of us, young and old, in aid to others and in organizing to take care of ourselves in serious emergencies.

States and cities, all communities in fact, must build civil defense organizations and operate them with guidance from the Federal Government. We are all responsible for our part in civil defense plans. The federal and local laws will not work if we do not cooperate fully.

Our national government authorized the civil defense program through an act of Congress in 1951. This law, as amended, established the Federal Civil Defense Administration and placed civil defense mainly under local units of government.

Congress also provided by law for a civil defense organization in the District of Columbia. In the Office of Civil Defense for the District, plans are made for all aspects of the civil defense problem including agreements with nearby states. The Director of Civil Defense develops plans for medical service, wardens, fire-fighting, communications, warnings, welfare activities, and school activities.

IV The school is important

It is the place where we are supposed to learn. Schools have cafeterias, health rooms, gymnasiums, and auditoriums, all of which may be put to good use in emergencies.

Here at school we shall learn:

1. About warning signals what to do when they are heard.
2. How to care for those injured as a result of disasters.
3. Effective sanitation and how important it is.
4. About the water and food supplies in emergencies.

Suggested Activities:

1. Have pupils talk with adults of their acquaintance who are serving in some civil defense capacity to learn their duties.
2. Have students find out who, among their friends, have had first-aid training.
3. Have students discuss at home whether any preparation has been made to help in a time of disaster.
4. Have students collect materials connected with civil defense for blackboard display.

References:

1. Federal Civil Defense Administration. **Basic Course for Civil Defense**, Washington, D.C.: Superintendent of Documents, 1955, 44 pp. 30 cents.

2. **General Aspects of Civil Defense.** Report of the Committee on Civil Defense of the Life Insurance Association of America. New York 22: Life Insurance Association of America (488 Madison Avenue), December 6, 1954.
3. Heinig, Christine M. **Civil Defense Needs and Positive Values,** American Association of University Women J44:pp. 75-77, (January, 1951)
4. Lehman, Milton. **Making Sense of Civil Defense,** Nation's Business XXXIX (February, 1951), pp. 43-44.

LESSON 2

COMMUNICATIONS

Objectives:

I To realize the importance of recognizing all signals of communication

II To realize the importance of individual and group cooperation and responsibility in following instructions

III To understand the need for a universal communication system

IV To memorize
1. Air raid signals
2. Radio dial settings in time of disaster

Content:

I **Local air raid signals**

Memorizing the air raid signals and acting quickly in accordance with instruction can mean your survival in an enemy attack.

Information for safety also may be obtained from the local office of Civil Defense, 4820 Howard Street, N.W., Washington 16, D.C. Telephone—EMerson 2-9710.

When you hear a steady blast of 5 minutes, evacuation will be in effect. Follow local instructions which will be given as soon as available. When you hear a rising and falling wail, **take shelter at once.**

II **Meaning of radio system known as Conelrad**

To avoid confusion over the Nation it is necessary to have an official and uniform system for broadcasting information to all of us.

This system is officially entitled "Plan for **Con**trol of **El**ectromagnetic **Rad**iation." **Conelrad** for short.

Following any signal, tune in **640** or **1240** on your AM radio

dial for instructions from Civil Defense Headquarters. All instructions will be received over the special Conelrad program.

Under the **Conelrad** emergency Broadcasting System you will be able to receive radio programs from three different sources —local, State, and National. Every effort will be made to tell you long in advance which AM frequency (640 or 1240) will be used in your community. In most large cities both frequencies will be used. Mark your frequency on your radio dial.

III **Use of radio and TV sets**

If you are listening to any knd of radio or television program when the alert sounds you will hear a message like this:

"We interrupt our normal program to cooperate in security and Civil Defense measures as requested by the United States Government. This is **Conelrad Radio Alert.** Listen carefully: This station is now leaving the air. During the Conelrad Radio Alert there will be no FM or TV Programs. The only programs on the air will be on your standard radio at 640 or 1240 kilocycles, starting in a few minutes. Tune your standard radio receiver to 640 or 1240 for official instruction, news, and official information."

Do not be alarmed if you receive no information for a brief period after the radio alert has been announced. It will take a little time to switch from regular broadcasting to special **Conelrad.** Wait a few minutes and then try again.

As long as the flow of electricity is uninterrupted your regular AM standard radio will do the job. However, a battery operated or portable radio is your best insurance that you will continue to receive official Civil Defense news and instructions even if your local power fails. Your automobile radio will be useful as an auxiliary set.

IV **Official attack warning**

The Air Defense Command, U. S. Air Force, will order the attack warning which will activate the **Conelrad System.** AM (standard) radio stations will switch in a matter of minutes to the emergency broadcasting system on one of the two of-

ficially designated Civil Defense frequencies—640 or 1240 kilocycles marked as 64 or 124 on some dials.

Suggested Activities:

1. Have pupils write down air raid signals to be memorized.
2. Have pupils check with parents on Civil Defense cards which were left at every house during the summer of 1955.
3. Have students relate any steps which the family took in regard to instructions on this card.
4. Have students write and pronounce **Conelrad** so that it will be recognized over the radio as an official signal of distress.
5. Have students discuss the radio stations with parents and mark the proper dial on home radio.

LESSON 3

CARE OF THE INJURED

Objectives:

The two lessons which follow have been planned to instruct pupils about caring for the injured in emergency situations at school and elsewhere which might result from fire, explosion, hurricane, bombing and similar major disasters. While the injuries discussed are those which are most common in disaster situations, they are also frequent occurrences in the everyday lives of our pupils and their families.

Briefly stated, the purpose of these lessons is to teach pupils what to do and what **not** to do in case of certain selected accidents when these accidents are so numerous that they cannot be taken care of by competently trained first aiders and when medical care may not be available for several hours. If disaster should strike a large area of the city, injuries might happen in large numbers. Injured persons might not have attention of any kind, unless there would be, among the survivors who are uninjured, others who know something about first aid. Our primary purpose in these lessons is, therefore, to have within each school, a pupil who can properly assist others who will be injured if disaster strikes. Our secondary purpose, of course, is to prepare pupils to act intelligently, without fear or panic, when the kinds of accidents discussed in this course occur.

Content:

I **The accident problem**

Last year accidents of all kinds were the leading cause of death in the United States for persons from 1 year to 25 years of age.

In the District of Columbia during 1954 there were 6694 persons hospitalized because of accidents and injuries occurring in the home. 1575 persons were hospitalized because of motor vehicle accidents. It is estimated that there were 25,000 industrial accidents in the District in 1955.

For the United States in 1954 there were 9,050,000 accidental injuries.

II Injuries resulting from a disaster

If a school or an area of the city suffered a major disaster, care of the injured would become a major problem. Lives could be saved and suffering reduced if many persons were prepared to render first aid. The most frequent injuries would probably be: shock, cuts, bleeding, burns and fractures.

III Definition of First Aid

First aid is the immediate and temporary care given to an injured person until the services of a physician can be obtained. First aid means the steps taken to prevent further injury and to make the patient as comfortable as possible until the doctor reaches the patient or the patient reaches the doctor. Emphasis is on the word "First." First aid tells what to do until the doctor comes.

IV General directions for the First Aider

a. Send for a physician or an ambulance. Remember that first aid is only temporary. It is what is done until the doctor comes to the injured person or until the injured person is taken to the doctor or hospital. In requesting the services of the physician or ambulance, exact information should be given as to the location.

b. Keep the injured person lying in a comfortable position, his head level with his body, until you know whether the injury is serious. This is a prevention against fainting and helps to prevent the condition called "shock" which is discuseed later. Do not permit the patient to sit up or stand up. If there are broken bones, this might result in further injury from the sharp ends of the bones. You may raise the patient's head if his face is flushed.

c. Do not move an injured person **unless** he is in danger of further injury if left where he is. Movement of the patient may cause an injury to become more serious. For example, a broken rib may puncture the lung if the patient is abruptly and carelessly lifted. Of course, if the injured person is in danger of losing his life from fire, gas, fall-

ing timbers, flood, etc., before first aid can be given, then he should be moved to a safe place before first aid is given.

d. Look for wounds, bleeding, stoppage of breathing, burns, fractures and dislocation. Be sure to find all injuries, particularly bleeding and then decide whether **speedy** first aid is needed. The two "hurry cases" with which you should be concerned are severe bleeding and stopping of breath where artificial respiration is needed.

e. Keep the injured person warm but do not cause him to perspire.

f. Keep calm.

g. Keep onlookers away from the injured. They frequently interfere with treatment.

h. In all serious injuries, treat for shock.

V Treatment for Shock

a. Causes of Shock

The word "shock", as used in first aid, usually has nothing to do with electricity. The kind of shock we are most concerned about is caused by injury. It may be caused by the sight of injury to another. In shock cases, the blood flow in the body is disturbed. The brain does not get enough blood. All body processes are at a low level. Shock may range in severity from slight weakness to loss of consciousness. It is always present in some degree when there is an injury and usually the more severe the injury the greater the amount of shock.

b. Signs of Shock

The person in shock feels exceedingly weak and may even faint. The face is pale. The skin feels cool and may be moist, especially on the forehead or chin or above the mouth. The pulse usually is rapid (over 100 per minute). Sometimes the victim feels like vomiting or actually does vomit. Severe shock brings unconsciousness.

c. First Aid for Shock

Remember that whenever first aid is given to a seriously injured person always try to prevent shock.

Act immediately as follows:

(a) If the victim is not prone, make him lie down at once.

(b) The head should be level with or lower than the body. However, if there is a head injury or if the face is flushed, the head should be slightly raised. In case of chest injury where breathing is difficult, the head and shoulders should be slightly raised.

(c) The victim should be kept covered properly so that the body is kept warm. Use blanket, coat, drapery, rug, etc. He should not be caused to perspire.

VI Treatment for Cuts and Bleeding

1. Significance of cuts

In case of a disaster such as an explosion, hurricane or bombing, the probability is that there would be many cases of cuts resulting from flying glass.

The fact that the skin is broken, whether with or without bleeding, means that germs causing infection may enter the wound. The job of the first aider is to prevent more germs from entering the wound.

2. First Aid for cuts in which bleeding is not severe

a. Do not touch the wound or the skin near it with your fingers, with clothing or with any other object which is not sterile. Care should be taken in removing clothing to determine the extent of the injury. If the injury is to the arm, leg, or body, it is usually best to rip or cut the clothing from the injured part. Rip the seams if possible.

b. There is some difference of opinion about the use of an antiseptic solution by an unskilled person. Of course, every wound even though it is the smallest scratch should be cared for as a dangerous infection may develop. All wounds should be treated by a trained person and all severe cuts should be treated by a doctor.

For use as a disaster or emergency care, where medical treatment is to follow within a reasonable time, the proper first aid is to apply over the wound a gauze dressing that is sterile, free from germs. Such dressings are available wrapped in paper. Sometimes sterile dressings are not at

hand. In that case a **clean** cloth may be used. Many of the germs on a cloth can be killed by ironing it. When a cloth is applied to the wound it should be folded to make several layers.

References:

First Aid Text for Juniors, American Red Cross

First Aid Textbook, American Red Cross

LESSON 4

CARE OF THE INJURED (con't)

Objectives:

To acquaint students with the best First Aid treatment for burns, fractures, and suffocation.

Content:

I **Fires**

1. The biggest fires are usually started from little fires because there are two other elements present—fuel and air. Carelessness is responsible for most fires. Extreme care is necessary when working with fire. In homes many persons are burned because of carelessness in smoking—especially smoking in bed. Many persons are burned by throwing a liquid fuel on a fire that is burning in a stove or fireplace. Rags, piles of clothes, if greasy, can start a fire spontaneously; the larger the pile, the greater the danger. Such things should never be left around a building.

   There may be fire hazards in houses and these hazards can be easily removed. Such hazards are:

   cleaning fluids
   kerosene or gasoline
   cloths saturated with such liquids
   piles of old newspapers or magazines
   paints and varnish
   loose matches
   waxes

   The fuse box is another danger spot in a home. Fuses must be able to protect the house against too strong a current of electricity. The use of a penny to substitute for a fuse results in many a disastrous fire. When the penny melts and breaks the circuit, the wires in the house have long since ceased to exist. Electrical fires may be caused by faulty

wiring or worn cords. However, if the fuse is the right strength for the house, it will blow and keep the house from catching fire.

2. Types of Fires

There are three distinct kinds of fires, as:

a. Fires fuel by wood, paper, textiles and similar solids

b. Fires fueled by oils

c. Fires involving electricity

Each of these fires requires a special method of control. As it requires three things, fuel, air and heat, to produce a fire, a fire is put out if any one of these three things is removed. All three of these methods are in common use, depending on the kind of fire.

3. Putting Out Fires

When a Class A fire is burning, wood, paper, textiles, etc., are involved. In putting out such a fire, the heat is removed by lowering the temperature as is done when water is used.

When a Class B fire is burning, and oil is involved; such a fire spreads widely and rapidly. As oil comes up on top of water when the two are mixed, water only spreads such a fire. The flaming oil rides over the wet area.. Such a fire must be controlled by removing the air. Sand or earth can be thrown on the fire. In the case of a very small fire, a wool blanket or wool clothing can be placed over the fire to smother it. Foam and carbon dioxide can be used to exclude the air and control a fire resulting from oil or grease.

A Class C fire is electrical in origin. Water would be dangerous as it is a conductor and might cause the current to reach a wider area. The most effective thing is to break the circuit. If this cannot be done, the fire must be smothered. This can be accomplished with sand, or earth or carbon dioxide. Foam is not effective.

There is a vital spot in any fire where it is vulnerable. It is in this spot the greatest heat is centered. In applying the material used to control the fire, it is on this spot that the material should be aimed and concentrated.

II Burns

1. Causes of Burns

   In terms of disaster, first aid burns are injuries caused by contact with dry or moist heat, electricity or chemicals. Burns due to moist heat—steam or hot liquids—are called scalds. Chemicals cause a special kind of burn called a chemical burn.

2. Danger of Burns

   Burns are among the worst of all injuries. The pain is great and shock may occur; the burn may become infected; disfiguring or crippling may follow.

   Burns range in severity from mild burns where the skin becomes red, to more severe burns where blisters appear, to most severe burns where the skin is destroyed.

   Mild burns may be more painful than deeper burns but the danger of infection is not so great. The larger the area involved the greater the danger.

3. First Aid for Burns

   a. In case of burns, remember three important points (1) control pain, (2) prevent infection, and (3) give first aid for shock.
   b. Lay the burned victim down and keep him quiet.
   c. Do not remove any more clothing than necessary. If clothing sticks to the burn cut around it—do not pull it off.
   d. No attempt should be made to clean the burn. Blisters should not be opened.
   e. Pain may be largely controlled by excluding air, hence every part of the burned area should be covered with a clean dry compress or pad of cloth. This compress should be sterile and should consist of enough layers to exclude the air. If no sterile dressings of the prepared type are available, compresses can be made of **clean** sheets, shirts, towels, pillow cases, etc.
   f. This thick, sterile pad should be held snugly in place with a bandage. This bandage should not be applied tightly but it should be snug enough so air will have difficulty getting under it. Make the bandage thick and leave it until a physician can treat the burned person.

g. There seems to be more "don'ts" than "do's" as reminders in taking care of burns. Here is another important "don't": Don't use ointments, grease, oil, water or anything else as part of the **first** aid treatment for a bad burn. This complicates the problem of treatment by the physician who may have to remove what you have applied. Further, you may be applying germs from your fingers or the applicator upon the burned area.

h. If medical care is likely to be long delayed, sterile compresses wet with baking soda solution (3 tablespoonfuls to a quart of warm water) may be applied. Wrap dry towels outside the compresses.

4. Chemical Burns

In case a chemical is spilled on the skin, the area should be thoroughly washed at once in clean water. Tap water or drinking fountain spray should be used. Treat then as any other burn.

III **Fractures**

1. Signs of a Fracture

It is often possible to tell that an arm or leg is broken because of the fact that it is bent or turned in an unnatural position. Just as often, however, there is no **outward** sign of a broken bone until you move the patient. In such cases, the following signs are sometimes found when a fracture is present:

a. The injured person cannot move the limb.

b. If he moves the injured part, he usually has pain.

c. There may be tenderness and swelling at the point of break.

d. A rough edge of the bone can be felt with the fingers.

e. The body part that is injured may seem deformed, that is, out of shape.

f. Sometimes the skin overlying the fracture becomes red or purple.

g. In a compound fracture, the end of broken bones penetrate the skin.

2. First Aid for Fractures

a. A broken bone, in itself, is not usually a great threat to the patient's life. It can become so if he is not properly cared for. One bad result of broken bones comes from shock caused by the injury. So the first step is to treat for shock as described in a previous lesson.

b. Do not permit motion of the broken ends or of the joints near the injury. If the broken ends of bones move in the flesh, they damage the flesh, blood vessels and nerves. If there is motion at the nearby joints, the broken bone ends move also. **Unless the first aider is well trained, he should neither splint nor transport a person with a serious fracture. He should wait for medical help or the help of an experienced first aider.**

c. The victim should lie down. If the injury is in a lower limb he should not try to stand or walk.

d. He should be properly covered with a blanket beneath him. There should be no attempt to place anything under the victim if there seems to be a fracture of the back or leg.

e. Exercise care in attempting to locate the fracture since it is possible to do additional harm in removing clothing from the injured area.

f. Do not try to set the broken bone.

g. Do not attempt to push back pieces of the bone which may be sticking out of the the skin. Sometimes in the case of a compound fracture, there is bleeding. In either case, with or without bleeding, a sterile compress should be placed on the wound and bandaged in place. If bleeding is serious use pressure as explained in lesson on control of bleeding.

IV

1.

3. Use of Splints.

Unless the victim lies in a place where there is extreme immediate danger to his life, as might be the case in an explosion followed by fire, his fracture should always be protected by splints or in other ways before he is moved even a short distance.

While the general rule of not moving a person with a serious fracture should be observed, the injury might occur when help is far away or cannot be brought to the victim. If it is

absolutely necessary to move a victim with a broken bone, there is an emergency action which the first aider can take. This action consists of putting on a splint.

A splint is any object which can be applied to the victim so that the broken bone ends cannot move. It is usually a board or a piece of light wood of the right length and width but in an emergency it can be a thick bundle of folded newspapers, a pillow, a folded blanket, or a broom handle. Splints should be long enough to reach beyond the joints above and below the break. Where possible, the splint should be padded, particularly under the ties.

The best way to apply a splint is to lay it along the broken arm or leg, then tie it snugly in place above and below the break, but not immediately over the break. It should be tied in enough places that the broken bone cannot move. Splints should not be tied too tightly since to do so might cut off the supply of blood.

Broken bones in the hand, arm, shoulder or collar bone require support in addition to splinting. Such support can be provided with an emergency sling made from a triangular bandage, scarf, towel, diaper, or strip torn from a sheet. Lacking these materials or others like them, the victim's forearm can be placed across his chest and his sleeve pinned to his coat.

A person with suspected broken neck or back should not be moved unless he is in danger of losing his life. In such a case he should be moved as gently as possible on a board or stretcher.

IV Suffocation

1. Signs of Suffocation

The usual signs of suffocation are coughing and sputtering or other difficulty in breathing. Then breathing stops. The victim's face may turn purple and his lips and finger nails may become blue. Unconsciousness and death will follow unless there is quick action, usually but not always, in the form of artificial respiration.

2. The First Emergency Action

The first emergency action to take when a person is suffocating is to **get them away from the cause of their condition.**

a. If the victim is suffocating under wreckage, remove from wreckage and give artificial respiration if necessary.

b. Before attempting to rescue a person from a room filled with gas or smoke, first ventilate the room by opening doors and windows. Windows may have to be broken. Stay outside the room while it ventilates. This takes some time but it is the only safe procedure. Remove victim, lay him on his face and turn his head to one side. Remove objects, if any, from his mouth. Apply artificial respiration if not breathing.

c. If the victim is in contact with a live wire, do not touch him without first protecting yourself. Shut off the current if you can. If you canont do so, stand on dry wood or paper and protect your hands with dry gloves or cloth before touching him. Try to pull or push the wire away from him with a dry stick or rope. Have a trained First Aider give artificial respiration if not breathing, and have a doctor give attention to the victim **as soon as possible.**

References:

First Aid Text for Juniors, American Red Cross

First Aid Textbook, American Red Cross

LESSON 5

PROTECTIVE MEASURES—SANITATION

Objectives:

I To understand the importance of sanitary measures at all times.

II To recognize the need of greater precautions in times of disaster because of curtailment of standard facilities.

III To develop a willingness to observe all safety measures.

IV To realize the need for precautionary and preventive measures

Content:

I **Safe Drinking Water**

You have learned from your science studies, your home economics classes, and from your parents how necessary it is to have high standards of cleanliness for the protection of individual and community health. Yet, you probably take for granted that public services will always be available to guard your family against infections of all kinds.

In case of disaster it would be likely that many public services would be temporarily knocked out. If your local water utility were damaged your household water supply would be cut off until repairs could be made. (Possibly you would have to leave your home entirely.)

There are a few simple steps you should know to assure you and your family of safe water. Do **not** use water directly from the tap after any local disaster. There are two simple methods of purifying water for drinking purposes.

1. Boiling—most water can be purified for drinking purposes in 1 to 5 minutes. This will destroy the germs.

2. **Chlorination**—if it is impossible to boil water, (or if it is not advisable to boil because of fuel leaks) it can be purified by a few drops of chlorine solution.

Add 10 drops of household bleach to each gallon of water, stir, and allow to stand for 30 minutes.
The water should have a definite chlorine smell or taste. The smell or taste of chlorine is assumed as a sign of safety.

Do not drink or use for cooking purposes any water other than that from your faucet, or other recommended emergency source at home or from special stations.

Conserve water or liquids wherever possible. Rules to be remembered about **using water:**

1. Use only safe water
2. Don't waste water
3. Protect the source.

Be alert for instructions regarding water usage from Civil Defense or public health officials. Their instructions will be relayed by radio, mobile loud speakers, newspapers, and your own block warden.

II Source of Liquids

There are many emergency sources of liquids. Water packed fruits and vegetables are a good source of liquids for drinking purposes—provided the containers are clean and undamaged.

Fresh fruit should be peeled.

Other sources would be:

Ice cubes from refrigerator
Stored juices
Water from storage tank of water heater (especially for washing)

However, you should not wait for disaster to strike. Have cans of fruit and fruit juices on hand as well as water stored in containers.

III Safe Food

It is well to wipe or wash any can, bottle, or other containers before using. This is a safe rule to follow at all times.

After a bomb blast it is safe to use any can or food packages that have not been broken. The general rule of washing should be followed in order to remove tiny particles of "bomb ash" or dust.

You should not hoard large quantities of food under any circumstances. However, your family should keep on hand a normal 3-7 days' supply. The food supply should consist of foods that normally fit the food habits of your family. For example, all ages of your family need milk and other foods that are easily digested. Larger supplies of canned fruits and vegetables should be substituted for fresh foods.

A general rule to follow would be to decide on those foods which do not need refrigeration, and which can be eaten without cooking if necessary. If your refrigerator were not working, it would be hard to keep perishable foods and if your stove were out of order, it would be hard to prepare hot meals.

Paper cups and plates are handy things to have at all times. If the water supply is cut off, paper plates and cups can be burned. Paper towels and napkins are good to have on hand. Many are used in our daily living to save time and energy. A supply should be kept wrapped and stored at all times.

IV General Protective Sanitary Measures

1. Purify all drinking water
2. Wash or wipe off all food containers
3. Keep a 3 days' supply of food on hand—using and replacing so that foods will not become stale (**Remember** all ages of the family group).
4. Keep food supply and stored water where it will be safe from contamination—in any type of disaster.
5. Avoid using foods or liquids that have been exposed in any way during a disaster.
6. Use covered garbage can at all times.
7. Provide for disposal of human waste in covered containers in case flush toilets are not working.
8. Learn how to make soil bags for emergency use.

Activities:

Have students demonstrate the purification of one gallon of water.

Have students pour liquid from a #2 can of fruit or vegetables to show how much liquid is available.

Have students list ways of saving water.

Have pupils list precautions and protective sanitary measures for home and community.

References:

What to Do Now About Emergency Sanitation at Home
Federal Civil Defense Administration

Home Protection Exercises
U. S. Government Printing Office

LESSON 6

FAMILY WELFARE

Objective:

I To understand the importance of maintaining a 3-7 days' food supply at all times

II To be able to list the necessary food for your family composition

III To be able to choose foods which can be kept without refrigeration

IV To be willing to accept responsibility for younger members of the family

V To recognize individual responsibility in regards to protective measures, family duties, family recreation

Content:

I **Family Food Supply**

The family food supply should consist of foods that normally fit the food habits of your family. Since families differ in composition as to ages and sex, no fixed supply list can be recommended.

However, a well-balanced 3-days' supply of food should contain:

1. Fruit—either water packed or light syrup
   Suggested: peaches, pineapple, grapefruit
2. Juices—fruit and tomato
3. Canned soup, meats, fish
4. Powdered milk
5. Instant coffee, postum, cocoa, tea bags
6. Prepared cereals, dried foods
7. Raisins, chocolate
8. Baby foods
9. Two gallons of water per person

Some packaged foods become rancid and lose flavor when they stand for long periods. Therefore, you should use and replace

foods from your reserve stock rather than keep them separate from your daily supplies.

When buying cans or packages of food for reserve supply, get them in sizes which will meet the needs of your family for **one meal only.** In an emergency this would cut down on left-overs, which would be hard to preserve for later use without refrigeration. Canned milk will remain sweet for several hours after it has been opened, even without refrigeration.

Remember any special diets which must be followed for any family member. A 7-days' supply should be allowed for emergency. (Ex. Baby's formula)

II Emergency Cooking

If public utilities are not available, it may be necessary to improvise equipment for heating water and for cooking and serving meals.

1. Canned-heat burners can be used indoors
2. Pot or pan directly over a bed of wood or coal, charcoal grill

It should always be remembered that a large fire is unnecessary. Actually, you need not be an expert to know how to cook out-of-doors. A little practice and some ingenuity will produce results. When selecting an outdoor cooking site, remove all flammable materials surrounding the site. Do not select a place near a broken gas pipe.

Many of you have had experience in camping. Just remember all the "do's" and "don'ts" of your camping days.

Be sure all garbage is drained before being placed in storage containers. After draining, wrap the garbage in several thicknesses of old newspaper before putting it into the container.

All stored garbage should be buried if collection service is not available. Dry waste may be burned in open areas. All cans should be flattened to reduce their bulk.

III Family Recreation

Recreation for all members is very essential. It is imperative to keep up morale during a disaster of any type. Small children who do not understand must be kept occupied.

Emergency supplies should contain cards for various games and equipment for games in which groups can participate, i.e. horse shoes, soft ball, baseball. There should be a story book or two for small children.

IV Summary—How to Take Care of Yourself and Your Family

1. Know your signals.
2. Remember the do's and don'ts of First Aid.
3. Sanitary conditions should prevail at all times. Disease can result from unsanitary conditions, whether or not a disaster strikes.
4. Drink only water you know is safe.
5. Eat only safe food.
6. Prepare a 3-7 days' food supply now.
7. Emergency feeding and sanitation measures can keep your family on its feet no matter what happens to your community.
8. Have proper sewage disposal.
    a. Covered container for bathroom
    b. Use soil bags
    c. Use insecticide and deodorants
    d. Adequate supply of newspaper and toilet tissue
9. Proper disposal of garbage and rubbish
    a. Drain all garbage
    b. Covered containers for garbage
    c. Bury or burn all waste
10. Plan for recreation for children and other family members.
11. Needed supplies other than food:
    a. Wool blanket for each family member
    b. Flash light
    c. Portable radio
    d. Water container for each member
    e. Emergency first aid kit
    f. Games and materials for recreation

Activities:

1. Have each student list a normal 3-days' food supply for his family.

2. Have students write down ways of proper disposal of waste matter.
3. Have students list precautions for open fires.
4. Have pupils list recommended supplies other than food.
5. Have students tell of home activities in caring for young children.

References:

What to Do Now About Emergency Sanitation at Home
Federal Civil Defense Administration

Home Protection Exercises
U. S. Government Printing Office

Boy Scouts of America

A Family "Be Prepared Plan"
New York: Boy Scouts of America, 1951

The foregoing group of lesson plans has dealt with concepts and understandings primarily "civil defense" throughout. As previously stated, such units would be introduced into an ongoing classroom activity where the level of the children and appropriateness of the material would justify—as distinguished from the haphazard approach "Today, children, we are going to study civil defense".

In the lesson plan which follows, the technique of weaving civil defense concepts into an existing unit of study is clearly demonstrated, at a fifth or sixth grade level of instruction.

LESSON 7

THE SURVIVAL OF PLANTS, ANIMALS, AND MAN*

I Significance

Children of today are well informed about world affairs through many channels such as radio, television, and newspapers. Defense, among other vital problems, is a topic of discission everywhere.

Safety for the child has long been a chief concern of the home and of the school. Our children are "safety minded" due to the stress placed on all aspects of safety in school life. Safety patrols guide little people to and from school. Fire drills are regular features of school routine. Scouting contributes in large measure to the child's interest in safety and first aid.

With this background in personal safety already established, children will study with interest the ways by which plants and animals, applying their own safety devices, have been able to survive; and the important additional concept of man's survival—even in the face of modern weapons of war—can be presented with every promise of acceptance.

II Objectives

A. For the Children:

1. Understanding that plants, animals, and man have had to have some means of protection in order to survive.
   a. Learning the means of protection used by plants, animals, and man.
2. Understanding what dangers are in our world today.
   a. Learning that by sensible planning many dangers can be overcome.
   b. Learning how to take care of themselves if disaster occurs.
   c. Learning that those in authority are planning for their protection in case of an emergency.

* This plan has been modeled after similar plans prepared by the ROESLAND DISTRICT #92 SCHOOLS, JOHNSON COUNTY, KANSAS.

B. For the Teachers:

1. Keeping children from becoming unduly alarmed, yet not minimizing potential or actual dangers.
2. Acquiring all necessary information as to what must be done in case of a disaster.
3. Gaining a complete perspective of the role of local civil defense organizations in countering disasters.

III Outline of Content

A. Plants

1. Enemies of plants.
   a. Disease
   b. Animals
   c. Weather
   d. Man
2. Plants are able to survive despite enemies.
   a. Deep roots
   b. Reseeding
   c. Farmers properly caring for their fields.

B. Animals

1. Enemies of animals
   a. Floods, cold, and heat
   b. Windstorms
   c. Fires
   d. Other animals (balance of nature)
   e. Disease
   f. Man and his gun
2. Animals defend themselves from danger
   a. Coloring
   b. Covering the vital parts of the body
   c. By running or "freezing"
   d. By helping the young and each other
   e. By taking shelter, sometimes underground

C. Man

1. Enemies of man
   a. Floods, cold, and heat
   b. Storms on land and sea
   c. Fires

IV

d. Animals (large, small, bacteria)
e. Disease
f. Weapons he makes himself
(1) Guns
(2) Explosives
(3) Bombs
(4) New weapons

2. Man defends himself
a. Clothing
b. Shelter
(1) Houses
(2) Basements
(3) Air-raid shelters
c. Organized planning against disasters—natural and man-made.
(1) Education
(a) Well-informed public — knowing what to do.
(b) Teachers' and schools' participation
(c) Cooperation of home, school, and community
(d) Know the helpers and who to follow
(2) Training
(a) First-aid courses
i. Children study first-aid kits on display
(b) Supplies for home shelters
(c) Air raid drills
(d) Fire-fighting, home-nursing, and others

IV Activities

A. Initiary

1. Class discussion on "The Whole Family Figures in Home Safety"
2. Show films on safety
3. Have discussion on "Safety Measures for our School"
4. Invite a fireman, safety patrolman, and a civil defense officer to explain their services at an assembly meeting. Invite parents.
5. Have members of scout troop explain and demonstrate new techniques in first-aid.

B. Developmental or Learning

1. Plants
   a. Make a leaf collection. Mount, label, and display.
   b. Make a list of plants that have become extinct. Try to find pictures of them. Why have they become extinct?
   c. Prepare an exhibit of useful wild plant life.
   d. Find out from a farmer, and list, the ways he protects his farm land; the trees on his farm.
   e. Make a picture collection of plants which are injurious.
   f. Make posters showing how some plants protect themselves.
   g. Learn why fertilizers are necessary and what types are on the market.

2. Insects
   a. Make an insect collection.
   b. Observe the kind of insects that visit a certain kind of flower and learn why.
   c. List the useful insects in our State and tell how they aid man.
   d. Make a chart of insect pests of Kentucky, giving descriptions or pictures of plants attacked and means of control.
   e. Write a paper on control of the house fly.
   f. How do mosquitoes carry disease germs from the bloodstream of one person to another?

3. Animals
   a. Make a list of animals that have become extinct. Why?
   b. Collect pictures of extinct animals.
   c. Name and describe the poisonous snakes of Kentucky.
   d. List the ways different animals manage to escape their enemies and thus survive.
   e. List animals that take good care of their young.
   f. List animals that take little or no care of their young.

4. Man
   a. Discuss the subject "Man Has Been Able to Live in Many Environments."
   b. Have class discussion on "Enemies of Man".

c. Have group discussion on "How Man Depends on Himself".
d. Assign committees to report on how we can best protect ourselves against floods, storms, fires and weapons—at home, at school and in our community.
e. Discuss the radioactive fallout effect of nuclear weapons.
f. Discuss the nature of atomic weapons.

C. Culminating

1. Help children to see that plants, animals, and man have survived through their ability to adapt to new conditions and to protect themselves against their enemies.
2. Help children to understand how man must continue to anticipate his enemies, and develop protective measures accordingly.
3. Help children to understand how they themselves have a responsibility in the total picture of civil defense—at home, at school and in the community.

V **Evaluation**

A. Growth in Safety Skills and Defense Techniques

1. Have the children contributed to the study?
2. Do the children have increased confidence in themselves and in their teachers to cope with disasters which might arise?
3. Have the children learned to appreciate the worth of others so that they are ready to help others when the need arises?
4. Have the children grown in their development to govern themselves in time of disaster without panic?
5. Is this responsibility accepted by children as a part of everyday living?

B. Growth in Scholastic Skills

1. Have the children learned to express themselves well?
   a. In oral work?
   b. In written work?
2. Do they write legibly and observe correct spelling and punctuation?

3. Have they improved their ability to work in groups, remembering to practice democratic procedures?
4. Do they listen well?
5. Have they learned to use all available materials?
6. Have they developed more and better study skills?

VI Sources of Information

A. Visual and Audio Aids

1. Television
2. Radio
3. Films (school)

B. Direct Experiences

1. Conference with Civil Defense personnel
2. Invite speakers to explain procedures in emergency
3. Practice drills
4. Field trips to farm and zoo.
5. Pets
6. Collections and scrapbooks.

C. Bibliography

Margaret Williamson	Franklin Watts, Inc.	The First Book of Bugs
Ann Pistorius	Wilcox & Follett Co.	What Bird Is It
Margaret W. Buck	Abingdon Cokesbury	In Woods and Fields
Ann Pistorius	Wilcox & Follett Co.	What Butterfly Is It
Bertha M. Parker	Simon & Schuster	The Golden Treasury of Natural History
Elsa Jane Werner	Simon & Schuster	The Golden Geography
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Bertha M. Parker	Row-Peterson Co.	Water
Bertha M. Parker	Row-Peterson Co.	Fire
Bertha M. Parker	Row-Peterson Co.	The Garden and Its Friends
Bertha M. Parker	Row-Peterson Co.	Trees
Bertha M. Parker	Row-Peterson Co.	Clouds Rain and Snow
Bertha M. Parker	Row-Peterson Co.	Animals of Yesterday
Martha W. Buck	Abingdon Cokesbury	In Yards and Garden
John H. Storer	Devin-Adair Co.	The Web of Life
Edith T. Hurd	Lothrop-Lee & Shepard	Somebody's House

Eva Knox Evans	Little Brown & Co.	Why We Live Where We Live
Dorothy Shuttlesworth	Greystone Press	Exploring Nature with your Child
Herman Schneider	McGraw-Hill Book Co.	Everyday Weather and How It Works
Sarah R. Riedman	Henry Schuman	Water For People
Jerome S. Meyer	Lothrop-Lee & Shepard	The Earth
George W. Frasier	L. W. Singer Co.	How & Why Discoveries
George W. Frasier	L. W. Singer Co.	How & Why Experiments
Craig-Urban	Ginn & Co.	Science Plans for Tomorrow
Etal Frasier	L. W. Singer Co.	How & Why Science Book
Sam Thorn & Harbeck	Beckley-Cardy Co.	Let's Find Out
Sam Thorn & Harbeck	Beckley-Cardy Co.	Let's Look Around
Sam Thorn & Harbeck	Beckley-Cardy Co.	Let's See Why
Herbert S. Zim	Wm. Morrow & Co.	What's Inside of Me
Herbert S. Zim	Wm. Morrow & Co.	What's Inside Plants

CHAPTER IV

INSTRUCTOR'S GUIDES

Here are presented in abbreviated manuscript form, teachers' guides readily adaptable to classroom presentation. Again, care must be exercised to introduce this material at points in the social study, health and physical education, or science fields, where it is compatible with ongoing classroom activities. The presentations may be expanded as the teacher might desire, to meet the needs of her pupils.

INSTRUCTOR'S GUIDE NO. 1

Lesson Title: Limitations of Nuclear Weapons.

TOPIC	TEACHING POINTS
1. Introduction	A. Background 1. With the increasing knowledge of the public regarding general civil defense activities, there is likewise a growing desire and need for information as to the nature and effectiveness of today's nuclear weapons. 2. Recent scientific advances by the Soviet Union have caused additional interest in the modern weapons of war. 3. The purpose of this discussion is to find out: a. What causes a nuclear explosion? b. What are some of the characteristics of a nuclear explosion? c. How powerful were the A-bombs of World War II? d. How do modern bombs compare with World War II A-bombs? e. What are the physical limitations of nuclear bombs, and our best protection against them?
2. What causes a nuclear explosion?	A. Definition (General) 1. Any explosion is the release of a large amount of energy within a limited space in a short interval of time. 2. The releasing of this energy is accompanied by a considerable increase in temperature so that extremely hot gases are formed. These superheated gases move outward rapidly, pushing away the surrounding air with tremendous force, thus causing the destructive blast effects of the explosion. B. Definition (Nuclear) 1. A nuclear explosion is the release of tremendous amounts of energy resulting from redistributing or recombining the component parts of uranium, plutonium, or hydrogen atoms.

3. What are some of the characteristics of a nuclear explosion?

A. Four Characteristics

1. Blast
2. Heat Radiation
3. Initial Radiation
4. Residual Radiation

B. Nature of Each

1. Blast, heat radiation, and initial radiation occur almost instantly with explosion and last only seconds.
2. Residual radiation, resulting from the sucking-up of thousands of tons of earth and debris into the radioactive cloud, is carried back to earth over a wide area and will continue in dangerous amounts over a considerable period of time.

4. How powerful were the A-bombs of World War II?

A. Force

1. The world war II A-bombs released roughly the same quantity of energy as 20,000 tons of TNT.
2. At the point where these A-bombs exploded, wind velocity was 1000 miles per hour. At one mile from that point, wind velocity was 200 miles per hour.

B. Destruction

1. In Hiroshima, Japan, the atomic blast completely destroyed or irreparably damaged 68,000 of 90,000 buildings.
2. Seventy percent of the city fire-fighting equipment was crushed in firehouse collapses.
3. Approximately one-fourth of the city's population was killed, another one-fourth injured.

5. How do modern bombs compare with world war II A-bombs?

A. Force

1. Modern bombs are much more powerful than World War II A-bombs. In fact, some are 1,000 times larger. (20,000,000 tons of TNT.)

B. Destruction

1. In November, 1952, an H-Bomb was exploded in the Pacific. The radius of total destruction was 3 miles; heavy to medium damage, 7 miles; and light damage, 10 miles. The blast destroyed a tiny island,

leaving a crater one mile in diameter and 175 feet deep at the deepest point.

2. In May, 1956, an H bomb was exploded over the Bikini atoll. It packed nearly five times the power of all bombs dropped by American forces during World War II. The heat of the blast would have inflicted third degree burns on exposed skin 15 miles away.

6. What are the physical limitations of nuclear bombs?

A. Zones of Damage

1. Regardless of the size of the nuclear weapon used, damage effects are generally regarded as falling into four zones;
   a. Zone A—area of complete destruction
   b. Zone B—area of severe damage
   c. Zone C—area of moderate damage
   d. Zone D—area of partial damage

B. Limitations of Blast Damage

1. There are limits to the amount of destruction that can be caused by a single bomb of any kind.
2. A bomb 1000 times as powerful as the Hiroshima bomb does not cause damage 1000 times as far away—only 10 times as far. It will harm an area only 100 times as large—not 1000 times as large.
3. For the eight assumed target areas in Kentucky (Ashland; Newport-Covington; Louisville; Henderson-Evansville; Paducah; Hopkinsville-Fort Campbell; Frankfort; and Lexington) it has been assumed by State Civil Defense planning authorities that a 5 million ton TNT equivalent bomb would be used on the Newport-Covington area; and 2 million ton TNT equivalent bombs on all other assumed State target areas. These size bombs would inflict the following estimated blast damage:

	Zone A Radius (in mi)	Zone B Radius (in mi)	Zone C Radius (in mi)	Zone D Radius (in mi)
2,000,000T	0 to 2.3	2.3 to 4.6	4.6 to 7.0	7.0 to 9.3
5,000,000T	0 to 3.2	3.2 to 6.3	6.3 to 9.5	9.5 to 12.6

4. The best means of protection from the blast effects of nuclear bombs are distance from the center of the explosion and the protection of suitable shelter.

C. Limitations of Heat Radiation Damage.

1. Exposed persons in the blast area receive severe burns—usually fatal within Zone A, many second and third degree burns beyond Zone A.
2. 25% of the human casuaties in the Hiroshima attack were caused by heat radiation.
3. The bright light from an explosion is particularly destructive to the eyes if a person looks directly at the initial explosion.
4. Since heat radiation lasts only a few seconds following a nuclear explosion, a little solid material will provide flash burn protection, even close to the point of the explosion.
5. Again, distance from the explosion is the best protection against heat radiation damage; however, shelter greatly reduces the hazard beyond the central target area, and clothing of almost any kind reduces the danger of direct burns.

D. Limitations of Initial Radiation Damage

1. Damage from initial radiation is not sigficant because the radiation particles have a very short life and a very limited range.
2. As the size of the weapon increases, the effects of initial radiation become less important since blast and heat effects outrange it.

E. Limitations of Residual Radiation

1. The radioactive particles which have fallen back to earth after a nuclear explosion have an intensely rapid rate of decay, losing 98% of their radioactive strength within the first 24 hours.
2. The remaining 2%, however, could be intense enough to cause severe damage and even death to the completely exposed person.
3. While the radioactive fallout from a nuclear explosion might be dangerous over an area 200 miles long and approximately 40 miles wide, taking shelter in an underground cyclone cellar covered with three feet of earth would reduce the rate of radiation to 1/5000th. of the rate above ground.

4. The next best shelter would be a tight basement. This would cut outside radiation by about 90%.
5. If your home has no basement, staying on the first floor in an inside room, a large closet or a hall surrounded by other rooms would reduce outside radiation by 50%, and even more in a stone or brick house.
6. It might be necessary for persons taking shelter in a fallout area to remain there from a few hours to several days. This would require advance preparation of the shelter area so that food, water, sanitation, and other necessities might have been provided for should a nuclear explosion occur.

7. Summary

A. The modern bomb is bigger than the World War II A bomb—but it is still a bomb. It will not destroy the earth. It has its limits, as does any other weapon. It makes our home defense problem larger, but not different.

B. The actions of individuals become more important to their survival as bigger weapons are developed. Each person must practice preparedness in his home, his neighborhood, his community. Then, no matter what happens, he and his family—and the Nation—will be ready.

8. Actions You Can Take Now

A. Learn the official civil defense warning signals and what you would do when you hear them.

B. Prepare your home by getting a first aid kit and learning how to use it; by learning how to fight small fires and practicing fire-safe housekeeping; by maintaining a seven day emergency supply of food and water at all times; by equipping the most protective place you can find in or near your home for an air raid shelter; and by knowing how to practice emergency sanitation measures.

C. Be prepared to move promptly and calmly from your home or place of business if local authorities instruct you to evacuate your city or home.

D. Memorize the "Conelrad" frequencies of 640 and 1240 on your standard radio. Mark your radio with these settings. That is where you

8. Actions You Can Take Now (continued)

will get official information and instructions in an emergency.

E. Should an emergency arise, consider the safety and well-being of others. Act calmly. Set a good example for your family and neighbors.

F. Knowing these things will help save lives—no matter how large a bomb or how many are used against us, for there will always be much more of America undamaged, and many more millions of our people alive and eager to fight back and win, than there will be death and destruction.

G. Knowing these things can help save America.

REFERENCES:

The Effects of Nuclear Weapons, published by the U.S. Atomic Energy Commission, June, 1957. Order from Supt. of Documents, U.S. Government Printing Office, Washington 25, D.C. price $2.00.

Facts About The H Bomb, published by Federal Civil Defense Administration, July, 1957. Available free from Division of Civil Defense, P.O. Box 656, Cherokee Station, Louisville 5, Kentucky.

Education For National Survival, published by U.S. Dept. of Health, Education and Welfare, office of Education. Order from Supt. of Documents, U.S. Govt. Printing Office, Washington 25, D.C. price .65.

Facts About Fallout Protection, published by Federal Civil Defense Administration, April, 1958. Available free from Division of Civil Defense, P.O. Box 656, Cherokee Station, Louisville 5, Kentucky.

Between You and Disaster, published by Federal Civil Defense Administration, 1956. Available free from Division of Civil Defense, P.O. Box 656, Cherokee Station, Louisville 5, Kentucky.

INSTRUCTOR'S GUIDE NO. 2

Lesson Title: Radioactive Fallout—Its Nature and Our Defense Against It

TOPIC	TEACHING POINTS
A. Introduction	(1) Day by day more people are becoming aware of radioactive fallout. Some people believe it is a problem of the Federal or State Government to protect us against hazards of fallout. In teaching this class we are going to show you how you can protect yourselves from fallout, and we believe it is the duty of the community and you as individuals to learn to protect yourselves. Since 1954, most of us have heard or read stories about a product of nuclear explosions called "radioactive fallout". Many people who read those stories knew only that fallout had something to do with our atomic tests in the Pacific, and that Japanese fishermen many miles from the test site were made ill by it. In some minds, fallout began to take on all of the terrors of the unknown. People are always inclined to fear what they do not fully understand.
	(2) The purpose of this discussion is to answer the following questions: a. What is fallout? b. Where would fallout occur? c. What does fallout do? d. What can we do to protect ourselves against fallout?
B. What is Fallout?	(1) The term "fallout" is used to describe radioactive material produced by nuclear explosion. This material is composed of particles of dirt, stone and other debris carried into the upper air by the force of the explosion. The particles are contaminated by radioactive products of the bomb, and fall back to earth over a wide area.

B. What is Fallout? (Continued)

(2) Many of the radioactive products are carried up as much as 80,000 feet in the mushroom-shaped cloud. From this cloud the particles spread downwind over hundreds of square miles. The larger particles settle to the ground rapidly, the smaller ones more slowly. The longer the particles are carried in the air, the less dangerous they become when they fall to the earth.

C. Where Would Fallout Occur?

(1) Weather conditions would have a big effect on where we would get fallout. The wind directions and speeds usually vary from one level to another, so each particle follows a constantly changing course, with changing speed during its fall. Dangerous fallout might occur 200 miles from the blast.

Precipitation in a fallout area will affect the fallout. Raindrops and snowflakes collect a large proportion of the atmospheric impurities in their paths. Particles of radioactive debris are washed out of the air by precipitation. The result is that contaminated material, which would be spread over a much larger area by dry weather fallout process, is rapidly brought down in local rain or snow areas. This could cause hazardous concentrations to occur where ordinary fallout estimates might indicate safe conditions. This would reduce the amount of contamination left to fall out farther down wind.

D. What Does Fallout Do?

(1) An accurate timetable as to where fallout will begin and how far it will extend cannot be made because there are so many variables.

a. Size of bomb
b. Nature of surface of earth at site of explosion
c. Wind and other atmospheric conditions.

(2) Fallout does not remain hazardous indefinitely. It decays.

(3) The greatest danger occurs during the first day after the burst.

(4) The radioactivity decreases very rapidly at first, more slowly later on. The longer it is in the air and the further it travels, the less dangerous it becomes.

(5) Twenty-four (24) hours after the blast, the rate of radiation is about two per cent (2%)

D. What Does Fallout Do? (Continued)

the rate of one hour after the blast. Even this can be dangerous if there is a large amount of fallout.

Before 1954, we believed that if we lived a few miles from a target area we would be safe. That is no longer true. We know now that deadly fallout can be carried up to 200 miles from the blast.

Practically everybody in this country lives within 200 miles of a potential enemy target. That means that some day we all may have to face the hazards of fallout.

We should learn to respect and deal with fallout, but not to fear it.

Knowledge is power. A knowledge of the true nature of radioactive fallout will give us the power to defend and successfully protect ourselves against it. You can live with fallout if you know what to do.

D. What Can We do to Protect Ourselves Against Fallout?

(1) There is defense against fallout. The defense consists of taking preventive and protective measures before fallout occurs.

(2) We can think of this defense as we think of preventive medicine. That is, if we take certain basic precautions, we can escape the effects of radiation from fallout, even if we are in the area.

(3) Basically there are four (4) means of defense against fallout: evacuation, shelter, decontamination and education and training.

a. Evacuation

1. There are four characteristics of an H-bomb explosion: blast, heat, initial radiation and residual radiation.
2. Since the best way to avoid the effects of any bomb is to be somewhere else when it goes off, your local civil defense organization may advise you to evacuate if threatened by enemy attack. By evacuation we can avoid the dangers of the first three which are blast, heat and initial radiation. To escape the hazards of the fourth, residual radiation, it is necessary to know something about it and what kind of cover is necessary.
3. If you live in a target area, plans are being made by state and local civil defense officials for your evacuation. In such case

it would be necessary that you know your evacuation routes in order that you may leave rapidly.

b. Shelter

What Kind of Shelter Should We Have?

1. Of course, if any of us were caught near the center of an H-bomb explosion, probably no amount of shelter would save us. Outside the zone of complete destruction our chances of survival would be good if we took adequate shelter quickly.

Kinds of Shelter

2. The best protection is an outdoor underground shelter covered with three (3) feet of earth, similar to an old fashioned cyclone cellar. This would cut the rate to about 1/5000 of the rate above the ground. The next best shelter would be a basement shelter. This would cut the radiation about 90%. If your house has no basement, close all windows and get in the inside rooms or in a hallway surrounded by other rooms. This would cut the radiation 50%, and if you have a stone or brick home, it would cut it even more.

How Long Should We Stay In Our Shelter?

3. We would have to stay until the radiation from fallout decayed to the point where it was no longer a hazard. This might be two or three days or more. Your local Civil Defense would give the "all clear" when it was safe to be out.

Getting Under Cover

4. If you are caught in open country in a fallout area, you should get under cover immediately. Cover means anything which will offer protection from fallout. Almost any kind of cover will reduce the danger—a barn, car, thick growth of trees—anything that will keep fallout off you. If you have time and something to dig with, dig a foxhole; at any rate, get under cover.

c. Decontamination

What is Decontamination in Civil Defense?

1. Decontamination in discussing H-bombs means getttng rid of dangerous radioactivity. Actually, fallout materials are like fine particles of dust, so small, usually, they are invisible. Apart from this radioactivity, they behave like dust and can be removed like any other dust.

2. There is no clothing especially designed to protect against radiation. However, any

clothing which will keep fallout from settling directly on the body will offer some protection.

How Do We Decontaminate?

(a) Washing: Scrubbing with soap and water, preferably under a shower will remove the radioactive dust from the body. Washing will also remove it from most clothing, but the contaminated water must be disposed of. Containers of food such as cans or bottles, if not opened, or punctured, can be decontaminated by washing thoroughly. Large smooth surfaces can be hosed down if water is available.

(b) Cleaning: A vacuum cleaner can very well be used to pick up contaminated dust. This would result in a concentrating contamination in the cleaner which should then be disposed of.

(c) Burying: It may be necessary to bury clothing, furnishings and other items if for some reason they cannot be washed. This would be true of items which have received heavy amounts of radiation.

(d) Other: Large areas contaminated by fallout may be decontaminated by plowing or other large scale operations. This would be a matter for civil defense authorities to handle.

When To Decontaminate

4. If we think we have been exposed to radiation, we should decontaminate by washing and changing clothes as quickly as possible.

Defense by Education and Training

d. Education and Training

It is obvious that learning about fallout and knowing what means we can use to protect ourselves against it, is our best defense.

SUMMARY

Briefly, we have discussed the following points:

1. What fallout is

   It is the dirt, stone and debris carried into the upper air by the explosion and contaminated by radioactive products of the bomb falling back to the earth.

2. Where fallout would occur

All of us in this country live close enough to a potential target to expect fallout.

3. What fallout does
   Radioactivity decreases very rapidly at first, and more slowly later on. The longer it stays in the air and further it travels, the less dangerous it becomes.
4. What we can do to protect ourselves against fallout
   The best protection would be through preventative measures: a. evacuation, b. shelter, c. decontamination and d. education and training.

References:

The Effects of Nuclear Weapons, published by the U. S. Atomic Energy Commission, June, 1957. Order from Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. price $2.00.

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Introduction to Radioactive Fallout, IG-19-1, published by Federal Civil Defense Administration, September, 1955. Available free from Division of Civil Defense, P.O. Box 656, Cherokee Station, Louisville 5, Ky.

Public Health Aspects of Radiological Defense and Radiation Instruments, published by Kentucky State Department of Health, October, 1957. Available free from Kentucky State Department of Health, 620 S. Third St., Louisville 2, Kentucky.

Total — Early effects for periods of time over which total dose is received — Late Effects

EFFECTS OF RADIATION DOSAGE

Total dose (r)	Early effects for periods of time over which total dose is received					Late Effects
	1 day	3 days	1 week	1 month	3 months	
0-75	0% sick				0% sick	None
100	2% sick	0% sick			0% sick	None
125	15% sick	2% sick	0% sick		0% sick	None
150	25% sick	10% sick	2% sick	0% sick	0% sick	None
200	50% sick	25% sick	15% sick	2% sick	0% sick	Some late effects
300	100% sick 20% die	60% sick 5% die	40% sick	15% sick	0% sick	Some late effects
450	100% sick 50% die	100% sick 25% die	90% sick 15% die	50% sick	0-5% sick	Some late effects
650	100% sick 90% die	100% sick 90% die	80% sick 40% die	80% sick 10% die	5-10% sick	Some late effects

CHAPTER V

AGRICULTURAL, INDUSTRIAL ARTS, HOME ECONOMICS, AND TRADES EDUCATION

These four areas were not intimately considered in the preceding curriculum extensions and adaptations table, and are therefore treated separately because of the vital contributions each can make in a school and community civil defense effort.

CONTRIBUTIONS OF AGRICULTURAL EDUCATION

PRESENT CONTRIBUTIONS	ADDITIONAL CONTRIBUTIONS
Training high school youth, young farmers, and adults in approved methods of food and fiber production.	Teach alternative ways to preserve and use food supply.
Teaching construction, repair and servicing farm machinery, equipment and buildings.	Stress effective utilization of school-community canneries.
Instruction in care of animals and fowls.	Train rural people to make surveys of available foods.
Teaching food conservation—storage and processing.	Prepare farm people to provide for evacuated people.
	Place greater emphasis on farm machinery repair.
	Teach care of pets in evacuation.
	Show how to detect evidence and effect of biological warfare.
	Teach farm people how to do jobs with minimum of equipment and without power.
	Teach "fall-out" protection of personnel, food and livestock.
	Prepare to take over shop training if city schools are destroyed.
	Include unit on what to do for civil defense, in high school, young farmer, and adult classes,

PRESENT CONTRIBUTIONS	ADDITIONAL CONTRIBUTIONS
	helping rural people to understand their role in civil defense.
	Teacher can serve as liaison between rural people and civil defense authority.

CONTRIBUTIONS OF INDUSTRIAL ARTS EDUCATION

PRESENT CONTRIBUTIONS	ADDITIONAL CONTRIBUTIONS
Training in use of tools and materials—(metals, wood, plastics, electricity, etc.).	Build items of furniture and equipment needed in local emergencies.
Building articles for Red Cross, hospitals, camps, (such as tables, chairs, carts, lamps, etc.).	Provide equipment needed in evacuation movement (tools, batteries, utensils, etc.).
Making games and recreation equipment.	Improvise equipment, furniture, stoves and other needed items under disaster conditions.
Building street barriers, signs, boxes, etc.	Train youth and adults to meet emergency needs (e.g., to serve as helpers to tradesmen).
Repair of school and home equipment.	Prepare kits of tools in case of evacuation.
	Help prepare school shelters, including items of equipment.
	Develop skills in using salvage materials of all kinds (woods, metals, etc.).

INTEGRATING CIVIL DEFENSE EDUCATION WITH HOME ECONOMICS PROGRAMS

A committee appointed by Dorotha Smith, President of the Kentucky Association of Home Economics Teachers, met in Jan., 1957 to think of ways in wihch Civil Defense Education could be integrated with the home economics program. Members of this committee were Mrs. Rena Stewart, Lee County High; Leila Hammons, Memorial High, Lincoln County; Elizabeth Davenport, Berea High; Mrs. Doro-

thy Camenisch, Stanford High and Mary Bell Vaughan, State Department of Education. (The following suggestions were made by this committee.)

Civil Defense Education can be integrated with all the areas of homemaking. Home economics teachers should be alert to the many opportunities they have for helping prepare individuals and homes for meeting emergencies in times of disaster. Home economics teachers throughout the State are urged to include Civil Defense Education in the teaching of homemaking as it fits into the program. As civil defense materials are studied teachers may think of many ways of integrating Civil Defense Education with the homemaking program. The following suggestions may be of help in thinking along this line.

Some Suggested Ways of Integrating Civil Defense with the Homemaking Program

1. Child Development Units
   a. Plan ways of preparing a child for a time of disaster, yet not frighten the child.
   b. Plan ways of taking care of children in time of disaster, including ways of calming a frightened child.
2. Clothing Units
   a. Plan minimum clothing (type and amount) needed in case of evacuation.
   b. Learn quick clothing-construction techniques and ways to renovate clothing.
3. Foods Units
   a. Prepare emergency shelf for a family of a typical size when studying the food needs of a family. Use as an exhibit or demonstration for the rest of the school, at a PTA meeting, or for other group.
   b. Plan, prepare and serve some meals from the emergency shelf using improvised equipment.
   c. Store in a correct way the foods needed for emergency.
   d. Learn how to protect food against contamination, especially radiation and spoilage.
4. Health and Home Nursing Units
   a. Have class present, as an interesting approach to a Safety unit, the skit, "Let's Plan What To Do Now". (See chapter VII, Extra-Curricular Areas)

b. Stress ways of fire prevention and of fighting small fires.
c. Learn ways of giving first aid to injured persons.
d. Stress care of ill persons during an emergency in the Home Nursing unit.
e. Find out sanitation practices to follow in time of disaster.

5. Housing Units
   a. Include plans for shelter under emergency conditions in a Housing unit.
   b. Stress the importance of safe storage facilities.
   c. Plan essential household items needed in a shelter area.

6. Management Units
   a. Learn how to work under emergency conditions with makeshift and improvised equipment.
   b. Learn how to lift and move people and objects with the least amount of effort.
   c. Work out a plan to follow in an emergency, including delegation of responsibilities, what needs to be done, etc.

7. Personal and Family Relationships Units
   a. Plan how to take care of an evacuated family in one's home.
   b. Plan some morale-building activities that may be carried on following disaster.
   c. Discuss importance of following orders in time of emergency.

8. FHA Activities
   a. Give demonstrations, such as stocking an emergency shelf, caring for an injured person, caring for a child or aged person.
   b. Collect and exhibit items that could be used to help pass the time while in a shelter area.
   c. Present a civil defense skit at a chapter meeting, school assembly, PTA meeting, or for other group.
   d. Use civil defense films to learn what to do in case of emergency.

9. Some Suggested Home Projects
   a. Assembling First-Aid Kit
   b. Assembling a Baby-Sitting Kit
   c. Assembling an Emergency Food Shelf
   d. Making Home a Safer Place
   e. Organizing the Family for Emergency Action

CONTRIBUTIONS OF TRADES EDUCATION

PRESENT CONTRIBUTIONS	ADDITIONAL CONTRIBUTIONS
Training in technical knowledge and skill in auto and airplane mechanics; mechanical trades—electrical, metal, wood. Training for communications (telephone, radio, television); transportation (auto and truck); and similar trades needed in civil defense.	Prepare for use of hand tools and include makeshift tools and equipment. Encourage skilled workers, many of whom are in adult classes, to enroll in civil defense services before and after disaster. Emphasize skills to meet emergency conditions. Training for light duty rescue work (particularly for older pupils, and adults). Use shops, wood, metal, welding, electrics, painting, etc., to build equipment, furniture, and other items such as tables, barriers, splints, first-aid boxes, stretchers, etc.

CHAPTER VI

CIVIL DEFENSE EDUCATION AT THE COLLEGE LEVEL

Certainly, college and university students should have the same basic concepts and understandings of organization and procedures to meet possible natural or man-made disasters as those considered necessary for secondary school pupils and the general public. In fact, the public expects college trained people to have a better understanding of these things and is likely to call upon them for leadership.

It is therefore necessary that institutions of higher learning, with their highly specialized faculties, provide, in their established credit courses, many answers of concern to students. Introductory courses in biology, botany, chemistry, physics, zoology, and other courses can include results of recent research on the effects of radiation and the effectiveness of various protective devices. The social sciences can answer questions regarding human behavior under conditions of fear, the responsibilities of government in emergency, and the democratic philosophy upon which our organized protective measures are based. The physical education and health areas can include first aid instruction and rescue techniques. The fields of history, literature, economics, philosophy, political science, and psychology all have a part to play in teaching college students the reasons for the tensions, the suspicions, and the fears which divide the world and which make the building of armaments and defenses such vital concern. Just the mentioning of these possibilities will suggest many others to teachers in various departments of instruction.

It is also necessary that, in addition to integrated instruction in civil defense, each college prepare plans assuring the physical safety of its people. The plans involving warning signals, evacuation, and shelter, must be understood by all and then tested and re-tested that the procedures for meeting possible disaster on the campus might be perfected. This is just as vital at the college level as at the elementary and secondary levels. (See "A Survival Plan for Kentucky Schools" published by the State Department of Education in March 1958, for a suggested school protection program.) (Also, for a detailed college protection plan, see "Civil Defense and Higher Education" available without charge from the American Council on Education, 1785 Massachusetts Avenue, N. W., Washington 6, D.C.)

CHAPTER VII

EXTRA-CURRICULAR AREAS

Many student services can be utilized in the various learning activities involving civil defense and disaster. There follows just a few examples of what might be done in extra-curricular areas:

1) Civil Defense Club—Unlimited possibilities here. The club, among other things, could undertake responsibility for identification tag project in the school. (Identification tags are available at 25¢ each, from "Identification Tags," P. O. Box 25, Louisville 1, Kentucky. Give name of tag wearer, name and address of person to be notified, birthdate and religion of wearer.) A "Teen-Age Civil Defense Association" has been organized on a state-wide basis in Colorado. Holds annual state conferences.

2) Science Club—Might perform simple scientific experiments relating to civil defense. Might offer an assembly program of such experiments.

3) Camera Club—Might prepare and post photos, news clippings, etc., on civil defense.

4) Junior Red Cross—See activities as outlined in Jr. Red Cross publication.

5) Radio Club—Might present at assembly program demonstrations of radio communication under emergency conditions.

6) Dramatic Societies—Might present plays and skits about civil defense activities. See sample skits below.

7) International Friendship Club—Might put on a school project encouraging world-wide correspondence.

SKIT NO. 1—FIRST AID*

This skit was part of a children's First Aid program presented at a PTA meeting. Immediately prior to the skit, demonstrations of

*Written by Ila Jean Nixon and Mike Hancock (elementary pupils), and presented by the First Aid and Civil Defense Club (5th & 6th Graders), of the Alice Waller Elementary School, Jefferson County System.

the application of various type bandages and dressings were given by the students—three demonstrator students using three seated student "patients," with appropriate comments and explanations by a student commentator.

This student-produced skit then followed, showing first aid treatment for shock and the proper method of placing a patient upon stretchers.

Mother: (Pacing back and forth with a worried look.) Oh dear, oh dear, this is grade card day. I wonder what Father will say to Jim. I know he's not doing so well—I just don't know what I'm going to do with that boy! Here come the children now! I'm not worried about the others, but that Jim!

Children rush in with grade cards to show Mother. All talking at once. Mother compliments all children with "That's fine." Jim stands aside with coat pulled high up over head.

Children are all seated in a circle with Mother in center of the stage.

Mother: But where is Jim?

Jim: (stepping out to show Mother his card with his head still under his coat.) Here, Mom, here's my card.

Mother: Why Jim, you should be ashamed, Four Fs! What will your daddy do! Oh, oh, oh!

Mother begins to worry again, pacing back and forth saying, "What shall I do?"

Mother: Oh, I'm beginning to feel faint (holding her head with her hand).

Jim: (Now anxious to help, immediately gets a chair). Here Mom sit here!

Children: Oh, what will we do? (and they begin to talk to each other).

Jim: "I know" (and he runs out to get a bucket of water. As he starts to dash water on Mother, the children begin to yell).

Children: No, not that, Jim, stop it!

1st Child: "If she's fainted, my First Aid Club says to make her lie down with head low."

2nd Child: "I'm going to call the doctor." (leaves room to call doctor).

3rd Child: Jack, feel her pulse. Do you feel anything?

Jack: (Jack takes hand and feels pulse).
"No I can't feel a thing!"

Another Child: Feel her face and neck. Does she feel cold and wet?

Jack: (feels face and neck)
Yes, she does!

Another Child: Oh dear, then she hasn't fainted, she's in **shock**! Oh, this is serious, what must we do?

Another Child: Make her lie down at once and cover her up good so she will be warm.

Children place Mother on floor. In excitement, they begin to pile blankets and coats on Mother so high it looks ridiculous.

Child: Oh, that's too much, we can get her too warm, you know.
(Children remove some of covering)

2nd Child: (rushing in)
I can't get in touch with any doctor. I've called and called. So I've called the ambulance to come to take her to the hospital.

(siren sounds)

Four boys rush in with stretchers. Children stand aside as the stretcher bearers place Mother on stretchers in proper manner. Mother is carried off stage as curtains close.

SKIT NO. 2—METHODS OF WATER PURIFICATION*

Most of us take for granted the public services that guard our family health. During and after natural or man-made disasters many of these services may be disrupted or knocked out. The local water system may be cut off, or made impure by disease carrying organisms. Milk or juices may become temporary substitutes for

* Made available through the cooperation of the U. S. Office of Education, Washington 25, D. C.

water or it may be necessary to purify contaminated water to have safe water to drink.

This student-produced skit shows the application of some of the emergency measures which are learned in home economics, science and health classes.

Scene takes place in Homemaking or Health Class

Characters: Teacher and students, Mary, Edith, Betty, and Paul

Teacher: Yesterday we were talking about different sources of liquids we could drink if our supply of tap water was cut off. Do you remember what some of them were?

Mary: We talked about melting ice cubes for drinking water or even using water from hot water storage tanks in our homes.

Edith: We could drink milk or juices from canned and fresh fruits and vegetables.

Paul: Yesterday we received a letter from my aunt and uncle who live in southwest Virginia and they wrote about the experiences they had when their house was flooded. They had no heat because the furnace in the basement was flooded; they couldn't use their stove because the gas line was broken, and they were told not to drink the water because it was contaminated. I was wondering if there was any way they could have purified that water and made it safe to drink?

Teacher: Yes, there are ways to purify contaminated water. Can you think of something your aunt and uncle could have done?

Paul: They could have boiled the water couldn't they?

Teacher: Yes, if they boiled it for 10 or 15 minutes, that would have purified it, but your aunt and uncle had no way of doing that.

Edith: You can chlorinate contaminated water to make it safe to drink.

Paul: What do you mean by that?

Edith: You can use any household bleach such as chlorox that contains hypochlorite to purify water.

Paul: You mean you should pour a whole bottle of chlorox or some other household bleach in contaminated water to purify it?

Edith: Oh No! Usualy 1 or 3 drops of household bleach to a quart of water will do. You should read the directions on the bottle to find out exactly how much to use because some bleaches contain more hypochlorite than others. After adding the proper amount of drops and stirring it, you have to let the water stand for about half an hour before it becomes safe to drink. It should taste or smell like chlorine—you know, the way swimming pool water smells.

Teacher: Are there any other methods by which we can purify contaminated water?

Mary: Yes, I believe you could use regular household iodine couldn't you?

Teacher: Yes, you could. How much iodine would you need to use?

Mary: I believe I read in the Civil Defense pamphlet, **What To Do Now About Emergency Sanitation At Home**, that you only need to use 2 or 3 drops of iodine for each quart of water or 8 to 10 drops if the water is cloudy. You mix it into the water and let it stand for about 30 minutes before drinking it.

Betty: You know, I remember my older brother telling me he used purification tablets called halazone during World War II to purify water for drinking when he was in France.

Teacher: He probably did. You can buy halazone or globoline tablets at drug stores to purify contaminated water and make it safe to drink.

Edith: Will these methods purify water that has become radioactive from fallout?

Teacher: No Edith, they won't. One way to decontaminate

water that has become radioactive from fallout is by distillation. Other methods such as sand filtration or the use of ion exchange resin will give almost complete decontamination. The methods we have been discussing will make water that has been contaminated by bacteria or protozoa safe to drink.

Paul: If my aunt and uncle had known the various methods of purfying the contaminated water, they wouldn't have been without drinking water for such a long time.

Teacher: That's right Paul. It's important for everyone to know these things.
Sometimes after natural disasters such as floods, tornadoes, and hurricanes, or possible man-made disasters, normal water supplies might be disrupted or contaminated so it's good to know what other liquids can be substituted for water, or how to make contaminated water safe to drink.

SKIT NO. 3—PLANNING A HOME SHELTER*

This is a sample of the types of skits children have developed after they have discussed significant information about various kinds of natural disasters and possible wartime emergencies in order to develop an understanding of the necessity for civil defense planning. Scene takes place in living room of a home.

Characters: Mother, Daddy, Judy—a 6th grader, and Tommy—a 5th grader.

Mother comes on stage as Tommy comes in from school carrying school books.

Tommy: Hi Mom, I'm hungry, can I have something to eat?

Mother: You're always hungry. Go into the kitchen and fix yourself a sandwich, but don't eat too much because dinner will be ready at 6:00 o'clock.

Judy comes in from school.

Judy: Hi Mom, how's everyone?

* Made available through the cooperation of the U. S. Office of Education, Washington 25, D.C.

Mother: I'm fine, but your father is catching a cold. What did you do in school today?

Daddy enters room.

Judy: Oh, we had a drill!

Daddy: A drill, what are you talking about Judy? You mean you had another fire drill today? You had one yesterday.

Judy: No, Daddy, it wasn't a fire drill, but it was just as important. This was a shelter drill.

Daddy: A shelter drill—what is that?

Judy: We practice taking shelter so in case enemy planes are detected nearby, we will be able to protect ourselves.

Mother: I remember hearing about the school protection plans at the last P-TA meeting.

Daddy: How would you know when to take shelter Judy?

Judy: Well, we have a siren in the school building, and on the playground which tells us when to go to our shelter areas.

Daddy: Why don't we have sirens for our town so everyone will know when to take shelter?

Judy: We do Daddy. Every Monday at noon, the civil defense signals are tested to make sure that they are operating properly.

Daddy: I always thought that was to let people know it was time for lunch.

Tommy walks in munching on a sandwich.

Judy: Oh Daddy! In our town we have 2 civil defense signals. One is the alert signal which is a steady blast of 3 to 5 minutes. This means that enemy planes are headed our way and that we should turn on our radios to 640 or 1240 on the AM dial to find out what to do.

Tommy: In some towns people will be asked to evacuate their homes and schools and go to a safer place, but in our

town we're supposed to turn on our radios to the CONELRAD stations for information and when we hear the signal of short blasts lasting for 3 minutes, we're supposed to take shelter.

Judy: Our teacher told us that since our town is located several miles away from any probable target area that basements in homes could be used for shelter. If we are home and hear the take cover signal we should take shelter in our basement and stay there until the radio or some civil defense official tells us it is safe to come out.

Tommy: Our basement could protect us against tornadoes too.

Daddy: Well, we have a basement that we could use as a shelter area.

Mother: Yes, we could, but we wouldn't be able to stay in the basement very long because Tommy would get too hungry.

Tommy: No I wouldn't Mom, not if we stored some food in the basement.

Judy: We were told that there should be enough food for every member of the family to last for at least 7 days.

Tommy: Don't forget we'll need a supply of water too—at least a gallon of water for each of us.

Judy: But remember, you can't keep water fresh in containers too long. You have to pour out the old water, wash the containers and put in fresh water at least every 3 months.

Daddy: What else would we need for the basement shelter?

Judy: Well, we would need cooking and eating utensils, plates, and cups.

Tommy: And a flashlight, extra batteries, portable radio, blankets, soap, and towels, and we can use my Boy Scout sterno stove to cook on.

Judy: Let's put some books and games down there too.

Daddy: Judy, you better start making a list of some of these things so we can begin preparing today.

Mother: Don't forget a can opener.

Judy: I can hardly wait to tell my teacher what we're going to do. We're going to have the best home shelter in town!

SKIT NO. 4—PLANNING WHAT TO DO NOW*

Training Skit for Civil Defense Family Action Plan
Prepared by
Mary Ellen Pangle
Riverside, California

Scene: Dining room wth table, five chairs, few dishes on table.

Cast: Mr. and Mrs. Brown, Gran, and Sister (about 10)

When Skit opens, Mother returns to table where Gran is still seated. Sister is clearing table. Father is off stage.

Mother: I finally got Billy to bed. Now we can have our meeting.

Gran: Meeting? What meeting? Who's coming?

Mother: No one's coming, Gran. It's our own family council meeting. Don't you remember? Sister, you go call Daddy and then finish clearing the table, will you, please?

(Sister leaves through opposite side)

Father: (Off stage) Tell your mother I'm watching TV.

Mother: Andrew, you come on back to the dining room. You know we agreed to talk about our Family Action Plan tonight. Our block worker will be back to call next week and I don't want to have to tell her the Browns have no family plan. Now come on, Andrew. It needn't take long if we just get started.

(Father returns to table as does Sister)

* Made available through the cooperation of the Federal Civil Defense Administration, Battle Creek, Michigan.

Father: Now, what's this all about? It better be important. That's a darn good wrestling match on television tonight.

Mother: Andrew!

Sister: My teacher says we have a disaster plan at school, but I sure don't know what I am supposed to do if I'm not at school when the bomb falls.

Gran: I just don't think we ought to talk about things like . . . like . . . well, it just isn't good for (motions to little girls) to hear such talk.

Sister: Oh, Gran, my teacher says it wouldn't be much different from a bad fire anyway. I know about bombs and stuff. Even Billy saw that show on TV. He knows about war.

Mother: All right, Sister. Let's get down to business, Andrew.

Father: Well, look, I don't know too much about this Civil Defense business. You're the one that's been going to those meetings and talking to that woman who comes to the house. What should we talk about first?

Gran: Just doesn't seem right to talk about such things before the children, I say.

Sister: My teacher says we ought to . . .

Mother: Hadn't we better decide where our shelter would be?

Father: Wait a minute, one at a time. Look, Gran, we all hope nothing will ever happen, but if it should it's best that the whole family stick together from start to finish, isn't it? The kids aren't dumb. They see the same shows we do, remember. Let's start at the beginning. Seems to me I saw something in the paper about new warning signals. Anybody know what they are?

Sister: My teacher says the long siren blast means trouble may be coming and for us to come inside. Turn on the radio to 640 or 1240. Then if the siren begins to go up and down, we should duck and cover. (In some cities the long blast means Evacuate—check with your local CD and change script accordingly)

Father: That's right, isn't it, Mother? Everybody get that? Gran, you understand?

Gran: Certainly, I understand, son. Nothing wrong with my hearing nor with my head, I guess.

Mother: Would Billy know what to do? After all, he's only four.

Father: Just get him to promise that if he hears any kind of siren, he's to come in the house at once. From then on, we can take care of him. But where would we all go, I wonder? Wish we had a basement like the one in our old house back in Nebraska.

Mother: We couldn't consider building a shelter, I suppose . . . .!

Sister: My teacher says every building has a safest place in it. You don't have to have a basement. Our school hasn't any basement and we have a safest place.

Gran: I THINK . . .

Mother: I THINK . . .

Father: Look, why don't I assume responsibility for surveying the situation and report back at our next family council meeting? It's kind of important and I don't think we ought to go off half-cocked.

Mother: I think that's a fine suggestion. If each of us has a definite responsibility, we'll all feel it's really our plan. I'll take charge of the emergency food shelf. The block worker left a pamphlet months ago. All I need to do is remember I must plan enough for seven days. Then I'll add some of the little things we especially like.

Gran: And how would we cook if our gas is shut off?

Mother: Oh, that's part of the plan. I'll have mostly foods that can be eaten without cooking. And I'll put in that old Sterno so we can have something hot to drink. But let's not take any more time on the food now. I'll guarantee to have it on hand.

Gran: Don't forget to put in a can opener.

Sister: My teacher says bottled water is important. Could we have cokes too, Mom?

Gran: If the gas is off, that means we'll have no heat. Somebody better round up extra clothes. I can have my own ready. I don't expect to be waited on. Isn't there anything I can do to help?

Mother: Of course. Would you be willing to see that we have such things as bedding and towels? We could store the extra blankets in whatever place we do decide is to be our shelter, maybe.

Gran: Yes, I can do that. I can pack them in that old trunk of your father's.

Sister: My teacher says everyone should help. Daddy, what is my job? I am old enough to help. And Billy, too?

Father: You're right, Sister. This is everybody's job. Let's see —we can make Bill keeper of the flashlight. I'll get a new one, a good strong one, with some extra batteries.

Mother: Sister, could you pack a games box, do you suppose? You could put in a couple of Billy's old toys, quiet ones, some cards and books for Daddy and me, and maybe Gran's backgamon set. You can ask each person what he or she wants in the box.

Sister: My teacher says . . . uh, uh, Mommie, can I put in some comic books.

Father: This is a little off the subject of games, but I think I'd better plan to have a shovel and a crowbar handy, don't you?

Mother: You know one thing that worries me? They tell us that we should stay put until we are told it is safe to come out. Well, how would we know? Even if we could move the TV or the big radio, neither would work if the electricity is off.

Father: Of course, if I'm here, we'd have the car radio. But, say, isn't that old battery radio still around someplace? I'll look for it before I go to bed tonight. I'll have to get some extra batteries.

Gran: That makes me think. I'm going to hunt up those old reading glasses of mine. If these got broken, I'd be blind as a bat.

Mother: Another thing we need is some first aid supplies. I have a list the block worker gave me. We ought to have those things on hand anyway. War isn't the only emergency that might call for some first aid.

Father: Well, I'm all for having the stuff handy, but, Mother, would you know how to use it? And it would probably turn out to be your job, too, you know.

Mother: I'll have to admit I've forgotten all I ever did learn when I took first aid back during the war. Maybe I'd better call Red Cross in the morning and see if I can't get in on a class now.

Gran: What about fire? If the water was turned off, what would we do?

Sister: My teacher says sand will put out a fire and there's sand in Billy's play yard.

Father: You're right, Sister. We can fill a bucket and set it right in the house where it would be handy, can't we?

Mother: Might be a good idea, too, Andrew if you cleaned up that trash in the garage. Those old paint rags are pure dynamite.

Father: I'll get at it this weekend, I promise.

Gran: I've got a pile of old magazines stowed away in the back of my closet. I've been saving them, thinking I'd get them all read some day. Maybe I'd better clean them out.

Mother: One of our Civil Defense meetings was on fire-safe housekeeping. I know I ought to get that frayed ironing cord fixed and get rid of that can of naptha I keep in with my cleaning cloths.

Sister: My teacher says we should all check for fire hazards in the home.

Father: Your teacher is dead right, Sister. I appoint you Family Fire Marshal. It will be your job to lead us in a systematic search for fire hazards here in our house. OK?

Sister: Yes, Father. I accept. Can I tell my teacher tomorrow that I'm the Family Fire Marshal?

Father: Of course, Sister, but don't forget there's a job to do along with the title.

Mother: Seems to me we've lined up a lot of jobs. I'll post them on the family bulletin board out in the kitchen in case any of you forget which are yours.

Father: Let's set two weeks from tonight as deadline. Everyone be at the Family Council meeting and be ready with a report. Then we'll plan a rehearsal and really go through the motions. You know, I feel a little easier in my mind now that we have talked it over together. I haven't said much about it but I've sort of worried about what you'd do if I weren't here and something did actually happen.

Mother: Don't think I haven't worried about it, too, dear.

Gran: Maybe if all of us know what to do and each has his own job, it will all work out. I know for one that it's good to feel useful.

Sister: My teacher says . . . . .

Father: I know—your teacher says a lot of things and you mind her, too, hear?

Mother: Your teacher would say bedtime for little girls now . . . come on, Sister.

Gran: I'm ready for bed, too. I've lots to do tomorrow. We all have, haven't we, if we're to be prepared no matter what might happen?

CHAPTER VIII

SUGGESTED RECREATIONAL ACTIVITIES FOR SHELTER AREAS

The games described in the following pages have been extracted from a list prepared by the Milwaukee, Wisconsin, Public School Curriculum Planning Council. They represent those requiring no equipment (other than pencil and paper), no moving about, and a minimum of space. In most cases, the grade level is indicated. The games are grouped by interest area: general, nature study, history, geography, and mental play.

GENERAL

Advertising Phrases (Juniors to Adults)

The leader states a trade slogan and the player who first calls out the product it advertises scores one point.

Such phrases as: "It floats", "Ask the man who owns one", "They satisfy", "Time to retire", "Never scratched yet", etc. might be used.

Earth, Air, Fire, and Water (Juniors to Adults)

The person who is "it" points to someone and says "earth"; before he can count ten, the player must call the name of some animal which runs on the earth. If "it" has called "Air" the player would have had to name a bird that flies in the air; "Water", a fish that swims in the water. When "Fire" is called, the player must make no sound.

Jerusalem or Jericho (Juniors to Adults)

No collection of social games would be complete without this old-time favorite. The leader stands where all can see. The guests are all standing in an informal line, if possible. The leader calls either "Jerusalem" or "Jericho". If he says "Jerusalem" all bow deeply. If he says "Jericho" no one moves. The leader attempts to confuse by trailing out the first syllable, as "J-e-e-r-rusalem" or "J-e-e-r-richo". Anyone bowing when they should not, or failing to bow quickly when they should, must exchange places with the leader.

Calling Opposites (Intermediates and Juniors)

The leader or teacher calls a word that has an opposite, such as "tall" (short), "fat" (thin), "deep" (shallow). The first player to call out the opposite scores one point. The leader should call the words rapidly, and be alert to pick the winner.

"B" Game (Intermediates to Adults)

Each player is given a sheet of paper with numbered questions prepared like the following list. The answer to each question is to be written opposite it, and must consist of the letter B as an initial and added to it the number of letters designated, the whole conforming to the definition given. The following examples will illustrate:

1. B and one letter, meaning to exist.—Be
2. B and two letters forming a sack.—Bag
3. B and three letters forming a storehouse.—Barn
4. B and three letters, side of a stream.—Bank
5. B and three letters, a young creature.—Baby
6. B and three letters, a bag of goods.—Bale
7. B and three letters, without hair.—Bald
8. B and three letters, a surety.—Bond
9. B and three letters, timber.—Beam
10. B and three letters, a vegetable.—Beet—Bean
11. B and three letters, a poet.—Bard
12. B and three letters, a globule.—Bead

HISTORY

You Know Me (Juniors to Adults)

One player, selected to start the game, thinks of some well-known character, past or present, and assuming that he is that person, makes a statement indicating his identity. For instance, he might say, "I am the big Chief that defeated Custer." The players try to think who that might be, and the one wins who first names Sitting Bull. This person then continues by assuming he is a prominent figure, and might say, "I am the fellow who led the Spaniards into Mexico." The player naming Cortez wins.

Recognition

What famous person, historical, or mythical, do these objects suggest?

1. Hatchet? (George Washington)
2. A rail fence? (Abraham Lincoln)
3. A kite? (Benjamin Franklin)
4. A muddy cloak? (Sir Walter Raleigh)
5. A lonely island? (Robinson Crusoe)
6. A burning bush? (Moses)
7. A ruff? (Queen Elizabeth)
8. A glass slipper? (Cinderella)
9. An apple? (William Tell)
10. A silver lamp? (Aladdin)
11. A smooth, round stone? (David)
12. Long hair? (Sampson)
13. A dove? (Noah)
14. A pomegranate seed? (Persephone)
15. A spider web? (Robert Bruce)
16. A key? (Bluebeard)
17. A wolf? (Little Red Riding Hood)
18. A steamboat? (Robert Fulton)

Guess My Name (Juniors and Adults)

This game can be used to excellent advantage in connection with the teaching of history. Each player is given a sheet of paper. Ask him to write the numbers 8 to 1 down the left side of the paper. The leader then reads each statement and the players attempt to guess the historical character described and write the name after the number of the statement. The statements are vague at first and become more definite the farther down the list one goes. Each player is credited with a score corresponding to the number opposite which he named the character correctly.

Example: I was President of the United States.

8. I occupied the White House for two terms.
7. I was vitally interested in the common people.
6. They called me an idealist.
5. I was a very learned man.
4. I wrote history books.
3. Although interested in peace, I led my country in war.
2. I made two trips to Europe while President.
1. I founded the League of Nations.

I am Woodrow Wilson.

GEOGRAPHY

Guess My Name (Juniors to Adults)

The following is an example of a descriptive list of geographical facts concerning a state. Teachers can easily prepare a number of these for use in connection with states, countries, oceans, rivers, and so forth.

Example: I Am A State In The Union:

8. Boats land on my shores.
7. I boast of a big metropolis.
6. Resorters and campers flock to me every summer.
5. Copper and iron are taken from my mines.
4. My woods are plentiful but there are many miles of second growth waste.
3. My cherry orchards are famous across the country.
2. I was once rich in the world's finest white pine.
1. I make more automobiles than any other state.

I am Michigan.

NATURE

Flower Riddles

Answers:

1. What flower do ladies tread under foot? (Lady's Slipper)
2. What flower is most used by cooks? (Buttercup)
3. What flower tells how a man may get rich quick? (Marigold)
4. What flower indicates late afternoon? (Four-o-clock)
5. What flower tells what father says when he wants an errand run? (Johnny Jump-Up)
6. A parting remark to a friend? (Forget-me-not)
7. What flower do some people go far to avoid? (Goldenrod)
8. What flower do people get up early to enjoy? (Morning Glory)
9. What flower do men often handle? (Lady Finger)
10. What flower often hangs on the laundry line? (Dutchman's Breeches)
11. What flower reminds one of church? (Jack-in-the-pulpit)
12. What flower goes with the easy chair and the paper? (Dutchman's Pipe)
13. What flower describes a beautiful specimen of an animal? (Dandelion)
14. What flower is both pleasant and distasteful to the pallet? (Bittersweet)

15. What flower reminds one of winter weather? (Snowdrops)
16. What flower tells what George Washington was to his country? (Poppy)
17. What flower reminds one of birds in a group? (Phlox; Flocks)
18. What flower suggests neat lines? (Primrose; Prim rows)
19. What flower suggests a feline bite? (Catnip; Cat nip)
20. What flower is a boy's delight in winter? (Snowball)

Old Sayings (all ages)

The leader reads a statement. The first player completing it gains one point.

1. Sly as a (fox)
2. Swift as a (deer)
3. Busy as a (bee)
4. Hungry as a (wolf)
5. Gentle as a (lamb)
6. Still as a (mouse)
7. Thirsty as a (camel)
8. Stealthily as a (panther)
9. Faithful as a (dog)
10. Majestic as a (lion)
11. Fierce as a (tiger)
12. Pure as a (lily)
13. Sweet as a (rose)
14. Modest as a (violet)
15. Happy as a (lark)
16. Wise as an (owl)
17. Crazy as a (loon)

Guess My Name (Juniors to Adults)

For this very interesting and educationally worth-while contest, the leader or someone versed in nature should prepare descriptive lists of nature objects similar to those listed below.

Note that before each statement is a number, the first being eight and the last, one. The first statement is the most obscure one and the identity of the object described becomes more obvious the farther down the list one goes.

Give each player a paper on which he lists the numbers from eight to one. The leader reads the first statement and the players write after Number 8 the object they think it describes. Then the leader reads the next statement, and so on. Each player is credited with a score indicated by the number of the statement by which he guessed the object correctly. That is, if he guessed it on the second statement, he scores seven; on the last, one.

When only a few are playing, the use of the papers and pencils may be eliminated, and each player allowed to call out his guess after each statement.

In the interest of teaching, the leader should re-read the descriptions after the object has been named.

Example: I am a Bird

8. I am bigger than a chickadee and smaller than a blackbird.
7. I go south in the fall and north in the spring.
6. In fact, I go north very early in the spring.
5. I make my nest in holes in trees, rails, and so forth.
4. I love the old apple orchards and sunny fields.
3. I am often called the messenger of spring.
2. My breast is red.
1. My back is blue.

I am a blue-bird.

MENTAL PLAY

Simon Says (All Elementary Grades)
(Do only as Simon says)

Hound and Rabbit (All Elementary Grades)
(Passing erasers around the circle)

Paper and Pencil Games (Intermediate & Upper Elementary)
(Naughts and crosses)

Guessing Games (All Elementary Grades)
(Famous names, state capitols, zoo animals, etc.)

Storytelling Stunts (All Elementary Grades)
a. Any story of interest
b. The biggest tale (A whopper)
c. Feather pass (A continuous story)

Spelling "B" (All Elementary Grades)

Songs (All ages)
(Any well-known group of songs)

CHAPTER IX

SELECTED BOOKS FOR ELEMENTARY GRADES COMPILED BY LOUISVILLE FREE PUBLIC LIBRARY, CHILDRENS DEPARTMENT

A selection of books which will help children to an understanding and courage wherewith to meet the emergencies that could arise under war conditions.

Angelo, Valenti

MARBLE FOUNTAIN 5-8

Two brothers, orphaned by the war, inspire the people of an Italian village to try to regain their prosperity through the rebuilding of their community.

Benary-Isbert, Margot

THE ARK 6-9

A story of post-war Germany. The Lechow family, resettled in the Western Zone, rebuild their lives with courage and without bitterness.

Benary-Isbert, Margot

ROWAN FARM 7-9

A sequel to the Ark. The Lechow family complete their adjustment to a new life.

Bishop, Claire

PANCAKES—PARIS 4-6

A box of American pancake flour given to Charles starts him on a pleasant venture for the day.

Bishop, Claire

TWENTY AND TEN 5-7

Twenty French children display courage in hiding ten refugee children from the Nazis.

Cook, Don

FIGHTING AMERICANS OF TODAY 7-9

Life stories of well-known American fighters.

Crockett, Lucy

PONG CHOOLIE—YOU RASCAL! 7-9

A South Korean boy, forced to live in North Korea under the Chinese Communist Army surveillance, chooses to join some retreating American soldiers in order to make his home in South Korea.

Crockett, Lucy

TERU: A TALE OF YOKOHAMA 5-9

A Japanese family returns to their home after World War II and reestablishes their way of life under the American occupation.

De Jong, Dela

LEVEL LAND

RETURN TO LEVEL LAND 5-7

A story of how a valiant family meets war and faces the problems of reconstruction.

De Jong, Meindert

HOUSE OF SIXTY FATHERS 6-8

Tien Pao, separated from his family during the early days of the Japanese invasion of China, faces with real courage the stark horror of being lost in enemy territory.

Felsen, Gregor

SUBMARINE SAILOR 6-9

A realistic account of life aboard a submarine during war time.

Gleitsmann, Hertha

NIKO'S MOUNTAIN 5-7

A sympathetic presentation of the problems of Europe's children after the war.

Gleitsmann, Hertha

PIERRE KEEPS WATCH 5-7

A suspenseful, exciting story of French villagers who fought the Nazis with courage and ingenuity.

Gollomb, Joseph

YOUNG HEROES OF THE WAR 5-8

The heroes and heroines of these stories range in age from 6 to 17 and come from many different parts of the world.

Gordon, Patricia

WITCH OF SCAPE FAGGOT GREEN 5-8

American soldiers bring back a witch buried centuries before to an old English town.

Gronowicz, Antonia

BOLEK 5-8

Bolek's family builds its hope for happiness on America as the threat of war deepens in Poland.

Haywood, Carolyn

PRIMROSE DAY 2-4

Merry Primrose, a little English girl who came to America to visit her Aunt because of the War, finds real happiness in her new home.

Hunt, Mabel

SINGING AMONG STRANGERS 7-10

The story of a Latvian family who never lost hope through the Russian and German invasion, and of their wanderings until a home is found in America.

Karolyi, Erna

SUMMER TO REMEMBER 4-6

Margitka enjoyed her visit to Switzerland following her arduous life in Hungary during the first World War.

Kelsey, Alice

RACING THE RED SAILS 4-7

An interesting collection of short stories on Greece after the war.

Lattimore, Eleanor

PEACH BLOSSOM 3-5

A Chinese girl, six year old Peach Blossom, is caught in the midst of the War. Fleeing with a friend of the family, she finds refuge in a school for girls.

Lawson, Captain Ted

THIRTY SECONDS OVER TOKYO 7-10

The story of the bombing of Japan and the days of adventure in China that followed, told by one of the pilots who participated in the raid.

Lewis, Elizabeth

TO BEAT A TIGER 7-9

Sixteen Chinese boys band together in their day-by-day struggle for existence while living under the domination of the Japanese. They learn the grim significance of the old proverb "To beat a Tiger, one needs a brother's help."

Lewis, Elizabeth

WHEN THE TYPHOON BLOWS 6-9

A young boy and his grandfather escape from their fishing village as it is being invaded by the Japanese.

McSwigan, Marie

JUAN OF MANILA 5-9

Young Juan helps keep the people of Manila informed through his amateur radio broadcasting.

McSwigan, Marie

SNOW TREASURE 4-7

Based on an actual happening in Norway, this is the story of how a group of Norwegian children coasted through the German camps with gold blocks fastened to their sleds.

Meader, Stephen

SEA SNAKE 5-8

An American boy is picked up by a German submarine off the coast of Carolina and shows courage and daring while in the hands of his captors.

Norris, Faith, and Lumn, Peter

KIM OF KOREA 3-5

Kim is orphaned during the war. His adventures, meeting an American soldier, living alone, make an absorbing story.

Philmus

BRAVE GIRLS 5-9

Adventures of the Girl Scouts of Europe during the Second World War.

Reynolds, Quentin

BATTLE OF BRITAIN 6-10

A description of England's courageous and valiant fight for control of the air.

Seredy, Kate

CHESTRY OAK 5-7

Michael, a Hungarian prince, finds a happy home in America after the Nazi invasion of Europe.

Seymour, Alta

TANGLED SKEIN 6-9

Post war Norway as seen through the eyes of a girl returning home from England.

Sperry, Armstrong

HULL DOWN FOR ACTION 7-9

Judd and his three friends, cast adrift on a raft by mutineers, land on Guadalcanal in 1941 and have many rousing adventures.

Vander Hass, Henrietta

ORANGE ON TOP 5-8

An account of the hazards and difficulties of life for the Jansens during the Nazi occupation of their country.

Van Stockum, Hilda

THE MITCHELLS 4-6

Adventures of a typical American family in wartime when the father was in the navy.

Watson, Sally

TO BUILD A LAND 6-9

Leo Morelli and his sister, Mia, Jewish war orphans, are smuggled into Palestine during the time the state of Israel is evolving.

Other books without a war background can serve equally well in helping the child to develop character and understanding in a troubled world.

Yates, Elizabeth

RAINBOW ROUND THE WORLD 5-8

John, an American boy, flies around the world to see and take part in the exciting things the United Nations Children's Fund is doing for and with children in faraway countries to help in rehabilitation.

CHAPTER X

SELECTED FILMS ON CIVIL DEFENSE TOPICS

The following films are available upon request from the Division of Civil Defense, P.O. Box 656, Cherokee Station, Louisville 5, Kentucky. Due to the limited number of copies, it is suggested that reasonable advance notice be given, and that films be returned promptly after their use. The list is subject to revision as new films are produced and older ones become obsolete.

Even though some of the films have been prepared primarily for a specialized audience, they contain information of wide general interest. In all instances, films should be previewed by teachers for appropriateness.

"A Concrete Plan For Civil Defense"	Shows how Ready Mixed Concrete trucks can be used to furnish emergency water in times of disaster (12 minutes, 16 mm, sound).
"And A Voice Shall Be Heard"	An imaginary attack on the city of Syracuse, New York, is used to show the importance of communication in civil defense, and particularly the use of two-way radio in directing medical, police, fire fighter, and other units in rescue and safety work. (20 minutes, 16 mm, sound).
"Atom Bomb Attack"	An Army training film describing protective measures to be taken against nuclear attack. (20 minutes, 16mm, sound).
"Big Men In Small Boats"	A story of privately owned power craft and of the many tasks which the owners of these boats may perform in a national emergency. (13½ minutes, 16mm, sound).
"Bombproof"	A story of the preservation of vital records against any emergency. (14½ minutes, 16mm, sound).

"Crisis—Pennsylvania Flood, 1955"	Shows the effects of the 1955 hurricane, depicting violent natural disaster results. Film prepared primarily for dairy industry showing its contribution under flood conditions. Excellent for general public showing. (20 minutes, 16 mm, sound).
"Facts About Fallout"	Cover and shelter to avoid radioactive fallout discussed. (15 minutes, 16mm, sound).
"Flash of Darkness"	Shows the use of emergency first aid during a bombing attack. (45 minutes, 16mm, sound, 12 inch reel required).
"Front Lines of Freedom"	Film produced jointly by Canada and U.S. Civil Defense agencies. Points out the need for defense measures for the free world. Makes excellent comparison of the Atomic and Hydrogen Bombs. (15 minutes, 16mm, sound).
"Operation Scat"	Documentary record of the orderly evacuation of Mobile, Alabama, during a nationwide "Operation Alert" Civil Defense test. (10 minutes, 16mm, sound).
"Operation Welcome"	Record of an evacuation and relocation exercise conducted in the Denver area, showing a family leaving Denver by automobile, arriving at a rural reception center, and being assigned to a nearby farm. (10 minutes, 16mm, sound color).
"Rehearsal for Disaster"	Trucking industry's contribution in time of disaster. Providing transportation. (12½ minutes, 16mm, sound).
"Rescue Street"	Of primary interest to persons responsible for light and heavy rescue training or for rescue operations. (15 minutes, 16mm, sound).
"Sound for Survival"	Presentation of evacuation exercise at Gary, Indiana, showing use of large amplifiers and strategically located speakers in directing the public. Depicts the manner

	in which a suburban family might be affected by such an evacuation alert. (13½ minutes, 16mm, sound).
"The House in the Middle"	Shows three small houses used in official fire tests at the Atomic Energy Commission's Nevada Proving Grounds. The house in the middle withstands the effects of the atomic blast because it is free of litter and trash, properly painted, and constructed of good materials (6½ minutes, 16mm, color).
"Then came July 5th"	Shows the effects of fireworks and the tragedies caused when they are used by uninformed or careless persons. (10 minutes, 16mm, sound).
"Time of Disaster"	Shows the utter devastation of natural and man-made disasters, and the necessity for organized community preparedness to offset their toll. (10 minutes, 16mm, sound).
"To Live Tomorrow"	Study of human behavior under emotional impacts ranging from the flash fire in a kitchen stove to possible enemy attack. Stresses the need for calm action in time of emergency. (14 minutes, 16mm, sound).
"Traffic Patrols and Escorts"	An Army training film especially suited to the training of auxiliary police. Demonstrates techniques for area traffic control. (25 minutes, 16 mm, sound).
"The Day Called X"	Portland, Oregon evacuation and control center operation under simulated emergency conditions. (25 minutes, 16mm, sound and color).

CHAPTER XI

CHECKLIST FOR INSTRUCTORS*

The attached checklist is designed primarily as a thought provoking device. It can also be used to reveal civil defense gaps in the school curriculum.

Local and State civil defense officials can supply valuable information in the development of your school program.

	YES	NO
1. Civil Defense instruction is integrated wherever it can be logically related to subject matter in all:		
a. curriculum areas	☐	☐
b. school activities	☐	☐
2. Do you use civil defense instructional materials that:		
a. were developed by professional educators?	☐	☐
b. reflect accepted educational practice?	☐	☐
c. are selected according to pupils':		
(1) maturity levels?	☐	☐
(2) needs?	☐	☐
(3) interests?	☐	☐
3. Objectives of civil defense education:		
a. learn basic concepts of self-preservation	☐	☐
b. develop habits of cooperation	☐	☐
c. recognize potential hazards of atomic attack	☐	☐
d. develop proper attitudes toward danger of atomic attack	☐	☐
e. what to do in case of attack while at home	☐	☐
f. develop sense of responsibility for safety of others	☐	☐
4. Civil defense instructional methods used:		
a. pupil discussion of effective use of shelter	☐	☐
b. motion pictures and film strips on civil defense	☐	☐
c. safety principles dramatization	☐	☐
d. pictures and posters on civil defense	☐	☐

*This checklist is made available through the cooperation of the U. S. Office of Education, Washington 25, D. C.

	YES	NO
e. supplementary reading	☐	☐
f. student committees on civil defense	☐	☐
g. shelter and evacuation drills	☐	☐
5. Pupil instruction includes:		
a. weapons effects—blast, etc.	☐	☐
b. radioactive fallout—nature and effect, etc.	☐	☐
c. purpose of civil defense program:		
(1) Shelter	☐	☐
(2) Evacuation	☐	☐
(3) Reception	☐	☐
d. first aid	☐	☐
e. home nursing	☐	☐
f. personal hygiene	☐	☐
6. Civil defense theme is used for:		
a. assemblies	☐	☐
b. bulletin boards	☐	☐
c. compositions	☐	☐
d. scrapbooks	☐	☐
7. School paper promotes civil defense	☐	☐