

Family Preparedness Manual

**Silver Spring Maryland Stake
Second Edition**



Special Acknowledgement: We wish to thank Gary Pope, the author of a similar manual for the Magna Utah Central Stake, who has allowed us to borrow generously from his efforts. In addition, we gratefully acknowledge similar efforts that served as a foundation for his work including the Centerville Utah North Stake Seventh Ward Emergency Preparedness Handbook and the Provo Utah Stake Emergency Preparedness Manual. Other material is used from the Federal Emergency Management Agency and the Maryland Emergency Management Agency. Finally, the material on financial preparedness is adapted from *Ten Easy Steps to Debt-free Living* by Joe W. Jackson and is printed by permission.

The purpose of the information contained in this manual is to provide basic and general guidelines to the reader. It is not intended to constitute comprehensive or exhaustive medical, first aid, emergency, financial or other advice. The reader is cautioned to use common sense and to seek available medical, emergency or other advice based on the particular circumstances of the individual situation.

The contents of this booklet are intended to encourage individuals and families to prepare to cope with emergencies and to assist them in identifying areas in which they should become self-reliant and prepared. Final decisions on preparation and actions taken during an emergency are the sole responsibility of individuals. Information and examples contained within this booklet are provided for illustration only. Therefore, no liability is assumed by the Silver Spring Maryland Stake, or those who have contributed to materials upon which this manual is based, for the use or misuse of any information or products contained herein. This manual is by no means intended to be a complete manual on self-reliance or preparedness. For example, some areas of preparedness such as preparing a will require professional assistance and cannot be covered in a how-to manual. Likewise, this manual should not be regarded as a complete manual on the other topics it covers. For example, professional medical help should always be sought as soon as possible in cases of medical emergencies.

This second edition differs from the first edition primarily in the material on dealing generally with disasters and on dealing with specific natural disasters (specifically pages 36-90). This material is based on information provided by the Federal Emergency Management Agency (FEMA) and is included by permission. (See the FEMA publication, *Are You Ready? A Guide to Citizen Preparedness*, at www.fema.gov/areyouready.) According to FEMA, this material “is based on the most reliable hazard awareness and emergency education information available at the time their material was developed, including advances in scientific knowledge, more accurate technical language, and the latest physical research on what happens in disasters.” But FEMA also provides the disclaimer that their material is “too brief to cover every factor, situation, or difference in buildings, infrastructure, or other environmental features that might be of interest.” To help you explore your interest further, additional sources of information have been compiled at the end of this manual under the topic “For More Information.”

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THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS
SILVER SPRING MARYLAND STAKE
JANUARY 1, 2004

FROM: Silver Spring Maryland Stake Presidency
TO: All Members of the Silver Spring Maryland Stake
RE: Self-Reliance

Dear Brethren and Sisters:

President Marion G. Romney, former member of the First Presidency taught, “Let us be self-reliant and independent. Salvation can be obtained on no other principle.” (*Ensign*, Nov. 1976.) President Spencer W. Kimball further taught, “The responsibility for each person's **social, emotional, spiritual, physical, or economic** well-being rests first upon himself, second upon his family, and third upon the Church if he is a faithful member thereof. ... Work brings happiness, self-esteem, and prosperity. ... Attempts to obtain our **temporal, social, emotional, or spiritual** well-being by means of a dole violate the divine mandate that we should work for what we receive.” (*Ensign* Nov. 1977, emphasis added.)

Our desire is for the members of our stake to find salvation and be blessed with happiness, self-esteem, and prosperity. We share with you our testimony that the gospel is the sure and only way to have these blessings both in this life and the next. We are blessed in mortality with free agency. It is a time to prepare to meet God—a time to act or be acted upon. Failure to act by preparing in every way counseled by the Brethren leaves us vulnerable to the afflictions of mortality, and in a very real way makes our afflictions far more miserable. But “whosoever shall put their trust in God shall be supported in their trials, and their troubles, and their afflictions, and shall be lifted up at the last day.” (Alma 36:3.) “Tomorrow's joy or tomorrow's despair has its roots in decisions we make today.” (Elder Wirthlin, *Ensign*, Nov. 2003.)

We call on all the members of this stake to prepare and become self-reliant in every way: (1) social, emotional, and spiritual strength, (2) physical health, (3) literacy and education, (4) career development, (5) financial and resource management, and (6) home production and storage. This manual gives some detailed information about how to prepare for basic emergencies and loss of employment where the steps of preparedness are rather straightforward and can be committed to a few *pages*. We encourage every family to prepare in these ways. But we also encourage more general preparedness in the social, emotional, and spiritual dimensions suggested by President Kimball in the first paragraph of this letter. The early pages of this manual discuss this counsel to prepare more generally—by pursuing education and career development, by preserving physical health through exercise and proper nutrition, and by developing the social, emotional, and spiritual strength necessary to confront the raging evils that plague the earth in the last days. The best resources to begin your work to prepare in these dimensions can be found in the scriptures and at www.providentliving.org. But a wealth of good books are available to allow you to become a life-long student of **physical, social, emotional and spiritual** preparedness as well as **temporal** preparedness. We urge each of you to not be “like the man who stands at the bank of a river waiting for the water to pass so he can cross on dry land.” (Elder Wirthlin, *Ensign*, Nov. 2003.) Begin this week to use your family home evenings and family councils to prepare your homes and families like the ark of Noah against every evil design the adversary has prepared to beset you and your family.

May you each find lasting happiness and true prosperity,

Peter L. Joyce, President
Richard E. Just, First Counselor
Wilfredo Olivares, Second Counselor

Silver Spring Maryland Stake Presidency

THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS

SILVER SPRING MARYLAND STAKE
JANUARY 31, 1999

FROM: Silver Spring Maryland Stake Presidency
TO: All Members of the Silver Spring Maryland Stake
RE: Family Preparedness

Brethren and Sisters:

The First Presidency and Quorum of the Twelve have recently instructed that *self-reliance* should be taught at all levels of the Church. Throughout 1999, bishops have been asked to review *self-reliance* in ward councils and committees, and priesthood and Relief Society leaders have been instructed to teach members to understand and apply principles of *self-reliance*. This manual is intended to be an aid in fulfilling these instructions. It is also intended to provide a permanent resource to families who are following the Lord's counsel to be prepared and self-reliant.

President Kimball taught, "The Church and its members are commanded by the Lord to be self-reliant and independent. ... Free agency requires self-reliance. ... The principle of self-reliance stands behind the Church's emphasis on personal and family preparedness." (*Teachings of President Spencer W. Kimball*, 366-70.) President Ezra Taft Benson said, "More than ever before, we need to learn and apply the principles of economic self-reliance. ... The revelation to produce and store food may be as essential to our temporal welfare today as boarding the ark was to the people in the days of Noah." (*Ensign*, November 1980:32-33.) In the recent general conference of the Church, President Gordon B. Hinckley warned, "I am suggesting that **the time has come to get our houses in order**. So many of our people are living on the very edge of their incomes. In fact, some are living on borrowings. ... There is a portent of **stormy weather ahead** to which **we had better give heed**." (*Ensign*, November 1998:53, emphasis added.)

This manual begins with several **family home evening lessons** that are designed to help families heed the prophets' warnings and improve preparedness. We encourage all families to hold family home evening and use these lessons. The lessons will familiarize you with the material in this manual and help your family **apply this manual's potentially life-saving and family-saving principles**. We also encourage periodic study and review of this material in future family home evenings. Finally, we suggest keeping this manual in a **prominent place** so that it can be consulted easily in emergencies. May the Lord inspire you and bless you according to his promise, for "if ye are prepared, ye shall not fear." (D&C 38:30.)

Sincerely,

L. Whetten Reed, President
Richard E. Just, First Counselor
W. Gerald Robison, Jr., Second Counselor
Silver Spring Maryland Stake Presidency

THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS

OFFICE OF THE FIRST PRESIDENCY

47 EAST SOUTH TEMPLE STREET, SALT LAKE CITY, UTAH 84150-1000

January 20, 2002

To: General Authorities; Area Authority Seventies; Stake, Mission, and District Presidents; Bishops and Branch Presidents.

Dear Brethren:

Home Storage and Financial Reserves

Priesthood and Relief Society leaders should teach the importance of home storage and securing a financial reserve. These principles may be taught in ward councils or on a fifth Sunday in priesthood and Relief Society meetings.

Church members can begin their home storage by storing the basic foods that would be required to keep them alive if they did not have anything else to eat. Depending on where members live, those basics might include water, wheat or other grains, legumes, salt, honey or sugar, powdered milk, and cooking oil. (See reverse for suggested amounts.) When members have stored enough of these essentials to meet the needs of their family for one year, they may decide to add other items that they are accustomed to using day to day.

Some members do not have the money or space for such storage, and some are prohibited by law from storing a year's supply of food. These members should store as much as their circumstances allow. Families who do not have the resources to acquire a year's supply can begin their storage by obtaining supplies to last for a few months. Members should be prudent and not panic or go to extremes in this effort. Through careful planning, most Church members can, over time, establish both a financial reserve and a year's supply of essentials.

Sincerely yours,

Gordon B. Hinckley
Thomas S. Monson
James E. Faust

The First Presidency

The "suggested amounts" that appeared on the reverse side of this letter can be found on pages 11 and 18 of this Manual.

THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS
SALT LAKE CITY, UTAH 84150

June 24, 1988

To: General Authorities and the following Priesthood leaders in the United States and Canada: Area Authorities (formerly Regional Reps.); Stake, Mission, and District Presidents; Bishops and Branch Presidents.

Dear Brethren:

OFFICE OF THE FIRST PRESIDENCY

Preparing for Emergencies (To be read in Sacrament Meeting.)

Occasionally people speculate about possible disasters, which speculation engenders fear and can cause members to become caught up in emergency preparedness efforts that are not only costly but go beyond the basics consistently taught by the First Presidency. Leaders should refer to *Preparing for and Responding to Emergencies: Guidelines for Church Leaders*. Member preparations require wise planning, diligence, and provident living. If circumstances warrant, the First Presidency and Council of the Twelve will provide additional guidance on such matters through established Priesthood channels.

We continue to encourage members to store sufficient food, clothing, and, where possible, fuel for at least one year. We have not laid down an exact formula for what should be stored. However, we suggest that members concentrate on essential foods that sustain life, such as grains, legumes, cooking oil, powdered milk, salt, sugar or honey, and water. Most families can achieve and maintain this basic level of preparedness. The decision to do more than this rests with the individual.

We encourage you to follow this counsel with the assurance that a people prepared through obedience to the commandments of God need not fear.

Sincerely your Brethren,

Ezra Taft Benson
Gordon B. Hinckley
Thomas S. Monson

The First Presidency

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Family Home Evenings

Family Home Evening Lesson 1: Self Reliance

Objective: Help each family member to understand the importance of being self-reliant both spiritually and temporally.

Opening Song: "I Want to Live the Gospel" (*Children's Songbook*, p. 148).

Scripture: Mosiah 27:4-5 (The people of Mosiah were self-reliant).

Lesson:

We are self-reliant when we take responsibility for our own physical and spiritual welfare. Through our own efforts and with guidance from our Heavenly Father, we can experience the feeling of self-worth that comes from being truly self-reliant.

Spiritual Self-Reliance

Read the following:

"This Church relies on individual testimony. Each must earn his own testimony. It is then that you can stand and say, as I can say, that I know that God lives, that He is our Father, that we have a child-parent relationship with Him. I know that He is close, that we can go to Him and appeal, and then, if we will be obedient and listen and use every resource, we will have an answer to our prayers." (Boyd K. Packer, "Self-Reliance," *Ensign*, Aug. 1975, p. 89.)

Illustrate the idea that we cannot live on borrowed light: Darken the room and give one person a flashlight. Instruct everyone to draw a picture of something. The person holding the flashlight can help, but only if he is near. If he is not close by, the others will flounder. Discuss how everyone needs to have his own light. Liken this to the strength of a testimony and the need to know for oneself that the gospel is true.

Bear testimony that, if we are trying, the Lord will help and bless us so that we will be able to achieve salvation. Have family members select and work on an area of the gospel in which they would like to become more spiritually self-reliant, such as gaining a testimony of the Book of Mormon, doing the right thing when friends are not, learning to fast, or completely reading a book of scripture.

Physical, Social, and Emotional Self-Reliance

Read the following quotation:

"The responsibility for each member's spiritual, social, emotional, physical, or economic well-being rests first, upon himself, second, upon his family, and third, upon the Church. Members of the Church are commanded by the Lord to be self-reliant and independent to the extent of their ability. (See D&C 78:13-14.)

"No true Latter-day Saint, while physically or emotionally able, will voluntarily shift the burden of his own or his family's well-being to someone else. So long as he can, under the inspiration of the Lord and with his own labors, he will work to the extent of his ability to supply himself and his family with the spiritual and temporal necessities of life. (See Genesis 3:19, 1 Timothy 5:8, and Philippians 2:12.)" (Spencer W. Kimball, in Conference Report, April 1978, p. 120; or *Ensign*, May 1978, p. 79.)

Discuss how this statement specifically applies to your family. List ways your family is striving to be self-reliant. (Examples: We grow our own vegetables. We earn extra money to pay off our debts. We are assembling our food storage.)

Read and discuss the quote by President Marion G. Romney in the section of this manual entitled "Teachings of the Brethren" on page 13.

Family Exercise

Latter-day Saints are to care for themselves, their families, and the poor and needy in the Lord's way. To do this, they need to be self-reliant. Self-reliance engenders spiritual and temporal well-being. Discuss, for example, how financial preparedness engenders spiritual well-being using the material on pages 15 and 16 on "Financial Preparedness."

Discuss the first two quotes in the section of this manual entitled "Teachings of the Brethren" on page 13.

Discuss how the Lord wants to bless us as we make an effort to follow the instruction of his servants. Discuss how seeking to become self-reliant leads to that end.

Use the table on the following two pages to discuss and set goals regarding how your family can become more self-reliant. Suggestions are provided in each major area in which the Church encourages its members to be self-reliant: education; health; employment; home storage; resource management; and social, emotional, and spiritual strength (*Providing in the Lord's Way*, p. 6). For further information and ideas, see page 14 of this manual and www.providentliving.org.

| PERSONAL AND FAMILY PREPAREDNESS | |
|---|--|
| <p>Family Home Evening Exercise</p> <p>Discuss as a family (or, if single, devote an hour or more) to developing a personal and family preparedness plan: (1) Determine in which area your family most needs to improve; (2) Establish a goal to improve your weakest area (a few possible goals are listed in the left column); (3) In the right column, list the major steps required to reach your goal and the date when you intend to achieve your goal. Carry out the steps to reach each goal; (4) When you have achieved your goal, repeat the exercise in another family home evening or family council. Generate ideas by consulting supporting materials at www.providentliving.org.</p> | |
| A Few Possible Goals | Steps for Accomplishing Your Personal or Family Goals and Date for Completion |
| <p>1. Literacy and Education</p> <ul style="list-style-type: none"> • Obtain a copy of the standard works for each family member and set a study schedule. • Improve your ability to read, write, and do basic mathematics. • Teach children the value of education. • Read good books regularly. • Use the local public library and attend community education courses. • Take advantage of on-the-job training opportunities. • Other: | |
| <p>2. Career Development</p> <ul style="list-style-type: none"> • Develop skills through training and experience. • Be diligent, hard working, and trustworthy. • Commit to learn a trade or profession. Prepare for and carefully select a suitable occupation. • Identify ways to perform your job better. Give honest work for the pay and benefits received. • Teach children useful skills and to enjoy work. • Use the LDS Church Employment Center to obtain & upgrade employment (301 736-9550). • Other: | |
| <p>3. Financial and Resource Management</p> <ul style="list-style-type: none"> • Pay a full tithing and generous fast offering. • Live within your income. • Plan major purchases to avoid credit. • Work toward home ownership. • Avoid unnecessary debt. Get out of debt. • Develop and use a savings plan. • Prepare financially for disability or retirement. • Take better care of possessions. • Use your time wisely. • Other: | |

Family Home Evenings

| A Few Possible Goals | Steps for Accomplishing Your Personal or Family Goals and Date for Completion |
|---|---|
| <p>4. Home Production and Storage</p> <ul style="list-style-type: none"> • Plant and care for a garden. • Learn how to can, dry, and freeze foods. • Preserve homegrown products. • Store a one-year's supply of basic food, clothing, and where possible, fuel. • Store an emergency supply of water. • Other: | |
| <p>5. Physical Health</p> <ul style="list-style-type: none"> • Obey the Word of Wisdom. • Maintain weight and endurance with regular exercise, adequate rest, and a balanced diet. • Improve or maintain personal and home sanitation (water, waste disposal, food, etc.) • Obtain adequate medical and dental care. Use preventive measures. Carry medical insurance. • Learn and practice home health skills (first aid, home nursing, parent and child care). • Other: | |
| <p>6. Social, Emotional and Spiritual Strength</p> <ul style="list-style-type: none"> • Commit to study the scriptures daily. • Pray frequently and fervently. • Exercise faith in Christ and humility. • Attend Church meetings regularly and participate in Church activities. • Hold family home evening weekly. • Strengthen relationships with neighbors. • Make a goal for performing regular acts of service to family members and others. • Study good books that teach techniques for how to communicate better in your family (see below). • Other: | |

Some Useful References for Improving Relationships and Communication (Social and Emotional Preparedness):

- C.M. Garcia-Prats and J.A. Garcia-Prats. *Good Families Don't Just Happen: What We Learned From Raising Our Ten Sons*. Holbrook, MA: Adams Media Corporation, 1997.
- T. Gordon. *PET: Parent Effectiveness Training: The Proven Program for Raising Responsible Children*. New York: Three Rivers Press, 2000.
- H. Hendrix. *Getting the Love You Want: A Guide for Couples*. New York: Henry Holt & Company, 2001.
- G.I. Latham. *Power of Positive Parenting*. No. Logan, UT: P&T Ink, 1994.
- J.S. Lundgren and G.B. Lundgren. *I Don't Have to Make Everything All Better*. New York: Viking Press, 1999.
- G.B. Lundgren and J.S. Lundgren,. *Married for Better, Not Worse: The Fourteen Secrets to a Happy Marriage*. New York: Viking Press, 2001.
- H.J. Markman, S.M. Stanley, and S.L. Blumberg. *Fighting for Your Marriage: Positive Steps for Preventing Divorce and Preserving a Lasting Love*. San Francisco: Jossey-Bass, 2000.

Family Home Evening Lesson 2: In Case of Emergency

Objective: Prepare the family for emergencies in the home and assemble emergency supplies in a central place.

Opening Song: “Tell Me, Dear Lord” (*Children’s Songbook*, p. 176)

Scripture: Genesis 6:22 “Thus did Noah; according to all that God commanded him, so did he.”

Lesson:

We live in an area where many different kinds of emergencies could affect us. With this family home evening, we will discuss some of them and make plans for our family so we will be prepared when an emergency situation arises. Emphasize that character is not built in an emergency—merely exhibited! You may wish to review the section of this manual entitled “Helping Children Cope with Disaster” on pages 50-51 to understand how this lesson can help children. Consider how to use the resources available at www.fema.gov/kids.

Ask the following questions. What kinds of emergencies have we experienced as a family? What kinds of emergencies have we heard about from our friends and neighbors? Can you think of any other kinds of emergencies our family could face?

It is important to have emergency and safety supplies stored in your home where everyone can find them quickly and know how to use them. Assign several family members to find the safety and emergency items that are scattered throughout your house. The following is a list of suggested items.

1. A flashlight in good working condition.
2. A portable battery powered radio to use for receiving emergency instructions.
3. Extra batteries for the radio and flashlight. (Do not keep batteries in the flashlight or radio. Keep them in an airtight container.)
4. Candles to use in case of power failure. (Bowl type candles will help prevent fire in case a candle is overturned.)
5. Wooden matches to use for lighting candles and relighting pilots on gas appliances. (Matches should be kept in a metal container out of the reach of small children.)
6. A fire extinguisher (an ABC or dry chemical type is useful for all classes of fires). Does everyone know how to handle and use it? (It should be checked regularly.)
7. Fuses (if your home has a fuse box). (When replacing blown fuses, be sure the number on the end of the new fuse is the same as the number on the old fuse.)

8. A first aid instruction book.
9. First aid supplies. (See Family Home Evening Lesson 3.)

After these items have been located, discuss how to use each safely. Discuss the types of emergencies in which each may be useful.

After this exercise, discuss where in your home you should keep a central store of emergency supplies. You will likely determine many items you need. You may want to purchase the items you do not already have to complete your central store. The next two family home evenings consider how to complete the list of items needed for 72-hour kits and for first aid.

After you have gathered your safety supplies and decided what you need to buy, divide up assignments. Assign some family members to buy items you need, and others to label the items. After you have gathered and stored your supplies, you may want to have a series of family home evenings where you discuss how to use a more complete list of emergency items.

Discuss How Your Family Will Respond

For example, if the electricity goes off:

FIRST, use perishable food and foods from the refrigerator.

SECOND, use the foods from the freezer. To minimize the number of times you open the freezer door, post a list of freezer contents on it. In a well-filled, well-insulated freezer, foods will usually still have ice crystals in their centers (meaning foods are safe to eat) for at least three days.

FINALLY, begin to use non-perishable foods and staples.

Emergency Contacts

When an emergency occurs, it is important that you are able to reach those who can bring help to you. Compile a list of important phone numbers and post it where all family members can read it. Teach all family members how to use it. A suggested list is as follows (in most areas the first three are reached by dialing 911):

- Fire Department
- Police
- Ambulance
- Doctor
- Hospital
- Poison Control
- Utility companies
- Highway Assistance
- Home Teachers
- Visiting Teachers
- Bishop
- Relative or close friend.

Family Home Evenings

Make sure all family members know how to report an emergency. Explain that when the person they are calling answers they should always first say, "This is an emergency." Then they should give the following information:

- Who (give their name)
- What (tell what is the matter, whether anyone is trapped or injured)
- Where (give the address and directions).

Write the words "*Who*," "*What*," and "*Where*" on the bottom of your emergency phone list. Also write your address and phone number and simple directions for how to get from a major intersection to your home.

Have each family member role-play making an emergency phone call. Alternate role-playing of the person receiving the call (the 911 operator) and the person making the emergency call.

Fire Safety

Discuss with your family an emergency exit plan in case of fire and practice it. Jumping from a low window or climbing down an emergency ladder can be easy once it is mastered but frightening at first. Check smoke detectors monthly to make sure they are functioning properly. Change the batteries in smoke detectors every 6 months, e.g., at General Conference times or with Daylight Savings time changes.

Sing the following song together to the tune of "Yankee Doodle."

BE PREPARED

Verse 1: Our prophets told us to prepare
For famine and disaster.
If we obey, our family will
Live happy ever after.

Chorus: "Be Prepared," our prophet said.
Store your wheat and honey.
Plant a garden; learn first aid;
And don't forget some money!

Verse 2: When Father Noah built an ark,
The people laughed and shouted.
But when the rain began to pour,
Those people never doubted.

Chorus: Repeat

Verse 3: We have been warned in latter days

There will be floods and earthquakes.
So put your house in order and
Prepare before the dam breaks!

Chorus: Repeat

Verse 4: Please do not procrastinate.
Excuses have no muscle.
You'll never find a better time
Than NOW! So better hustle.

Chorus: Repeat.

Internet Resources

If your family has access to the Internet, you will find these addresses plus those on page 89 of interest.

Fun activities for children:

<http://www.fema.com/kids/>

For federal information:

<http://www.fema.com/>

<http://www.usfa.fema.gov/>

For State of Maryland information:

<http://www.mema.state.md.us/>

For American Red Cross information:

<http://www.redcross-cmd.org/>

Further Study for Adults and Older Youth

Discuss the types of emergencies that may arise where you live. Remember—it is not a matter of "if" but "when" an emergency will occur.

Read and discuss the quote by Ezra Taft Benson at the end of the section of this manual entitled "Teachings of the Brethren" on page 14.

Beginning with the section on "Floods" on page 52, this manual reviews several types of emergencies that may occur in your area. Consider each and how your family would respond to each.

Family members should know how to shut off utilities (gas, water, and power). Make sure shut-off tools are located near main gas and water valves. Catastrophic insurance on your home and contents is recommended.

Live worthily—do everything you can yourself. Heed the counsel of the prophets and prepare!

Family Home Evening Lesson 3: First Aid

Objective: Teach family members some simple first aid techniques and assemble a family first aid kit.

Opening Song: “Thanks to Our Father” (*Children’s Songbook*, p. 20)

Scripture: D&C 98:1 “Verily I say unto you my friends, fear not, let your hearts be comforted; yea, rejoice evermore, and in everything give thanks.”

Lesson:

The Brethren state that “All members of the Church should be trained in basic first aid skills.” (Preparing and Responding to Emergencies: Guidelines for Church Leaders.) This lesson will be directed toward learning only simple techniques that can be learned by all family members. More detail is provided in the section of this manual on “Emergency First Aid” (pages 26-35). It is important that, as maturity allows, family members take a basic first aid course such as that sponsored by the American Red Cross or other training organization. A good first aid reference book is an essential part of every family’s emergency preparedness supplies. The *Boy Scout Handbook* and the *Boy Scout First Aid Merit Badge Handbook* are two examples.

Bleeding

Extensive bleeding can cause death if not stopped promptly. The best way to control bleeding is to hold a thick pad of clean cloth over the wound with your hand and apply direct pressure. A folded handkerchief will do, but it is best to use a sterile cloth if possible. If you cannot get a pad right away, use your hand until you can get a pad. Put your hand, palm flat, directly over the wound. Press firmly and evenly as necessary to stop the bleeding. Pressing will make the flow of blood slow down and clot.

Keep the original covering on the wound. Changing the covering will disturb the blood clot that has formed. If the pad becomes saturated, add other layers of material to the top as needed and keep pressing. Keep these pads in place until the blood has clotted and bleeding subsides.

For a nosebleed, take these steps:

- Tilt the head forward.
- Pinch the nose just below the bone in the bridge of the nose and hold for five minutes.
- If the bleeding does not stop, blow the nose to clear the nasal passage on the bleeding side.
- Pinch the nose again in the same spot.
- Do not blow the nose to clear the clotted blood once the flow of blood has stopped.
- Do not remove the blood clots from the nose for several hours.

Talk over some safety rules that might prevent accidents that cause bleeding. For example, teach children how to use knives properly.

Burns

Burns can occur in three degrees:

- 1st degree burns cause the skin to become red and tender (as in a sunburn).
- 2nd degree burns cause blisters to develop. Never break or open the blisters.
- 3rd degree burns are deep and cause tissue damage.

For first aid to 1st and 2nd degree burns, exclude air by:

- Submerging in cold water (the best thing to do),
- Applying a cold pack, not ice,
- Covering with a thick dressing or plastic. Do not use plastic on the face. After using cold water or a cold pack, cover the burn area with a thick dry sterile dressing and bandage firmly to exclude air.

For 3rd degree burns:

- Apply a thick dry sterile dressing and bandage to keep air out.
- If the area is large, wrap it with a clean sheet or towel.
- Keep burned hands and feet elevated and get medical help immediately.
- Treat the victim the same as a shock victim, giving fluids as indicated and warmth if necessary. (See the heading “Shock” in the section on “Emergency First Aid” on pages 28-29.)

For chemical burns:

- Wash the chemical away with water.
- For acid or alkali burns of an eye, wash the eye thoroughly in plain water for 10 to 15 minutes. If the victim is lying down, turn the head to the side. Hold the eyelid open and pour water from the inner corner outward.
- Have the victim close the eye, place an eye pad over the lid, bandage it and get medical help as soon as possible.

Sprains

For sprains and injury to soft tissue around a joint:

- Always immobilize the joint.
- Elevate the joint.
- Apply a cold pack during the first half-hour.

First Aid Kit

A first aid kit as suggested in this manual can be easily included on family outings or used for everyday problems at home. Be sure to keep it well and freshly stocked. This first aid kit is different from ones suggested for 72-hour kits as this one is much more comprehensive and not as portable.

Family Home Evenings

Always keep a first aid reference book with the first aid kit. The two should be stored together in an easy to reach location. The contents should fit the needs of your family. A small toolbox, fishing tackle box, or Tupperware container may be used to store the items. Some items you may want to include in your first aid kit are listed on the last page of the section of this manual on "Emergency First Aid" (page 35). Discuss potential situations where some of these items are needed. For small children, you may want to practice using some of the items and/or discuss how to use others.

As part of this family home evening, it is suggested that you make a list of items that are needed to complete your family's first aid kit. Be sure to be aware of expiration dates when making purchases to ensure freshness and effectiveness. Check your first aid kit regularly and replace outdated items.

All families that have children should complete an "Authorization of Consent to Treatment of Minor" form for each of their children and file it with their schools, doctor's office, hospital, baby sitter, or other place where the child is likely to be when a personal injury may occur in the parents' absence. Include with this form a brief history of any known medical problems your child may have such as allergies to certain medications, recurring medical ailments, etc. Also, consider including medical insurance information where it may be needed.

Further Study for Adults and Older Youth

Review first aid procedures for the other situations discussed in the section of this manual on "Emergency First Aid" on pages 26-35. Discuss the potential need to perform mouth-to-mouth resuscitation, cardiopulmonary resuscitation (CPR), and the Heimlich maneuver. Make plans for a family member or all family members to receive American Red Cross training.

Family Home Evening Lesson 4: 72-Hour Disaster Kits

Objective: Instruct family members in the purpose of 72-Hour disaster supply kits and facilitate preparation.

Opening Song: “Keep the Commandments” (*Children’s Songbook*, p. 146)

Scripture: D&C 38:30 “...if ye are prepared ye shall not fear.”

Lesson:

The purpose of the family 72-hour disaster supply kit is to have, previously assembled and placed in one location, all of those essential items you and your family will need during a 72-hour period following an emergency. When an emergency occurs you will probably not have the luxury of gathering needed items from around the house especially if you have to evacuate your home on short notice.

This family home evening can be divided into more than one if you desire. You may want to assemble the items already in your home on one night and shop for the things you need to purchase on another night. Still a third might be used to assemble them and place them in their storage place for accessibility.

Ask family members to think about what your family will need to survive for three days based upon the assumption that those items are the only possessions you will have. Make a list of those items. The discussion in this family home evening is intended to cover the basics and is designed to maintain focus in family discussion. A more complete list and discussion are given in this manual under the topic “72-Hour Disaster Supply Kits” on pages 37-41.

Discuss the kinds of containers you will use for your kits. Backpacks are handy but a suitcase, trunk, or footlocker may offer greater capacity.

Water

Two quarts of water per adult per day for drinking is recommended, but one gallon allows for other uses.

Food

Food items should be compact, lightweight, and non-perishable. Freeze-dried foods are lightweight but require extra water in your kit. Canned goods are heavy. Some suggestions include:

- Ready-to-eat meats,
- Fruits and vegetables
- Canned or boxed juices
- Milk
- Soup
- High-energy foods like peanut butter
- Jelly
- Low-sodium crackers

- Granola bars
- Trail mix
- Vitamins
- Foods for infants or persons on special diets
- Cookies
- Hard candy
- Cereals and
- Powdered milk.

As a family home evening exercise, have each family member make a list of food items they would like to have in a 72-hour kit.

Shelter

Space blankets (aluminum coated Mylar) are very efficient at retaining body heat. Even when used by themselves, without the added benefit of a sleeping bag, they will keep you warm during the night. In cold weather they may not be entirely comfortable but they will probably keep you warm enough to keep you alive. Being plastic, they are impervious to moisture. This is good for keeping out rain but they also retain sweat and condensation from your breath. You may find that periodically you will have to air them out in order to sleep comfortably. They can also be used during the day to protect from rain, sun, and to retain body warmth.

Sleeping bags need to have a pad for insulation to protect from the cold ground. The best types of pads are “closed cell” foam pads about 3/8 inches thick. Blankets can be used to make a bed roll but generally are neither as comfortable nor as warm as a sleeping bag. Wool blankets are the best since they retain their warming ability even when wet. However, blankets are very heavy and bulky.

As a family home evening exercise, take inventory of these items in your home and determine deficiencies.

Clothing

Include one change of clothing and footwear, preferably work clothing. Anticipate severe weather conditions. Wool is the best fabric as it is a natural thermostatic insulator that keeps you warm in the winter and cool in the summer. Include two pairs of wool socks.

As a family home evening exercise, invite each family member to assemble the clothing they should have in a 72-hour kit.

Fuel

Every family member should have fire-starting materials and know how to start a fire. Teach all family members how to build a fire so in an emergency they can build a fire for their warmth and protection.

At least two-dozen wooden kitchen matches that have been dipped in either wax or nail polish to make them waterproof should be included in the kit. A family home evening could be devoted to making these.

Family Home Evenings

First Aid Kit

A 72-hour kit should include a first aid kit. Be sure to keep your first aid kit well supplied. Suggested items to include are listed under the heading “First Aid Supplies” in the section entitled “72-Hour Disaster Supply Kits” on page 39.

Miscellaneous Items

Other items that may be useful in meeting needs in a 72-hour emergency are listed under the heading “Tools and Emergency Supplies” in the section on “72-Hour Disaster Supply Kits” on pages 39-40. You may wish to discuss this list as a family to determine which items you need to add to your 72-hour kit. See page 40.

When assembling items for your 72-hour kit, be sure to include all necessary items for infants. It is a good idea to include a separate backpack or other container that holds nothing but infant supplies. Be sure to keep a close watch on the sizes of articles in this kit—babies grow fast!

Further Considerations

It may be wise to discuss some details of emergency preparedness among adults and older youth to avoid raising unnecessary concerns among little children. There is no need to unnecessarily alarm your children. Keep things in perspective. There is no need to instill fear and doom in the minds of youngsters. Nor is there any need to go deeply in debt in preparing for emergencies. The purpose of preparedness is to be able to respond safely and quickly to an unusual event that may affect your family, and to help correlate your needs (and strengths) with others who may also be affected.

Family council meetings are a useful time to consider further discussions and concerns of individual family members. Encourage your youngsters to make their views known.

Discuss with your family why you need to prepare for disaster. See the section entitled “Why Prepare for a Disaster” on page 36. Explain dangers of fire, severe weather and earthquakes to children. Discuss the disasters that are most likely to happen. Explain what to do in each case.

Create a disaster plan. See the section entitled “Creating a Disaster Plan” on pages 36-37. Pick two

places to meet: (1) right outside your home in case of a sudden emergency like a fire, or (2) outside your neighborhood in case you cannot return to your home. Ask an out-of-state friend to be your “family contact” and have all family members memorize the phone number of the family contact. Give this phone number to your home teachers so they can determine if you are safe.

Along with a 72-hour kit, you should discuss how your family would respond to emergencies that require evacuation when some family members are not at home. Families are often separated through the day. Plan what to do during a daytime emergency. Who will alert others? Where will you meet? Do you need to practice evacuation drills? Do you have some cash, medicines, and food readily available for emergency use if you are away from home? The section entitled “72-Hour Disaster Supply Kits” in this manual on pages 37-41 has various other suggestions about how to prepare for such emergencies. You will also want to consider whether your fire and liability insurance is adequate. If the emergency is in a neighboring, or in a distant area, how do you feel about helping out?

If Disaster Strikes

If disaster strikes, remain calm and patient. Put your plan into action.

- Check for injuries.
- Give first aid and get help.
- Listen to your battery powered radio for instructions.
- Evacuate if advised to do so.
- Check for damage in your home.
- Use flashlights rather than matches or electrical switches if you suspect damage.
- Check for fire or fire hazards.
- Sniff for gas leaks and turn off the main gas valve if you smell or suspect a leak.
- Clean up spilled medicines, bleaches, gasoline and other flammable liquids.
- Call your family contact.
- Make sure your water supply is adequate.
- Stay away from downed power lines.

Family Home Evening Lesson 5: Home Storage

Objective: Help the family plan and begin a home storage program.

Opening Song: "Faith" (*Children's Songbook*, p.96)

Scripture: Daniel 1:4-21 (Daniel and his brethren proved the wisdom of eating good food).

Lesson:

Read the following quote:

"We continue to encourage members to store sufficient food, clothing, and where possible fuel for at least one year. We encourage you to follow this counsel with the assurance that a people prepared through obedience to the commandments of God need not fear." (Letter to priesthood leaders, 24 June 1988.)

Ask family members what would be required to begin a food storage program. (Possible responses could include a plan of what is needed, money, a place to keep food storage, and information on how to use stored food.)

A year's supply of food storage is beneficial in several ways:

- It provides peace of mind as we obey the counsel to store.
- It helps ensure survival in case of personal or natural disaster.
- It strengthens skills in preparing and using basic foods.
- It permits the use of basic bulk food items that reduce the cost of food and promote healthier diet.

Build on the Basics Method

Read the following: "We have not laid down an exact formula for what should be stored. However, we suggest that members concentrate on essential foods that sustain life, such as grains, legumes, cooking oil, powdered milk, salt, sugar or honey, and water. Most families can achieve and maintain this basic level of preparedness. The decision to do more than this rests with the individual." (First Presidency letter to priesthood leaders, 24 June 1988.)

The challenge to store food is less formidable if families think in terms of storing only foods basic to survival, or if they supplement the food storage they already have gradually with the basics to build it up to a year's supply.

The following basic items are recommended for storage. The approximate amount of each needed to sustain an average adult for one year is:

- Grains (wheat, rice, or cereals) 400 lbs.
- Legumes (dry beans, split peas, lentils) 60 lbs.

- Powdered milk (nonfat) 16 lbs.
- Cooking oil 10 qt.
- Sugar or honey 60 lbs.
- Salt 8 lbs.
- Water (2 weeks) 14 gal.

Before buying and storing these items in quantity, take the time to study the material in the section of this manual entitled "Food Storage" on pages 16-18. It gives tips on effective storage and quality of food items to acquire. It also gives guidance on supplementing storage of these items with other canned foods.

Activity 1: If you have stored these basic items, the challenge is to learn how to prepare them and use them regularly in daily meals. For a family home evening activity, consider preparing a meal from these food items. Involve the entire family in preparation. Ask the sisters in Relief Society for recipes that use these foods and then try again. Then develop a plan to rotate your stored foods.

Activity 2: Plan a family outing to the LDS Church Cannery's dry pack facilities. Remember to schedule an appointment (301 735-5131). Consider canning one can of each food that appeals to your family. Then prepare a meal from these foods in your next family home evening. Consider how inexpensive these sources of food can be. Consider how you might include these foods in your daily diet and reduce your food budget.

Activity 3: Involve the family in developing a plan for regular rotation of your food supply by using the approach in the following section. Good taste and acceptance by the family is the key to regular rotation and frugality in food storage.

30-Day Meal Plan Method

As an alternative method for planning food storage, plan a 30-day meal plan of food your family already uses and purchase enough food to prepare the 30-day plan twelve times. A meal plan needs to be prepared for breakfast, lunch, and dinner. Attached is a sample menu for dinner planning. Your family can have fun brainstorming and planning the meals. Rotation with this system is never a problem because you are constantly using the ingredients, even if not as often as your 30-day plan suggests. For example, suppose your 30-day plan calls for spaghetti twice a month and normally you only eat spaghetti once a month. You will be using the ingredients sufficiently to ensure freshness. Just be sure that new purchases are stored in the back and older purchases are used first.

Discuss with family members the strategy you are going to adopt for your food storage and decide how you will shop. You can purchase some extra items each week or you can take advantage of sales and purchase in bulk. Allow all members of the family to contribute ideas for meals. Make it a game and have fun with it. Younger children may need a little coaching to understand that the meals need to be made up of foods that can be stored and yet provide a balanced diet.

30-Day Dinner Menu

Sample—Incomplete—Continue until 30 Days are Complete

| Food Item | Meals per Month | Quantity for One Meal | 12-Month Quantity |
|-------------------------------------|-----------------|---|--|
| Spaghetti & Sauce Peaches | 2 | 1 lb. of spaghetti 1 jar of spaghetti sauce 2 cans of peaches | 24 lbs. of spaghetti 24 jars spaghetti sauce 48 cans of peaches |
| Chicken over Rice Peas Gravy | 2 | 2 cans of chicken 2 cups of dry rice 2 cans of peas 1 can of gravy | 48 cans of chicken 48 cups of rice 48 cans of peas 24 cans of gravy |
| Vegetable Soup Blueberry Muffins | 1 | 3 cans vegetable soup 1 box of muffin mix | 36 cans vegetable soup 12 boxes of muffin mix |
| Black Beans Rice Green Beans | 1 | 2 cans of black beans 2 cups of rice 2 cans of green beans | 24 cans of black beans 24 cups of rice 24 cans of green beans |
| . | . | . | . |
| . | . | . | . |
| . | . | . | . |

Further Points to Consider

The Federal Emergency Management Agency gives the following tips on length of time that foods can be stored:

Use within six months: powdered milk (boxed); dried fruit (in metal containers); dry crisp crackers (in metal containers); potatoes.

Use within one year: canned condensed meat and vegetable soups; canned fruits, fruit juices and vegetables;

ready-to-eat cereals and uncooked instant cereals (in metal containers); peanut butter; jelly; hard candy; chocolate bars; and canned nuts.

May be stored indefinitely (in proper containers and conditions): wheat; vegetable oils, corn, baking powder, soybeans, vitamin C and cocoa; salt; non-carbonated soft drinks; white rice; bouillon products; dry pasta; powdered milk (in nitrogen-packed cans).

Teachings of the Brethren

First Presidency Statement on Church Welfare, October 1936

“Our primary purpose was to set up, insofar as it might be possible, a system under which the curse of idleness would be done away with, the evils of a dole abolished, and independence, industry, thrift and self-respect be once more established amongst our people. The aim of the Church is to help the people help themselves. Work is to be re-enthroned as the ruling principle of the lives of our Church membership” (October 1936 General Conference, *Conference Report*, October 1936, p. 3).

President J. Reuben Clark, Jr.:

Speaking for the first Presidency, President J. Reuben Clark, Jr. exhorted the Saints to live within their means: *“Let us avoid debt as we would avoid a plague ... Let every head of every household see to it that he has on hand enough food and clothing, and, where possible, fuel also, for at least a year ahead...Let every head of household aim to own his own home, free from mortgage. Let us again clothe ourselves with these proved and sterling virtues—honesty, truthfulness, chastity, sobriety, temperance, industry, and thrift; let us discard all covetousness and greed”* (April 1937 General Conference).

President Ezra Taft Benson:

“For over 100 years we have been admonished to store up grain. ‘Remember the counsel that is given,’ said Elder Orson Hyde, ‘Store up all your grain, and take care of it! ... And I tell you it is almost as necessary to have bread to sustain the body as it is to have food for the spirit.’ (*Journal of Discourses*, Volume 5, p. 17).

“And he also said: ‘There is more salvation and security in wheat, than in all the political schemes of the world ...’ (*Journal of Discourses*, Volume 2, p. 207).

“From the standpoint of food production, storage, handling, and the Lord’s counsel, wheat should have high priority. Water, of course, is essential. Other basics could include honey or sugar, legumes, milk products or substitutes, and salt or its equivalent. The revelation to store food may be as essential to our temporal salvation today as boarding the ark was to the people in the days of Noah.” (October Conference, 1973).

President Harold B. Lee:

“Perhaps if we think not in terms of a year’s supply of what we ordinarily would use, and think more in terms of what it would take to keep us alive in case we didn’t have anything else to eat, that last would be very easy to put in storage for a year ... just enough to keep us alive if we didn’t have anything else to eat. We wouldn’t get fat on it, but would live; and if you think in terms of that kind of annual storage rather than a whole year’s supply of everything that you are accustomed to eat which, in most cases, is utterly impossible for the average family, I think we will come nearer to what

President Clark advised us way back in 1937.” (Welfare conference address, October 1, 1966).

Elder George A. Smith:

“How on the face of the earth could a man enjoy his religion when he had been told by the Lord how to prepare for a day of famine, when, instead of doing, so, he had fooled away that which would have sustained him and his family.” (*Journal of Discourses*, Volume 12, p. 142).

Elder Vaughn J. Featherstone:

“I should like to address a few remarks to those who ask, ‘Do I share with my neighbors who have not followed the counsel? And what about the nonmembers who do not have a year’s supply? Do we have to share with them?’ No, we don’t have to share—we get to share! Let us not be concerned about silly thoughts of whether we would share or not. Of course we would share!” (April Conference, *Ensign*, May 1976, p. 117).

President Spencer W. Kimball:

“...We encourage you to grow all the food that you feasibly can on your own property. Berry bushes, grapevines, fruit trees—plant them if your climate is right for their growth. Grow vegetables and eat them from your own yards. Even those residing in apartments or condominiums can generally grow a little food in pots and planters. Study the best methods of providing your own foods. Make your garden neat and attractive as well as productive. If there are children in your home, involve them in the process with assigned responsibilities. ...

“Develop your skills in your home preservation and storage. We reaffirm the previous counsel the Church has always given, to acquire and maintain a year’s supply—a year’s supply of the basic commodities for us. ...

“We encourage families to have on hand this year’s supply; and we say it over and over and over and repeat over and over the scripture of the Lord where He says, ‘Why call ye me, Lord, Lord, and do not the things which I say?’ How empty it is as they put their spirituality, so-called, into action and call him by his important names, but fail to do the things which he says.” (April Conference, *Ensign*, May 1976, pp. 124-125, emphasis added).

President Marion G. Romney (Quoting Brigham Young):

“... If we are to be saved in an ark, as Noah and his family were, it will be because we build it ... My faith does not lead me to think the Lord will provide us with roast pigs, bread already buttered, etc., He will give us the ability to raise the grain, to obtain the fruits of the earth, to make habitations, to procure a few boards to make a box, and when harvest comes, giving us the grain, it is for us to preserve it—to save the wheat until we have one, two, five or seven years’ provisions on hand, until there is enough of the staff

Gospel Principles

of life saved by the people to bread themselves and those who will come here seeking for safety ... (the fulfillment of that prophecy is yet in the future)" (April Conference, *Ensign*, May 1976:123, emphasis added).

President Ezra Taft Benson:

"Too often we bask in our comfortable complacency and rationalize that the ravages of war, economic disaster, famine, and earth quake cannot happen here. Those who believe this are either not acquainted with the revelations of the Lord, or they do not believe them. Those who smugly think these calamities will not happen, that they will somehow be set aside because of the righteousness of the Saints, are deceived and will rue the day they harbored such a delusion" (October Conference, 1980 *Ensign*, November 1980:32-33).

President Gordon B. Hinckley:

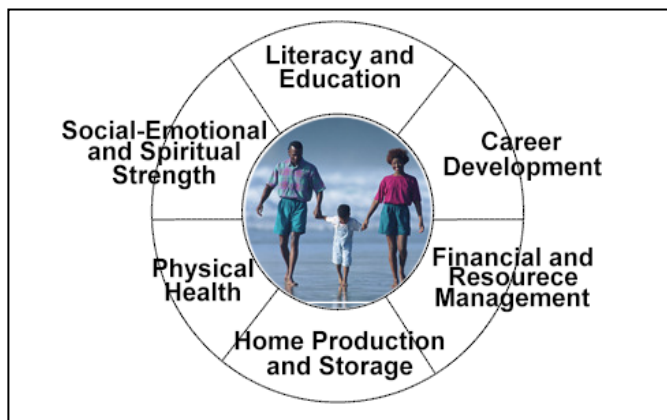
"I am suggesting that the time has come to get our houses in order. So many of our people are living on the very edge of their incomes. In fact, some are living on borrowings. ... There is a portent of stormy weather ahead to which we had better give heed." (*Ensign*, November 1998, p. 53, emphasis added.)

Preparedness Standards

"All things unto me are spiritual, and not at any time have I given unto you a law which was temporal" (D&C 29:34).

"When we speak of [personal and] family preparedness, we should speak of foreseen, anticipated, almost expected needs which can be met through wise preparation. Even true emergencies can be modified by good planning" (Bishop H. Burke Peterson, "The Family in Welfare Services," Welfare Services Meeting, April 1975, p 4).

As we work toward self-reliance, we should prepare ourselves according to each of the following standards (see www.providentliving.org):



Literacy and Education

Standard: To the extent of his capacity, each person is able to read, write, and do basic mathematics. He regularly studies the scriptures and other good books.

Parents teach these skills and habits to family members, and both parents and children take advantage of educational opportunities. Each person is "prepared in all things" and is able to fulfill Heavenly Father's purposes on earth. (See D&C 88:77-80, 118; 90:15; 130:18-19.)

Career Development

Standard: Each young person receives counsel to help select a career in which he can use his talents and skills in meaningful employment. Each person selects a suitable vocation and becomes proficient through appropriate training. Each person seeks and maintains honorable employment and works to provide for himself and his family, to develop talents and divine attributes, and to build up the kingdom of God. (see 1 Timothy 5:8.)

Financial and Resource Management

Standard: Each person establishes financial goals, pays tithes and offerings, avoids debts, pays obligations, uses family resources wisely, and saves during times of plenty for times of need. Each person is a wise steward over the Lord's possessions, is prudent and frugal, and gives generously so all may be provided for in the Lord's way. (See D&C 42:54; 104:11-18, 78-79; 119:5-6; Isaiah 58:6-8.)

Home Production and Storage

Standard: Each person or family produces as much as possible through gardening, sewing, and making household items. Each person and family learns techniques of home canning, freezing and drying foods, and where legally permitted, stores a one-year supply of food, clothing, and, if possible, fuel. Each person is prepared for adversity and enjoys the blessings of peace and security. (See 1 Timothy 5:8; D&C 38:30-31.)

Physical Health

Standard: Each person obeys the Word of Wisdom and practices sound principles of nutrition, physical fitness, accident prevention, weight control, immunization, sanitation, mother and child health, dental health, and medical care. Members live in a healthy and clean environment. In addition, each member acquires appropriate skills in first aid and safety, home nursing, and food selection and preparation. Each person keeps his mind and body healthy and unsullied by worldly influences and treats his body as a temple, a fitting place for the Spirit of God to dwell. (See D&C 88:124; D&C 89; and 1 Corinthians 3:16-17.)

Social, Emotional and Spiritual Strength

Standard: Each person builds spiritual strength to meet life's challenges with confidence and stability by learning to love God and communicate with him in personal prayer, to love and serve his neighbor, and to love and respect himself through righteous living and self-mastery. Social, emotional and spiritual strength is increased by living the principles of the gospel and by deepening wholesome relationships and cultivating love and goodwill. (See Luke 10:27.)

Basic Preparedness

Financial Preparedness

Like so many problems occurring in today's society, personal debt seems to be a popular and acceptable part of normal lifestyle. The problem with debt is well defined in Proverbs 22:7: "The borrower is servant to the lender." Falling into excessive debt puts one firmly on the path to losing control of their lives and certainly to being unprepared in times of need. Each time we enter into a new credit transaction, we lose some of our power to control our destiny. We enslave ourselves to some financial entity that has control over the fruits of our labor. Our self-reliance decreases.

Anyone who is in debt would be wise to make specific plans to pay their debts in a timely fashion, and once out of debt to stay out of debt. Credit is the root of financial disaster. It is easy to get and easy to use. It tempts you to buy things you don't need, and it is the prime cause of bankruptcy, divorce, and human heartache. Unfortunately, many who have let themselves fall into it have found it standing in the way of other needed forms of preparedness including emergency preparedness (food storage) and spiritual preparedness (paying tithing and going to the temple).

Managing debt is being responsible and buying what you need and can afford, rather than what you want. Of course, there are times when circumstances are beyond our control. Major surgery, a roof repair, or an automobile engine or transmission may necessitate borrowing money. However, proper financial planning such as following a monthly budget and savings plan will provide for unforeseen contingencies. Living as debt-free as possible, will soften the blow of a catastrophe and can make the difference between surviving or not. The way to get out of debt is to commit to do something about it.

There are five very basic rules that can help anyone get out of debt. For convenience, the five letters of the acronym P-A-R-I-S are used to represent the five basic rules.

Rule "P" Stands for "Pay." Pay an honest tithe. The gospel has a solution to financial problems. The solution is the tithing principle. The Lord has promised to help anyone who is obedient to the law of tithing including the poverty-stricken, the poor, and those who are heavily in debt. Unexplained and unexpected temporal and spiritual blessings come from tithing. Is there a better or greater promise than the one which Malachi 3:10 gives in the Old Testament? "Bring ye all the tithes into the storehouse ... and prove me now herewith ... if I will not open you the windows of heaven, and pour you out a blessing, that there shall not be room enough to receive it."

When the Lord says, "prove me," he is saying, "test me." I will prove to you that tithing works. Think about this for a moment. This is the only commandment where the Lord says, "test me." He urges us to try him

and see for ourselves. The Lord keeps his promises. He is not a covenant breaker. The Lord will help you gain a better salary and a better job, better judgment in spending money, and better health—if you do all you can do. That is, he will help you so that you can do the things you need to do to prosper as you seek His counsel. Make the effort. Blessings will flow. While the rewards from tithing may not be instantaneous, they will come.

Rule "A" Stands for "Assess." If you want to reduce your debt load, you have to assess your finances. Take a long, hard look at your expenses. Start a budget. A monthly budget will enable you to get the most you can from the income you have. A monthly budget is crucial to financial control and preparedness. If you are spending more than you are making, you must cut expenses until income can be increased. The question is not "if" but "how." The longer you wait to do so, the more difficult your problem will be. Once you have prepared a budget, you can establish priorities and determine what should be cut first and how much needs to be cut. It is easy to do once you determine to do it.

Use the inside back cover of this manual. Take your monthly income, minus bonuses and overtime. Next write down all of your monthly expenses such as rent, credit card payments, utilities, entertainment and the like. Never forget to average in occasional expenses, such as insurance premiums. Finally, compare your monthly income and expenses. If your budget does not match your observed financial outcomes, try keeping a record of every expense as it occurs from day to day. You may be forgetting to include some expenses.

Rule "R" Stands for "Reduce." Reduce your expenses and indebtedness. After you have determined your situation including your current debt and monthly income and expenses, what do you do? You start trimming as needed to get out of debt by your chosen target date. Choose your target date to be debt free. Divide your current debt by the number of months to your target date. This gives the amount of debt to pay off each month. Subtract this amount from your monthly income. This gives the amount of monthly expenses you can allow yourself. Comparing this amount to your current expenses reveals the amount of monthly expenses you need to trim.

Once you have determined the amount of expenses that meets your goal, develop resistance to spending. Stick to priorities. If you don't have the money, don't buy. Stagger your purchases. Purchase what you need instead of what you want. Concentrate on the basic needs of food, clothing, and shelter. Use your creative resourcefulness to make things for yourself or repair items you need.

To trim expenses, consider canceling magazine, newspaper, or book club subscriptions, a gym membership, or cable-TV subscription. You can save money by reading publications online or going to the library. Buy used rather than new. Reduce entertainment and transportation expenses. Find free forms of entertainment. Do you need a car? Can you

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get by with a less expensive car? You may want to refinance your car loan or mortgage to reduce monthly payments. Shop around for the best deals. Take advantage of bargaining techniques, discounts, sales coupons, or “scratch and dent” items. Instead of going out to lunch with coworkers, pack your own lunch and provide your own beverage or water in a thermos. Use less-processed and less-expensive food. Dry pack pasta, soup mix, etc., from the LDS Church Cannery (301 735-5131) can provide meals far cheaper than a grocery store. The money you save may not seem like much, but can add up to hundreds and even thousands of dollars a year.

One way of paying off loans, mortgages and credit cards faster is by paying more than the regular payment each month. You can save a significant amount of interest and pay off the loan months and even years before the original scheduled maturity by paying more than the minimum monthly amount. Never pay for entertainment, food and clothing with credit cards unless you can pay off balances at the end of the month to avoid finance charges. Carry only as much cash as you will need for the week. After all, an empty wallet is an immediate and visual reminder to stop spending.

Rule “I” Stands for “Increase.” Increase your income. There are some quick ways to increase your monthly income. Have a garage sale to sell household and personal goods you no longer need. Consider taking on a second job, at least until you can get out of debt. Use your skills and hobbies as a source of extra money. Consolidate debts but only if the interest rate is lower and you have the fortitude to avoid borrowing again. Otherwise, you could end up worse off than before.

Consider upgrading your employment. To do so may require night school or on-the-job training. Get your bishop to recommend you to the LDS Church Employment Office (301 736-9550) to obtain advice and information on possibilities for upgrading your employment.

Rule “S” Stands for “Save.” Save your money. Many who have risen from poverty to a comfortable way of life would still be poor if they had not mastered the habit of saving money. It has been said that when you spend \$50 more than your income each month, you will have a life of stress and misery, and forever feel poor. But when you spend \$50 less than your income each month, you will have a life of peace and prosperity, and forever feel rich. Remarkably, this saying tends to hold true at almost any income level.

Saving a portion of all your earnings or saving on a regular basis is an essential step to getting out of debt. If you start putting aside a regular portion of your earnings each payday, you will soon develop the habit of saving money. You will adapt to living on a little less. Do you remember adapting to less as a result of paying a tithe, increased taxes, the addition of a new expense, or a reduced salary? You survived. The same thing happens when you take a portion of your income off the top for savings. You adapt.

By creating a reserve, you will be prepared. You will be able to avoid the suffering due to unexpected emergencies, which invariably call for ready cash. You will be able to seize opportunities that come only to the person who has some ready cash. It will also enable you to save on interest that you would normally spend on finance charges. Having a small nest egg will help you eliminate stress and burden.

Anyone who lives these five P-A-R-I-S rules will have more comfort and peace in their homes, be more contented in their souls, have more faith that the Lord will answer their prayers, have more pleasure in fulfilling the requirements of the gospel, and have more confidence in the promises of the Lord than those who do not observe these rules.

Food Storage

The home production and storage program is an integral part of Church welfare services but is undertaken individually, according to the needs of each member or family. Its application, therefore, differs in relation to circumstances, but the responsibility of preparedness remains solely upon the individual family. The vast majority of commodities in the Bishop’s Storehouse system of the Church must be found, as the Brethren have counseled, within the home and basements of individual families. Refer to the Church publication “Essentials of Home Production and Storage” (PGWE 1125) for guidance in planning your home storage.

The following basic items are recommended for storage. The approximate amount of each item needed to sustain an average adult for one year is as follows.

| | |
|--|----------|
| Grains (wheat, rice or cereals) | 400 lbs. |
| Legumes (dry beans, split peas, lentils) | 60 lbs. |
| Powdered milk (nonfat) | 16 lbs. |
| Cooking oil | 10 qts. |
| Sugar or honey | 60 lbs. |
| Salt | 8 lbs. |
| Water (2 weeks) | 14 gal. |

To these basic foods, others may be added according to availability, cost, and individual taste. Those frequently chosen are the dried legumes (peas, beans, peanuts, lentils which are high in protein and store well), dried fruits and vegetables, and canned meats and fish. Dehydrated and freeze-dried foods may be included. Foods preserved in this way are more expensive but they store well and better retain their vitamin content. It would also be a good idea to store (and use through rotation) a good multiple vitamin and mineral supplement.

People in highly mobile situations or those who have small homes with little storage area may find it more

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difficult to store a year's supply of food, clothing or fuel. However it is better to have food storage sufficient for a few months than to have no storage at all.

As has been indicated, the food storage program is to be adapted on an individual basis. The Church neither sponsors nor endorses any commercial products or firms.

Successful food storage is dependent on several factors. Obtain the top grade food whenever possible, and store it away from other products that may affect the flavor of the food. Usually metal storage cans or heavy plastic containers with air tight lids are best. Foods store best at from 40-60° F. Shelf life diminishes in proportion to excessive temperature. Date food items as you purchase or can them, using older items first. Use storage areas that are well ventilated, clean, dark, dry, and cool. Do not place food storage containers on or against cement or dirt floors and walls. Allow for ventilation between and under storage containers. Do not go into debt to acquire food storage. Building a year's supply should be done in an orderly and systematic manner, consistent with a family's income.

Store sufficient clothing and/or fabric for your family's needs for a year. If possible a year's supply of fuel should be stored (refer to the sections on "Emergency Heating, Cooking, and Lighting" on pages 19-23).

First aid articles, prescribed medicines, soaps and cleaning agents, matches, bedding and other such necessary items should be included.

Dry pack canning is one of several excellent methods for storing foods with low moisture content. Grains, dry beans, non-fat dry milk, and dried vegetables are examples. Dry pack canning is not recommended for products that contain oil or egg or are moist enough to support the growth of mold and/or other undesirable organisms. The following should **NOT** be dry-pack canned: brown rice, cooking oil, roasted nuts, honey, baked goods, flour mixes containing leavening, dried meats, egg noodles, peanut butter, and coconut. Dry pack canning as well as some wet pack canning can be done at the LDS Church Cannery (301 735-5131) and many items for canning can be purchased there.

Grains

Buy dark hard winter or dark hard spring wheat. (Investigate new varieties.) Buy number 2 grade or better. Protein content should be from 12-15 percent. Moisture content should be 10% or less. The wheat should be clean and free from living insects and foreign matter.

After purchase, the wheat should be placed in a sturdy, moisture proof container; a 5-gallon airtight metal container with a tight fitting double-friction lid (seal is the same as a paint can) is a good container. Sturdy polyethylene plastic buckets with tight fitting lids are also acceptable for wheat storage. Don't store wheat directly on concrete floors. Keep it cool and dry and away from steam, water pipes, an unvented clothes dryer, wet clothes, etc.

Wheat should be treated at the time of storage to guard against hatching of insect eggs. If the wheat is stored in an airtight container, it may be treated with dry ice. Drop a piece (Not pulverized) of dry ice (one-fourth pound per 5-gallon container) in the container and pour the wheat on top of it. Place the lid on, but not tightly, for five to six hours; then seal the lid airtight without tipping the container.

Other grains to consider storing are rye, triticale, corn, popcorn, barley, millet, rice, and oats. Pasta products can be counted in your grain quota.

Uncooked milled rice (white, par-boiled, and precooked) keeps indefinitely without refrigeration. Because of the oil in its bran layers, brown rice has a shelf life of only about six months. Refrigerator or freezer storage is recommended. Cooked rice may be stored in the refrigerator for up to one week or in the freezer for six months.

Flour should never be stored near apples, onions, potatoes, etc., as it will absorb moisture from them causing the flour to spoil more quickly and also take up the surrounding flavors.

Legumes

Beans, peas, lentils, etc. provide an economical substitute for meat or other animal protein. The packaged beans, which are on the grocery shelf, are normally the highest grades. Dry beans are an easily stored food. They should be kept in a tightly covered, metal, glass, or plastic container in a dark, dry, and cool location. The quality should be good for many years when stored under these conditions. Older beans will require longer soaking and cooking periods than freshly harvested beans.

Varieties of beans that may be stored are navy, pinto, kidney, black, lima, garbanzo, black-eyed peas, split peas, lentils, and soybeans.

Textured vegetable protein (TVP) is a vegetable protein made from soybeans, but its texture is similar to that of meat. When used with meat, good quality TVP absorbs the flavor and is difficult to distinguish from the meat. It can be bought as unflavored or flavored (beef, ham, bacon, or chicken). Shelf life is two to three years. As it ages, it becomes stale.

Powdered Milk

Powdered milk may be purchased in both instant and regular forms. There is no nutritional difference between the two forms, and the storage life is equivalent. Buy "extra" grade "low heat" powder. It should have been dried using a "low heat spray process." Ideally, it should also have been fortified with vitamins A and D.

Dry milk should be stored in a tightly covered container and stored in a cool, dry, and dark location off the floor. Dry milk must be rotated, even if you package and store it correctly. Dry milk will store well at 40° F. for 36-60 months and at 70° F. for 12-24 months. Dry milk will store longer when packed in vacuum or nitrogen.

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Other dairy products which may be stored include: canned evaporated milk, canned baby formula, powdered baby formula, cream substitutes, cheese spreads, brick cheese, powdered cheese, margarine, butter, powdered butter, and dried eggs.

Cooking Oil

Ten quarts of cooking oil per person should be stored for one year. Soybeans, flax, safflower, sunflower, and castor beans are examples of crops that are grown primarily for their oil. Most cooking oils and shortenings will store for two to three years if kept in a cool, dark, dry location. Olive oil and corn oil are also very good storage oils and have a better flavor than soybean and safflower oils. Fats and oils may be stored in the following forms: cooking oil (vegetable oil), shortening, butter (fresh and dried), margarine or margarine powder, mayonnaise, salad oils and dressings including dried mixes.

Sugar or Honey

Sugars are high in calories and low in nutrients and are one of the most falsely maligned of all foods. The main health hazards from eating too much sugar are a possible increase in dental cavities and obesity. White sugar, brown sugar, powdered sugar, corn syrup and honey may be stored.

Honey kept for many months may darken slowly and become stronger in flavor but is still usable. Honey and corn syrup may crystallize as they get older, but may be melted over hot water for use. The Honey Association recommends that **infants under one year old should not be given honey** because it is a raw product and may contain naturally occurring bacteria their systems cannot handle.

You may also wish to store jams and preserves, flavored gelatin and pudding mixes, powdered drink mixes, sweet toppings and syrups, candy, and soft drinks.

Salt

Iodized salt is better as it will help in proper functioning of the thyroid gland. Pickling salt may also be stored for bottling pickles and rock salt for making ice cream. Store salt in its original container in a dry, cool, dark location and it will keep indefinitely.

Vitamin and Mineral Supplements

It is recommended that 365 vitamin or vitamin/ mineral tablets or capsules be stored for each family member to help compensate for possible deficiencies in the diet due to a lack of variety of foods, and because of vitamins lost during food processing, storage, and preparation. Shelf life is about three to five years if stored in a cool, dry, and dark location.

Despite careful food planning, women may still need an iron and calcium supplement, particularly if they are pregnant or nursing. Storage of iron and calcium should be carefully considered.

Suggestions on Storage of Canned Foods

(Issued by the General Church Welfare Committee) Since pioneer days, our people have been counseled by their leaders to have a reserve of essential foodstuffs. In many cases, this reserve will be produced and preserved by household members.

When these foods are processed in metal cans coated with tin or enamel linings, the question frequently arises as to the length of time the foods can be safely stored for human consumption. Canned foods that have been in storage for a long period of time in cans that are not bulged or leaking are as safe to eat as the first day packed. However, they may have lost some of their flavor due to a chemical reaction in the can. This reaction is not poisonous, but does alter the flavor, texture, and nutritive value. The rate at which chemical reaction occurs doubles with each 18-degree (Fahrenheit) rise in temperature. Fifty degrees Fahrenheit storage will hold four times longer than an 80 degree Fahrenheit temperature.

Due to the various temperatures where canned food may be stored, it is difficult to determine the definite period of time at which all canned foods will hold. We will group some of them. The short shelf life products are highly acid and pigmented foods such as grapefruit and orange juice, black and red cherries, all colored berries, prunes, and plums. These canned foods generally have an average storage life of one to two years. Other fruits such as peaches, pears, apricots, and applesauce should average from two to three years. Vegetables such as beets, carrots, green beans, spinach, greens, tomatoes and tomato juice should have an average storage life from three to four years. Vegetables and meats such as peas, corn, lima beans and roast beef should have an average storage life from four to five years. Canned milk should be agitated every thirty days. This prevents the fats from separating, and the product should be consumed within a year.

Canned goods should be stored in a cool, dry place; the cooler and drier the canned goods are kept, the longer they will last. Place the oldest canned goods on the shelves so that they will be used first. Fruits, vegetables, and meats properly processed in glass jars and stored in the home will keep in a cool, dark, dry place fully as long as canned goods. Some fruits, such as the highly pigmented, will keep longer in a glass container.

The utmost care should be taken to see that foodstuffs produced and preserved by the family do not spoil. The Lord has blessed His people with abundant crops. The Lord is doing His part. He expects us to do ours.

Use of Food Storage in Emergencies

Before using food storage items following a disaster, be sure to consult the material under "Managing Food Supplies" in the section on "Emergency Water and Food Use" on pages 44-45. Some stored food may become contaminated in certain types of disasters such as floods.

Water Storage

Health department and public water safety officials use many safeguards to protect the sanitary quality of your daily drinking water. However, this protection may break down during emergencies caused by natural disasters.

During times of serious emergency, the normal water supply to your home may be cut off or become so polluted that it is undrinkable. **A supply of stored water could be your most precious survival item!**

You and your family may be on your own to provide a safe and adequate water supply. Remember that typhoid fever, dysentery, and infectious hepatitis are diseases often associated with unsafe water.

Don't take a chance! Generally, under serious disaster conditions, ***no water can be presumed safe—all drinking and cooking water should be purified.***

Required Amounts of Drinking Water

A minimum of two quarts and up to one gallon of water is needed per day, depending on the size of the person, the amount of exertion, weather, and perspiration loss. A minimum of seven gallons of pure water per person would be needed for a two-week survival supply. With careful conservation, this amount should be sufficient for drinking, food preparation, brushing teeth, etc. Fourteen gallons per person will allow for hygiene care for a two-week period.

Keep an emergency supply of drinking water in plastic containers. Commercially bottled drinking water is available. It stays pure for months and has the expiration date clearly marked on it.

How to Prepare and Store Bottled Water

You can also store your own water in thoroughly washed plastic, fiberglass or enamel-lined metal containers. Don't use containers that can break, such as glass bottles. Never use a container that has held toxic substances. Sound plastic containers, such as soft drink bottles, are best. You can also purchase food-grade plastic buckets or drums.

- Containers for water should be rinsed with a diluted bleach solution (one part bleach to ten parts water) before use. Previously used bottles or other containers may be contaminated with microbes or chemicals. Do not rely on untested devices for decontaminating water.
- If your water is treated commercially by a water utility, you do not need to treat water before storing it. Additional treatments of treated public water will not increase storage life.
- If you have a well or public water that has not been treated, follow the treatment instructions provided by your public health service or water provider.
- If you suspect that your well may be contaminated, contact your local or state health department or agriculture extension agent for specific advice.

- Seal your water containers tightly, label them and store them in a cool, dark place.
- It is important to change stored water every six months. Labeling by storage date is helpful.

If Water Storage is Inadequate

In emergencies, your water storage can be supplemented in several ways and several methods are available to purify alternative water sources. However, you may need to take immediate actions to preserve the integrity of such sources of water when disaster strikes. For further information, see the material under "Managing Water Supplies" and "Water Treatment" in the section on "Emergency Water and Food Use" on pages 43-44.

Portable Water Purification Equipment

A high quality filter system should possess the following characteristics: be lightweight; have fewer parts (less to go wrong); a fine pre-filter; a replaceable or clearable filter; a tight, well-made pump; a high volume output; quick filtration; should screen out organisms over 0.5 microns (0.2 microns is best).

A system with all of these features may not be inexpensive, however. The cost will usually reflect reliability as well as the technology of design.

Always use a filter properly. Use the clearest water available, allowing suspended matter to settle out. Use a pre-filter if your system has one. Do not let the outlet end of the filter come in contact with contaminated water. Be sure the vessel into which you are pumping is clean.

Emergency Heating

Coal. Coal stores well if kept in a dark place and away from moving air. Air speeds deterioration and breakdown, causing it to burn more rapidly. Coal may be stored in a plastic-lined pit or in sheds, bags, boxes, or barrels and should be kept away from circulating air, light, and moisture. Cover it to lend protection from weather and sun.

Wood. Hardwoods such as apple, cherry, and other fruitwoods are slow burning and sustain coals. Hardwoods are more difficult to burn than softer woods, thus requiring a supply of kindling or fire-starter bricks (sold in hardware stores). Soft woods such as pine and cedar are light in weight and burn very rapidly, leaving ash and few coals for cooking. If you have a fireplace or a wood/coal burning stove, you will want to store several cords of firewood. Firewood is usually sold by the cord, which is a neat pile totaling 128 cubic feet. This pile is four feet wide, four feet high, and eight feet long. Some dealers sell wood by the ton. As a general rule of thumb, a standard cord of air-dried dense hardwood weighs about two tons and provides as much heat as one ton of coal. Be suspicious of any alleged cord delivered in a 1/2 or 3/4 ton pickup truck.

For best results, wood should be seasoned (dried) properly, usually at least a year. A plastic tarp, wood

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planks, or other plastic or metal sheeting over the woodpile is useful in keeping the wood dry. Other types of fuels are more practical to store and use than wood or coal.

Newspaper. Newspaper logs make a good and inexpensive source of fuel. You may prepare the logs in the following manner:

- Use about eight pages of newspaper and open flat.
- Spread the stack, alternating the cut sides and folded sides.
- Place a 1-inch wood dowel or metal rod across one end and roll the paper around the rod very tightly. Roll it until there are 6-8 inches left to roll, then slip another 8 pages underneath the roll. Continue this procedure until you have a roll 4-6 inches in diameter.
- With a fine wire, tie the roll on both ends. Withdraw the rod. Your newspaper log is ready to use. Four of these logs will burn about 1 hour.

Propane. Propane is another excellent fuel for indoor use. Like kerosene, it produces carbon dioxide as it burns and is therefore not poisonous. It consumes oxygen so be sure to crack a window when burning propane.

Propane stores indefinitely, having no known shelf life. Propane stoves and small portable heaters are very economical, simple to use, and come the closest to approximating the type of convenience most of us are accustomed to having on a daily basis.

The storage of propane is governed by strict local laws. In this area you may store up to 1 gallon inside a building and up to 60 gallons outside. If you store more than these amounts, you will need a special permit from the fire marshal.

The primary hazard in using propane is that it is heavier than air and if a leak occurs it may "pool" which can create an explosive atmosphere. Furthermore, basement natural gas heating units CANNOT be legally converted for propane use. Again, the vapors are heavier than air and form "pockets." Ignition sources such as water heaters and electrical sources can cause an explosion.

White gas (Coleman fuel). Many families have camp stoves that burn Coleman Fuel or white gasoline. These stoves are fairly easy to use and produce a great amount of heat. However, they, like charcoal, produce vast amounts of carbon monoxide. **NEVER** use a Coleman Fuel stove indoors. It could be a fatal mistake for your entire family.

Never store fuels in the house or near a heater. Use a metal store cabinet that is vented on top and bottom and can be locked.

Kerosene (also known as Range Oil No. 1). Kerosene is the cheapest of all the storage fuels and is also very forgiving if you make a mistake. Kerosene is not as explosive as gasoline and Coleman Fuel. Kerosene

stores well for long periods of time and, by introducing some fuel additives, it can be made to store even longer. However, do not store it in metal containers for extended time periods unless they are porcelain lined because the moisture in the kerosene will rust through the container causing the kerosene to leak out. Most hardware stores and home improvement centers sell kerosene in five-gallon plastic containers, which store for many years. A 55-gallon drum stores in the back yard, or ten 5-gallon plastic containers will provide fuel enough to last an entire winter if used sparingly.

Caution: To burn kerosene you will need a kerosene heater. There are many models and sizes to choose from but remember that you are not trying to heat your entire home. The larger the heater the more fuel you will have to store. Most families should be able to get by on a heater that produces about 9,600 BTUs of heat, though kerosene heaters are made that will produce up to 25,000 to 30,000 BTUs. If you have the storage space to store the fuel required by these larger heaters they are excellent investments, but for most families the smaller heaters are more than adequate. When selecting a kerosene heater be sure to get one that can double as a cooking surface and source of light. Then when you are forced to use it be sure to plan your meals so that they can be cooked when you are using the heater for heat rather than wasting fuel used for cooking only.

When kerosene burns, it requires very little oxygen, compared to charcoal. You must crack a window about 1/4 inch to allow enough oxygen to enter the room to prevent asphyxiation. During combustion, kerosene is not poisonous and is safe to use indoors. To prevent possible fires you should always fill it outside. The momentary incomplete combustion during lighting and extinguishing of kerosene heaters can cause some unpleasant odors. To prevent these odors from lingering in your home always light and extinguish the heater out of doors. During normal operation a kerosene heater is practically odorless.

Charcoal. Never use a charcoal-burning device indoors. When charcoal burns it is a voracious consumer of oxygen and will quickly deplete the oxygen supply in your little "home within a home." Furthermore, as it burns it produces vast amounts of carbon monoxide, which is a deadly poison. If you make the mistake of trying to heat your home by burning charcoal, it could prove fatal to your entire family. Never burn charcoal indoors.

Emergency Cooking

To conserve your cooking fuel storage needs always do your emergency cooking in the most efficient manner possible. Don't boil more water than you need, and extinguish the fire as soon as you finished. Plan your meals ahead of time to consolidate as much cooking as possible. During the winter, cook on top of your heating unit while heating your home, and cook in a pressure

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cooker or other fuel efficient container as much as possible. Keep enough fuel to facilitate outdoor cooking for at least 7-10 days.

| <u>Amount</u> | <u>Heater</u> | <u>Burning Time</u> |
|---------------------|----------------|---------------------|
| 5 quarts | Catalytic | 18-20 hours |
| 3 quarts | Catalytic | 12 hours |
| 2 quarts | White Gas | 18-20 hours |
| 3½ pint aerosol can | 2-burner Stove | 4 hours |

It is even possible to cook without using fuel at all. For example, to cook dry beans you can place them inside a pressure cooker with the proper amount of water and other ingredients needed and place it on your heat source until it comes up to pressure. Then turn off the heat, remove the pressure cooker and place it inside a large box filled with newspapers, blankets, or other insulating materials. Leave it for two and a half hours and then open it. Your meal will be done, having cooked for two and a half hours with no heat. If you don't have a large box in which to place the pressure cooker, simply wrap it in several blankets and place it in the corner.

Store matches in a waterproof, airtight tin with each piece of equipment that must be lit with a flame.

Sterno. Sterno fuel, a jellied petroleum product, is an excellent source of fuel for inclusion in your backpack as part of your 72 Hour Disaster Supply Kit. Sterno is very lightweight and easily ignited with a match or a spark from flint and steel, but is not explosive. It is also safe for use indoors.

A Sterno stove can be purchased at any sporting goods store and will retail at between \$3 and \$8, depending upon the model you choose. They fold up into a very small, compact unit ideal for carrying in a pack. The fuel is readily available at all sporting goods stores and many drug stores. One can of Sterno fuel, about the diameter of a can of tuna fish and twice as high, will allow you to cook six meals if used frugally. Chafing dishes and fondue pots can also be used with Sterno.

Sterno is not without some problems. It will evaporate very easily, even when the lid is securely fastened. If you use Sterno in your 72-hour kit you should check it every six to eight months to insure that it has not evaporated beyond the point of usage. Because of this problem it is not a good fuel for long-term storage. It is a very expensive fuel to use compared to other fuels available, but is extremely convenient and portable.

Coleman Fuel (white gas). Coleman Fuel, when used with a Coleman stove, is another excellent and convenient fuel for cooking. It is not as portable or as lightweight as Sterno, but produces a much greater BTU value. Like Sterno, Coleman Fuel has a tendency to evaporate even when the container is tightly sealed so it is not a good fuel for long-term storage. Unlike Sterno, however, it is highly volatile; it will explode under the right conditions and should therefore never

be stored in the home. Because of its highly flammable nature, great care should always be exercised when lighting stoves and lanterns that use Coleman fuel. Many serious burns have been caused by carelessness with this product. Always store Coleman Fuel in the garage or shed, out of doors.

Charcoal. Charcoal is the least expensive fuel per BTU that the average family can store. Remember that it must always be used out of doors because of the vast amounts of poisonous carbon monoxide it produces. Charcoal will store for an extended period of time if it is stored in airtight containers. It readily absorbs moisture from the surrounding air so do not store it in the paper bags it comes in for more than a few months or it may be difficult to light. Transfer it to airtight metal or plastic containers and it will keep almost forever.

Fifty or sixty dollars worth of charcoal will provide all the cooking fuel a family will need for an entire year if used sparingly. The best time to buy briquettes inexpensively is at the end of the summer. Broken or torn bags of briquettes are usually sold at a big discount. You will also want to store a small amount of charcoal lighter fluid (or kerosene). Newspapers will also provide an excellent ignition source for charcoal when used in a funnel type of lighting device.

To light charcoal using newspapers use two or three sheets, crumpled up, and a #10 tin can. Cut both ends out of the can. Punch holes every two inches around the lower edge of the can with a punch-type can opener (for opening juice cans). Set the can down so the punched holes are on the bottom. Place the crumpled newspaper in the bottom of the can and place the charcoal briquettes on top of the newspaper. Lift the can slightly and light the newspaper. Prop a small rock under the bottom edge of the can to create a good draft. The briquettes will be ready to use in about 20-30 minutes. When the coals are ready, remove the chimney and place them in your cooker. Never place burning charcoal directly on concrete or cement because the heat will crack it. A wheelbarrow or old metal garbage can lid makes an excellent container for this type of fire.

One of the nice things about charcoal is that you can regulate the heat you will receive from them. Each briquette will produce about 40 degrees of heat. If you are baking bread, for example, and need 400 degrees of heat for your oven, simply use ten briquettes.

To conserve heat and thereby get the maximum heat value from your charcoal you must learn to funnel the heat where you want it rather than letting it dissipate into the air around you. One excellent way to do this is to cook inside a cardboard oven. Take a cardboard box, about the size of an orange crate, and cover it with aluminum foil inside and out. Be sure that the shiny side is visible so that maximum reflectivity is achieved. Turn the box on its side so that the opening is no longer on the top but is on the side. Place some small bricks or other noncombustible material inside upon which you can rest a cookie sheet about two or three inches above

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the bottom of the box. Place ten burning charcoal briquettes between the bricks (if you need 400 degrees), place the support for your cooking vessels, and then place your bread pans or whatever else you are using on top of the cookie sheet. Prop a foil-covered cardboard lid over the open side, leaving a large crack for air to get in (charcoal needs a lot of air to burn) and bake your bread, cake, cookies, etc. just like you would in your regular oven. Your results will amaze you.

To make your own charcoal, select twigs, limbs, and branches of fruit, nut and other hardwood trees; black walnuts and peach or apricot pits may also be used. Cut wood into desired size, place in a large can which has a few holes punched in it, put a lid on the can and place the can in a hot fire. When the flames from the holes in the can turn yellow-red, remove the can from the fire and allow it to cool. Store the briquettes in a moisture-proof container. Burn charcoal only in a well-ventilated area.

Wood and coal. Many wood and coal burning stoves are made with cooking surface. These are excellent to use indoors during the winter because you may already be using it to heat the home. In the summer, however, they are unbearably hot and are simply not practical cooking appliances for indoor use. If you choose to build a campfire on the ground outside, be sure to use caution and follow all the rules for safety. Little children, and even many adults, are not aware of the tremendous dangers that open fires may pose.

Kerosene. Many kerosene heaters will also double as a cooking unit. In fact, it is probably a good idea to purchase a kerosene heater that can be used to cook as well. Follow the same precautions for cooking over kerosene as discussed under the section on heating your home with kerosene on pages 19-20.

Propane. Many families have propane camp stoves. These are the most convenient and easy to use of all emergency cooking appliances available. They may be used indoors or out. As with other emergency fuel sources, cook with a pressure cooker whenever possible to conserve fuel.

Emergency Lighting

Most of the alternatives for lighting require a fire or flame, so use caution. More home fires are caused by improper usage of fires used for light than for any other purpose. Especially use extra caution with children and flame. Teach them the proper safety procedures to follow under emergency conditions. Allow them to practice these skills under proper adult supervision now, rather than waiting until an emergency strikes.

Cyalume. Cyalume sticks are the safest form of indoor lighting available but very few people even know what they are. Cyalume sticks can be purchased at most sporting goods stores for about \$2 per stick. They are a plastic stick about four inches in length and a half-inch in diameter. To activate them, simply bend them until

the glass tube inside them breaks, then shake to mix the chemicals inside and it will glow a bright green light for up to eight hours. Cyalume is the only form of light that is safe to turn on inside a home after an earthquake. One of the great dangers after a serious earthquake is caused by ruptured natural gas lines. If you flip on a light switch or even turn on a flashlight you run the risk of causing an explosion. Cyalume will not ignite natural gas. Cyalume sticks are so safe that a baby can even use them for teething.

Flashlights. Flashlights are excellent for most types of emergencies except in situations where ruptured natural gas lines may be present. Never turn a flashlight on or off if there is any possibility of ruptured gas lines. Go outside first, turn it on or off, then enter the building.

The three main problems with relying upon flashlights is that they give light to very small areas, the batteries run down fairly quickly during use, and batteries do not store well for extended time periods. Alkaline batteries store the best if stored in a cool location and in an airtight container. These batteries should be expected to store for three to five years. Many manufacturers are now printing a date on the package indicating the date through which the batteries should be good. When stored under ideal conditions the shelf life will be much longer than that indicated. Lithium batteries will store for about twice as long as alkaline batteries (about ten years).

If you use flashlights, be sure to use krypton or halogen light bulbs in them because they last much longer and give off several times more light than regular flashlight bulbs on the same energy consumption. Store at least two or three extra bulbs in a place where they will not be crushed or broken.

Candles. Every family should have a large supply of candles. Three hundred sixty-five candles, or one per day is not too many and the larger the better. Fifty-hour candles are available in both solid and liquid form. White or light colored candles burn brighter than dark candles. Tallow candles burn brighter, longer, and are fairly smoke free when compared to wax candles. Their lighting ability can be increased by placing an aluminum foil reflector behind them or by placing them in front of a mirror. However, candles are extremely dangerous indoors because of the high fire danger— especially around children. For this reason be sure to store several candle lanterns or broad-based candleholders. Be sure to store a goodly supply of wooden matches.

Save your candle ends for emergency use. Votive candles set in empty jars will burn for up to 15 hours. Non-candles (plastic dish and paper wicks) and a bottle of salad oil will provide hundreds of hours of candlelight.

Trench candles. Trench candles can be used as fireplace fuel or as a candle for light. To make trench candles:

1. Place a narrow strip of cloth or twisted string (for a wick) on the edge of a stack of 6-10 newspapers.
2. Roll the papers very tightly, leaving about $\frac{3}{4}$ inch of wick extending at each end.

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3. Tie the roll firmly with string or wire at 2-4 inch intervals.
4. With a small saw, cut about 1 inch above each tie and pull the cut sections into cone shapes. Pull the center string in each piece toward the top of the cone to serve as a wick.
5. Melt paraffin in a large saucepan set inside a larger pan of hot water. Soak the pieces of candle in the paraffin for about 2 minutes.
6. Remove the candles and place on a newspaper to dry.

Kerosene lamps. Kerosene lamps are excellent sources of light and will burn for approximately 45 hours on a quart of fuel. They burn bright and are inexpensive to operate. The main problem is failure to properly trim the wicks and using the wrong size chimney. Wicks should be trimmed in an arch, a "V," an "A" or straight across the top. Failure to properly trim and maintain wicks will result in smoke and poor light.

Aladdin type lamps that use a circular wick and mantle do not need trimming and produce much more light (and heat) than conventional kerosene lamps. These lamps, however, produce a great amount of heat, getting up to 750 degrees F. If placed within 36 inches of any combustible object such as wooden cabinets, walls, etc. charring can occur. Great caution should therefore be exercised to prevent accidental fires.

The higher the elevation, the taller the chimney should be. Most chimneys that come with kerosene lamps are made for use at sea level. At about 4500 feet above sea level, the chimney should be about 18-20 inches high. If your chimney is not as tall as it should be, you can improvise by wrapping aluminum foil around the top of it and extending it above the top. This will enable the light to still come out of the bottom portion and yet provide proper drawing of air for complete combustion. If the chimney is too short it will result in smoke and poor

light. Be sure to store extra wicks, chimneys and mantles.

Propane and Coleman lanterns. Camp lanterns burning Coleman Fuel or propane make excellent sources of light. Caution should be used in filling and lighting Coleman lanterns because the fuel is highly volatile and a flash type fire is easy to set off. Always fill them outside. Propane, on the other hand, is much safer. It is not as explosive and does not burn quite as hot. A double mantle lantern gives off as much light as two 100-watt light bulbs. Either propane or Coleman Fuel type lanterns are very reliable and should be an integral part of your preparedness program. Be sure to store plenty of extra mantles and matches.

Store lots of wooden matches (1,000-2,000 is not too many). Also store butane cigarette lighters to light candles, lanterns and fireplaces. It would be a good idea for everyone to have a personal fire building kit with at least six different ways to start a fire.

Above all, your home and family must be protected from the ravages of fire by your actions. Study the instructions for any appliance used for heating, cooking, or lighting and understand features as well as their limitations.

Don't go to sleep with any unvented burning device in your home. Your family might not wake up.

Whatever you store, store it **safely** and **legally**. In an emergency, survival may cause you to make decisions that are questionable with regard to safety. Become educated to the inherent hazards of your choices and make a decision based on as much verifiable information as possible. You and your family's lives will depend on it.

Consider carefully how you will provide fuel for your family for heating, cooking, and lighting during times of emergencies. Next to food, water, and shelter, energy is the most important item you can store.

| <u>Fuel</u> | <u>Amount</u> | <u>Burning Time</u> |
|--------------------|----------------------|---------------------|
| White Gas Lanterns | | |
| Two Mantle | 1 quart | 10-12 hours |
| Single Mantle | 1 quart | 16-18 hours |
| Kerosene Lanterns | 1 quart | 45 hours |
| Candles | $\frac{3}{4}$ " X 4" | 2 1/3 hours |
| | $\frac{7}{8}$ " X 4" | 5 hours |
| | 2" X 9" | 63 hours |

Basic Preparedness

Emergency Sanitation

Laundry and Cleaning Supplies

During times of emergency it is critical that sanitation be strictly observed in the cleaning of clothing, bedding materials, and all kitchen and food preparation utensils. Suggested laundry and cleaning storage items are:

- Deodorizer tablets and air fresheners
- Lysol-type disinfectant
- Toothpaste and toothbrushes
- Laundry detergent
- Liquid chlorine bleach
- Dish detergent
- Bar soap
- Shampoo and conditioner
- Hair spray
- Deodorant
- Feminine supplies
- Shaving supplies.

Disposal of Garbage and Rubbish

Garbage may sour or decompose, rubbish (trash) will not, but offers disposal problems in an emergency. The following suggestions will make it easier for you to take care of the refuse problem.

Garbage should be drained before being placed in storage containers. If liquids are strained away, garbage may be stored for a longer period of time without developing an unpleasant odor. After straining, wrap the garbage in several thicknesses of old newspapers before putting it into your container. This will absorb any remaining moisture. A tight-fitting lid is important to keep out flies and other insects.

Final disposal of all stored garbage and refuse can be accomplished in the following manner, provided there is no danger from radioactive fallout:

1. All stored garbage should be buried if collection services are not restored and if unpaved yard areas are available—keep a shovel handy for this purpose. Dig a hole deep enough to cover it with at least 18-24 inches of dirt, which will prevent insect breeding and discourage animals from digging it up.
2. Other rubbish may be burned in open yard areas (if permission is granted by authorities under existing conditions) or left at dumps established by local authorities. Cans should be flattened to reduce their bulk. Do not deposit ashes or rubbish in streets or alleyways without permission. Such material may interfere with the movement and operation of fire fighting and other emergency equipment.

Emergency Chemical Toilet

An emergency chemical toilet consisting of a watertight container with a snug-fitting cover should be an integral part of your preparedness program. It could be a garbage container, a pail, or a 5-gallon garbage can (also with a tight-fitting lid).

The items listed in the right-hand column should be stored together inside a 5-gallon plastic bucket. The bucket will serve as the toilet during an emergency. To use this toilet simply remove the contents from the bucket, insert a large plastic garbage can liner into the bucket and fold the edges over the rim of the bucket. Mix one cup of liquid chlorine bleach to one-half gallon of water (one to ten ratio—do not use dry or powdered bleach as it is caustic and not safe for this type of use) and pour this solution into the bucket. This will kill germs and insure adequate coverage. Though the bucket may be somewhat uncomfortable to sit upon, it certainly beats the alternative. For greater comfort you can remove the seat from a toilet and secure it to the top of the bucket.

Emergency Chemical Toilet

- 5-gallon plastic bucket (with tight fitting lid)
- 2 large boxes of garbage can liners (30 gallon)
- 1 gallon liquid chlorine bleach or other chemical
- Pinesol
- 6-8 rolls toilet paper
- Feminine sanitary supplies
- 2 boxes baking soda
- 2 boxes trash can liners (8-10 gallon size)
- Paper towels

Every time someone uses the emergency toilet, he should pour or sprinkle into it a small amount of regular household disinfectant. Using creosol, Pinesol, chlorine bleach, baking soda, alcohol, laundry detergent, or insecticide will keep down odors and germs.

After each usage replace the lid securely upon the bucket to keep insects out and to keep the smell contained. When the bucket is one-third to one-half full, tie the garbage bag liner shut and dispose of it appropriately (i.e., burying it, placing it inside a large covered metal garbage can for later disposal, or placing it in an approved disposal location). Put another liner inside the bucket and continue as above.

Another chemical that can be used in place of liquid chlorine bleach is HTH (calcium hypochlorite), which is available at swimming pool supply stores. It is intended for use in solution. Following the directions on the package it can be mixed and stored.

Caution: Do not use calcium hypochlorite to disinfect drinking water as it kills all the beneficial bacteria in the intestinal tract and thus causes mild diarrhea.

Portable toilet chemicals, both liquid and dry, are available at recreational vehicle (RV) supply stores. These chemicals are designed especially for toilets that are not connected to sewer lines. Use according to package directions. Powdered, chlorinated lime is available at building supply stores. It can be used dry. Be sure to get chlorinated lime, not quick lime, which is highly alkaline and corrosive.

Caution: Chlorinated products that are intended for use as a mixture with water can be dangerous if used dry. You may also use powdered laundry detergent, Lysol, Pinesol, ammonia, or other household cleaning and disinfecting products.

Emergency Sewage Disposal

For purposes of disposal of sewage from an emergency chemical toilet, another bucket is helpful. It can be used to hold or transport contents for disposal. If possible, both containers should be lined with plastic bags or garbage can liners. NEVER deposit human waste or garbage on the open ground. If you have no other alternative for disposal, it is safe to bury waste in trenches 24-30 inches in depth.

Where radioactive fallout does not present a hazard, a temporary pit privy may be constructed in the yard for use by several families. This offers a good method of waste disposal over extended periods of time. The structure need not be elaborate, so long as it provides reasonable privacy and shelter. The pit should be made fly-proof by means of a tight-fitting riser, seat, and cover. A low mound of earth should be tamped around the base of the privy to divert surface drainage and help

keep the pit dry. Accumulated waste should be covered with not less than 12 inches of earth when the privy is moved or abandoned.

Persons in city apartments, office buildings, or homes without yards should keep a supply of waterproof containers on hand for emergency waste disposal.

Homemade soil bags may also be used and are easily made by putting one large grocery bag inside another, with a layer of shredded newspaper or other absorbent material between. Apartment dwellers should have sufficient grocery bags on hand for possible emergencies.

If you have a baby in your home, it is best to keep an ample supply of disposable diapers on hand for emergency use. If these are not available, emergency diaper needs can be met by lining rubber pants with cleansing tissue, toilet paper, scraps of cloth, or other absorbent materials.

To help insure proper sanitation it is imperative that you store a sufficient supply of disposable diapers, disposable wipes, and plastic garbage can liners. Change infants and toddlers regularly and keep them clean. Dispose of the soiled diapers in the plastic garbage can liners and keep them tightly sealed when not in use to help prevent the spread of disease.

Be sure to wash your own hands regularly when working with infants (especially after each diaper change). Typhoid fever, amoebic dysentery, diarrhea, infectious hepatitis, salmonella, and giardiasis are diseases that spread rapidly in times of emergency and threaten all, yet are all diseases that can easily be controlled by simply following the rules of good sanitation.

Emergency First Aid

Emergency First Aid

The Brethren state that “All members of the Church should be trained in basic first aid skills.” (Preparing and Responding to Emergencies: Guidelines for Church Leaders.)

You are likely to encounter an emergency needing first aid attention several times during your life. Families with young children are constantly being subjected to situations in which injury may occur and your quick calm thinking and application of first aid principles may make the difference between life and death.

Automobile accidents account for slightly more than one-half of all accidental deaths occurring each year. Your knowledge of first aid could not only save a member of your immediate family but could also save the life of a total stranger.

This section is not intended to teach you all you need to know about first aid. Such knowledge can only be obtained by attending first aid training courses sponsored by the American Red Cross or other training organizations and/or by extensively reading and studying books on first aid. The purpose of this section is to acquaint you with the most basic and elementary first aid procedures that may be needed to save a life in an emergency and to suggest items to include in a family first aid kit.

Emergency Care

Depending on the type of emergency, you will have to make a quick decision of what to do first and what not to do.

1. Keep the victim lying down, head level with the body, until you have made some assessment of the problem.
 - If the victim is in severe shock, place on back with legs slightly elevated.
 - If victim is vomiting or bleeding from the mouth and is semi-conscious, there is danger of victim aspirating this material. Place him on his side.
 - Shortness of breath—if victim has a chest injury, place him in a sitting or semi-sitting position, or position of comfort.
2. Examine the victim for serious bleeding, suspended breathing, and shock—all of which require immediate treatment. Your primary survey should cover these four areas:
 - Open airway
 - Check breathing
 - Check circulation
 - Stop hemorrhage or severe bleeding.

3. Do not move the victim more than is absolutely necessary. Remove clothing only enough to determine the extent of injuries. It is preferable to rip or cut clothing to remove it (removing in a conventional manner may compound the injuries if they are severe).
4. Keep the victim reassured and as comfortable as possible.
5. If the victim's injury is extensive, it is best not to let them see it.
6. Do not touch open wounds.
7. Do not give unconscious persons any solids or liquids by mouth.
8. Do not move the victim unless it is necessary to prevent further harm or injury. If you must move the victim do it keeping the body straight.

Keep the victim warm, but not overly hot. Remember—most injuries will require a minimum of effort on your part and a maximum of judgment and self-control to avoid doing too much.

Rapid, calm, efficient efforts can minimize problems in emergency situations. Even in prolonged emergency situations, sticking with standard first aid care may be better than risking life-threatening procedures.

Immediate Lifesaving Measures

Most injuries can be dealt with calmly and without hurry. However, in serious life threatening injuries, first steps must be taken immediately to preserve life. **First**, open the victim's airway and restore his breathing and heartbeat if necessary (see “CPR: Cardiopulmonary Resuscitation” below). **Second**, Stop any bleeding (see “Bleeding” below) and dress and bandage wounds to prevent infection. **Third**, treat the victim for poisoning, and **Fourth**, treat him for shock.

Respiratory Emergencies

A person who has stopped breathing is not necessarily dead, but is in critical danger. Life is dependent upon oxygen that is breathed into the lungs and then carried by blood to every body cell. Since body cells cannot store oxygen, and since the blood can hold only a limited amount, death will surely result from continued lack of breathing (oxygen must be provided in three to six minutes or damage to the brain cells or death will result).

The heart may continue to beat for a time after breathing has stopped and the blood may still be circulated to the body cells. Thus, for a few minutes there is a chance to save a life, by means of **artificial**

respiration. Mouth-to-mouth resuscitation is the approved method for this.

Causes of Respiratory Emergencies:

Blocked air passages
Insufficient oxygen in the air
Inability of the blood to carry oxygen
Paralysis of the breathing center in the brain

Mouth-to-Mouth Resuscitation

People may stop breathing because of electrical shock, drowning, suffocation, poisoning, a physical blow to the head, chest or abdomen, or any number of other causes. If you suspect an individual is not breathing, act immediately because time is life.

Waste no time. Check to see if the victim is breathing. If he appears to be unconscious, tap him firmly on the shoulder and ask in a loud voice, "Are you all right?" If you get no response then immediately do the following:



1. Tilt the head back so that the chin is pointing upward (this is the most important action you can take to enable a person to breathe again, and may alone help the victim to start breathing).
2. Pinch nose closed.
3. Take a big breath and blow into the mouth, providing one breath every five seconds for adults, every three seconds for small children.
4. Watch for the chest to expand, and listen for air to come out.
5. Repeat until the victim begins to breathe on his own. The victim's chest should rise with each breath. If the air goes to his stomach (as seen by the stomach rising instead of the chest) turn the victim onto his side and press on his abdomen to push the air out. Turning the victim to the side should prevent the inhalation of any regurgitated matter into the lungs. If the victim regurgitates, quickly clean the matter out of the victim's mouth with your finger and continue giving him artificial respiration. A drowning victim will almost always vomit as air replaces water in the lungs.

If the victim is a baby or young child, place your mouth over the nose and mouth rather than pinching the nostrils. Use puffs of air on an infant or young child rather than large breaths because their lung capacity is not as great as yours.

Artificial respiration may be given mouth-to-nose if the victim's mouth is severely injured. Also, if artificial respiration is necessary for a person with a stoma (an opening in the neck to facilitate breathing) just blow into the stoma. If the stoma is open to the mouth and nose, as some are, it may be necessary to close off the nose and mouth with a free hand while using the stoma for respiration. Do not stop giving artificial respiration until the victim can breathe for himself or until he is pronounced dead by a physician.

Check the victim's pulse to see if his heart is beating by placing your index and middle fingers at the side of the Adam's apple (larynx) between the muscles of the neck and the trachea. If no pulse is detectable, begin CPR immediately. If a pulse is present, continue artificial respiration but check the pulse periodically to insure that his heart continues to beat.

If you have never received training in proper administration of mouth-to-mouth resuscitation you should consider enrolling in a class taught by the American Red Cross or other qualified institution.

CPR: Cardiopulmonary Resuscitation

CPR is a combination of artificial respiration and artificial circulation by means of external cardiac compression. CPR is almost always used in conjunction with mouth-to-mouth resuscitation.

When the victim has no pulse (check the pulse as described above), artificial circulation must also be provided by the rescuer without delay. The victim must be on a hard surface, and his legs may be elevated eight to ten inches **if this can be done without injuring him further or delaying the administration of CPR.**

If you are alone, kneel by the victim's side and place the heel of your hand on the center of the chest one and one-half to two inches above the notch of the victim's sternum. Place your other hand on top of the first hand and, with arms straight and your shoulders directly above your hands, begin compressing the victim's chest one and one-half to two inches at the rate of about eighty times per minute. Keep your elbows straight and your fingers off the victim's chest; press only with the heel of your hand. Every fifteen compressions, stop and give two quick breaths (mouth-to-mouth) to provide artificial respiration, then resume compressions.

CPR should not be interrupted for longer than five seconds. CPR is not easy, and it would be difficult to perform properly after only reading about it. Instructions here are only meant to renew what has already been learned.

CPR should be learned under competent supervision with hands-on experience gained in the learning. **Take a class on CPR!!** The life of a loved one may depend on it.

Emergency First Aid

Bleeding

Extensive bleeding can cause death if not stopped promptly. External bleeding can be stopped by direct pressure when applied at an appropriate location on the supplying artery, or as a drastic last effort to save a life, by use of a tourniquet.

Direct pressure is the first step in controlling bleeding, and is applied by pressing a sanitary dressing directly to the wound. If there is no dressing available, use the bare hand. If blood soaks through a dressing *do not remove it*; add another dressing on top and continue the pressure.

If bleeding persists, continue direct pressure and *elevate* the extremity above the heart. Gravity helps reduce blood pressure and thus slows bleeding to allow clotting.



Pressure points to the artery supplying blood to the wounded area may be used in addition to the direct pressure if the direct pressure and elevation does not stop the bleeding. While continuing the direct pressure and elevation as described above, choose the pressure point between the heart and the wound that lies closest to the wound. There is a particular need to know the brachial and femoral artery pressure points because of the frequency of injury to arms and legs. The purpose of using a pressure point is to press the artery between the fingers of the first aider and the victim's bone, thus slowing the flow of blood to the injured area. When the pressure point is being effectively applied the first aider can almost always feel the pulse.

Nosebleeds can usually be treated effectively by having the victim sit upright in a comfortable position and then squeezing the nostrils together. The pressure should be applied equally to both sides of the nose and should be hard enough to stop bleeding out of the nostrils or down the back of the throat. Continue the pressure for ten to fifteen minutes.

A tourniquet should be used only in extreme cases when direct pressure and pressure on the appropriate pressure point have failed to stop the bleeding and the victim's life is in danger, or in the case of traumatic amputation. **The use of a tourniquet will very likely result in the loss of the limb to which it is applied.**

Once a tourniquet has been applied it should not be removed or loosened until done by a physician.

If you do not have a specially designed tourniquet you can make one with any soft, strong, pliable material such as cloth or gauze. *The band of material should be about two inches wide or wide enough so that it will remain at least one inch wide after it is tightened.* A stick or other rigid material is needed to tighten the tourniquet. Place the band around the limb slightly above the wound (two to four inches). Tie a knot in the band, leaving it loose enough to put a stick into it. Insert the stick under the band and twist until just sufficient pressure to stop the bleeding is applied. Secure the end of the stick to the victim so that it will not come loose. Record the time the tourniquet was applied and seek medical assistance immediately. **Again, never use a tourniquet unless life is threatened!** Always treat a victim of severe bleeding for shock.

1. Apply direct pressure on the wound.
2. Elevate the wounded area if an arm or leg is bleeding.
3. Apply pressure on the supplying artery of the arm or leg if steps 1 and 2 do not stop the bleeding.
4. Only as a last resort of life saving measure apply a tourniquet to stop bleeding. Once applied, a tourniquet must not be loosened except by a physician.

Shock

In any first aid emergency **treat for shock!** Shock may be immediate or delayed and is a life threatening illness that can be caused by almost any traumatic injury.

Injuries involving large fluid loss such as bleeding and burns are especially prone to cause shock. Shock is a depression of the action of the nervous system and its control over body functions such as circulation and respiration and is characterized by weakness, rapid and weak pulse, paleness, and cool perspiration on the victim. The pupils of the eyes may be dilated and, at the extreme, the victim may also become incoherent.

Reassure and comfort the victim and have him/her lie down. Treat the causes of the shock (burn, fractures, bleeding, etc.). Maintain normal body temperature. Most shock victims begin to lose body temperature so they will need to be covered with a blanket or other warming material. However, occasionally a shock victim's body temperature may rise, in which case you will need to lower it.

If no head injuries are present, elevate the victim's legs. Call for emergency help.

Mild fluids may be given if medical assistance is not readily available, as may be the case in an extended emergency. A saline solution made by mixing one teaspoon of salt and one-half teaspoon of baking soda in a quart of lukewarm water may be used, having the victim drink one half glass every 15 minutes. If abdominal injuries are present, do not give fluids. If there is any question of the victim losing

consciousness, do not give fluid because the victim may regurgitate and aspirate the vomitus. The symptoms of shock are:

- Pale, cold, clammy skin.
- Weak, rapid pulse.
- Shallow breathing.
- General body weakness.

Always treat a victim for shock by:

- Laying the victim down and elevating feet slightly higher than the head.
- Wrapping with a blanket to avoid chilling, or cooling if the victim develops a fever.
- Raising the head and shoulders if the victim has difficulty in breathing.
- If medical help will not be available within 30 minutes, give a lukewarm solution of salt and baking soda every 15 minutes.

Never give fluids if the victim is nauseated, unconscious, has a penetrating abdominal wound, or requires surgery.

Poisoning

Each year over a million people are poisoned. As a result, you should be very concerned about possible poisoning in your home, especially accidental poisoning of small children.

Suspect a poisoning when somebody suddenly becomes sick, unconscious, or behaves in an unusual manner and there is no explanation for the illness or abnormal behavior.

If you take enough of anything, it can be poisonous. The most critical period of time is the first hour or two after the poisoning occurs—**do not delay seeking advice.**

Do These Things before You Call Someone

Remove poisons from contact with eyes, skin, or mouth.

Eyes: Gently wash eyes with plenty of water for 10 to 15 minutes with the eyelids held open. Remove contact lenses and again wash the eyes. Do not allow the victim to rub the eyes.

Skin: Wash poisons off the skin with large amounts of plain water. Then wash the skin with a detergent if possible. Remove and discard all contaminated clothing.

Mouth: Look into the victim's mouth and remove all tablets, powder, plants, or any other material that you find. Also examine for cuts, burns, or any unusual coloring. Wipe the mouth out with a cloth and wash thoroughly with water.

Remove the victim from contact with poisonous fumes or gases, **if it is safe for the rescuer.**

Get the victim into fresh air. Loosen all tight-fitting clothing. If the victim is not breathing, you should start

artificial respiration immediately. Do not stop until the victim is either breathing well or help arrives. Use oxygen if available. Send someone else to call for help.

If a caustic poison has been swallowed, you should dilute it by giving one or two glassfuls of milk (or water if milk is not available).

For information about what to do next, call 911 or the Poison Control Center 1 800 456-7707:

- Identify yourself and your relationship to the victim.
- Describe the victim by name, age, and sex.
- Have the package or poison in your hand and identify exactly (as best you can) what the victim took and how much he took.

Call for information even if you are not sure. Keep calm. You have enough time to act, but don't delay unnecessarily.

How to Induce Vomiting

Have syrup of ipecac available in your first aid kit to induce vomiting. Ipecac is a plant extract that when swallowed irritates the stomach and causes vomiting. It is not harmful if taken as directed, except of course that it will make you vomit. However, there are certain types of poisonings where it should not be used, so call your doctor or the poison center before you use it. Ipecac may be purchased at any pharmacy.

Your pharmacist can give you one ounce (30 cc), of syrup of ipecac without a prescription. All you have to do is request it. It will keep for several years stored at room temperature.

If you are instructed to use ipecac: Give the victim one tablespoon of ipecac syrup followed by a glass (8 oz.) of liquid, (water, juices, etc.). Then give additional liquid as tolerated. If the patient hasn't vomited within 15 or 20 minutes, give another tablespoon of ipecac and more water.

Don't waste time trying other ways to make the victim vomit. Tickling the back of the throat with your fingers, a spoon or some other object is not very effective. **Do not use salt water. It is potentially dangerous.**

Never induce vomiting if the patient is unconscious, is having convulsions, or has swallowed strong caustics or corrosives.

Induce vomiting only if you are instructed to do so by your doctor or the poison center. **Never induce vomiting until you are instructed to do so.**

If you go to the hospital, take or send the poison container, poisonous plant, etc. with you; take any vomitus you collect; don't give substances like stimulants or drugs to the victim.

The Poison Control Center is open 24 hours a day at 1 800 456-7707.

Emergency First Aid

Burns

There are three degrees of burns:

- 1st degree—Skin is red and tender (as in a sunburn).
- 2nd degree—Blisters develop. Never break or open blisters.
- 3rd degree—Deep tissue damage.

To give first aid for **1st and 2nd degree burns**, exclude air by:

1. Submerging in cold water (the best thing to do).
2. Applying a cold pack not ice.
3. Covering with a thick dressing or plastic. Do not use plastic on the face. After using cold water or a cold pack, cover the burn area with a thick dry sterile dressing and bandage firmly to exclude air.

To give first aid for **3rd degree burns**:

1. Apply a thick dry sterile dressing and bandage to keep out air.
2. If the burn area is large, wrap with a clean sheet or towel.
3. Keep burned hands and feet elevated and get medical help immediately.
4. Treat the same as a shock victim, giving fluids as indicated and warmth if necessary.

To give first aid for **chemical burns**:

1. Wash chemical away with water.
2. Acid or alkali burns of the eyes: wash eyes thoroughly in plain water for 10 to 15 minutes. If the victim is lying down, turn the head to the side. Hold the lid open and pour from the inner corner outward.
3. Have the victim close the eye, place an eye pad over the lid, bandage, and get medical help as soon as possible.

Broken Bones

Signs of a closed fracture are:

- Swelling
- Tenderness to touch
- Deformity
- Discoloration

To treat open fractures:

- Do not move protruding bone ends
- If bleeding, control bleeding by direct pressure on the wound.
- Treat the same as a closed fracture after bleeding is controlled.

To treat closed fractures:

- Keep broken bone ends from moving.

- Keep adjacent joints from moving.
- Treat for shock.
- Use the following steps to splint fractures.

To splint fractures:

1. Place one hand above and one hand below the fracture to support it.
2. Have someone grasp the end of the limb and pull steadily until the bone is set and splints are in place.
3. Secure the splints to the limb.
4. Treat for shock.

Sprains

For injury to soft tissue around a joint:

- Always immobilize the joint.
- Elevate the joint.
- Apply cold during the first half-hour.
- Treat the same as a closed fracture.

Head Injuries

Symptoms of head injuries are:

- May or may not be conscious.
- Any changes in level of consciousness.
- Bleeding from mouth, nose, or ears.
- Paralysis of one or more extremities.
- Difference in size of pupils of the eyes.

To give first aid for head injuries:

- Do not give stimulant or fluids.
- Do not raise feet. Keep the victim flat.
- Observe carefully for stopped breathing or blocked airway.
- Get medical help immediately.
- When transported, do so gently, lying flat.
- Position the head to the side so secretions may drool from the corner of the mouth.
- Loosen clothing at the neck.

Internal Bleeding

Treat for shock and seek medical help. There is nothing else that you can do. If internal bleeding does not stop on its own, it must be surgically terminated.

Epilepsy

1. Allow the victim to have the seizure.
2. Remove objects that may injure the victim during the attack.
3. Be aware of the possibility of a breathing emergency.
4. Place the victim on the side after the seizure has stopped.

Electric Shock

1. Do not touch the victim if he is still in contact with the electricity
2. Turn off the power source or remove wires from the victim.
3. After the rescue, check immediately for stopped breathing; if stopped, administer artificial resuscitation.
4. Treat for shock.

Psychological First Aid

Catastrophic difficulties frequently bring about severe emotional reactions in the parties involved. These are often unpredictable but are normally only temporary.

If the person is not violent, the first thing to do is to treat physical injuries. If the person becomes violent, call for professional help, **911**. Stay calm. Comfort the person; do not criticize him but on the other hand do not be overly solicitous. Avoid expressions such as “snap out of it”, or “get hold of yourself.” Avoid joking.

Accept the person's feelings and try to reassure him. Make things as comfortable as possible. Involve the victim in meaningful but not overly taxing activity as soon as possible to help him release tensions and forget his troubles.

Be patient with the disturbed. It may take awhile, but they will probably return to normal. Do not give sedatives or tranquilizers; these will only delay his adjustment to the situation.

Diarrhea

In some cases diarrhea can be a serious malady. When it occurs, the victim should stop eating solid food and start a diet of clear fluids, such as broths, Jell-O water, juices, and similar liquids. Milk and other dairy products should be avoided. Fluids could also include a sugared salt solution made with one and one-half tablespoons of sugar and one teaspoon of salt in a quart of water. Kaopectate also helps. While the diarrhea continues, pay particular attention to sanitation and hygiene to prevent spread of the disease.

Hypothermia

For complete information and instruction, see the “Winter Storms and Extreme Cold” section on pages 60-62.

Choking: The Heimlich Maneuver

Choking on food is the sixth leading cause of accidental death in the U.S.

Over 3,000 and as many as 6,000 deaths occur each year. The usual slap on the back does not help very much, but the Heimlich Maneuver is easy to administer and is quite safe if administered properly.

Choking occurs when food is sucked into the windpipe instead of being swallowed. Onlookers often mistake the symptoms for those of a heart attack and administer inappropriate treatment.

The maneuver utilizes air that is already in the lungs. Even when we've breathed out, we still have quite a bit of air in the lungs. The Maneuver forces the diaphragm upward, which forces air up through the windpipe to dislodge the obstruction.

The most important thing is to make sure the victim is choking, but the choking victim cannot talk. Therefore if the patient is still conscious, one must quickly ask questions that can be answered by shaking or nodding the head—but **quickly**. The choking patient will soon collapse. The Maneuver forces air that is in the lungs out through the windpipe, dislodging the obstruction. This can be done with the patient in the standing or sitting positions or with the patient lying on his back.

Standing

Stand behind the victim and make a fist. Place the thumb end of the fist against the abdomen of the victim, with the fist definitely below the rib cage, between the belly button and the rib cage, but well below the rib cage. Place the other hand over the fist and pull up and in, quickly. The force should depend on the amount required to move enough air to remove the obstruction.

In order to prevent injury from using more force than is necessary, one may wish to start with minimal force and increase with each attempt. It may be necessary to repeat the Maneuver four or five times. With small children, use only the fingers to apply pressure.

Sitting

When the victim is sitting, the chair can provide a good brace or support to perform the Maneuver, which is performed as above.

Lying Down

If the victim has collapsed, or if the victim is so large that the person applying the treatment is unable to reach around the victim, the victim should be placed on

Emergency First Aid

the floor on his back. The person applying the treatment quickly straddles the hips of the victim, places one hand over the other and with the heels of the hands well below the rib cage (between the rib cage and the belly button) quickly pushes up and in. Remove the food quickly after it is expelled. Also the patient may vomit, so quickly turn him on his side after treatment.

After all, there is very little time. Death or brain damage will occur in just a few minutes. You must act fast. The victim should be examined by a physician after a choking episode and treatment.

If Alone

The Heimlich maneuver can be administered to yourself by placing the hands as if standing behind a victim and then letting yourself fall over a chair or table.

A Distress Signal

Placing the hand to the throat is an almost automatic response of someone choking. This will convey the message, “**I am choking.**” Teach this maneuver to every member of your family so that they may react quickly to save the life of another.

Emergency Child Birth

When birth is imminent and medical help is unavailable, it is important to understand the normal course of labor and childbirth. The mother and anyone who is helping can make the birth easier and safer by knowing exactly what is happening and how best to help.

Labor Is Divided into Three Stages

First Stage: The womb contracts by itself to open and bring the baby down to the birth canal.

Second Stage: The mother pushes (bears down) with the contractions of the womb to help the baby through the birth canal and out into the world.

Third Stage: The afterbirth is expelled.

First Stage

In this early part of labor it is often helpful for the mother to keep occupied as long as she does not get too tired. She should be patient and calm, relaxing as the contractions come and go and breathing slowly and deeply during the contractions as they become strong.

Emptying the bowels and frequent urination will help to relieve discomfort. The mother will know she is in true labor if she has regular contractions of the womb which are prolonged and become strong and closer together.

When she knows the baby is on the way, she should choose a place to have the baby that will be clean and peaceful. She should be able to lie down or sit in a leaning position (with her back well supported).

The following events occur as part of the first stage of labor and delivery.

1. The state of dilation: the first signs may be noticeable only to the mother—low backache and irregular cramping pains (contractions) in the lower abdomen.
2. As labor progresses, the contractions become stronger, last longer, and become more regular. When the contractions recur at regular 3-4 minute intervals and last from 50-60 seconds, the mother is in the latter part of the first stage.
3. The contractions will get stronger and more frequent. The mother will often make an involuntary, deep grunting moan with each contraction. The delivery of the baby is now imminent.

What to Do During the First Stage

Those helping the mother should know how to time the contractions. This information will give them an idea as to how far into labor the mother is and how much time remains until the baby comes.

Place a hand on the mother's abdomen just above the umbilicus. As contractions begin, you will feel a hardening ball. Time the interval from the moment the uterus begins to harden until it completely relaxes.

Time the intervals in minutes between the start of one contraction and the start of the next contraction. As labor progresses this time will decrease.

Walking or standing tends to shorten labor, so if that feels comfortable to the mother, let her. Also, if she becomes hungry or thirsty, let her eat or drink small amounts of food, fruit juice, or suck on ice chips.

Don't Leave the Mother Alone

Make no attempt to wipe away vaginal secretions, as this may contaminate the birth canal. The bag of water may rupture during this stage of labor and blood tinged mucous may appear.

At the end of the first stage, the mother may feel tired, discouraged and irritable. This is often referred to as “transition” and is the most uncomfortable part of labor. Such feelings are perfectly normal. The mother may have a backache, may vomit, and may feel either hot or cold (or both at the same time). She may tremble, feel panicky or scared, cry or get very cross with her husband and birthing attendants. She may even announce that she has changed her mind and is not going through with it. At this time she needs plenty of encouragement and assurance that things are proceeding normally and that her feelings are normal.

Birth attendants, the husband, and others present at the labor and birth should have a cheerful, calm appearance. Nervousness, panic, or distressing remarks can have an inhibiting effect on a laboring woman. Comments on how long the labor is lasting, how pale or tired the woman looks can have a terrible effect on her morale. Even talking quietly can irritate a woman having an intense contraction because it is hard to concentrate on relaxing when there is noise in the room.

Relaxation is very important. A woman's husband or labor coach should instruct her to go limp like a rag doll and breath deeply, making her tummy rise and fall. This is called abdominal breathing. Begin each contraction with a deep breath to keep the tissues (of both mom and baby) oxygenated.

Observe the kind of breathing you do when you are nearly asleep and try to simulate it. Help her to relax her hands, face, legs, etc. if you see that they are tense. Tenseness in the body fights the contractions and intensifies the sensations of "pain." Relaxation helps a woman to handle the contractions easier and have a faster labor. Sometimes a woman will breathe too fast and get tingling sensations in her hands and feet. She needs to be coached to slow down her breathing. You can have her follow your breathing until the tingling goes away.

Firm hand pressure on the lower back by those attending the mother may help to relieve the backache. Alternately, the mother may prefer to lean her back against a firm surface. Deep rhythmical breathing helps to relieve annoying symptoms. The discomfort seldom lasts for more than a dozen contractions.

When the womb is almost fully opened the baby will soon enter the birth canal, and there will be a vocalized catch in the mother's breathing when she has a contraction. This will signal the onset of the second stage.

Second Stage

The contractions of the second stage are often of a different kind. They may come further apart and the mother usually feels inclined to bear down (push) with them. When she gets this feeling she should take a deep breath as each contraction comes, hold her breath and gently push. There is no hurry here. The mother should feel no need to exert great force as she pushes. She may want to push with several breaths during each contraction. After it passes, a deep sigh will help her recover her breath. She should then rest until the next contraction. She may even sleep between contractions.

Some general instructions for the second stage of labor:

1. Be calm! Reassure the mother and be prepared to administer first aid to both the mother and baby. (Possible respiratory and cardiac resuscitation for the baby and hemorrhage control and prevention of shock for the mother may be needed.)
2. Discourage onlookers from crowding around.
3. Use sterile materials or the cleanest materials available. Clean towels or parts of the mother's clothing can be used. Place newspaper under the mother if nothing else is available. If she must lie on the ground, place a blanket or other covering under her.
4. In order to prevent infection, refrain from direct contact with the vagina.

5. Prepare for the delivery by assisting the mother to lie on her back with the knees bent and separated as far apart as possible. Remove any constricting clothing or push it above her waist.
6. When the baby's head reaches the outlet of the birth canal, the top of the head will first be seen during contractions but will then become visible all the time. The mother will now feel a stretching, burning sensation. She must now no longer push during the contractions, and to avoid this, should pant (like a dog on a hot day). This will allow the baby's head to slide gently and painlessly out of the canal. If possible allow the head to emerge between contractions. This will prevent the mother's skin from tearing and will minimize trauma to the baby's head. It is important that the mother pant instead of pushing until both of the baby's shoulders have emerged.

Delivery of the Baby

As the baby is coming down the birth canal, keep the perineum red or pink by massaging with warm olive oil (if none is available simply massage the area with your hand). Any place that gets white will tear more easily so keep massaging and keep all areas red. Use olive oil on the inside too and pay special attention to the area at the bottom, as that is the most common place to tear. Do this massage during a contraction when it will not be noticed or it may irritate some women.

You can support under the perineum with your hand on top of a sterile gauze pad or washcloth. Do not hold it together; just support it so the baby's head can ease out. The other hand can gently press with the fingers around the baby's head so it won't pop out too fast causing tearing. As the baby's head is born, support it with your hand so the face doesn't sit in a puddle of amniotic fluid. Gently wipe the face with a clean or sterile washcloth. Check quickly around the neck for the cord. If you feel it, just hook it with your finger and pull it around the baby's head. Check again. Some are wrapped more than once. If the cord is so tight it cannot be slipped over the baby's head, just wait until the baby is born to untangle it. Most cords are long enough to permit this. If the cord is too short to permit the baby to be born, it has to be cut and clamped and the baby delivered rapidly. In this situation, the baby may be in distress because the oxygen supply was cut off prematurely. With the next contraction, one of the shoulders comes and then the whole body slips quickly out. If several contractions have passed without a shoulder coming, you may have to slip two fingers in and try to find an armpit. With one or two fingers hooked under the armpit, try to rotate the shoulder counterclockwise while pulling out. Usually this does it.

As the baby's head emerges, it is usually face down. It then turns, so that the nose is turned towards the mother's thigh. Support the baby's head by cradling it in your hands. Do not pull or exert any pressure. Help the shoulders out. For the lower shoulder, support the head in an upward position. As the shoulders emerge, be prepared for the rest of the body to come quickly. Use the cleanest cloth or item available to receive the baby.

Emergency First Aid

Make a record of the time and approximate location of the birth of the baby.

With one hand, grasp the baby at the ankles, slipping a finger between the ankles. With the other hand, support the shoulders with the thumb and middle finger around its neck and the forefinger on the head. (Support but do not choke.) Do not pull on the umbilical cord when picking the baby up. Raise the baby's body slightly higher than the head in order to allow mucous and other fluid to drain from its nose and mouth. **Be very careful!** Newborn babies are very slippery.

The baby will probably breathe and cry almost immediately. If the baby doesn't breathe spontaneously, very gently clear the mouth of mucous with your finger. Stimulate crying by gently rubbing its back. If all this fails, give extremely gentle mouth-to-mouth resuscitation. Gently pull the lower jaw back and breathe gently with small puffs—20 puffs a minute. If there seems to be excess mucous, use your finger to gently clear the baby's mouth.

The mother will probably want to hold the baby. This is desirable. If the umbilical cord is long enough, let her hold the baby in her arms. If the cord is short, support the baby on the mother's abdomen and help her hold it there.

It is of benefit to the baby and makes the afterbirth come with less bleeding if the baby can be allowed to suckle at the breast as soon as it is born. The cord should not be cut until the afterbirth has completely emerged.

Third Stage

The womb expels the placenta or afterbirth a few minutes to several hours after the baby is born. No attempt should be made to pull it out using the cord. Immediately following the afterbirth, there may be additional bleeding and a few blood clots. The womb should feel like a firm grapefruit just below the mother's navel. If it is soft, the baby should be encouraged to nurse, and the mother may be encouraged to gently massage the womb. These actions will cause it to contract and lessen the chances of bleeding.

If hemorrhaging occurs, do the following:

1. The uterus should be gently massaged to keep it hard.
2. The woman should lie flat, and the bottom of the bed should be elevated.
3. Put a cold pack (such as a small towel dipped in cold water and wrung out) on the lower tummy to irritate the uterus to contract.
4. Put pressure on the perineum with several sanitary napkins and the pressure of your hand.
5. Most importantly, have the baby nurse. Sucking stimulates the uterus to contract.

Another problem to be alert for is shock. Symptoms of shock are vacant eyes, dilated pupils, pale and cold or clammy skin, faint and rapid pulse, shallow and irregular breathing, dizziness and vomiting. If you notice

any of these symptoms, keep the woman warm, slightly elevate her feet and legs, use soft lights, and talk softly and calmly to her.

The baby has some danger of getting an infection through the cut cord, so it should not be cut until sterile conditions are available. If there is a possibility of getting medical help within a few hours, do not cut the cord but leave it and the afterbirth attached to the baby. If there will be no medical help, wait until the afterbirth is out, or at least until the cord is whitened and empty of blood. The cord should not be cut until it quits pulsating so the baby can have a transition time before he absolutely has to breathe on his own. As long as the cord is pulsating, the baby is still receiving oxygen from his mother.

If the cord is long enough, the baby can be put on his mother's tummy so she can hold him and talk to him. If not, the father should touch him and talk to him. After the cord has stopped pulsating and has become limp it can be clamped or tied about one inch from the baby's tummy with a cord or sterile cloth and then cut.

As the placenta separates from the uterus, the cord will appear longer. Wait for the delivery of the placenta. It will usually be about 10 minutes or longer before the placenta is delivered.

Never pull on the cord. When the placenta appears, grasp gently and rotate it clockwise. Then tie the cord in two places—about six inches from the baby—using strips of material that has been boiled or held in a hot flame.

The placenta and attached membranes must be saved for a doctor's inspection. Leaving the cord and placenta attached to the baby is messy but safe. Save all soiled sheets, blankets, cloths, etc., for a doctor's examination. Check the amount of vaginal bleeding; a small amount (1 to 2 cups) is expected. Place sanitary pads or other sanitary material around birth areas. Then cover mother and baby but do not allow them to overheat. Continue to check the baby's color and respiration.

The baby should not appear blue or yellowish. When necessary, gently flick your fingers on the soles of the baby's feet; this will encourage it to cry vigorously.

The mother will probably need light nourishment and will wish to rest and watch her baby. She should keep her hand away from the area surrounding the birth outlet. If uncontaminated water is available, she may wish to wash off her thighs. She may get up and go to the bathroom or seek better shelter. All care should be taken to avoid introducing infection into the birth canal. The mother can expect some vaginal discharge for several days. This is usually reddish for the first day or so but lightens and becomes less profuse within a few days.

Stay with the mother until relieved by competent personnel. This is a relatively dangerous period for the mother, as hemorrhage and shock may occur. Almost all emergency births are normal. The babies typically thrive and the mothers recover quickly. It is very important when assisting with an emergency delivery that you continually reassure the mother and attempt to keep her calm.

First Aid Kit

The first aid kit as suggested below can easily be included on family outings or used for everyday problems at home. Be sure to keep it well and freshly stocked. This first aid kit is different from the one listed in the section on “72-Hour Disaster Supply Kits” on pages 37-41 in that this one is much more comprehensive and not as portable.

The kit and first aid book should be stored together in an easy to reach location. The contents should fit the needs of your family. Filling a small tool box, fishing tackle box, or Tupperware container with those things your family needs may be better than buying a pre-assembled kit. Some of the items you may want to consider including in your first Aid Kit are:

- Consecrated olive oil
- Prescription drugs
- Antibiotic ointment
- Aspirin tablets (5 grain)
- Children's aspirin
- Tylenol
- Children's Tylenol
- Ipecac—to induce vomiting
- Motion sickness medication
- Kaopectate (diarrhea medication)
- Laxative
- Eye drops
- Ear drops
- Nasal spray
- Aerosol burn spray
- Benadryl
- Cough medicine (codeine prescription)
- Vaseline
- Hand lotion
- Iodine
- Hydrogen peroxide
- Smelling salts
- Table salt
- Baking soda
- Rubbing alcohol
- Sun screen
- Water purification tablets
- Soap (tincture of green soap)
- Artificial skin spray
- Chlorine bleach
- Inhalation aids (Vicks, etc.)

When buying drug items, check the expiration dates and only buy fresh supplies for longest shelf life.

Dressings:

- Adhesive tape, roll 2 inches wide.
- Bandage, sterile roll 2 inches wide.

- Bandage, sterile roll 4 inches wide.
- Bandages, large triangular (37x37x52).
- Band aids (plastic strips).
- Cotton-tipped swabs (Q-tips).
- Cotton, sterile absorbent.
- Ace bandages.
- Gauze pads (4x4)
- Butterfly bandages

Other necessary or useful supplies:

- Tweezers
- Plastic spoons
- Scissors
- Pocket knife
- Needles, thread
- Space blankets
- Safety pins, assorted sizes
- Paper and pencil
- Thermometer
- Heavy string
- Sanitary napkins
- Snake bite kit
- Tissues
- Matches, butane lighter
- Clean sheets, torn into long strips
- Medicine dropper(s)
- Splints, wooden 18 inches (optional)
- Rubber gloves
- Cold pack (turns cold when opened)
- Plastic sheeting
- Dental floss
- Waterproof first aid kit
- Paper cups, 3 ounce size
- Razor blades

You should also have a good book on first aid in your first aid kit such as:

- *Standard First Aid and Personal Safety*, American National Red Cross (Garden City, NY; Double Day and Company, Inc.)
- *Boy Scout Handbook*.
- *Boy Scout First Aid Merit Badge Handbook*.
- This family preparedness manual.

All families that have children should complete an “Authorization of Consent to Treatment of Minor” form for each of their children and file it with their schools, doctor's office, hospital, baby sitter, or other place where the child is likely to be when a personal injury may occur in the parents' absence. Include with this form a brief history of any known medical problems your child may have such as allergies to certain medications, recurring medical ailments, etc.

Preparing for Disasters

Why Prepare for a Disaster?

Disasters disrupt hundreds of thousands of lives every year. Each disaster has lasting effects—people are seriously injured, some are killed, and property damage runs into the billions of dollars.

If a disaster occurs in your community, local government and disaster-relief organizations try to help you. But you need to be ready as well. Local responders may not be able to reach you immediately, or they may need to focus their efforts elsewhere.

Being prepared and understanding what to do can reduce fear, anxiety and losses that accompany disasters. Communities, families and individuals should know what to do in a fire and where to seek shelter in a tornado. They should be ready to evacuate their homes, take refuge in public shelters and know how to care for their basic medical needs.

People can also reduce the impact of disasters (flood proofing, elevating a home—or moving a home out of harms way, securing items that could shake loose in an earthquake) and sometimes avoid the danger altogether.

You should know how to respond to severe weather or any disaster that could occur in your area—hurricanes, earthquakes, extreme cold or flooding. You should also be ready to be self sufficient for at least three days. This may mean providing for your own shelter, first aid, food, water and sanitation.

This material in the remainder of this manual can help. It was developed by the Federal Emergency Management Agency (FEMA), the agency responsible for responding to national disasters and for helping state and local governments and individuals prepare for emergencies. It contains step-by-step advice on how to prepare for, respond to and recover from disasters.

While this manual focuses on the physical hazards of disasters, there are also the emotional effects of losing a loved one, a home, or treasured possessions. When under stress, people can become irritable, fatigued, hyperactive, angry and withdrawn. Children and older adults are especially vulnerable to post-disaster psychological effects.

Share this manual with your household. Include everyone in the planning process. Teach children how to respond to emergencies. Give them a sense of what to expect. Being prepared, understanding your risks and taking steps to reduce those risks can reduce the damages caused by hazards.

What You Should Do

First, ask your local emergency management office which disasters could strike your community. They will know your community's risks. You may be aware of some of them; others may surprise you. Also ask for

any information that might help you prepare and possibly reduce the risks you face. Then refer to the appropriate sections of this handbook. Each of the sections beginning on page 52 covers a specific hazard and describes how to prepare and what to do when the disaster occurs.

Next, review the “72-Hour Disaster Supply Kits,” “Evacuation,” “Shelter,” “Emergency Water and Food Use,” and “Recovering from Disaster” sections on pages 37-49. These sections apply to a range of hazards including some not specifically addressed in this manual. Use this manual as your foundation for disaster preparedness and safety. Since special conditions exist in every community, local instructions may be slightly different from those described in this manual. If so, follow local instructions.

Consider getting involved in local emergency preparedness and response activities by volunteering in your community. One way is to participate as a Citizen Corps community volunteer. See the “For More Information” section on pages 88-89 for details on Citizen Corps and FEMA’s Community Emergency Response Team (CERT) program.

Creating a Disaster Plan

Immediately after an emergency, essential services may be cut-off and local disaster relief and government responders may not be able to reach you right away. Even if they could reach you, knowing what to do to protect yourself and your household is essential.

The next few sections describe how to prepare for any kind of disaster. They also provide specific information about emergency water and food, and a recommended disaster supply kit.

One of the most important steps you can take in preparing for emergencies is to develop a household disaster plan.

1. Learn about the natural disasters that could occur in your community from your local emergency management office or American Red Cross chapter. Learn whether hazardous materials are produced, stored or transported near your area. Learn about possible consequences of deliberate acts of terror. Ask how to prepare for each potential emergency and how to respond.
2. Talk with employers and school officials about their emergency response plans.
3. Talk with your household about potential emergencies and how to respond to each. Talk about what you would need to do in an evacuation.
4. Plan how your household would stay in contact if you were separated. Identify two meeting places: the first should be near your home—in case of fire, perhaps a tree or a telephone pole; the second should be away from your neighborhood in case you cannot return home.

Preparing for Disasters

5. Pick a friend or relative who lives out of the area for household members to call to say they are okay and have all family members memorize the phone number.
 6. Draw a floor plan of your home. Mark two escape routes from each room.
 7. Post emergency telephone numbers by telephones. Teach children how and when to call 911.
 8. Make sure everyone in your household knows how and when to shut off water, gas, and electricity at the main switches. Consult with your local utilities if you have questions.
 9. Take a first aid and CPR class. Local American Red Cross chapters can provide information. Official certification by the American Red Cross provides “good Samaritan” law protection for those giving first aid.
 10. Reduce the economic impact of disaster on your property and your household’s health and financial well-being.
 - Review property insurance policies before disaster strikes—make sure policies are current and be certain they meet your needs (type of coverage, amount of coverage, and hazard covered—flood, earthquake).
 - Protect your household’s financial well-being before a disaster strikes—review life insurance policies and consider saving money in an “emergency” savings account that could be used in any crisis. It is advisable to keep a small amount of cash or traveler’s checks at home in a safe place where you can quickly gain access to it in case of an evacuation.
 - Be certain that health insurance policies are current and meet the needs of your household.
 11. Consider ways to help neighbors who may need special assistance, such as the elderly or the disabled.
 12. Make arrangements for pets. Pets are not allowed in public shelters. Service animals for those who depend on them are allowed.
- Mobility impaired may need assistance in getting to a shelter.
 - Households with a single working parent may need help from others both in planning for disasters and during an emergency.
 - Non-English speaking people may need assistance planning for and responding to emergencies. Community and cultural groups may be able to help keep these populations informed.
 - People without vehicles may need to make arrangements for transportation.
 - People with special dietary needs should have an adequate emergency food supply.
1. Find out about special assistance that may be available in your community. Register with the office of emergency services or fire department for assistance, so needed help can be provided quickly in an emergency.
 2. Create a network of neighbors, relatives, friends and co-workers to aid you in an emergency. Discuss your needs and make sure they know how to operate necessary equipment.
 3. Discuss your needs with your employer.
 4. If you are mobility impaired and live or work in a high-rise building, have an escape chair.
 5. If you live in an apartment building, ask the management to mark accessible exits clearly and to make arrangements to help you evacuate the building.
 6. Keep extra wheelchair batteries, oxygen, catheters, medication, food for guide or hearing-ear dogs, or other items you might need. Also, keep a list of the type and serial numbers of medical devices you need.
 7. Those who are not disabled should learn who in their neighborhood or building is disabled so that they may assist them during emergencies.
 8. If you are a caregiver for a person with special needs, make sure you have a plan to communicate if an emergency occurs.

Planning For People with Special Needs

If you have a disability or special need, you may have to take additional steps to protect yourself and your household in an emergency. If you know of friends or neighbors with special needs, help them with these extra precautions. Examples include:

- Hearing impaired may need to make special arrangements to receive a warning.

72-Hour Disaster Supply Kits

You may need to survive on your own after a disaster. Local officials and relief workers will be on the scene after a disaster, but they cannot reach everyone immediately. You could get help in hours, or it may take days. Basic services, such as electricity, gas, water, sewage treatment and telephones, may be cut off for days, even a week or longer. Or you may have to evacuate at a moment’s notice and take essentials with you. You probably won’t have the opportunity to shop or

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search for the supplies you'll need. Your household will cope best by preparing for disaster before it strikes.

Assembling the supplies you might need following a disaster is an important part of your disaster plan. You should prepare emergency supplies for the following situations:

- **A basic disaster supply kit.** A disaster supply kit with essential food, water, and supplies for at least three days—this kit should be kept in a designated place and be ready to “grab and go” in case you have to leave your home quickly because of a disaster, such as a flash flood or major chemical emergency. Make sure all household members know where the kit is kept.
- **A two-week supply.** Consider having additional supplies for sheltering or home confinement for up to two weeks.
- **A workplace disaster supply kit.** You should also have a disaster supply kit at work. This should be in one container, ready to “grab and go” in case you have to evacuate the building. It is important to store a personal supply of water and food at work; you will not be able to rely on water fountains or coolers. Women who wear high-heels should be sure to have comfortable flat shoes at their workplace in case an evacuation requires walking long distances.
- **A car disaster supply kit.** Also carry a car kit of emergency supplies, including food and water, and keep it stored in your car at all times. This kit would also include flares, jumper cables, and seasonal supplies. For example, items for severe winter weather during months when heavy snow or icy roads are possible might include salt, sand, shovels, and extra winter clothing including hats and gloves.

The following checklists will help you assemble disaster supply kits that meet the needs of your household. The basic items that should be in a disaster supply kit are water, food, first-aid supplies, tools and emergency supplies, clothing and bedding, specialty items, and possibly fuel.

You will need to change the stored water and food supplies every six months, so be sure to write the date you store it on all containers. You should also re-think your needs every year and update your kit as your household changes, e.g., at General Conference time or when Daylight Savings time changes. Keep items in airtight plastic bags and put your entire disaster supply kit in one or two easy-to carry containers such as an unused trashcan, camping backpack or duffel bag.

Keep a list of the dates when certain items need to be reviewed. Foods and medications need to be rotated and clothing may be outgrown.

Emergency supplies are readily available at preparedness and military surplus stores.

Fear may well be responsible for more deaths than exposure, hunger and injury combined. Realizing you have fears and that these are normal emotions in unfamiliar situations, you will be aware of them and better able to cope with them as they appear.

Fears can be expected in any outdoor problem situation. Fear of the unknown and fear of your ability to cope with the situation will be foremost, along with a fear of being alone, darkness, suffering, or death. **Fear is usually based on lack of self-confidence and lack of adequate preparation and experience.** Knowledge and experience (practice sessions) will help to instill confidence and help to control fear.

Water: The Absolute Necessity

Stocking water reserves should be a top priority. Drinking water in emergency situations should not be rationed. Therefore, it is critical to store adequate amounts of water for your household.

- Individual needs vary, depending on age, physical condition, activity, diet, and climate. A normally active person needs at least two quarts of water daily just for drinking. Children, nursing mothers, and ill people need more. Very hot temperatures can double the amount of water needed.
- Because you will also need water for sanitary purposes and, possibly, for cooking, you should store at least one gallon of water per person per day.

Refer to the section entitled “Water Storage” on page 19 for directions on how to store water.

Food: Preparing an Emergency Supply

1. If activity is reduced, healthy people can survive on half their usual food intake for an extended period or without any food for many days. Food, unlike water, may be rationed safely, except for children and pregnant women.
2. You don't need to go out and buy unfamiliar foods to prepare a disaster supply kit. You can use the canned foods, dry mixes and other staples on your cupboard shelves. Canned foods do not require cooking, water or special preparation. Be sure to include a manual can opener.
3. Keep canned foods in a dry place where the temperature is fairly cool. To protect boxed foods from pests and to extend their shelf life, store the food in tightly closed plastic or metal containers.
4. Replace food items in your disaster supply kit every six months. Throw out any canned good that becomes swollen, dented, or corroded. Use foods before they go bad, and replace them with fresh supplies. Date each food item with a marker. Use older items first.
5. Food items that you might consider including in your disaster supply kit include:

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- Ready-to-eat meats
- Fruits and vegetables
- Canned or boxed juices
- Milk
- Soup
- High-energy foods like peanut butter
- Jelly
- Low-sodium crackers
- Granola bars
- Trail mix
- Vitamins
- Foods for infants or persons on special diets
- Cookies
- Hard candy
- Cereals and
- Powdered milk.

First Aid Supplies

Assemble a first aid kit for your home and for each vehicle:

- The basics for your disaster supply kit should include:
 - Consecrated olive oil
 - First aid manual
 - Sterile adhesive bandages in assorted sizes
 - Assorted sizes of safety pins
 - Cleansing agents (isopropyl alcohol, hydrogen peroxide)/soap/germicide
 - Antibiotic ointment
 - Latex gloves (2 pairs)
 - Petroleum jelly
 - 2-inch and 4-inch sterile gauze pads (4-6 each size)
 - Triangular bandages (3)
 - 2-inch and 3-inch sterile roller bandages (3 rolls each)
 - Cotton balls
 - Scissors
 - Tweezers
 - Needle and small spool of thread
 - Moistened towelettes
 - Antiseptic
 - Thermometer
 - Tongue depressor blades (2)
 - Tube of petroleum jelly or other lubricant
 - Sunscreen.
- It may be difficult to obtain prescription medications during a disaster because stores may be closed or supplies may be limited. Ask your physician or

pharmacist about storing prescription medications. Be sure they are stored to meet instructions on the label and be mindful of expiration dates. Be sure to keep your stored medications up to date.

- Include an extra pair of prescription glasses or contact lenses.
- Have the following nonprescription drugs in your disaster supply kit:
 - Aspirin and nonaspirin pain reliever
 - Antidiarrhea medication
 - Antacid (for stomach upset)
 - Syrup of ipecac (use to induce vomiting if advised by the poison control center)
 - Laxative
 - Vitamins.

Tools and Emergency Supplies

It will be important to assemble tools and emergency supplies in a disaster supply kit in case you have to leave your home quickly. Even if you don't have to leave your home, it will be easier to have these items already assembled and in one place if you lose power.

- Tools and other items:
 - A portable, battery-powered radio or television and extra batteries (also have a NOAA weather radio, if appropriate for your area)
 - Flashlight and extra batteries
 - Signal flare
 - Matches in a waterproof container (or waterproof matches)
 - Shut-off wrench, pliers, shovel and other tools
 - Duct tape and scissors
 - Plastic sheeting
 - Whistle
 - Small canister, A-B-C-type fire extinguisher
 - Tube tent
 - Compass
 - Work gloves
 - Paper, pens, and pencils
 - Needles and thread
 - Battery-operated travel alarm clock
 - Small hand saw
 - Small shovel.
- Kitchen items:
 - Manual can opener
 - Mess kits or paper cups, plates, and plastic utensils
 - All-purpose knife
 - Household liquid bleach to treat drinking water

Preparing for Disasters

- Sugar, salt, and pepper
- Aluminum foil and plastic wrap
- Re-sealing plastic bags
- If food must be cooked, a small cooking stove, a pot, and a can of cooking fuel. To consider your options, see material under “Fuel” below on this page and the next.
- Sanitation and hygiene items:
 - Washcloth and towel
 - Towelettes, soap, hand sanitizer, and liquid detergent
 - Tooth paste, toothbrushes, shampoo, deodorants, comb and brush, razor, shaving cream, lip balm, sunscreen, insect repellent, contact lens solutions, mirror, and feminine supplies
 - Heavy-duty plastic garbage bags and ties—for personal sanitation uses—and toilet paper
 - A medium-sized plastic bucket with tight lid.
 - Disinfectant and household chlorine bleach.
 - Consider including a small shovel for digging a latrine
- In addition to emergency survival supplies, other items may become critical.
 - Cash (including change) or traveler's checks, and a credit card.
 - A map of the area and phone numbers of places you could go.
 - An extra set of car keys and house keys.

Some information (e.g., family records) is best recorded and kept in at least two safe places—a fire resistant “get-away” box that you can take with you if you have to leave home, and a safe deposit box at your bank or credit union.

- Personal identification including the full name and social security numbers of all family members.
- Vehicle identification listing vehicles, boats, etc., with identification and license numbers.
- Copies of important documents including a listing of all charge account card numbers and expiration dates, bank account numbers (both checking and saving), insurance policies and numbers, securities, deeds, wills, immunization records, citizenship papers and passports, an inventory of household goods, birth/death/marriage certificates, tax returns (last 5 years), genealogical records, and loan numbers showing the company name, address and telephone numbers.

- An emergency contact list including the name, address, and telephone number for employers, schools, family, utility companies, doctors, hospitals, and your attorney.

Be sure to store these in a watertight container.

Clothes and Bedding

- One complete change of clothing and footwear for each household member. Shoes should be sturdy work shoes or boots. Include rain gear, hat and gloves, extra socks, extra underwear, thermal underwear, and sunglasses.
- Blankets or sleeping bags for each household member, and pillows.

Specialty Items

Remember to consider the needs of infants, elderly persons, disabled persons, and pets and to include entertainment and comfort items for children.

- Books
- Games
- Quiet toys
- Stuffed animals.

It is a good idea to include a separate back pack or other container that holds nothing but infant supplies (which can be surprisingly voluminous). This kit should be kept with the kits of other family members so that it will not be forgotten in a moment of haste. As the baby begins to grow, replace clothing and diapers with the next larger size.

Fuel

Responsible family members should know how to start and contain a fire safely. Several of these items should be assembled into a kit and labeled as a “fire starting kit.” Teach all family members how to use them and let them practice building fires with all methods until they feel totally confident with their ability to do so. Even little children can be safely instructed in correct fire building techniques under proper supervision. Then if an emergency arises, they will not panic or feel overwhelmed or frightened at the prospect of building a fire for their warmth and protection. Some different sources are:

- **Matches.** Carry at least two dozen wooden kitchen matches that have been either dipped in wax or nail polish to make them waterproof or carry them in a waterproof container.
- **Metal match.** Waterproof, fireproof, durable, and non-toxic, these will light thousands of fires. They are available at sporting goods stores.
- **Butane lighters.** Common butane cigarette lighters are excellent ways to light a fire.
- **Magnesium fire starters.** Magnesium is good for starting fires with wet or damp wood. Shave

magnesium shavings off of a magnesium block with a pocketknife and then strike a spark from a flint starter with a pocketknife. Magnesium burns exceptionally hot and will ignite almost any combustible material. Magnesium works even when wet and can be purchased at most sporting goods stores.

- **Small magnifying glass.** This can be used to concentrate sunlight onto paper, shredded bark or other tinder to light fires.
- **Flint and steel.** A spark from flint and steel (such as an empty cigarette lighter or flint and steel striking bar), when directed at dry paper (especially toilet tissue), shredded bark, dry grass or other tinder, with persistence and patience will work well to start a fire. This is the most reliable “non-match” method of starting a fire.
- **Commercial fire starter kits.** These come in a variety of styles and fuels.
- **Fire-starter bricks.** These are sold in hardware stores and can usually be ignited with a single match. They will sustain a flame long enough to start a fire when kindling is limited.
- **Steel wool.** Fine steel wool (such as used for scrubbing pots and pans—but not Brillo pads or other types that have soap impregnated into them) can be used for tinder. Hold two “D” flashlight cells together in one hand (or one 9-volt transistor radio battery) while touching one end of a clump of steel wool to the positive end of the battery and the other end of the steel wool to the negative end of the battery. The current causes the steel wool fibers to incandesce and then produce a flame. It burns very hot and fairly fast so have plenty of tinder ready to burn once the steel wool ignites.
- **Candles.** Candles can be used for warmth, light, and starting fires. To start a fire, simply cut a piece of candle about 1/2 inch in length and place it on top of the tinder. When lit the wax will run over the tinder making it act as a wick and ignite. You can also place small twigs and other easily burnable materials directly into the flame to build a fire.
- **Car battery.** If you are near your car you can easily put sparks into tinder by attaching wires to the battery posts and scraping the ends together in the tinder.
- **Sterno fuel.** Sterno fuel and stoves make an excellent cooking fuel when backpacking or in emergencies. Sterno can be lit with a match or by a spark from flint and steel. Slivers of gelled sterno can be cut from the can and placed on top of tinder and lit with flint and steel or with a match. It burns hot enough to ignite even damp tinder.
- **Cotton balls.** Cotton balls and gauze from the first aid kit make excellent tinder and can be ignited with sparks or with matches.

- **Fuel tablets.** Fuel tablets such as trioxane and gelled fuels store well and ignite quickly and easily. Some can be fairly expensive, however.
- **Butane and propane stoves.** These are made especially for backpackers. The fuel is cheaper than sterno. It burns hotter and it heats better in windy situations than other fuels. Propane, however is more difficult to light as outside temperatures near zero.

Evacuation

Evacuations are more common than many people realize. Hundreds of times each year, transportation and industrial accidents release harmful substances, forcing thousands of people to leave their homes. Fires and floods cause evacuations even more frequently. And almost every year, people along the Gulf and Atlantic coasts evacuate in the face of approaching hurricanes.

When community evacuations become necessary, local officials provide information to the public through the media. In some circumstances other warning methods, such as sirens or telephone calls, are also used. Government agencies, the American Red Cross, Salvation Army, and other disaster relief organizations provide emergency shelter and supplies. To be prepared for an emergency, you should have enough water, food, clothing and emergency supplies to last at least three days. In a catastrophic emergency, you might need to be self-sufficient for even longer.

The amount of time you have to evacuate will depend on the disaster. If the event can be monitored, like a hurricane, you might have a day or two to get ready. However, many disasters allow no time for people to gather even the most basic necessities. This is why you should prepare now.

Planning For Evacuation

1. Ask your local emergency management office about community evacuation plans. Learn evacuation routes. If you do not own a car, make transportation arrangements with friends or your local government.
2. Talk with your household about the possibility of evacuation. Plan where you would go if you had to leave the community. Determine how you would get there. In your planning, consider different scales of evacuations. In a hurricane, for example, entire counties would evacuate, while much smaller area would be affected by a chemical release.
3. Plan a place to meet your household in case you are separated from one another in a disaster. Ask a friend outside your town to be the “checkpoint” so that everyone in the household can call that person to say they are safe.

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4. Find out where children will be sent if schools are evacuated.
5. Assemble a disaster supply kit. Include a battery-powered radio, flashlight, extra batteries, food, water and clothing. See the “72-Hour Disaster Supply Kits” section on pages 37-41 for a complete list.
6. Keep fuel in your car if an evacuation seems likely. Gas stations may be closed during emergencies and unable to pump gas during power outages.
7. Know how to shut off your home’s electricity, gas and water supplies at main switches and valves. Have the tools you would need to do this (usually adjustable pipe and crescent wrenches).

What to Do When You Are Told To Evacuate

Listen to a battery-powered radio and follow local instructions. If the danger is a chemical release and you are instructed to evacuate immediately, gather your household and go. Take one car per household when evacuating. This will keep your household together and reduce traffic congestion and delay. In other cases, you may have time to follow these steps:

1. Gather water, food, clothing, emergency supplies, and insurance and financial records. See the “72-Hour Disaster Supply Kits” section on pages 37-41 for important related information.
2. Wear sturdy shoes and clothing that provides some protection, such as long pants, long-sleeved shirts, and a cap.
3. Secure your home. Close and lock doors and windows. Unplug appliances. If a hard freeze is likely during your absence, take actions needed to prevent damage to water pipes by freezing weather, such as:
 - Turn off the water main.
 - Drain faucets.
 - Turn off inside valves for external faucets and open the outside faucets to drain.
4. Turn off the main water valve and electricity, if instructed to do so.
5. Let others know where you are going.
6. Leave early enough to avoid being trapped by severe weather.
7. Follow recommended evacuation routes. Do not take shortcuts. They may be blocked. Be alert for washed-out roads and bridges. Do not drive into flooded areas. Stay away from downed power lines.

Disaster situations can be intense, stressful, and confusing. Should an evacuation be necessary, local authorities will do their best to notify the public, but do not depend entirely on this. Often, a disaster can strike with little or no warning, providing local authorities scant time to issue an evacuation order. Also, it is possible

that you may not hear of an evacuation order due to communications or power failure or not listening to your battery-powered radio. Local authorities and meteorologists could also make mistakes, including underestimating an emergency or disaster situation. In the absence of evacuation instructions from local authorities, you should evacuate if you feel you and your household are threatened or endangered. Use pre-designated evacuation routes and let others know what you are doing and your destination.

Shelter

Taking shelter is often a critical element in protecting yourself and your household in times of disaster. Sheltering can take several forms. In-place sheltering is appropriate when conditions require that you seek protection in your home, place of employment, or other location where you are located when disaster strikes. In-place sheltering may either be short-term, such as going to a safe room for a fairly short period while a tornado warning is in effect or while a chemical cloud passes. It may also be longer-term, as when you stay in your home for several days without electricity or water services following a winter storm. We also use the term “shelter” for “Mass Care” facilities that provide a place to stay along with food and water to people who evacuate following a disaster.

The appropriate steps to take in preparing for and implementing short-term in-place sheltering depend entirely on the emergency situation. For instance, during a tornado warning you should go to an underground room, if such a room is available. During a chemical release, on the other hand, you should seek shelter in a room above ground level. Because of these differences, short-term in-place shelter is described in the sections dealing with specific hazards. See the section on “Thunderstorms” on pages 56-57 and the section on “Hazardous Materials Incidents” on pages 73-74 for more information. The remainder of this section and the next describe steps you should take to prepare for staying in a mass care shelter if you evacuate and for long-term in-place sheltering.

Staying In a Mass Care Shelter

The American Red Cross and Salvation Army, assisted by community and other disaster relief groups, work with local authorities to set up public shelters in schools, municipal buildings and churches. While they often provide water, food, medicine and basic sanitary facilities, you should plan to have your own supplies as well—especially water. See the “72-Hour Disaster Supply Kits” section on pages 37-41 for more details.

1. Cooperate with shelter managers and others staying in the shelter. Living with many people in a confined space can be difficult and unpleasant.
2. Restrict smoking to designated areas that are well-ventilated. Ensure that smoking materials are disposed of safely.

3. If you go to an emergency shelter, remember that alcoholic beverages and weapons are prohibited in shelters. Pets, except for service animals, are also not allowed in public shelters. See the “Animals in Disaster” section on pages 46-47 or contact your local humane society for additional information.

Long-Term In-Place Sheltering

Sometimes disasters make it unsafe for people to leave their residence for extended periods. Winter storms, floods, and landslides may isolate individual households and make it necessary for each household to take care of its own needs until the disaster abates, such as when snows melt and temperatures rise, or until rescue workers arrive. Your household should be prepared to be self-sufficient for three days when cut off from utilities and from outside supplies of food and water.

1. Stay in your shelter until local authorities say it's okay to leave. The length of your stay can range from a few hours to two weeks.
2. Maintain a 24-hour communications and safety watch. Take turns listening for radio broadcasts. Watch for fires.
3. Assemble an emergency toilet, if necessary.
 - Use a garbage container, pail or bucket with a snug-fitting cover. If the container is small, use a larger container with a cover for waste disposal. Line both containers with plastic bags.
 - After each use, pour or sprinkle a small amount of regular household disinfectant, such as chlorine bleach, into the container to reduce odors and germs.

See the section entitled “Emergency Chemical Toilet” on pages 24-25 for further details.

Emergency Food and Water Use

Managing Water Supplies

Water is critical for survival. Plan to have about one gallon of water per person per day for drinking, cooking and personal hygiene. You may need more for medical emergencies.

1. Allow people to drink according to their need. The average person should drink between two and two-and-one-half quarts of water or other liquids per day, but many people need more. This will depend on age, physical activity, physical condition and time of year.
2. Never ration water unless ordered to do so by authorities. Drink the amount you need today and try to find more for tomorrow. Under no circumstances should a person drink less than one quart of water each day. You can minimize the

amount of water your body needs by reducing activity and staying cool.

3. Drink water that you know is not contaminated first. If necessary, suspicious water, such as cloudy water from regular faucets or muddy water from streams or ponds, can be used after it has been treated. If water treatment is not possible, put off drinking suspicious water as long as possible, but do not become dehydrated.
 4. In addition to stored water, other sources include:
 - Melted ice cubes.
 - Water drained from the water heater faucet, if the water heater has not been damaged.
 - Water dipped from the flush tanks (not the bowls) of home toilets. Bowl water can be used for pets.
 - Liquids from canned goods such as fruit and vegetable juices.
 5. Carbonated beverages do not meet drinking water requirements. Caffeinated drinks and alcohol dehydrate the body, which increases the need for drinking water.
 6. If water pipes are damaged or if local authorities advise you, turn off main water valves to prevent water from draining away in case the water main breaks. Turn off all water outlets including taps or faucets, valves on pipes supplying float-controlled equipment such as flush toilets, air-cooling equipment, and heating equipment. Then, when water service is restored, your home will not be flooded as these flotation devices sometimes stick after they have been allowed to dry out.
 - The pipes will be full of water when the main valve is closed.
 - To use this water, turn on the faucet at the highest point in your house (which lets air into the system).
 - Then draw water, as needed, from the lowest point in your house, which is typically either a faucet or hot water tank.
- Turn off the gas or electricity that supplies your hot-water heater after closing your home water service valve, or when your water supply is interrupted for any other reason. Otherwise, if the limited supply of water remaining in your hot-water storage tank continues to be heated, an explosion may occur or electrical heating elements may burnout. Also, if no more water can reach the tank, continued heat may muddy the water through oxidation and make it useless for washing or drinking purposes.
7. Unsafe water sources include:
 - Radiators.
 - Hot water boilers (home heating system).

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- Water beds (fungicides added to the water or chemicals in the vinyl may make water unsafe to use).
- Swimming pools and spas (chemicals used in them to kill germs are too concentrated for safe drinking, but can be used for personal hygiene, cleaning and related uses).

If your water service is cut off following an enemy attack or other natural disaster, the water from your faucets may have a strong chlorine taste once service is restored. This is a sign that extra precautions are being taken for your safety. Be alert for instructions regarding water usage from public health officials or from the water department itself.

Water Treatment

Treat all water of uncertain purity before using it for drinking, food washing or preparation, washing dishes, brushing teeth or making ice. In addition to having a bad odor and taste, contaminated water can contain microorganisms that cause diseases such as dysentery, cholera, typhoid and hepatitis.

There are many ways to treat water. None is perfect. Often the best solution is a combination of methods. Before treating, let any suspended particles settle to the bottom, or strain them through layers of clean cloth.

Following are four treatment methods. The first three methods—boiling, chlorination and water treatment tablets—will kill microbes but will not remove other contaminants such as heavy metals, salts, most other chemicals and radioactive fallout. The final method—distillation—will remove microbes as well as most other contaminants, including radioactive fallout.

Boiling is the safest method of treating water.

- Boiling water kills harmful bacteria and parasites. Bringing water to a rolling boil for 1 minute will kill most organisms. Let the water cool before drinking.
- Boiled water will taste better if you put oxygen back into it by pouring it back and forth between two containers. This will also improve the taste of stored water.

Chlorination uses liquid chlorine bleach to kill microorganisms such as bacteria.

- Use regular household liquid bleach that contains no soap or scents. Some containers warn, "Not For Personal Use." You can disregard these warnings if the label states sodium hypochlorite as the only active ingredient and if you use only the small quantities mentioned in these instructions.
- Add 16 drops of unscented bleach per gallon of water, stir and let stand for 30 minutes. If the water does not taste and smell of chlorine at that point, add another dose and let stand another 15 minutes. This treatment will not kill parasitic organisms.
- If you do not have a dropper, use a spoon and a square-ended strip of paper or thin cloth about 1/4

inch by 2 inches. Put the strip in the spoon with an end hanging down about 1/2 inch below the scoop of the spoon. Place bleach in the spoon and carefully tip it. Drops the size of those from a medicine dropper will drip off the end of the strip.

Water treatment "purification" tablets release chlorine or iodine. They are inexpensive and available at most sporting goods stores and some drugstores. Follow the package directions carefully. NOTE: People with hidden or chronic liver or kidney disease may be adversely affected by iodized tablets and may experience worsened health problems as a result of ingestion. Iodized tablets are safe for healthy, physically fit adults and should be used only if you lack the supplies for boiling, chlorination and distillation.

Distillation involves boiling water and collecting the vapor that condenses back to water. The condensed vapor may include salt or other impurities.

- Fill a pot halfway with water.
- Tie a cup to the handle on the pot's lid so that the cup hangs right side up when the lid is upside-down (make sure the cup is not dangling into the water).
- Boil for 20 minutes. The water that drips from the lid into the cup is distilled.

Managing Food Supplies

1. It is important to be sanitary when storing, handling and eating food to avoid digestive upsets or other more serious illnesses.
 - Keep food in covered containers.
 - Keep cooking and eating utensils clean. Diarrhea may result from dish soap that is not thoroughly rinsed from dishes. Paper cups and plates, paper towels, and napkins are helpful if the water supply is cut off.
 - Keep all garbage in a closed container or dispose of it outside the home if it is safe to go out. Bury garbage, if necessary. Avoid letting garbage accumulate inside, both for fire and sanitation reasons.
 - Keep hands clean. Wash frequently with soap and water that has been boiled or disinfected. Be sure to wash:
 - Before preparing or eating food.
 - After toilet use.
 - After participating in flood cleanup activities.
 - After handling articles contaminated with floodwater or sewage.
2. Carefully ration food for everyone except children and pregnant women. Most people can remain relatively healthy with about half as much food as usual and can survive without any food for several days. Prepare only as much food as will be eaten at each meal.

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3. Try to avoid foods high in fat and protein, since they will make you thirsty. Try to eat salt-free crackers, whole grain cereals and canned foods with high liquid content.
4. For emergency cooking, heat food with candle warmers, chafing dishes and fondue pots, or use a fireplace. Charcoal grills and camp stoves are for outdoor use only.
5. Commercially canned food can be eaten out of the can without warming. Before heating food in a can, remove the label, thoroughly wash the can, and then disinfect them with a solution consisting of one cup of bleach in five gallons of water, and open before heating. Re-label your cans, including expiration date, with a marker.
 - Do not eat foods from cans that are swollen, dented or corroded even though the product may look okay to eat.
 - Do not eat any food that looks or smells abnormal, even if the can looks normal.
 - Discard any food not in a waterproof container if there is any chance that it has come into contact with contaminated floodwater.
 - Food containers with screw-caps, snap-lids, crimped caps (soda pop bottles), twist caps, flip tops, snap-open, and home canned foods should be discarded if they have come into contact with floodwater because they cannot be disinfected. For infants, use only pre-prepared canned baby formula. Do not use powdered formulas with treated water.
6. Refrigerators and home freezer units should be kept closed as much as possible once the services they depend on are cut off. The food they contain will keep longer if you plan your meals well in advance so that you won't have to open the doors any more than necessary. Your refrigerator will keep foods cool for about four hours without power if it is left unopened. Add block or dry ice to your refrigerator if the electricity will be off longer than four hours.
7. Food will keep in home freezer units after they are shut off for varying periods depending on the amount and kind of food, the temperature at which it was kept, capacity utilization, and the construction of the freezer. Frozen meats and other frozen foods can be preserved for later use by cooking them soon after they have thawed or by quick re-freezing before they have thawed.

Thawed food usually can be eaten if it is still "refrigerator cold," or re-frozen if it still contains ice crystals. To be safe, remember, "When in doubt, throw it out." Discard any food that has been at room temperature for two hours or more, and any food that has an unusual odor, color, or texture.

If you are without power for a long period:

- Ask friends to store your frozen foods in their freezers if they have electricity.
- Inquire if freezer space is available in a store, church, school, or commercial freezer that has electrical service.
- Use dry ice, if available. Twenty-five pounds of dry ice will keep a ten-cubic-foot freezer below freezing for 3-4 days. Use care when handling dry ice, and wear dry, heavy gloves to avoid injury.

Mitigation

One of the most effective means of protection is to take steps to make your home and your household safe from the potential effects of disasters like floods, tornadoes, hurricanes and earthquakes. This is called mitigation. Ideally, mitigation measures are implemented before disaster strikes since they can help protect your household as well as your property. However, even after a disaster strikes, actions can be taken to avoid or reduce the impact of the next disaster.

1. If your home was damaged during the disaster, consider implementing mitigation measures while you repair your home.
2. Be sure that all upgrade construction projects comply with local building codes that pertain to seismic, flood, fire and wind hazards. Make sure your contractors follow the codes, including periodic building inspections of the construction.
3. If you live in a flood-prone area, consider purchasing flood insurance to reduce your risk to floods. Buying flood insurance to cover the value of a building and its contents will not only provide greater peace of mind, but will also speed recovery if a flood occurs. You can call #1-888-FLOOD29 to learn more about flood insurance.

Also consider options for reducing your future flood losses (see *Homeowner's Guide to Retrofitting: Six Ways to Protect Your House From Flooding*, FEMA Publication # 312). The appropriate flood mitigation measures will depend upon the degree of flood risk to which your home is subject.

For moderate degrees of flooding, incorporating flood-proofing techniques to meet National Flood Insurance Program criteria may be the most practical approach to flood damage reduction. These techniques include taking the following steps to protect your utilities from flood damage.

- Relocating electric, telephone and cable lines to the upper level of your home.
- Putting heating, ventilation and air conditioning units in the upper story or the attic.
- Anchoring or bolting oil tanks to prevent flotation.

Preparing for Disasters

If the homes within your community have a history of severe, repetitive, flooding, it may be necessary to consider more substantial measures. Consider the following measures.

- Elevate the structure to or above the Base Flood Elevation.
- Relocate the structure to a new site located outside of the 100-year floodplain, outside of any regulatory erosion zones, and in conformance with any other applicable state or local land use regulations.

In areas prone to severe flooding, it may be appropriate to work directly with your local emergency management official to develop a community-based approach. Additionally, your local representative will be able to identify potential federal, state, and/or local funding sources for the implementation of elevation, acquisition or relocation activities. For example, FEMA offers three state-administered grant programs to help States and local governments significantly reduce or permanently eliminate future flood losses: the Hazard Mitigation Grant Program, Flood Mitigation Assistance Program and Pre-Disaster Mitigation Program. Individuals may not apply directly to the state or FEMA, but local governments or private non-profit organizations may apply on behalf of local citizens.

4. If you live in an area prone to high winds, make sure your roof is firmly secured to the main frame of the residence. Consider building a “Wind Safe Room and Shelter” in your home to protect your household (see the “Tornadoes” section on pages 58-60). There are several additional steps you can take to reduce wind damage and losses, including the following:
 - Secure light fixtures and other items that could fall or shake loose in such events.
 - Move heavy or breakable objects to low shelves.
 - Anchor water heaters and bolt them to wall studs.
 - Purchase storm shutters for exterior windows and doors to protect your home against high winds.
5. If you live in an area likely to have an earthquake, consider using straps or other restraints to secure cabinets, bookshelves, large appliances, (especially water heaters and furnaces), and light fixtures to prevent damage and injury.
6. Determine ways to prevent other types of hazards in your home, such as installing a fire sprinkler system.
7. Obtain information specific to your area and home. Ask local emergency management, fire and police departments, zoning and building offices, the

American Red Cross, hardware dealers, home inspectors, structural engineers and architects.

8. Ask your local government, a hardware dealer or a private home inspector for technical advice on these and other mitigation measures.
9. Check the list of available publications from FEMA mentioned in this section and on page 88.

Animals in Disaster

Disaster disrupts and affects everything in its path, including pets, livestock, and wildlife. The following section provides general guidelines for handling animals in emergency and disaster situations.

Pets in Disaster

Pets need to be included in your household disaster plan since they depend on you for their safety and well being. It is important to consider and prepare for your pets before disaster strikes. Consider the following preparedness measures:

1. If you must evacuate, do not leave pets behind—there is a chance they may not survive, or get lost before you return.
2. With the exception of service animals, pets are not typically permitted in emergency shelters for health reasons.
3. Find out before a disaster which local hotels and motels allow pets and where pet boarding facilities are located. Be sure to include some outside your local area in case local facilities have closed.
4. Know that most boarding facilities require veterinarian records to prove vaccinations are current.
5. Only some animal shelters will provide care for pets during emergency and disaster situations. They should be used as a last resort. Use friends and family or keep them with you.
6. Be sure your pet has proper identification tags securely fastened to the collar. A current photo of your pet will assist identification should it become necessary.
7. Make sure you have a secure pet carrier or leash for your pet—they may need to be restrained during tense emergency situations.
8. Assemble a disaster kit for your pet. Include pet food, water, medications, veterinary records, litter box, can opener, food dishes, first aid kit, other supplies that may not be available at a later time, and an information sheet with pet’s name and such things as behavior problems. Provide the kit to whomever assumes responsibility for your pet during a disaster.
9. Call your local emergency management office or animal shelter for further information.

Large Animals in Disaster

If you have large animals, such as horses or cattle on your property, be sure to prepare before a disaster.

1. Evacuate animals whenever possible. Map out primary and secondary routes in advance.
2. Evacuation destinations should be prepared with, or ready to obtain, food, water, veterinary care, and handling equipment.
3. Vehicles and trailers needed for transporting and supporting each type of animal should be available along with experienced handlers and drivers. It is best to allow animals a chance to become accustomed to vehicular travel so they are less frightened and easier to move.
4. In case evacuation is not possible, animal owners must decide whether to move large animals to shelter or turn them outside. This decision should be based on the disaster type, quality and location of shelter, and the risks of turning them outside.
5. All animals should have some form of identification.

Wildlife in Disaster

Disaster and life threatening situations will exacerbate the unpredictable nature of wild animals. To protect yourself and your household, learn how to deal with wildlife.

1. Be cautious approaching wild animals during emergency situations. Do not corner them. Wild animals will likely feel threatened and may endanger themselves by dashing off into floodwaters, fire, etc.
2. If wild animals are trapped or no natural food source is available, you can leave food appropriate to individual animals (i.e., animals could become trapped on an “island” after seeking high ground as floodwaters rise).
3. Wild animals such as snakes, opossums, and raccoons often seek refuge from floodwaters on upper levels of homes and have been known to remain after water recedes. If you encounter animals in this situation—open a window or other escape route and the animal will likely leave on its own. Do not attempt to capture or handle the animal. Should the animal stay, call your local animal control office or animal shelter.
4. If you see an injured or stranded animal, do not approach or attempt to help. Call your local animal control office or animal shelter.
5. Animal carcasses can present serious health risks. Contact your local emergency management office or health department for specific help and instructions.

Animals after Disaster

Wild or stray domestic animals can pose a danger during or after many types of disaster. Remember, most animals are disoriented and displaced, too. Do not corner an animal. If an animal must be removed, contact your local animal control authorities.

If any animal bites you, seek immediate medical attention. If a snake bites you, try to accurately identify the type of snake so that, if poisonous, the correct anti-venom can be administered. Do not cut the wound or attempt to suck the venom out.

Certain animals may carry rabies. Although the virus is rare, care should be taken to avoid contact with stray animals and rodents. Health departments can provide information on the types of animals that carry rabies in your area.

Rats may also be a problem during and after many types of disaster. Be sure to secure all food supplies and contact your local animal control authorities to remove any animal carcasses in the vicinity.

Contact your local emergency manager for more information on animals in disaster. The Humane Society of the United States can be reached at: 2100 L Street, NW, Washington, DC, 20037, Attn: Disaster Services Program or by phone at 202-452-1100 or online at www.hsus.org/disaster.

Recovering from Disaster

This section offers some general advice on steps to take after disaster strikes to begin putting your home, your community, and your life back to normal.

Health and Safety

Your first concern after a disaster is your household's health and safety.

1. Be aware of new hazards created by the disaster. Watch for washed out roads, contaminated buildings, contaminated water, gas leaks, broken glass, damaged wires and slippery floors.
2. Be aware of exhaustion. Don't try to do too much at once. Set priorities and pace yourself.
3. Drink plenty of clean water. Eat well and get enough rest.
4. Wear sturdy work boots and gloves. Wash your hands thoroughly with soap and clean water often when working in debris.
5. Inform local authorities about health and safety hazards, including chemical releases, downed power lines, washed out roads, smoldering insulation or dead animals.

Preparing for Disasters

Returning To a Damaged Home

Returning to a damaged home can be both physically and mentally challenging. Above all, use caution.

1. Keep a battery-powered radio with you so you can listen for emergency updates.
2. Wear sturdy work boots and gloves.
3. Before going inside, walk carefully around the outside of your home and check for loose power lines, gas leaks and structural damage. If you smell gas, do not enter the home and leave immediately. Do not enter if floodwaters remain around the building. If you have any doubts about safety, have your home inspected by a professional before entering.
4. If your home was damaged by fire, do not enter until authorities say it is safe.
5. Check for cracks in the roof, foundation and chimneys. If it looks like the building may collapse, leave immediately.
6. A battery-powered flashlight is the best source of light for inspecting a damaged home. CAUTION: The flashlight should be turned on outside before entering a damaged home—the battery may produce a spark that could ignite leaking gas, if present.
7. Do not use oil, gas lanterns, candles or torches for lighting inside a damaged home. Leaking gas or other flammable materials may be present. Do not smoke. Do not turn on the lights until you're sure they're safe to use.
8. Enter the home carefully and check for damage. Be aware of loose boards and slippery floors.
9. Watch out for animals, especially poisonous snakes. Use a stick to poke through debris.
10. If you smell gas or hear a hissing or blowing sound, open a window and leave immediately. Turn off the main gas valve from the outside, if you can. Call the gas company from a neighbor's residence. If you shut off the gas supply at the main valve, you will need a professional to turn it back on.
11. Check the electrical system where visible and accessible. If you see sparks, broken or frayed wires, or if you smell hot insulation, turn off the electricity at the main fuse box or circuit breaker. If, however, you are wet, standing in water or unsure of your safety, do not touch anything electrical. Rather, leave the building and call for help.
12. Check appliances. If appliances are wet, turn off the electricity at the main fuse box or circuit breaker. Then unplug appliances and let them dry out. Have appliances checked by a professional before using them again. Also have the electrical system checked by an electrician before turning the power back on.

13. Check the water and sewage systems. If pipes are damaged, turn off the main water valve.
14. Clean up spilled medicines, bleaches and gasoline. Open cabinets carefully. Be aware of objects that may fall.
15. Try to protect your home from further damage. Open windows and doors to get air moving through.
16. Clean and disinfect everything that got wet. Mud left behind by floodwaters can contain sewage and chemicals.
17. If your basement has flooded, pump it out gradually (about one third of the water per day) to avoid damage. The walls may collapse and the floor may buckle if the basement is pumped out while the surrounding ground is still waterlogged.
18. Check with local authorities before using any water; it could be contaminated. Wells should be pumped out and the water tested by authorities before drinking.
19. Throw out fresh food, cosmetics, and medicines that have come into contact with floodwaters.
20. Check refrigerated food for spoilage—your power supply may have been disrupted during the emergency. Throw out all spoiled food and any food that you suspect might be spoiled.
21. Call your insurance agent. Take pictures of damages. Keep good records of repair and cleaning costs.

Getting Disaster Assistance

Throughout the recovery period, it's important to monitor local radio or television reports and other media sources for information about where to get emergency housing, food, first aid, clothing and financial assistance. Following is general information about the kinds of assistance that may be available.

Direct assistance to individuals and families may come from any number of organizations. The American Red Cross is often stationed right at the scene to help people with their most immediate medical, food and housing needs. Other voluntary organizations, such as the Salvation Army, may also provide food, shelter and supplies, and assist in cleanup efforts.

Church groups and synagogues are often involved as well.

In addition, social service agencies from local or state governments may be available to help people in shelters or provide direct assistance to families.

In the most severe disasters, the federal government is also called in to help individuals and families with temporary housing, counseling (for post-disaster trauma), low-interest loans and grants, and other assistance. Small businesses and farmers are also eligible.

Preparing for Disasters

Most federal assistance becomes available when the President of the U.S. declares a “Major Disaster” for the affected area at the request of a state governor. When this happens, FEMA may establish a Disaster Recovery Center (DRC). A DRC is a facility established in, or near to, the community affected by the disaster, where persons can meet face-to-face with represented federal, state, local, and volunteer agencies to:

- Discuss their disaster-related needs.
- Obtain information about disaster assistance programs.
- Tele-register for assistance.
- Update registration information.
- Learn about measures for rebuilding that can eliminate or reduce the risk of future loss.
- Learn how to complete the Small Business Administration (SBA) loan application, which is also the form used to qualify all individuals for low cost loans or grants, including those for repair or replacement of damaged homes and furnishings.
- Request the status of their Disaster Housing Application.

Persons can apply for assistance by telephone without going to a DRC by dialing 1-800-621-FEMA (3362).

Mental Health and Crisis Counseling

The emotional toll that disaster brings can sometimes be even more devastating than the financial strains of damage and loss of home, business or personal property.

Children and the elderly are special concerns in the aftermath of disasters. Even individuals who experience a disaster “second hand” through exposure to extensive media coverage can be affected.

Crisis counseling programs often include community outreach, consultation, and education. FEMA, and the state and local governments of the affected area, may provide crisis counseling assistance to help people cope with and recover from disaster. If you feel you need assistance—get help.

Coping With Disaster

You need to be aware of signs that one needs help in coping with the stress of a disaster.

1. Things to remember when trying to understand disaster events.
 - No one who sees a disaster is untouched by it.
 - It is normal to feel anxious about your own safety and that of your family and close friends.
 - Profound sadness, grief and anger are normal reactions to an abnormal event.

- Acknowledging your feelings helps you recover.
 - Focusing on your strengths and abilities will help you to heal.
 - Accepting help from community programs and resources is healthy.
 - We each have different needs and different ways of coping.
 - It is common to want to strike back at people who have caused great pain. However, nothing good is accomplished by hateful language or actions.
2. Signs that adults need crisis counseling/stress management assistance.
 - Difficulty communicating thoughts
 - Difficulty sleeping
 - Difficulty maintaining balance
 - Easily frustrated
 - Increased use of drugs/alcohol
 - Limited attention span
 - Poor work performance
 - Headaches/stomach problems
 - Tunnel vision/muffled hearing
 - Colds or flu-like symptoms
 - Disorientation or confusion
 - Difficulty concentrating
 - Reluctance to leave home
 - Depression, sadness
 - Feelings of hopelessness
 - Mood-swings and crying easily
 - Overwhelming guilt and self-doubt
 - Fear of crowds, strangers, or being alone.
 3. Ways to ease disaster related stress.
 - Talk with someone about your feelings—anger, sorrow, and other emotions—even though it may be difficult.
 - Seek help from professional counselors who deal with post-disaster stress.
 - Don’t hold yourself responsible for the disastrous event or be frustrated because you feel that you cannot help directly in the rescue work.
 - Take steps to promote your own physical and emotional healing by staying active in your daily life patterns or by adjusting them. This healthy outlook will help you and your household (e.g., healthy eating, rest, exercise, relaxation, and meditation).
 - Maintain a normal household and daily routine, limiting demanding responsibilities of you and your household.

Preparing for Disasters

- Spend time with family and friends.
- Participate in memorials, rituals, and use of symbols as a way to express feelings.
- Use existing support groups of family, friends, and church.
- Establish a family emergency plan. Feeling there is something you can do is comforting.

Helping Others

The compassion and generosity of the American people is never more evident than after a disaster. People want to help. Here are some general guidelines on helping others after a disaster.

1. In addition to the people you care for on a day-to-day basis, consider the needs of your neighbors and people with special needs.
2. If you want to volunteer, check with local organizations or listen to local news reports for information about where volunteers are needed. Until volunteers are specifically requested, stay away from disaster areas.
3. If you are needed in a disaster area, bring your own food, water and emergency supplies. This is especially important in cases where a large area has been affected and emergency items are in short supply.
4. Do not drop off food, clothing or any other item to a government agency or disaster relief organization unless a particular item has been requested. Normally these organizations do not have the resources to sort through the donated items.
5. You can give a check or money order to a recognized disaster relief organization. These groups are organized to process checks, purchase what is needed and get it to the people who need it most.
6. If your company wants to donate emergency supplies, donate a quantity of a given item or class of items (such as nonperishable food) rather than a mix of different items. Also, determine where your donation is going, how it's going to get there, who's going to unload it and how it's going to be distributed. Without sufficient planning, much needed supplies will be left unused.

Helping Children Cope with Disaster

Recommendations from the Federal Emergency Management Agency

Disasters can leave children feeling frightened, confused and insecure. Whether a child has personally experienced trauma, has merely seen the event on television or heard it discussed by adults, it is important

for parents and teachers to be informed and ready to help if reactions to stress begin to occur.

Children respond to trauma in many different ways. Some may have reactions very soon after the event; others may seem to be doing fine for weeks or months and then begin to show worrisome behavior. Knowing the signs that are common at different ages can help parents and teachers recognize problems and respond appropriately.

Reassurance is the key to helping children through a traumatic time. Very young children need a lot of cuddling, as well as verbal support. Answer questions about the disaster honestly, but don't dwell on frightening details or allow the subject to dominate family or classroom time indefinitely. Encourage children of all ages to express emotions through conversation, drawing or painting and to find a way to help others who were affected by the disaster. Also, limit the amount of disaster related material (television, etc.) your children are seeing or hearing and pay careful attention to how graphic it is.

Try to maintain a normal household or classroom routine and encourage children to participate in recreational activity. Reduce your expectations temporarily about performance in school or at home, perhaps by substituting less demanding responsibilities for normal chores.

Additional information about how to communicate with children can be found on the FEMA for Kids website at www.fema.gov/kids.

Children's Response to Disaster

Disaster may strike quickly and without warning. These events can be frightening for adults, but they are traumatic for children if they don't know what to do.

During a disaster, your family may have to leave your home and daily routine. Children may become anxious, confused or frightened. As an adult, you'll need to cope with the disaster in a way that will help children avoid developing a permanent sense of loss. It is important to give children guidance that will help them reduce their fears.

Children depend on daily routines: They wake up, eat breakfast, go to school, play with friends. When emergencies or disasters interrupt this routine, children may become anxious.

In a disaster, they'll look to you and other adults for help. How *you* react to an emergency gives them clues on how to act. If you react with alarm, a child may become more scared. They see our fear as proof that the danger is real. If you seem overcome with a sense of loss, a child may feel their losses more strongly.

Children's fears also may stem from their imagination, and you should take these feelings seriously. A child who *feels* afraid *is* afraid. Your words and actions can provide reassurance. When talking with your child, be sure to present a realistic picture that is both honest and manageable.

Preparing for Disasters

Feelings of fear are healthy and natural for adults and children. But as an adult, you need to keep control of the situation. When you're sure that danger has passed, concentrate on your child's emotional needs by asking the child what is uppermost in his or her mind. Having children participate in the family's recovery activities will help them feel that their life will return to "normal." Your response during this time may have a lasting impact.

Be aware that after a disaster, children are *most afraid* that:

- The event will happen again.
- Someone will be injured or killed.
- They will be separated from the family.
- They will be left alone.

Advice to Parents: Prepare for Disaster

You can create a Family Disaster Plan by taking four simple steps. First, learn what hazards exist in your community and how to prepare for each. Then meet with your family to discuss what you would do, as a group, in each situation. Next, take steps to prepare your family for disaster such as: posting emergency phone numbers, selecting an out-of-state family contact, assembling a disaster supply kit for each member of your household and installing smoke detectors on each level of your home. Finally, practice your Family Disaster Plan so that everyone will remember what to do when a disaster does occur. Consider using Family Home Evening Lessons 2 and 4 at the beginning of this manual.

- Develop and practice a family disaster plan. See the section entitled "Creating a Disaster Plan" on pages 36-37. Contact your local emergency management or civil defense office, or your local American Red Cross chapter for materials that describe how your family can create a disaster plan. Everyone in the household, including children, should play a part in the family's response and recovery efforts.
- Teach your child how to recognize danger signals. Make sure your child knows what smoke detectors, fire alarms and local community warning systems (horns, sirens) sound like.
- Explain how to call for help. Teach your child how and when to call for help. Check the telephone

directory for local emergency phone numbers and post these phone numbers by all telephones. If you live in a 9-1-1-service area, tell your child to call 9-1-1.

- Help your child memorize important family information. Children should memorize their family name, address and phone number. They should also know where to meet in case of an emergency. Some children may not be old enough to memorize the information. They could carry a small index card that lists emergency information to give to an adult or babysitter.

After The Disaster: Time for Recovery

Immediately after the disaster, try to reduce your child's fear and anxiety. Keep the family together. While you look for housing and assistance, you may want to leave your children with relatives or friends. Instead, keep the family together as much as possible and make children a part of what you are doing to get the family back on its feet. Children get anxious, and they'll worry that their parents won't return.

- Calmly and firmly explain the situation. As best as you can, tell children what you know about the disaster. Explain what will happen next. For example, say, "Tonight, we will all stay together in the shelter." Get down to the child's eye level and talk to them.
- Encourage children to talk. Let children talk about the disaster and ask questions as much as they want. Encourage children to describe what they're feeling. Listen to what they say. If possible, include the entire family in the discussion.
- Include children in recovery activities. Give children chores that are their responsibility. This will help children feel they are part of the recovery. Having a task will help them understand that everything will be all right.

You can help children cope by understanding what causes their anxieties and fears. Reassure them with firmness and love. Your children will realize that life will eventually return to normal. If a child does not respond to the above suggestions, seek help from a mental health specialist or the bishop.

Natural Hazards

Floods

Floods are one of the most common hazards in the U.S. However, all floods are not alike. Riverine floods develop slowly, sometimes over a period of days. Flash floods can develop quickly, sometimes in just a few minutes, without any visible signs of rain. Flash floods often have a dangerous wall of roaring water that carries a deadly cargo of rocks, mud and other debris and can sweep away most things in its path. Overland flooding occurs outside a defined river or stream, such as when a levee is breached, but still can be destructive. Flooding can also occur from a dam break producing effects similar to flash floods.

Flood effects can be very local, impacting a neighborhood or community, or very large, effecting entire river basins and multiple states.

Be aware of flood hazards no matter where you live, but especially if you live in a low-lying area, near water or downstream from a dam. Even very small streams, gullies, creeks, culverts, dry streambeds or low-lying ground that appear harmless in dry weather can flood. Every state is at risk from this hazard.

What to Do Before a Flood

1. Know the terms used to describe flooding:
 - **Flood Watch**—Flooding is possible. Stay tuned to NOAA Weather Radio or commercial radio or television for information. Watches are issued 12 to 36 hours in advance of a possible flooding event.
 - **Flash Flood Watch**—Flash flooding is possible. Be prepared to move to higher ground. A flash flood could occur without any warning. Listen to NOAA Weather Radio or commercial radio or television for additional information.
 - **Flood Warning**—Flooding is occurring or will occur soon. If advised to evacuate, do so immediately.
 - **Flash Flood Warning**—A flash flood is occurring. Seek higher ground on foot immediately.
2. Ask local officials whether your property is in a flood-prone or high-risk area. (Remember that floods often occur outside high-risk areas.) Ask about official flood warning signals and what to do when you hear them. Also ask how you can protect your home from flooding.
3. Identify dams in your area and determine whether they pose a hazard to you.
4. Purchase a NOAA Weather Radio with battery backup and a tone-alert feature that automatically alerts you when a Watch or Warning is issued (tone alert not available in some areas). Purchase a battery-powered commercial radio and extra batteries.
5. Be prepared to evacuate. Learn your community's flood evacuation routes and where to find high ground. See the "Evacuation" section on pages 41-42 for important information.
6. Talk to your household about flooding. Plan a place to meet your household in case you are separated from one another in a disaster and cannot return home. Choose an out-of-town contact for everyone to call to say they are okay. In some emergencies, calling out-of-state is possible even when local phone lines are down.
7. Determine how you would care for household members who may live elsewhere but might need your help in a flood. Determine any special needs your neighbors might have.
8. Prepare to survive on your own for at least three days. Assemble a disaster supply kit. Keep a stock of food and extra drinking water. See the "72-Hour Disaster Supply Kits" section on pages 37-41 for more information.
9. Know how to shut off electricity, gas and water at main switches and valves. Know where gas pilot lights are located and how the heating system works.
10. Consider purchasing flood insurance.
 - Flood losses are not covered under homeowners' insurance policies.
 - FEMA manages the National Flood Insurance Program, which makes federally-backed flood insurance available in communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage.
 - Flood insurance is available in most communities through insurance agents.
 - There is a 30-day waiting period before flood insurance goes into effect, so don't delay.
 - Flood insurance is available whether the building is in or out of the identified flood-prone area.
11. Consider options for protecting your property.
 - Make a record of your personal property. Take photographs or videotapes of your belongings. Store these documents in a safe place.
 - Keep insurance policies, deeds, property records and other important papers in a safe place away from your home.
 - Avoid building in a floodplain unless you elevate and reinforce your home.
 - Elevate your furnace, water heater, and electric panel to higher floors or the attic if they are susceptible to flooding.

Natural Hazards

- Install “check valves” in sewer traps to prevent flood water from backing up into the drains of your home.
- Construct barriers such as levees, berms, and floodwalls to stop floodwater from entering the building.
- Seal walls in basements with waterproofing compounds to avoid seepage.
- Call your local building department or emergency management office for more information.

What to Do During a Flood

1. Be aware of flash flood. If there is any possibility of a flash flood, move immediately to higher ground. Do not wait for instructions to move.
 2. Listen to radio or television stations for local information.
 3. Be aware of streams, drainage channels, canyons and other areas known to flood suddenly. Flash floods can occur in these areas with or without such typical warning signs as rain clouds or heavy rain.
 4. If local authorities issue a flood watch, prepare to evacuate:
 - Secure your home. If you have time, tie down or bring outdoor equipment and lawn furniture inside. Move essential items to the upper floors.
 - If instructed, turn off utilities at the main switches or valves. Disconnect electrical appliances. Do not touch electrical equipment if you are wet or standing in water.
 - Fill the bathtub with water in case water becomes contaminated or services cut off. Before filling the tub, sterilize it with a diluted bleach solution.
 5. Do not walk through moving water. Six inches of moving water can knock you off your feet. If you must walk in a flooded area, walk where the water is not moving. Use a stick to check the firmness of the ground in front of you.
 6. Do not drive into flooded areas. Six inches of water will reach the bottom of most passenger cars causing loss of control and possible stalling. A foot of water will float many vehicles. Two feet of water will wash away almost all vehicles. If floodwaters rise around your car, abandon the car and move to higher ground, if you can do so safely. You and your vehicle can be quickly swept away as floodwaters rise.
 7. See the “Evacuation” section on pages 41-42 for important information.
2. Avoid moving water. Moving water only six inches deep can sweep you off your feet.
 3. Be aware of areas where floodwaters have receded. Roads may have weakened and could collapse under the weight of a car.
 4. Stay away from downed power lines and report them to the power company.
 5. Stay away from designated disaster areas unless authorities ask for volunteers.
 6. Return home only when authorities indicate it is safe. Stay out of buildings if surrounded by floodwaters. Use extreme caution when entering buildings. There may be hidden damage, particularly in foundations.
 7. Consider your family’s health and safety needs:
 - Wash hands frequently with soap and clean water if you come in contact with floodwaters.
 - Throw away food that has come in contact with floodwaters.
 - Listen for news reports to learn whether the community’s water supply is safe to drink.
 - Listen to news reports for information about where to get assistance for housing, clothing and food.
 - Seek necessary medical care at the nearest medical facility.
 8. Service damaged septic tanks, cesspools, pits, and leaching systems as soon as possible. Damaged sewage systems are serious health hazards.
 9. Contact your insurance agent. If your policy covers your situation, an adjuster will be assigned to visit your home. To prepare:
 - Take photos of your belongings and your home or videotape them.
 - Separate damaged and undamaged belongings.
 - Locate your financial records.
 - Keep detailed records of cleanup costs.
 10. If your residence has been flooded obtain a copy of “Repairing Your Flooded Home” from the local American Red Cross chapter.
 11. See the “Recovering from Disaster” section on pages 47-49 for more information.

What to Do After a Flood

1. Avoid floodwaters. The water may be contaminated by oil, gasoline or raw sewage. The water may also

- be electrically charged from underground or downed power lines.
2. Avoid moving water. Moving water only six inches deep can sweep you off your feet.
 3. Be aware of areas where floodwaters have receded. Roads may have weakened and could collapse under the weight of a car.
 4. Stay away from downed power lines and report them to the power company.
 5. Stay away from designated disaster areas unless authorities ask for volunteers.
 6. Return home only when authorities indicate it is safe. Stay out of buildings if surrounded by floodwaters. Use extreme caution when entering buildings. There may be hidden damage, particularly in foundations.
 7. Consider your family’s health and safety needs:
 - Wash hands frequently with soap and clean water if you come in contact with floodwaters.
 - Throw away food that has come in contact with floodwaters.
 - Listen for news reports to learn whether the community’s water supply is safe to drink.
 - Listen to news reports for information about where to get assistance for housing, clothing and food.
 - Seek necessary medical care at the nearest medical facility.
 8. Service damaged septic tanks, cesspools, pits, and leaching systems as soon as possible. Damaged sewage systems are serious health hazards.
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 10. If your residence has been flooded obtain a copy of “Repairing Your Flooded Home” from the local American Red Cross chapter.
 11. See the “Recovering from Disaster” section on pages 47-49 for more information.

Hurricanes

A hurricane is a type of tropical cyclone, the generic term for a low pressure system that generally forms in the tropics. The ingredients for a hurricane include a pre-existing weather disturbance, warm tropical oceans,

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moisture, and relatively light winds aloft. A typical cyclone is accompanied by thunderstorms, and in the Northern Hemisphere, a counterclockwise circulation of winds near the earth's surface. Tropical cyclones are classified as follows:

Tropical Depression. An organized system of clouds and thunderstorms with a defined surface circulation and maximum sustained winds of 38 mph (33 knots) or less. Sustained winds are defined as one-minute average wind measured at about 33 ft (10 meters) above the surface.

Tropical Storm. An organized system of strong thunderstorms with a defined surface circulation and maximum sustained winds of 39-73 mph (34-63 knots).

Hurricane. An intense tropical weather system of strong thunderstorms with a well-defined surface circulation and maximum sustained winds of 74 mph (64 knots) or higher.

All Atlantic and Gulf of Mexico coastal areas are subject to hurricanes or tropical storms. Although rarely struck by hurricanes, parts of the Southwest United States and the Pacific Coast experience heavy rains and floods each year from hurricanes spawned off Mexico. The Atlantic hurricane season lasts from June to November with the peak season from mid-August to late October.

Hurricanes can cause catastrophic damage to coastlines and several hundred miles inland. Winds can exceed 155 miles per hour. Hurricanes and tropical storms can also spawn tornadoes and microbursts, create surge along the coast, and cause extensive damage due to inland flooding from trapped water.

Tornadoes most often occur in thunderstorms embedded in rain bands well away from the center of the hurricane; however, they also occur near the eye-wall. Typically, tornadoes produced by tropical cyclones are relatively weak and short-lived but still pose a threat.

A storm surge is a huge dome of water pushed on-shore by hurricane and tropical storm winds. Storm

surges can reach 25 feet high and be 50-100 miles wide. Storm tide is a combination of the storm surge and the normal tide (i.e., a 15 foot storm surge combined with a 2 foot normal high tide over the mean sea level creates a 17 foot storm tide). These phenomena cause severe erosion and extensive damage to coastal areas.

Despite improved warnings and a decrease in the loss of life, property damage continues to rise because an increasing number of people are living or vacationing near coastlines. Those in hurricane-prone areas need to be prepared for hurricanes and tropical storms.

Hurricanes are classified into five categories based on their wind speed, central pressure and damage potential (see chart below). Category Three and higher are considered major hurricanes, though Category One and Two are still extremely dangerous and warrant your full attention.

Inland/Freshwater Flooding from Hurricanes

Hurricanes can produce widespread torrential rains. Floods are the deadly and destructive result. Excessive rain can also trigger landslides or mud slides, especially in mountainous regions. Flash flooding can occur due to the intense rainfall. Flooding on rivers and streams may persist for several days or more after the storm.

The speed of the storm and the geography beneath the storm are the primary factors regarding the amount of rain produced. Slow moving storms and tropical storms moving into mountainous regions tend to produce more rain.

Between 1970 and 1999, more people lost their lives from freshwater flooding associated with landfalling tropical cyclones than from any other weather hazard related to tropical cyclones.

See the "Floods" section on pages 52-53 for more specific information on flood related emergencies.

Saffir-Simpson Hurricane Scale

| Scale Number (Category) | Sustained Winds (mph) | Damage | Storm Surge |
|-------------------------|-----------------------|--|-------------|
| 1 | 74-95 | Minimal: Untied mobile home, vegetation and signs. | 4-5 feet |
| 2 | 96-110 | Moderate: All mobile homes, roofs, small crafts, flooding. | 6-8 feet |
| 3 | 111-130 | Extensive: Small buildings, low-lying roads cut off. | 9-12 feet |
| 4 | 131-155 | Extreme. Roofs destroyed, trees down, roads cut off, mobile homes destroyed. Beach homes flooded. | 13-18 feet |
| 5 | >155 | Catastrophe: Most buildings destroyed. Vegetation destroyed. Major roads cut off. Homes flooded. | >18 feet |

What to Do Before a Hurricane

1. Know the difference between “Watches” and “Warnings.”
 - **Hurricane/Tropical Storm Watch**—Hurricane/tropical storm conditions are possible in the specified area, usually within 36 hours.
 - **Hurricane/Tropical Storm Warning**—Hurricane/tropical storm conditions are expected in the specified area, usually within 24 hours.
 - **Short Term Watches and Warnings**—These warnings provide detailed information on specific hurricane threats, such as flash floods and tornadoes.
2. Listen for local radio or television weather forecasts. Purchase a NOAA Weather Radio with battery backup and a tone-alert feature that automatically alerts you when a Watch or Warning is issued (tone alert is not available in some areas). Purchase a battery-powered commercial radio and extra batteries as well because information on other events will be broadcast by the media.
3. Ask your local emergency management office about community evacuation plans relating to your neighborhood. Learn evacuation routes. Determine where you would go and how you would get there if you needed to evacuate. Sometimes alternate routes are desirable.
4. Talk to your household about hurricane issues. Create a household disaster plan. Plan to meet at a place away from your residence in case you are separated. Choose an out-of-town contact for everyone to call to say they are safe.
5. Determine the needs of your household members who may live elsewhere but need your help in a hurricane. Consider the special needs of neighbors, such as people that are disabled or those with limited sight or vision problems.
6. Prepare to survive on your own for at least three days. Assemble a disaster supply kit. Keep a stock of food and extra drinking water. See the “72-Hour Disaster Supply Kits” section on pages 37-41 and the “Evacuation” section on pages 41-42 for more information.
7. Make plans to secure your property. Permanent storm shutters offer the best protection for windows. A second option is to board up windows with 5/8” marine plywood, cut to fit and ready to install. Tape does not prevent windows from breaking.
8. Learn how to shut off utilities and where gas pilots and water mains are located.
9. Have your home inspected for compliance with local building codes. Many of the roofs destroyed by hurricanes were not constructed or retrofitted according to building codes. Installing straps or additional clips to securely fasten your roof to the frame structure will substantially reduce roof damage.
10. Be sure trees and shrubs around your home are well trimmed. Dead limbs or trees could cause personal injury or property damage. Clear loose and clogged rain gutters and downspouts.
11. If you have a boat, determine where to secure it in an emergency.
12. Consider flood insurance. Purchase insurance well in advance—there is a 30-day waiting period before flood insurance takes effect.
13. Make a record of your personal property. Take photographs or videotapes of your belongings. Store these documents in a safe place.

What to Do During a Hurricane Threat

1. Listen to radio or television newscasts. If a hurricane “Watch” is issued, you typically have 24 to 36 hours before the hurricane hits land.
2. Talk with household members. Make sure everyone knows where to meet and who to call, in case you are separated. Consider the needs of relatives and neighbors with special needs.
3. Secure your home. Close storm shutters. Secure outdoor objects or bring them indoors. Moor your boat if time permits.
4. Gather several days’ supply of water and food for each household member. Water systems may become contaminated or damaged. Sterilize (with diluted bleach solution of one part bleach to ten parts water) and fill the bathtub to ensure a supply of safe water in case you are unable or told not to evacuate. Refer to the “Shelter” and “Emergency Water and Food Use” sections on pages 42-45 and the “72-Hour Disaster Supply Kits” section on pages 37-41 for important information.
5. If you are evacuating, take your disaster supply kit with you to the shelter. Remember that alcoholic beverages and weapons are prohibited within shelters. Also, pets are not allowed in a public shelter due to health reasons. See the “Animals in Disaster” section on pages 46-47 and contact your local humane society for additional information.
6. Prepare to evacuate. Fuel your car—service stations may be closed after the storm. If you do not have a car, make arrangements for transportation with a friend or relative. Review evacuation routes. If instructed, turn off utilities at the main valves.
7. Evacuate to an inland location, if:
 - Local authorities announce an evacuation and you live in an evacuation zone.
 - You live in a mobile home or temporary structure—they are particularly hazardous during hurricanes no matter how well fastened to the ground.
 - You live in a high-rise. Hurricane winds are stronger at higher elevations.

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- You live on the coast, on a floodplain near a river or inland waterway.
 - You feel you are in danger.
8. When authorities order an evacuation:
 - Leave immediately.
 - Follow evacuation routes announced by local officials.
 - Stay away from coastal areas, riverbanks and streams.
 - Tell others where you are going.
 9. If you are not required or are unable to evacuate, stay indoors during the hurricane and away from windows and glass doors. Keep curtains and blinds closed. Do not be fooled if there is a lull, it could be the eye of the storm—winds will pick up again.
 - Turn off utilities if told to do so by authorities.
 - If not instructed to turn off, turn the refrigerator to its coldest setting and keep closed.
 - Turn off propane tanks.
 10. In strong winds, follow these rules:
 - Take refuge in a small interior room, closet or hallway.
 - Close all interior doors. Secure and brace external doors.
 - In a two-story residence, go to an interior first-floor room, such as a bathroom or closet.
 - In a multiple-story building, go to the first or second floors and stay in interior rooms away from windows.
 - Lie on the floor under a table or another sturdy object.
 11. Avoid using the phone except for serious emergencies. Local authorities need first priority on telephone lines.
 12. See the “Evacuation” section on pages 41-42 for important information.
4. Do not drink or prepare food with tap water until notified by officials that it is safe to do so.
 5. Consider your family’s health and safety needs. Be aware of symptoms of stress and fatigue. Keep your household together and seek crisis counseling if you have need. See the “Mental Health and Crisis Counseling” section on pages 49-50 for more information.
 6. Talk with your children about what has happened and how they can help during the recovery. Being involved will help them deal with the situation. Consider the needs of your neighbors. People often become isolated during hurricanes.
 7. Stay away from disaster areas unless local authorities request volunteers. If you are needed, bring your own drinking water, food and sleeping gear.
 8. Stay away from riverbanks and streams until potential flooding has passed. Do not allow children, especially under the age of 13, to play in flooded areas. There is a high risk of injury or drowning in areas that may appear safe.
 9. Stay away from moving water. Moving water only six inches deep can sweep you off your feet. Standing water may be electrically charged from underground or downed power lines.
 10. Stay away from downed power lines and report them to the power company. Report broken gas, sewer or water mains to local officials.
 11. Don't use candles or other open flames indoors. Use a flashlight to inspect damage.
 12. Set up a manageable schedule to repair property.
 13. Contact your insurance agent. An adjuster will be assigned to visit your home. To prepare:
 - Take photos of your belongings and your home or videotape them.
 - Separate damaged and undamaged belongings.
 - Locate your financial records.
 - Keep detailed records of cleanup costs.
 14. Consider building a “Wind Safe Room and Shelter” to protect your household. See the “Tornadoes” section on pages 58-60.
 15. See the “Recovering from Disaster” section on pages 47-49 for more important information.

What to Do After a Hurricane

1. Stay where you are if you are in a safe location until local authorities say it is safe to leave. If you evacuated the community, do not return to the area until authorities say it is safe to return.
2. Keep tuned to local radio or television stations for information about caring for your household, where to find medical help, how to apply for financial assistance, etc.
3. Drive only when necessary. Streets will be filled with debris. Roads may have weakened and could collapse. Do not drive on flooded or barricaded roads or bridges. Closed roads are for your protection. As little as six inches of water may

- cause you to lose control of your vehicle—two feet of water will carry most cars away.
4. Do not drink or prepare food with tap water until notified by officials that it is safe to do so.
 5. Consider your family’s health and safety needs. Be aware of symptoms of stress and fatigue. Keep your household together and seek crisis counseling if you have need. See the “Mental Health and Crisis Counseling” section on pages 49-50 for more information.
 6. Talk with your children about what has happened and how they can help during the recovery. Being involved will help them deal with the situation. Consider the needs of your neighbors. People often become isolated during hurricanes.
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 14. Consider building a “Wind Safe Room and Shelter” to protect your household. See the “Tornadoes” section on pages 58-60.
 15. See the “Recovering from Disaster” section on pages 47-49 for more important information.

Thunderstorms

Thunderstorms are very common and affect great numbers of people each year. Despite their small size in comparison to hurricanes and winter storms, all

thunderstorms are dangerous. Every thunderstorm produces lightning. Other associated dangers of thunderstorms include tornadoes, strong winds, hail, and flash flooding. Flash flooding is responsible for more fatalities—more than 140 annually—than any other thunderstorm-associated hazard.

Some thunderstorms do not produce rain that reaches the ground. These are generically referred to as dry thunderstorms and are most prevalent in the western United States. Known to spawn wildfires, these storms occur when there is a large layer of dry air between the base of the cloud and the ground. The falling raindrops evaporate, but lightning can still reach the ground.

What to Do Before Thunderstorms Approach

1. Know the terms used by weather forecasters:
 - **Severe Thunderstorm Watch**—Tells you when and where severe thunderstorms are likely to occur. Watch the sky and stay tuned to radio or television to know when warnings are issued.
 - **Severe Thunderstorm Warning**—Issued when severe weather has been reported by spotters or indicated by radar. Warnings indicate imminent danger to life and property to those in the path of the storm.
2. Know thunderstorm facts:
 - Thunderstorms may occur singly, or in clusters, or in lines.
 - Some of the most severe weather occurs when a single thunderstorm affects one location for an extended time.
 - Thunderstorms typically produce heavy rain for a brief period, anywhere from 30 minutes to an hour.
 - Warm, humid conditions are very favorable for thunderstorm development.
 - A typical thunderstorm is 15 miles in diameter and lasts an average of 30 minutes.
 - Of the estimated 100,000 thunderstorms each year in the United States, about 10 percent are classified as severe.
 - A thunderstorm is classified as severe if it produces hail at least three-quarters of an inch in diameter, has winds of 58 miles per hour or higher, or produces a tornado.
3. Know the calculation to determine how close you are to a thunderstorm:
 - Count the number of seconds between a flash of lightning and the next clap of thunder. Divide this number by 5 to determine the distance to the lightning in miles.
4. Remove dead or rotting trees and branches that

could fall and cause injury or damage during a severe thunderstorm.

5. When a thunderstorm approaches, secure outdoor objects that could blow away or cause damage. Shutter windows, if possible, and secure outside doors. If shutters are not available, close window blinds, shades, or curtains.

Lightning

The ingredient that defines a thunderstorm is lightning. Since lightning creates thunder, a storm producing lightning is called a thunderstorm.

Lightning occurs during all thunderstorms. Lightning results from the buildup and discharge of electrical energy between positively and negatively charged areas.

The unpredictability of lightning increases the risk to individuals and property. In the United States, an average of 300 people are injured and 80 people are killed each year by lightning. Although most lightning victims survive, people struck by lightning often report a variety of long-term, debilitating symptoms, including memory loss, attention deficits, sleep disorders, numbness, dizziness, stiffness in joints, irritability, fatigue, weakness, muscle spasms, depression, and an inability to sit for a long period of time.

When thunderstorms threaten your area, get inside a home, building or hard top automobile (not a convertible) and stay away from metallic objects and fixtures.

1. If you are inside a home:
 - Avoid showering or bathing. Plumbing and bathroom fixtures can conduct electricity.
 - Avoid using a corded telephone, except for emergencies. Cordless and cellular telephones are safe to use.
 - Unplug appliances and other electrical items such as computers and turn off air conditioners. Power surges from lightning can cause serious damage.
 - Use your battery operated NOAA Weather Radio for updates from local officials.
2. If outside, with no time to reach a safe location, follow these recommendations:
 - In a forest, seek shelter in a low area under a thick growth of small trees.
 - In open areas, go to a low place such as a ravine or valley. Be alert for flash floods.
 - Do not stand under a natural lightning rod, such as a tall, isolated tree in an open area.
 - Do not stand on a hilltop, in an open field, on the beach or in a boat on the water.

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- Avoid isolated sheds or other small structures in open areas.
 - Get away from open water. If you are boating or swimming, get to land and find shelter immediately.
 - Get away from anything metal—tractors, farm equipment, motorcycles, golf carts, golf clubs and bicycles.
 - Stay away from wire fences, clotheslines, metal pipes, rails and other metallic paths that could carry lightning to you from some distance away.
 - If you feel your hair stand on end (which indicates that lightning is about to strike), squat low to the ground on the balls of your feet. Place your hands over your ears and your head between your knees. Make yourself the smallest target possible and minimize your contact with the ground. DO NOT lie flat on the ground.
3. Remember the following facts and safety tips about lightning.

Facts:

- Lightning often strikes outside of heavy rain and may occur as far as 10 miles away from any rainfall.
- Lightning-strike victims carry no electrical charge and should be attended to immediately. If breathing has stopped, begin mouth-to-mouth resuscitation. If the heart has stopped, a trained person should administer CPR. If the victim has a pulse and is breathing, look for other possible injuries. Check for burns where the lightning entered and left the body. Be alert also for nervous system damage, broken bones, and loss of hearing or eyesight. Contact your local emergency management office or American Red Cross chapter for information on CPR and first aid classes.
- “Heat lightning” is actually lightning from a thunderstorm too far away for thunder to be heard. However, the storm may be moving in your direction!
- Most lightning deaths and injuries occur when people are caught outdoors in the summer months during the afternoon and evening.
- Many fires in the western United States and Alaska are started by lightning.
- Lightning can occur from cloud-to-cloud, within a cloud, cloud-to-ground, or cloud-to-air.
- Your chances of being struck by lightning are estimated to be 1 in 600,000 but could be even less by following safety tips.

Safety Tips:

- Postpone outdoor activities if thunderstorms are likely.

- Remember the 30/30 lightning safety rule
 - Go indoors if, after seeing lightning, you cannot count to 30 before hearing thunder. Stay indoors for 30 minutes after hearing the last clap of thunder.
- Rubber-soled shoes and rubber tires provide NO protection from lightning. However, the steel frame of a hard-topped vehicle provides increased protection if you are not touching metal. Although you may be injured if lightning strikes your car, you are much safer inside a vehicle than outside.

Tornadoes

Tornadoes are nature’s most violent storms. Spawned from powerful thunderstorms, tornadoes can uproot trees, destroy buildings and turn harmless objects into deadly missiles. They can devastate a neighborhood in seconds.

A tornado appears as a rotating, funnel-shaped cloud that extends to the ground with whirling winds that can reach 300 miles per hour. Damage paths can be in excess of one mile wide and 50 miles long. Every state is at some risk from this hazard.

Tornado Facts

1. A tornado is a violently rotating column of air extending from a thunderstorm to the ground.
2. Tornadoes are capable of destroying homes and vehicles and can cause fatalities.
3. Tornadoes may strike quickly, with little or no warning.
4. Tornadoes may appear nearly transparent until dust and debris are picked up or a cloud forms in the funnel. The average tornado moves SW to NE but tornadoes have been known to move in any direction.
5. The average forward speed is 30 mph but may vary from stationary to 70 mph with rotating winds that can reach 300 miles per hour.
6. Tornadoes can accompany tropical storms and hurricanes as they move onto land.
7. Waterspouts are tornadoes that form over water.
8. Tornadoes are most frequently reported east of the Rocky Mountains during spring and summer months but can occur in any state at any time of year.
9. In the southern states, peak tornado season is March through May, while peak months in the northern states are during the late spring and early summer.
10. Tornadoes are most likely to occur between 3 p.m. and 9 p.m., but can occur at any time of the day or night.

What to Do Before Tornadoes Threaten

1. Know the terms used to describe tornado threats:
 - **Tornado Watch**—Tornadoes are possible. Remain alert for approaching storms. Listen to your battery-operated NOAA Weather Radio or local radio/television outlets for updated reports.
 - **Tornado Warning**—A tornado has been sighted or indicated by weather radar. Take shelter immediately.
2. Ask your local emergency management office or American Red Cross chapter about the tornado threat in your area. Ask about community warning signals.
3. Purchase a NOAA Weather Radio with a battery backup and tone-alert feature that automatically alerts you when a Watch or Warning is issued (tone alert not available in some areas). Purchase a battery-powered commercial radio and extra batteries as well.
4. Know the county or parish in which you live. Counties and parishes are used in Watches and Warnings to identify the location of tornadoes.
5. Determine places to seek shelter, such as a basement or storm cellar. If an underground shelter is not available, identify an interior room or hallway on the lowest floor.
6. Practice going to your shelter with your household.
7. Know the locations of designated shelters in places where you and your household spend time, such as public buildings, nursing homes and shopping centers. Ask local officials whether a registered engineer or architect has inspected your children's schools for shelter space.
8. Ask your local emergency manager or American Red Cross chapter if there are any public safe rooms or shelters nearby. See the material regarding a "Wind Safe Room and Shelter" at the end of this section for more information.
9. Assemble a disaster supply kit. Keep a stock of food and extra drinking water. See the "72-Hour Disaster Supply Kits" and "Evacuation" sections for more information.
10. Make a record of your personal property. Take photographs or videotapes of your belongings. Store these documents in a safe place.

What to Do During a Tornado Watch

1. Listen to NOAA Weather Radio or to commercial radio or television newscasts for the latest information.
2. Be alert for approaching storms. If you see any revolving funnel shaped clouds, report them immediately by telephone to your local police department or sheriff's office.
3. Watch for tornado danger signs:

- Dark, often greenish sky
- Large hail
- A large, dark, low-lying cloud (particularly if rotating)
- Loud roar, similar to a freight train

Caution:

- Some tornadoes are clearly visible, while rain or nearby low-hanging clouds obscure others.
 - Occasionally, tornadoes develop so rapidly that little, if any, advance warning is possible.
 - Before a tornado hits, the wind may die down and the air may become very still.
 - A cloud of debris can mark the location of a tornado even if a funnel is not visible.
 - Tornadoes generally occur near the trailing edge of a thunderstorm. It is not uncommon to see clear, sunlit skies behind a tornado.
4. Avoid places with wide-span roofs such as auditoriums, cafeterias, large hallways, supermarkets or shopping malls.
 5. Be prepared to take shelter immediately. Gather household members and pets. Assemble supplies to take to the shelter such as a flashlight, battery-powered radio, water, and first aid kit.

What to Do During a Tornado Warning

When a tornado has been sighted, go to your shelter immediately.

1. In a residence or small building, move to a pre-designated shelter, such as a basement, storm cellar or "Wind Safe Room and Shelter."
2. If there is no basement, go to an interior room on the lower level (closets, interior hallways). Put as many walls as possible between you and the outside. Get under a sturdy table and use arms to protect your head and neck. Stay there until the danger has passed.
3. Do not open windows. Use the time to seek shelter.
4. Stay away from windows, doors and outside walls. Go to the center of the room. Stay away from corners because they attract debris.
5. In a school, nursing home, hospital, factory or shopping center, go to predetermined shelter areas. Interior hallways on the lowest floor are usually safest. Stay away from windows and open spaces.
6. In a high-rise building, go to a small, interior room or hallway on the lowest floor possible.
7. Get out of vehicles, trailers and mobile homes immediately and go to the lowest floor of a sturdy nearby building or a storm shelter. Mobile homes, even if tied down, offer little protection from tornadoes.

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8. If caught outside with no shelter, lie flat in a nearby ditch or depression and cover your head with your hands. Be aware of potential for flooding.
9. Do not get under an overpass or bridge. You are safer in a low, flat location.
10. Never try to outrun a tornado in urban or congested areas in a car or truck; instead, leave the vehicle immediately for safe shelter. Tornadoes are erratic and move swiftly.
- 11 Watch out for flying debris. Flying debris from tornadoes causes most fatalities and injuries.

What to Do After a Tornado

1. Look for broken glass and downed power lines.
2. Check for injuries. Do not attempt to move seriously injured persons unless they are in immediate danger of death or further injury. If you must move an unconscious person, first stabilize the neck and back, then call for help immediately.
 - If the victim is not breathing, carefully position the victim for artificial respiration, clear the airway and commence mouth-to-mouth resuscitation.
 - Maintain body temperature with blankets. Be sure the victim does not become overheated.
 - Never try to feed liquids to an unconscious person.
3. Use caution when entering a damaged building. Be sure that walls, ceiling and roof are in place and that the structure rests firmly on the foundation. Wear sturdy work boots and gloves.
4. See the “Recovering from Disaster” section on pages 47-49 for more important information.

Wind Safe Room and Shelter

Extreme windstorms in many parts of the country pose a serious threat to buildings and their occupants.

Your residence may be built “to code,” but that does not mean that it can withstand winds from extreme events like tornadoes or major hurricanes.

The purpose of a wind safe room and shelter is to provide a space where you and your household can seek refuge that provides a high level of protection. You can build a shelter in one of several places in your home:

- In your basement
- Beneath a concrete slab-on-grade foundation or garage floor
- In an interior room on the first floor

Shelters built below ground level provide the greatest protection, but a shelter built in a first-floor interior room can also provide the necessary protection. Below-ground shelters must be designed to avoid accumulating water during the heavy rains that often accompany severe windstorms.

To protect its occupants, an in-house shelter must be built to withstand high winds and flying debris, even if the rest of the residence is severely damaged or destroyed. Therefore:

- The shelter must be adequately anchored to resist overturning and uplift.
- The walls, ceiling, and door of the shelter must withstand wind pressure and resist penetration by windborne objects and falling debris.
- The connections between all parts of the shelter must be strong enough to resist the wind.
- If sections of either interior or exterior residence walls are used as walls of the shelter, they must be separated from the structure of the residence, so that damage to the residence will not cause damage to the shelter.

If you are concerned about wind hazards where you live, especially if you live in high-risk areas, you should consider building a shelter. Publications are available from FEMA to assist in determining if you need a shelter and how to construct a shelter. Contact the FEMA distribution center for a copy of *Taking Shelter from the Storm* (L-233 for the brochure and FEMA-320 for the booklet with complete construction plans).

Winter Storms and Extreme Cold

Heavy snowfall and extreme cold can immobilize an entire region. Even areas that normally experience mild winters can be hit with a major snowstorm or extreme cold. The impacts include flooding, storm surge, closed highways, blocked roads, downed power lines and hypothermia.

You can protect yourself and your household from the many hazards of winter by planning ahead.

What to Do Before a Winter Storm Threatens

1. Know the terms used by weather forecasters:
 - **Freezing rain**—Rain that freezes when it hits the ground, creating a coating of ice on roads, walkways, trees and power lines.
 - **Sleet**—Rain that turns to ice pellets before reaching the ground. Sleet also causes roads to freeze and become slippery.
 - **Winter Storm Watch**—A winter storm is possible in your area.
 - **Winter Storm Warning**—A winter storm is occurring, or will soon occur in your area.
 - **Blizzard Warning**—Sustained winds or frequent gusts to 35 miles per hour or greater and considerable falling or blowing snow (reducing visibility to less than a quarter mile)

are expected to prevail for a period of three hours or longer.

- **Frost/Freeze Warning**—Below freezing temperatures are expected.
2. Prepare to survive on your own for at least three days. Assemble a disaster supply kit. Be sure to include winter specific items such as rock salt to melt ice on walkways, sand to improve traction, snow shovels and other snow removal equipment. Keep a stock of food and extra drinking water. See the “72-Hour Disaster Supply Kits” and “Evacuation” sections for more information.
 3. Prepare for possible isolation in your home:
 - Have sufficient heating fuel; regular fuel sources may be cut off.
 - Have emergency heating equipment and fuel (a gas fireplace or a wood burning stove or fireplace) so you can keep at least one room of your residence livable. (Be sure the room is well ventilated.) If a thermostat controls your furnace and your electricity is cut off by a storm, you will need emergency heat.
 - Kerosene heaters are another emergency heating option.
 - Store a good supply of dry, seasoned wood for your fireplace or wood-burning stove.
 - Keep fire extinguishers on hand, and make sure your household knows how to use them.
 - Never burn charcoal indoors.
 4. Winterize your home to extend the life of your fuel supply.
 - Insulate walls and attics.
 - Caulk and weather-strip doors and windows.
 - Install storm windows or cover windows with plastic.
 5. Maintain several days’ supply of medicines, water, and food that needs no cooking or refrigeration.
- Cover your mouth with a scarf to protect your lungs.
 4. Be careful when shoveling snow. Over-exertion can bring on a heart attack—a major cause of death in the winter. If you must shovel snow, stretch before going outside and don’t overexert yourself.
 5. Watch for signs of frostbite: loss of feeling and white or pale appearance in extremities such as fingers, toes, ear lobes or the tip of the nose. If symptoms are detected, get medical help immediately.
 6. Watch for signs of hypothermia: uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness and apparent exhaustion. If symptoms of hypothermia are detected, get the victim to a warm location, remove any wet clothing, warm the center of the body first, and give warm, non-alcoholic beverages if the victim is conscious. Get medical help as soon as possible.
 7. When at home:
 - Conserve fuel if necessary by keeping your residence cooler than normal. Temporarily “close off” heat to some rooms.
 - When using kerosene heaters, maintain ventilation to avoid build-up of toxic fumes. Refuel kerosene heaters outside and keep them at least three feet from flammable objects.

Winter Driving

About 70 percent of winter deaths related to snow and ice occur in automobiles. Consider public transportation if you must travel. If you travel by car, travel in the daytime, don’t travel alone, and keep others informed of your schedule. Stay on main roads; avoid back-road shortcuts.

1. Winterize your car. This includes a battery check, antifreeze, wipers and windshield washer fluid, ignition system, thermostat, lights, flashing hazard lights, exhaust system, heater, brakes, defroster, oil level, and tires. Consider snow tires, snow tires with studs, or chains. Keep your car’s gas tank full.
2. Carry a “winter car kit” in the trunk of your car. The kit should include:
 - Shovel
 - Windshield scraper
 - Battery-powered radio
 - Flashlight
 - Extra batteries
 - Water
 - Snack food
 - Mittens
 - Hat
 - Blanket

What to Do During a Winter Storm

1. Listen to the radio or television for weather reports and emergency information.
2. Eat regularly and drink ample fluids, but avoid caffeine and alcohol.
3. Dress for the season:
 - Wear several layers of loose fitting, lightweight, warm clothing rather than one layer of heavy clothing. The outer garments should be tightly woven and water repellent.
 - Mittens are warmer than gloves.
 - Wear a hat; most body heat is lost through the top of the head.

Natural Hazards

- Tow chain or rope
 - Tire chains
 - Bag of road salt and sand
 - Fluorescent distress flag
 - Booster cables
 - Road maps
 - Emergency flares
 - Cellular telephone or two-way radio, if available.
3. If a blizzard traps you in your car:
- Pull off the highway. Turn on hazard lights and hang a distress flag from the radio aerial or window.
 - Remain in your vehicle where rescuers are most likely to find you. Do not set out on foot unless you can see a building close by where you know you can take shelter. Be careful: distances are distorted by blowing snow. A building may seem close but be too far to walk to in deep snow.
 - Run the engine and heater about ten minutes each hour to keep warm. When the engine is running, open a window slightly for ventilation. This will protect you from possible carbon monoxide poisoning. Periodically clear snow from the exhaust pipe.
 - Exercise to maintain body heat, but avoid overexertion. In extreme cold, use road maps, seat covers and floor mats for insulation. Huddle with passengers and use your coat for a blanket.
 - Take turns sleeping. One person should be awake at all times to look for rescue crews.
 - Drink fluids to avoid dehydration.
 - Be careful not to waste battery power. Balance electrical energy needs—the use of lights, heat and radio—with supply.
 - At night, turn on the inside light so work crews or rescuers can see you.
 - If stranded in a remote area, spread a large cloth over the snow to attract attention of rescue personnel who may be surveying the area by airplane.
 - Once the blizzard passes, you may need to leave the car and proceed on foot.

Extreme Heat (Heat Wave)

Heat kills by pushing the human body beyond its limits. Under normal conditions, the body's internal thermostat produces perspiration that evaporates and cools the body. However, in extreme heat and high humidity, evaporation is slowed and the body must work extra hard to maintain a normal temperature.

Most heat disorders occur because the victim has been overexposed to heat or has over-exercised for his or

her age and physical condition. The elderly, young children, and those who are sick or overweight are more likely to succumb to extreme heat.

Conditions that can induce heat-related illnesses include stagnant atmospheric conditions and poor air quality. Consequently, people living in urban areas may be at greater risk from the effects of a prolonged heat wave than those living in rural areas. Also, asphalt and concrete store heat longer and gradually release heat at night, which can produce higher nighttime temperatures known as the "urban heat island effect."

What to Do Before an Extreme Heat Emergency

1. Know the terms associated with extreme heat:
 - **Heat wave**—Prolonged period of excessive heat, often combined with excessive humidity.
 - **Heat index**—A number in degrees Fahrenheit (F) that tells how hot it feels when relative humidity is added to the air temperature. Exposure to full sunshine can increase the heat index by 15 degrees.
 - **Heat cramps**—Muscular pains and spasms due to heavy exertion. Although heat cramps are the least severe, they are often the first signal that the body is having trouble with the heat.
 - **Heat exhaustion**—Typically occurs when people exercise heavily or work in a hot, humid place where body fluids are lost through heavy sweating. Blood flow to the skin increases, causing blood flow to decrease to the vital organs. This results in a form of mild shock. If not treated, the victim's condition will worsen. Body temperature will keep rising and the victim may suffer heat stroke.
 - **Heat stroke**—Heat stroke is life-threatening. The victim's temperature control system, which produces sweating to cool the body, stops working. The body temperature can rise so high that brain damage and death may result if the body is not cooled quickly.
 - **Sun stroke**—Another term for heat stroke.
2. Consider the following preparedness measures when faced with the possibility of extreme heat.
 - Install window air conditioners snugly, insulate if necessary.
 - Close any floor heat registers nearby and use a circulating or box fan to spread cool air.
 - Check air-conditioning ducts for proper insulation.
 - Install temporary reflectors, such as aluminum foil covered cardboard, to reflect heat back outside and be sure to weather-strip doors and sills to keep cool air in.
 - Cover windows that receive morning or afternoon sun with drapes, shades, awnings or

louvers. Outdoor awnings or louvers can reduce the heat that enters a home by up to 80 percent. Consider keeping storm windows up all year.

3. See the “72-Hour Disaster Supply Kits” section for more information.

What to Do During Extreme Heat or A Heat Wave Emergency

1. Stay indoors as much as possible.
 - If air conditioning is not available, stay on the lowest floor out of the sunshine.
 - Remember that electric fans do not cool, they just blow hot air around.
2. Eat well-balanced, light and regular meals. Avoid using salt tablets unless directed to do so by a physician.
3. Drink plenty of water regularly even if you do not feel thirsty.
 - Persons who have epilepsy or heart, kidney, or liver disease, are on fluid-restrictive diets, or have a problem with fluid retention should consult a doctor before increasing liquid intake.
4. Limit intake of alcoholic beverages.
 - Although beer and alcoholic beverages appear to satisfy thirst, they actually cause further body dehydration.
5. Never leave children or pets alone in closed vehicles.
6. Dress in loose-fitting clothes that cover as much skin as possible.
 - Lightweight, light-colored clothing reflects heat and sunlight and helps maintain normal body temperature.
7. Protect your face and head by wearing a wide-brimmed hat.
8. Avoid too much sunshine.
 - Sunburn slows the skin’s ability to cool itself. Use a sunscreen lotion with a high SPF (sun protection factor) rating (i.e., 15 or greater).
9. Avoid strenuous work during the warmest part of the day. Use a buddy system when working in extreme heat and take frequent breaks.
10. Spend at least two hours per day in an air-conditioned place. If your home is not air conditioned, consider spending the warmest part of the day in public buildings such as libraries, schools, movie theaters, shopping malls and other community facilities.
11. Check on family, friends, and neighbors who do not have air conditioning and who spend much of their time alone.

First-Aid For Heat-Induced Illnesses

1. Sunburn

- **Symptoms:** Skin redness and pain, possible swelling, blisters, fever, headaches.
- **First Aid:** Take a shower, using soap, to remove oils that may block pores, preventing the body from cooling naturally. If blisters occur, apply dry, sterile dressings and get medical attention.

2. Heat cramps

- **Symptoms:** Painful spasms, usually in leg and abdominal muscles. Heavy sweating.
- **First Aid:** Get the victim out to a cooler location. Lightly stretch and gently massage affected muscles to relieve spasms. Give sips of up to a half glass of cool water every 15 minutes. Do not give liquids with caffeine or alcohol. If nauseous, discontinue liquids.

3. Heat exhaustion

- **Symptoms:** Heavy sweating and skin may be cool, pale or flushed. Weak pulse. Normal body temperature is possible but temperature will likely rise. Fainting or dizziness, nausea or vomiting, exhaustion and headaches are possible.
- **First Aid:** Get victim to lie down in a cool place. Loosen or remove clothing. Apply cool, wet cloths. Fan or move victim to an air-conditioned place. Give sips of water if victim is conscious. Be sure water is consumed slowly. Give half glass of cool water every 15 minutes. If nausea occurs, discontinue. If vomiting occurs, seek immediate medical attention.

4. Heat stroke (sun stroke)

- **Symptoms:** High body temperature (105+). Hot, red, dry skin. Rapid, weak pulse; and rapid, shallow breathing. Possible unconsciousness. Victim will likely not sweat unless victim was sweating from recent strenuous activity.
- **First Aid:** Heat stroke is a severe medical emergency. Call 911 or emergency medical services or get the victim to a hospital immediately. Delay can be fatal. Move victim to a cooler environment. Remove clothing. Try a cool bath, sponging or wet sheet to reduce body temperature. Watch for breathing problems. Use extreme caution. Use fans and air conditioners.

Drought and Public Water Shortage

An emergency water shortage can be caused by prolonged drought, poor water supply management or contamination of a surface water supply source or aquifer.

Natural Hazards

A drought is a period of abnormally dry weather that persists long enough to produce serious effects (crop damage, water supply shortages, etc.). The severity of the drought depends upon the degree of moisture deficiency, the duration, and the size of the affected area.

Drought can affect vast territorial regions and large population numbers. In effect, drought is a silent but very damaging phenomenon that is rarely lethal but enormously destructive. Drought can ruin local and regional economies that are agricultural and tourism based. Drought also creates environmental conditions that increase risk of other hazards such as fire, flash flood, and possible landslides/debris flow.

Poor water quality management can result in the demand for water exceeding the available supply. This can be exacerbated by fluctuations in regional precipitation, excessive water demand, or rapid residential development.

Emergency water shortages can also be caused by contamination of a water supply. A major spill of a petroleum product or hazardous chemical on a major river can force communities to shut down water treatment plants. Although typically more localized, the contamination of ground water or an aquifer can also disrupt the use of well water.

Water Conservation

Conserving water is very important during emergency water shortages. Water saved by one user may be enough to protect the critical needs of others. Irrigation practices can be changed to use less water, or crops can be planted that use less water. Cities and towns can ration water, factories can change manufacturing methods, and individuals can practice water-saving measures to reduce consumption. If everyone reduces water use during a drought, more water will be available to share.

1. Practice indoor water conservation:

General

- Never pour water down the drain when there may be another use for it. Use it to water your indoor plants or garden.
- Repair dripping faucets by replacing washers. One drop per second wastes 2,700 gallons of water per year!

Bathroom

- Check all plumbing for leaks. Have leaks repaired by a plumber.
- Install a toilet displacement device to cut down on the amount of water needed to flush. Place a one-gallon plastic jug of water into the tank to displace toilet flow (do not use a brick, it may dissolve and loose pieces may cause damage to the internal parts). Be sure installation does not interfere with the operating parts.

- Consider purchasing a low-volume toilet that uses less than half the water of older models. NOTE: In many areas, low-volume units are required by law.
- Replace your showerhead with an ultra-low-flow version.
- Do not take baths—take short showers—only turn on water to get wet and lather and then again to rinse off.
- Place a bucket in the shower to catch excess water for watering plants.
- Don't let the water run while brushing your teeth, washing your face or shaving.
- Don't flush the toilet unnecessarily. Dispose of tissues, insects, and other similar waste in the trash rather than the toilet.

Kitchen

- Operate automatic dishwashers only when they are fully loaded. Use the "light wash" feature if available to use less water.
- Hand wash dishes by filling two containers—one with soapy water and the other with rinse water containing a small amount of chlorine bleach.
- Most dishwashers can clean soiled dishes very well, so dishes do not have to be rinsed before washing. Just remove large particles of food, and put the soiled dishes in the dishwasher.
- Store drinking water in the refrigerator. Don't let the tap run while you are waiting for water to cool.
- Do not waste water waiting for it to get hot. Capture it for other uses such as plant watering or heat it on the stove or in a microwave.
- Do not use running water to thaw meat or other frozen foods. Defrost food overnight in the refrigerator, or use the defrost setting on your microwave.
- Clean vegetables in a pan filled with water rather than running water from the tap.
- Kitchen sink disposals require a lot of water to operate properly. Start a compost pile as an alternate method of disposing of food waste, or simply dispose of food in the garbage.

Laundry

- Operate automatic clothes washers only when they are fully loaded or set the water level for the size of your load.

Long-term indoor water conservation

- Retrofit all household faucets by installing aerators with flow restrictors.
- Consider installing an instant hot water heater on your sink.

- Insulate your water pipes to reduce heat loss and prevent them from breaking if you have a sudden and unexpected spell of freezing weather.
- If you are considering installing a new heat pump or air-conditioning system, the new air-to-air models are just as efficient as the water-to-air type and do not waste water.
- Install a water-softening system only when the minerals in the water would damage your pipes. Turn the softener off while on vacation.
- When purchasing a new appliance, choose one that is more energy and water efficient.

2. Practice outdoor water conservation:

General

- If you have a well at home, check your pump periodically. If the automatic pump turns on and off while water is not being used, you have a leak.

Car washing

- Use a shut-off nozzle on your hose that can be adjusted down to a fine spray, so that water flows only as needed.
- Consider using a commercial car wash that recycles water. If you wash your own car, park on the grass so that you will be watering it at the same time.

Lawn Care

- Don't over water your lawn. A heavy rain eliminates the need for watering for up to two weeks. Most of the year, lawns only need one inch of water per week.
- Water in several short sessions rather than one long one in order for your lawn to better absorb moisture.
- Position sprinklers so water lands on the lawn and shrubs and not on paved areas.
- Avoid sprinklers that spray a fine mist. Mist can evaporate before it reaches the lawn. Check sprinkler systems and timing devices regularly to be sure they operate properly.
- Raise the lawn mower blade to at least three inches, or to its highest level. A higher cut encourages grass roots to grow deeper, shades the root system, and holds soil moisture.
- Plant drought-resistant lawn seed.
- Avoid over-fertilizing your lawn. Applying fertilizer increases the need for water. Apply fertilizers that contain slow-release, water-insoluble forms of nitrogen.
- Use a broom or blower instead of a hose to clean leaves and other debris from your driveway or sidewalk.

- Do not leave sprinklers or hoses unattended. A garden hose can pour out 600 gallons or more in only a few hours.

Pool

- Consider installing a new water-saving pool filter. A single back flushing with a traditional filter uses 180 to 250 gallons of water.
- Cover pools and spas to reduce evaporation of water.

Long term outdoor conservation

- Plant native and/or drought-tolerant grasses, ground covers, shrubs and trees. Once established, they do not need water as frequently and usually will survive a dry period without watering. Small plants require less water to become established. Group plants together based on similar water needs.
- Install irrigation devices that are the most water efficient for each use. Micro and drip irrigation and soaker hoses are examples of efficient devices.
- Use mulch to retain moisture in the soil. Mulch also helps control weeds that compete with landscape plants for water.
- Avoid purchasing recreational water toys that require a constant stream of water.
- Avoid installing ornamental water features (such as fountains) unless they use recycled water.

Participate in public water conservation programs of your local government, utility or water management district. Follow water conservation and water shortage rules in effect. Remember, you are included in the restrictions even if your water comes from a private well. Be sure to support community efforts that help develop and promote a water conservation ethic.

Contact your local water authority, utility district, or local emergency management agency for information specific to your area.

Earthquakes

An earthquake is a sudden shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface. Earthquakes can cause buildings and bridges to collapse, telephone and power lines to fall, and result in fires, explosions and landslides. Earthquakes can also cause huge ocean waves, called tsunamis, which travel long distances over water until they crash into coastal areas.

The following information includes general guidelines for earthquake preparedness and safety. Because injury prevention techniques may vary from state to state, it is recommended that you contact your local emergency management office, health department, or American Red Cross chapter.

Natural Hazards

What to Do Before an Earthquake

1. Know the terms associated with earthquakes.
 - **Earthquake**—a sudden slipping or movement of a portion of the earth's crust, accompanied and followed by a series of vibrations.
 - **Aftershock**—an earthquake of similar or lesser intensity that follows the main earthquake.
 - **Fault**—the earth's crust slips along a fault—an area of weakness where two sections of crust have separated. The crust may only move a few inches to a few feet in a severe earthquake.
 - **Epicenter**—the area of the earth's surface directly above the origin of an earthquake.
 - **Seismic Waves**—are vibrations that travel outward from the center of the earthquake at speeds of several miles per second. These vibrations can shake some buildings so rapidly that they collapse.
 - **Magnitude**—indicates how much energy was released. This energy can be measured on a recording device and graphically displayed through lines on a Richter Scale. A magnitude of 7.0 on the Richter Scale would indicate a very strong earthquake. Each whole number on the scale represents an increase of about 30 times the energy released. Therefore, an earthquake measuring 6.0 is about 30 times more powerful than one measuring 5.0.
2. Look for items in your home that could become a hazard in an earthquake:
 - Repair defective electrical wiring, leaky gas lines, and inflexible utility connections.
 - Bolt down water heaters and gas appliances (have an automatic gas shut-off device installed that is triggered by an earthquake).
 - Place large or heavy objects on lower shelves. Fasten shelves to walls. Brace high and top-heavy objects.
 - Store bottled foods, glass, china and other breakables on low shelves or in cabinets that can fasten shut.
 - Anchor overhead lighting fixtures.
 - Check and repair deep plaster cracks in ceilings and foundations. Get expert advice, especially if there are signs of structural defects.
 - Be sure the residence is firmly anchored to its foundation.
 - Install flexible pipe fittings to avoid gas or water leaks. Flexible fittings are more resistant to breakage.
3. Know where and how to shut off electricity, gas and water at main switches and valves. Check with your local utilities for instructions.

4. Hold earthquake drills with your household:
 - Locate safe spots in each room under a sturdy table or against an inside wall. Reinforce this information by physically placing yourself and your household in these locations.
 - Identify danger zones in each room—near windows where glass can shatter, bookcases or furniture that can fall over, or under ceiling fixtures that could fall down.
5. Develop a plan for reuniting your household after an earthquake. Establish an out-of-town telephone contact for household members to call to let others know that they are okay.
6. Review your insurance policies. Some damage may be covered even without specific earthquake insurance. Protect important home and business papers.
7. Prepare to survive on your own for at least three days. Assemble a disaster supply kit. Keep a stock of food and extra drinking water. See the "72-Hour Disaster Supply Kits" and "Evacuation" sections for more information.

What to Do During an Earthquake

Stay inside until the shaking stops and it is safe to go outside. Most injuries during earthquakes occur when people are hit by falling objects when entering or exiting buildings.

1. **Drop, Cover and Hold On!** Minimize your movements during an earthquake to a few steps to a nearby safe place. Stay indoors until the shaking has stopped and you are sure exiting is safe.
2. If you are indoors, take cover under a sturdy desk, table or bench, or against an inside wall, and hold on. Stay away from glass, windows, outside doors or walls and anything that could fall, such as lighting fixtures or furniture. If you are in bed, stay there, hold on and protect your head with a pillow, unless you are under a heavy light fixture that could fall.
3. If there isn't a table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building. Doorways should only be used for shelter if they are in close proximity to you and if you know that it is a strongly supported load-bearing doorway.
4. If you are outdoors, stay there. Move away from buildings, streetlights and utility wires.
5. If you live in an apartment building or other multi-household structure with many levels, consider the following:
 - Get under a desk and stay away from windows and outside walls.
 - Stay in the building (many injuries occur as people flee a building and are struck by falling debris from above).

Natural Hazards

- Be aware that the electricity may go out and sprinkler systems may come on.
 - DO NOT use the elevators.
6. If you are in a crowded indoor public location:
 - Stay where you are. Do not rush for the doorways.
 - Move away from tall shelves, cabinets and bookcases containing objects that may fall.
 - Take cover and grab something to shield your head and face from falling debris and glass.
 - Be aware that the electricity may go out or the sprinkler systems or fire alarms may turn on.
 - DO NOT use elevators.
 7. In a moving vehicle, stop as quickly as safety permits, and stay in the vehicle. Avoid stopping near or under buildings, trees, overpasses or utility wires. Then, proceed cautiously, watching for road and bridge damage.
 8. If you become trapped in debris:
 - Do not light a match.
 - Do not move about or kick up dust.
 - Cover your mouth with a handkerchief or clothing.
 - Tap on a pipe or wall so rescuers can locate you. Use a whistle if one is available. Shout only as a last resort—shouting can cause you to inhale dangerous amounts of dust.
 9. Stay indoors until the shaking has stopped and you are sure exiting is safe.

What to Do After an Earthquake

1. Be prepared for aftershocks. These secondary shock waves are usually less violent than the main quake but can be strong enough to do additional damage to weakened structures.
 2. Check for injuries. Do not attempt to move seriously injured persons unless they are in immediate danger of death or further injury. If you must move an unconscious person, first stabilize the neck and back, then call for help immediately.
 - If the victim is not breathing, carefully position the victim for artificial respiration, clear the airway and start mouth-to-mouth resuscitation.
 - Maintain body temperature with blankets. Be sure the victim does not become overheated.
 - Never try to feed liquids to an unconscious person.
 3. If the electricity goes out, use flashlights or battery powered lanterns. Do not use candles, matches or open flames indoors after the earthquake because of possible gas leaks.
 4. Wear sturdy shoes in areas covered with fallen debris and broken glass.
5. Check your home for structural damage. If you have any doubts about safety, have your home inspected by a professional before entering.
 6. Check chimneys for visual damage; however, have a professional inspect the chimney for internal damage before lighting a fire.
 7. Clean up spilled medicines, bleaches, gasoline and other flammable liquids. Evacuate the building if gasoline fumes are detected and the building is not well ventilated.
 8. Visually inspect utility lines and appliances for damage.
 - If you smell gas or hear a hissing or blowing sound, open a window and leave. Shut off the main gas valve. Report the leak to the gas company from the nearest working phone or cell phone available. Stay out of the building. If you shut off the gas supply at the main valve, you will need a professional to turn it back on.
 - Switch off electrical power at the main fuse box or circuit breaker if electrical damage is suspected or known.
 - Shut off the water supply at the main valve if water pipes are damaged.
 - Do not flush toilets until you know that sewage lines are intact.
 9. Open cabinets cautiously. Beware of objects that can fall off shelves.
 10. Use the phone only to report life-threatening emergencies.
 11. Listen to news reports for the latest emergency information.
 12. Stay off the streets. If you must go out, watch for fallen objects, downed electrical wires, weakened walls, bridges, roads and sidewalks.
 13. Stay away from damaged areas unless your assistance has been specifically requested by police, fire or relief organizations.
 14. If you live in coastal areas, be aware of possible tsunamis, sometimes mistakenly called tidal waves. When local authorities issue a tsunami warning, assume that a series of dangerous waves is on the way. Stay away from the beach.

Landslides and Debris Flow (Mudslide)

Landslides occur in all U.S. states and territories and occur when masses of rock, earth, or debris move down a slope. Landslides may be small or large, and can move at slow or very high speeds. They are activated by storms, earthquakes, volcanic eruptions, fires and by human modification of the land.

Natural Hazards

Debris and mud flows are rivers of rock, earth, and other debris saturated with water. They develop when water rapidly accumulates in the ground, during heavy rainfall or rapid snowmelt, changing the earth into a flowing river of mud or “slurry.” They can flow rapidly down slopes or through channels, and can strike with little or no warning at avalanche speeds. They can also travel several miles from their source, growing in size as they pick up trees, large boulders, cars, and other materials along the way.

Landslide, mudflow, and debris-flow problems are occasionally caused by land mismanagement. Improper land-use practices on ground of questionable stability, particularly in mountain, canyon, and coastal regions, can create and accelerate serious landslide problems. Land-use zoning, professional inspections, and proper design can minimize many landslide, mudflow, and debris flow problems.

What to Do Before a Landslide or Debris Flow

1. Contact your local emergency management office or American Red Cross chapter for information on local landslide and debris flow hazards.
2. Get a ground assessment of your property.
 - County or state geological experts, local planning department or departments of natural resources may have specific information on areas vulnerable to land slides. Consult an appropriate professional expert for advice on corrective measures you can take.
3. Minimize home hazards by having flexible pipe fittings installed to avoid gas or water leaks. Flexible fittings are more resistant to breakage. Only the gas company or professionals should install gas fittings.
4. Familiarize yourself with your surrounding area.
 - Small changes in your local landscape could alert you to the potential of greater future threat.
 - Observe the patterns of storm water drainage on slopes and especially the places where runoff water converges.
 - Watch for any sign of land movement, such as small slides, flows, or progressively leaning trees, on the hillsides near your home.
5. Be particularly observant of your surrounding area before and during intense storms that could heighten the possibility of landslide or debris flow from heavy rains. Many debris flow fatalities occur when people are sleeping.
6. Talk to your insurance agent. Debris flow may be covered by flood insurance policies from the National Flood Insurance Program (NFIP).
7. Learn to recognize landslide warning signs.
 - Doors or windows stick or jam for the first time.
 - New cracks appear in plaster, tile, brick, or foundations.
 - Outside walls, walks, or stairs begin pulling away from the building.
 - Slowly developing, widening cracks appear on the ground or on paved areas such as streets or driveways.
 - Underground utility lines break.
 - Bulging ground appears at the base of a slope.
 - Water breaks through the ground surface in new locations.
 - Fences, retaining walls, utility poles, or trees tilt or move.
 - You hear a faint rumbling sound that increases in volume as the landslide nears.
 - The ground slopes downward in one specific direction and may begin shifting in that direction under your feet.

What to Do During a Heightened Threat of Landslide or Debris Flow

1. Listen to the radio or television for warnings of intense rainfall.
 - Be prepared to evacuate if instructed by local authorities or if you feel threatened.
 - Should you remain at home, move to a second story if possible to distance yourself from the direct path of debris flow and landslide debris.
2. Be alert when intense, short bursts of rain follow prolonged heavy rains or damp weather, which increase risks of debris flows.
3. Listen for any unusual sounds that might indicate moving debris, such as trees cracking or boulders knocking together. A trickle of flowing or falling mud or debris may precede larger landslides. Moving debris can flow quickly and sometimes without warning.
4. If you are near a stream or channel, be alert for sudden increases or decreases in water flow and for a change from clear to muddy water. Such changes may indicate landslide activity upstream. Be prepared to move quickly.
5. Be especially alert when driving. Embankments along roadsides are particularly susceptible to landslides. Watch for collapsed pavement, mud, fallen rocks, and other indications of possible debris flows.
6. Evacuate when ordered by local authorities. See the “Evacuation” section for more information.

What to Do During a Landslide or Debris Flow

1. Quickly move away from the path of a landslide or debris flow.
2. Areas generally considered safe include:

- Areas that have not moved in the past
 - Relatively flat-lying areas away from drastic changes in slope
 - Areas at the top of or along ridges set back from the tops of slopes.
3. If escape is not possible, curl into a tight ball and protect your head.

What to Do After a Landslide or Debris Flow

1. Stay away from the slide area. There may be danger of additional slides.
2. Check for injured and trapped persons near the slide, without entering the direct slide area. Direct rescuers to their locations.
3. Help a neighbor who may require special assistance—large families, children, elderly people, and people with disabilities.
4. Listen to local radio or television stations for the latest emergency information.
5. Landslides and flows can provoke associated dangers such as broken electrical, water, gas, and sewage lines, and disrupt roadways and railways.
 - Look for and report broken utility lines to appropriate authorities. Reporting potential hazards will get the utilities turned off as quickly as possible, preventing further hazard and injury.
 - Check the building foundation, chimney, and surrounding land for damage. Damage to foundations, chimneys, or surrounding land may help you assess the safety of the area.
6. Watch for flooding, which may occur after a landslide or debris flow. Floods sometimes follow landslides and debris flows because they may both be started by the same event.
7. Replant damaged ground as soon as possible since erosion caused by loss of ground cover can lead to flash flooding and additional landslides in the near future.
8. Seek the advice of a geotechnical expert for evaluating landslide hazards or designing corrective techniques to reduce landslide risk. A professional will be able to advise you of the best ways to prevent or reduce landslide risk, without creating further hazard.
9. See the “Recovering from Disaster” section on pages 47-49 for more information.

House Fires

Each year more than 4000 Americans die and more than 25,000 are injured in fires, many of which could be prevented. Direct property loss due to fires is estimated at \$8.6 billion annually.

To protect yourself, it's important to understand the basic characteristics of fire. Fire spreads quickly; there is no time to gather valuables or make a phone call. In just two minutes a fire can become life threatening. In five minutes a residence can be engulfed in flames.

Heat and smoke from fire can be more dangerous than the flames. Inhaling the super-hot air can sear your lungs. Fire produces poisonous gases that make you disoriented and drowsy. Instead of being awakened by a fire, you may fall into a deeper sleep. Asphyxiation is the leading cause of fire deaths, exceeding burns, by a three-to-one ratio.

What to Do Before Fire Strikes

1. Install smoke alarms. Working smoke alarms decrease your chances of dying in a fire by half.
 - Place smoke alarms on every level of your residence: outside bedrooms on the ceiling or high on the wall, at the top of open stairways or at the bottom of enclosed stairs and near (but not in) the kitchen.
 - Test and clean smoke alarms once a month and replace batteries at least once a year. Replace smoke alarms once every 10 years.
2. With your household, plan two escape routes from every room in the residence. Practice with your household escaping from each room.
 - Make sure windows are not nailed or painted shut. Make sure security gratings on windows have a fire safety-opening feature so that they can be easily opened from the inside.
 - Consider escape ladders if your home has more than one level and ensure that burglar bars and other antitheft mechanisms that block outside window entry are easily opened from inside.
 - Teach household members to stay low to the floor (where the air is safer in a fire) when escaping from a fire.
 - Pick a place outside your home for the household to meet after escaping from a fire.
3. Clean out storage areas. Don't let trash such as old newspapers and magazines accumulate.
4. Check the electrical wiring in your home.
 - Inspect extension cords for frayed or exposed wires or loose plugs.
 - Outlets should have cover plates and no exposed wiring.
 - Make sure wiring does not run under rugs, over nails, or across high traffic areas.
 - Do not overload extension cords or outlets. If you need to plug in two or three appliances, get a UL-approved unit with built-in circuit breakers to prevent sparks and short circuits.

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- Make sure home insulation does not touch electrical wiring.
 - Have an electrician check the electrical wiring in your home.
5. Never use gasoline, benzene, naphtha or similar liquids indoors.
 - Store flammable liquids in approved containers in well-ventilated storage areas.
 - Never smoke near flammable liquids.
 - After use, safely discard all rags or materials soaked in flammable material.
 6. Check heating sources. Many home fires are started by faulty furnaces or stoves, cracked or rusted furnace parts, and chimneys with creosote build-up. Have chimneys, wood stoves, and all home heating systems inspected and cleaned annually by a certified specialist.
 7. Insulate chimneys and place spark arresters on top. The chimney should be at least three feet higher than the roof. Remove branches hanging above and around the chimney.
 8. Be careful when using alternative heating sources, such as wood, coal and kerosene heaters and electrical space heaters.
 - Check with your local fire department on the legality of using kerosene heaters in your community. Be sure to fill kerosene heaters outside after they have cooled.
 - Place heaters at least three feet away from flammable materials. Make sure the floor and nearby walls are properly insulated.
 - Use only the type of fuel designated for your unit and follow manufacturer's instructions.
 - Store ashes in a metal container outside and away from the residence.
 - Keep open flames away from walls, furniture, drapery and flammable items. Keep a screen in front of the fireplace.
 - Have chimneys and wood stoves inspected annually and cleaned if necessary.
 - Use portable heaters only in well-ventilated rooms.
 9. Keep matches and lighters up high, away from children, and if possible, in a locked cabinet.
 10. Do not smoke in bed, or when drowsy or medicated. Provide smokers with deep, sturdy ashtrays. Douse cigarette and cigar butts with water before disposal.
 11. Safety experts recommend that you sleep with your door closed.
 12. Know the locations of the gas valve and electric fuse or circuit breaker box and how to turn them off

in an emergency. If you shut off your main gas line for any reason, allow only a gas company representative to turn it on again.

13. Install A-B-C-type fire extinguishers in the home and teach household members how to use them (Type A—wood or papers fires only; Type B—flammable liquid or grease fires; Type C—electrical fires; Type A-B-C—rated for all fires and recommended for the home).
14. Consider installing an automatic fire sprinkler system in your home.
15. Ask your local fire department to inspect your residence for fire safety and prevention.
16. Teach children how to report a fire and when to use 911.
17. To support insurance claims in case you do have a fire, conduct an inventory of your property and possessions and keep the list in a separate location. Photographs are also helpful.
18. See the "72-Hour Disaster Supply Kits" section for additional information.

What to Do During a Fire

1. Use water or a fire extinguisher to put out small fires. Do not try to put out a fire that is getting out of control. If you're not sure if you can control it, get everyone out of the residence and call the fire department from a neighbor's residence.
2. Never use water on an electrical fire. Use only a fire extinguisher approved for electrical fires.
3. Smother oil and grease fires in the kitchen with baking soda or salt, or put a lid over the flame if it is burning in a pan. Do not attempt to take the pan outside.
4. If your clothes catch on fire, stop, drop and roll until the fire is extinguished. Running only makes the fire burn faster.
5. If you are escaping through a closed door, use the back of your hand to feel the top of the door, the doorknob, and the crack between the door and door frame before you open it. Never use the palm of your hand or fingers to test for heat—burning those areas could impair your ability to escape a fire (i.e., using ladders and crawling).
 - If the door is cool, open slowly and ensure fire and/or smoke is not blocking your escape route. If your escape route is blocked, shut the door immediately and use an alternate escape route, such as a window. If clear, leave immediately through the door. Be prepared to crawl. Smoke and heat rise. The air is clearer and cooler near the floor.
 - If the door is warm or hot, do not open. Escape through a window. If you cannot escape, hang a white or light-colored sheet outside the window, alerting fire fighters to your presence.

6. If you must exit through smoke, crawl low under the smoke to your exit—heavy smoke and poisonous gases collect first along the ceiling.
7. Close doors behind you as you escape to delay the spread of the fire.
8. Once you are safely out, stay out. Call 911.

What to Do After a Fire

1. Give first aid where needed. After calling 911 or your local emergency number, cool and cover burns to reduce chance of further injury or infection.
2. Do not enter a fire-damaged building unless authorities say it is okay.
3. If you must enter a fire-damaged building, be alert for heat and smoke. If you detect either, evacuate immediately.
4. Have an electrician check your household wiring before the current is turned on.
5. Do not attempt to reconnect any utilities yourself. Leave this to the fire department and other authorities.
6. Beware of structural damage. Roofs and floors may be weakened and need repair.
7. Contact your local disaster relief service, such as the American Red Cross or Salvation Army, if you need housing, food, or a place to stay.
8. Call your insurance agent.
 - Make a list of damage and losses. Pictures are helpful.
 - Keep records of clean-up and repair costs. Receipts are important for both insurance and income tax claims.
 - Do not throw away any damaged goods until an official inventory has been taken. Your insurance company takes all damages into consideration.
9. If you are a tenant, contact the landlord. It's the property owner's responsibility to prevent further loss or damage to the site.
10. Secure personal belongings or move them to another location.
11. Discard food, beverages and medicines that have been exposed to heat, smoke or soot. Refrigerators and freezers left closed hold their temperature for a short time. Do not attempt to refreeze food that has thawed.
12. If you have a safe or strong box, do not try to open it. It can hold intense heat for several hours. If the door is opened before the box has cooled, the contents could burst into flames.
13. If a building inspector says the building is unsafe and you must leave your home:

- Ask local police to watch the property during your absence.
 - Pack identification, medicines, glasses, jewelry, credit cards, checkbooks, insurance policies and financial records if you can reach them safely.
 - Notify friends, relatives, police and fire departments, your insurance agent, the mortgage company, utility companies, delivery services, employers, schools and the post office of your whereabouts.
14. See the "Shelter" and "Recovering from Disaster" sections for more information.

Wildland Fires

If you live on a remote hillside, or in a valley, prairie or forest where flammable vegetation is abundant, your residence could be vulnerable to wildland fire. These fires are usually triggered by lightning or accidents.

1. Fire facts about rural living:
 - Once a fire starts outdoors in a rural area, it is often hard to control. Wildland firefighters are trained to protect natural resources, not homes and buildings.
 - Many homes are located far from fire stations. The result is longer emergency response times. Within a matter of minutes, an entire home may be destroyed by fire.
 - Limited water supply in rural areas can make fire suppression difficult.
 - Homes may be secluded and surrounded by woods, dense brush and combustible vegetation that fuel fires.
2. Ask fire authorities for information about wildland fires in your area. Request that they inspect your residence and property for hazards.
3. Be prepared and have a fire safety and evacuation plan:
 - Practice fire escape and evacuation plans.
 - Mark the entrance to your property with address signs that are clearly visible from the road.
 - Know which local emergency services are available and have those numbers posted near telephones.
 - Provide emergency vehicle access through roads and driveways at least 12 feet wide with adequate turnaround space.
4. Tips for making your property fire resistant:
 - Keep lawns trimmed, leaves raked, and the roof and rain gutters free from debris such as dead limbs and leaves.

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- Stack firewood at least 30 feet away from your home.
 - Store flammable materials, liquids and solvents in metal containers outside the home at least 30 feet away from structures and wooden fences.
 - Create defensible space by thinning trees and brush within 30 feet around your home. Beyond 30 feet, remove dead wood, debris and low tree branches.
 - Landscape your property with fire resistant plants and vegetation to prevent fire from spreading quickly. For example, hardwood trees are more fire-resistant than pine, evergreen, eucalyptus, or fir trees.
 - Make sure water sources, such as hydrants, ponds, swimming pools, and wells are accessible to the fire department.
5. Protect your home:
- Use fire resistant, protective roofing and materials like stone, brick and metal to protect your home. Avoid using wood materials. They offer the least fire protection.
 - Cover all exterior vents, attics and eaves with metal mesh screens no larger than 6 millimeters or 1/4 inch to prevent debris from collecting and to help keep sparks out.
 - Install multi-pane windows, tempered safety glass or fireproof shutters to protect large windows from radiant heat.
 - Use fire-resistant draperies for added window protection.
 - Have chimneys, wood stoves, and all home heating systems inspected and cleaned annually by a certified specialist.
 - Insulate chimneys and place spark arresters on top. The chimney should be at least three feet above the roof.
 - Remove branches hanging above and around the chimney.
6. Follow local burning laws:
- Do not burn trash or other debris without proper knowledge of local burning laws, techniques and the safest times of day and year to burn.
 - Before burning debris in a wooded area, make sure you notify local authorities and obtain a burning permit.
 - Use an approved incinerator with a safety lid or covering with holes no larger than 3/4 inches.
 - Create at least a 10-foot clearing around the incinerator before burning debris.
7. If wildfire threatens your home and time permits, consider the following:
- Inside**
- Shut off gas at the meter. Turn off pilot lights.
 - Open fireplace damper. Close fireplace screens.
 - Close windows, vents, doors, blinds or noncombustible window coverings, and heavy drapes. Remove flammable drapes and curtains.
 - Move flammable furniture into the center of the home away from windows and sliding-glass doors.
 - Close all interior doors and windows to prevent drafts.
 - Place valuables that will not be damaged by water in a pool or pond.
 - Gather pets into one room. Make plans to care for your pets if you must evacuate.
 - Back your car into the garage or park it in an open space facing the direction of escape. Shut doors and roll up windows. Leave the key in the ignition and the car doors unlocked. Close garage windows and doors, but leave them unlocked. Disconnect automatic garage door openers.
- Outside**
- Seal attic and ground vents with pre-cut plywood or commercial seals.
 - Turn off propane tanks.
 - Place combustible patio furniture inside.
 - Connect garden hoses to outside taps. Place lawn sprinklers on the roof and near above-ground fuel tanks. Wet the roof.
 - Wet or remove shrubs within 15 feet of the home.
 - Gather fire tools such as a rake, axe, handsaw or chainsaw, bucket, and shovel.
8. If advised to evacuate, do so immediately. Choose a route away from the fire hazard. Watch for changes in the speed and direction of fire and smoke.
9. See the "Evacuation" section for detailed information about evacuation preparedness. Also see the "Recovering from Disaster" and "Shelter" sections for additional information.

Technological Hazards

Hazardous Materials Incidents

From industrial chemicals and toxic waste to household detergents and air fresheners, hazardous materials are part of our everyday lives. Affecting urban, suburban and rural areas, hazardous materials incidents can range from a chemical spill on a highway to groundwater contamination by naturally occurring methane gas.

Hazardous materials are substances that, because of their chemical nature, pose a potential risk to life, health or property if they are released. Hazards can exist during production, storage, transportation, use or disposal.

Chemical plants are one source of hazardous materials, but there are many others. Your local service station stores gasoline and diesel fuel, hospitals store a range of radioactive and flammable materials, and there are about 30,000 hazardous materials waste sites in the country.

Many communities have Local Emergency Planning Committees (LEPCs) that identify industrial hazardous materials and keep the community informed of the potential risk. All companies that have hazardous chemicals must report annually to the LEPC. The public is encouraged to participate in the process. Contact your local emergency management office to find out if your community has an LEPC and how you can participate.

What to Do Before a Hazardous Materials Incident

1. Ask your fire or police department about warning procedures. These could include:
 - **Outdoor warning sirens or horns.**
 - **Emergency Alert System (EAS)**—Information provided via radio and television.
 - **“All-Call” telephoning**—An automated system for sending recorded messages.
 - **News media**—Radio, television and cable.
 - **Residential route alerting**—Messages announced to neighborhoods from vehicles equipped with public address systems.
2. Ask your LEPC or emergency management office about community plans for responding to a hazardous materials accident at a plant or other facility, or a transportation accident involving hazardous materials.
3. Ask your LEPC about storage and usage of hazardous chemicals in your local area.
4. Use the information gathered from your LEPC and

local emergency management offices to evaluate risks to your household. Determine how close you are to factories, freeways, or railroads that may produce or transport toxic waste.

5. Be prepared to evacuate. An evacuation could last for a few hours or several days. See the “Evacuation” and “72-Hour Disaster Supply Kits” sections for important information.
6. Be prepared to shelter-in-place; that is, to seek safety in your home or any other building you might be in at the time of a chemical release. At home you should select a room to be used as a shelter. The shelter room for use in case of a hazardous material incident should be above ground, large enough to accommodate all household members and pets, and should have the fewest possible exterior doors and windows. You should also assemble a shelter kit to be used to seal the shelter room during a chemical release. The kit should include plastic sheeting, duct tape, scissors, a towel, and modeling clay or other material to stuff into cracks.

What to Do During a Hazardous Materials Incident

1. If you witness (or smell) a hazardous materials accident, call 911, your local emergency notification number or the fire department as soon as safely possible.
2. If you hear a warning signal, listen to local radio or television stations for further information. Follow instructions carefully.
3. Stay away from the incident site to minimize the risk of contamination.
4. If you are caught outside during an incident, remember that gases and mists are generally heavier than air. Try to stay upstream, uphill and upwind—hazardous materials can quickly be transported by water and wind. In general, try to go at least one-half mile (10 city blocks) from the danger area; for many incidents you will need to go much further.
5. If you are in a motor vehicle, stop and seek shelter in a permanent building if possible. If you must remain in your car, keep car windows and vents closed and shut off the air conditioner and heater.
6. If asked to evacuate your home, do so immediately.
 - If authorities indicate there is enough time, close all windows, shut vents and turn off attic, heating and air conditioning fans to minimize contamination.
 - See the “Evacuation” section for more information.
7. If you are requested to stay indoors (shelter-in-place) rather than evacuate:
 - Follow all instructions given by emergency authorities.

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- Get household members and pets inside as quickly as possible.
 - Close and lock all exterior doors and windows. Close vents, fireplace dampers and as many interior doors as possible.
 - Turn off air conditioners and ventilation systems. In large buildings, building superintendents should set all ventilation systems to 100 percent recirculation so that no outside air is drawn into the building. If this is not possible, ventilation systems should be turned off.
 - Go into the pre-selected shelter room (the above-ground room with the fewest openings to the outside). Take a battery-powered radio, water, sanitary supplies, a flashlight, and the shelter kit containing plastic sheeting, duct tape, scissors, a towel, and modeling clay or other materials to stuff into cracks.
 - Close doors and windows in the room. Stuff a towel tightly under each door and tape around the sides and top of the door. Cover each window and vent in the room with a single piece of plastic sheeting, taping all around the edges of the sheeting to provide a continuous seal. If there are any cracks or holes in the room, such as those around pipes entering a bathroom, fill them with modeling clay or other similar material.
 - Remain in the room, listening to emergency broadcasts on the radio, until authorities advise you to leave your shelter.
 - If authorities warn of the possibility of an outdoor explosion, close all drapes, curtains, and shades in the room. Stay away from windows to prevent injury from breaking glass.
 - When authorities advise people in your area to leave their shelters, open all doors and windows and turn on air conditioning and ventilation systems. These measures will flush out any chemicals that infiltrated into the building.
 - See the “Shelter” section for more information.
8. Schools and other public buildings may institute procedures to shelter in place. If there is a hazardous materials incident and your children are at school, you will probably not be permitted to drive to the school to pick up your children. Even if you go to the school, the doors will probably be locked to keep your children safe. Follow the directions of your local emergency officials.
9. Avoid contact with spilled liquids, airborne mists or condensed solid chemical deposits. Keep your body fully covered to provide some protection. Wear gloves, socks, shoes, pants and long sleeved shirts.
10. Do not eat or drink food or water that may have been contaminated.
11. If indoors, fill the bathtub (first sterilize it with a diluted bleach solution—one part bleach to ten parts water) and large containers with water for drinking, cooking, and dishwashing. Be prepared to turn off the main water intake valve in case authorities advise you to do so.

What to Do After an Incident

1. Do not return home until local authorities say it is safe.
2. Upon returning home, open windows, vents and turn on fans to provide ventilation.
3. A person or item that has been exposed to a hazardous chemical may be contaminated and could contaminate other people or items. If you have come in contact with or have been exposed to hazardous chemicals, you should:
 - Follow decontamination instructions from local authorities. (Depending on the chemical, you may be advised to take a thorough shower, or you may be advised to stay away from water and follow another procedure.)
 - Seek medical treatment for unusual symptoms as soon as possible.
 - If medical help is not immediately available and you think you might be contaminated, remove all of your clothing and shower thoroughly (unless local authorities say the chemical is water reactive and advise you to do otherwise). Change into fresh, loose clothing and seek medical help as soon as possible.
 - Place exposed clothing and shoes in tightly sealed containers. Do not allow them to contact other materials. Call local authorities to find out about proper disposal.
 - Advise everyone who comes in contact with you that you may have been exposed to a toxic substance.
4. Find out from local authorities how to clean up your land and property.
5. Report any lingering vapors or other hazards to your local emergency services office.
6. See the “Recovering from Disaster” and “Shelter” sections for more information.

Household Chemical Emergencies

Nearly every household uses products containing hazardous materials. Although the risk of a chemical accident is slight, knowing how to handle these products and how to react during an emergency can reduce the risk of injury.

How to Prepare For Household Chemical Emergencies

1. Contact agencies with expertise on hazardous household materials, such as your local public health department or the Environmental Protection Agency, for information about potentially dangerous household products and their antidotes. Ask about the advisability of maintaining antidotes in your home for: cleaners and germicides, deodorizers, detergents, drain and bowl cleaners, gases, home medications, laundry bleaches, liquid fuels, paint removers and thinners.
2. Follow instructions on the product label for proper disposal of chemicals. Proper disposal will ensure environmental and public health as well as household well being. If you have additional questions on chemical disposal, call your local environmental or recycling agency.
 - Small amounts of the following products can be safely poured down the drain with plenty of water: bathroom and glass cleaner, bleach, drain cleaner, household disinfectant, laundry and dishwashing detergent, rubbing alcohol, rug and upholstery cleaner, and toilet bowl cleaner.
 - Small amounts of the following products should be disposed by wrapping the container in newspaper and plastic and placing it in the trash: brake fluid, car wax or polish, dish and laundry soap, fertilizer, furniture and floor polish, insect repellent, nail polish, oven cleaner, paint thinners and strippers, pesticides, powder cleansers, water-based paint, and wood preservatives.
 - Dispose of the following products at a recycling center or a collection site: kerosene, motor or fuel oil, car battery or battery acid, diesel fuel, transmission fluid, large amounts of paint, thinner or stripper, power steering fluid, turpentine, gun cleaning solvents, and tires.
 - Empty spray cans completely before placing in the trash. Do not place spray cans into a burning barrel, incinerator, or trash compactor because they may explode.
 - Flush outdated and unused medicines down the toilet and place the empty container in the trash. Out-dated medicines can cause ill effects. Flushing them will eliminate the risk of people or animals picking them out of the trash.
3. Read directions before using a new chemical product and be sure to store household chemicals according to the instructions on the label.
4. Store chemicals in a safe, secure location, preferably up high and always out of the reach of children.
5. Avoid mixing household chemical products. Deadly toxic fumes can result from the mixture of chemicals such as chlorine bleach and ammonia.
6. Never smoke while using household chemicals. Avoid using hair spray, cleaning solutions, paint products, or pesticides near an open flame, pilot light, lighted candle, fireplace, wood burning stove, etc. Although you may not be able to see or smell them, vapor particles in the air could catch fire or explode.
7. If you spill a chemical, clean it up immediately with rags. Be careful to protect your eyes and skin (wear gloves and eye protection). Allow the fumes in the rags to evaporate outdoors, then dispose of the rags by wrapping them in a newspaper and placing them in a sealed plastic bag in your trash can.
8. Buy only as much of a chemical as you think you will use. If you have product left over, try to give it to someone who will use it. Storing hazardous chemicals increases risk of chemical emergencies.
9. Keep an A-B-C-rated fire extinguisher in the home and car, and get training from your local fire department on how to use it.
10. Post the phone number of the nearest poison control center by all telephones. In an emergency situation you may not have time to look up critical phone numbers.
11. Learn to detect hazardous materials. Many hazardous materials do not have a taste or an odor, and some can be detected because they cause physical reactions such as watering eyes or nausea. Other hazardous materials exist beneath the ground and can be recognized by an oil or foam-like appearance.
12. Learn to recognize symptoms of toxic poisoning:
 - Difficulty breathing
 - Irritation of the eyes, skin, throat or respiratory tract
 - Changes in skin color
 - Headache or blurred vision
 - Dizziness
 - Clumsiness or lack of coordination
 - Cramps or diarrhea.

What to Do During a Household Chemical Emergency

1. If your child should eat or drink a non-food substance, find any containers immediately and take them to the phone. Medical professionals may need specific information from the container to give you the best emergency advice.
2. Call the poison control center, emergency medical services (EMS), 911, hospital emergency room, county health department, fire department, or your local pharmacy. They will give you emergency advice while you wait for professional help. You

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should have such numbers on hand for easy access and use.

3. Follow the emergency operator or dispatcher's instructions carefully. The first aid advice found on containers may not be appropriate. Do not give anything by mouth until medical professionals have advised you.
4. Take immediate action if the chemical gets into the eyes. Delaying first aid can greatly increase the likelihood of injury. Flush the eye with clear, water for a minimum of 15 minutes, unless authorities instruct you not to use water on the particular chemical involved. Continue the cleansing process even if the victim indicates he or she is no longer feeling any pain, and then seek medical attention.
5. Get out of the residence immediately if there is danger of a fire or explosion. Do not waste time collecting items or calling the fire department when you are in danger.
6. If there is a fire or explosion, call the fire department from outside (a cellular phone or a neighbor's phone) once you are safely away from danger.
7. Stay upwind and away from the residence to avoid breathing toxic fumes.
8. Wash hands, arms, or other exposed body parts that may have been exposed to the chemical. Chemicals may continue to irritate the skin until they are washed off.
9. Discard clothing that may have been contaminated. Some chemicals may not wash out completely. Discarding clothes will prevent potential future exposure.
10. Administer first aid treatment to victims of chemical burns.
 - Call 911 for emergency help.
 - Remove clothing and jewelry from around the injury.
 - Pour clean, cool water over the burn for 15 to 30 minutes.
 - Loosely cover the burn with a sterile or clean dressing. Be sure that the dressing will not stick to the burn.
 - Refer the victim to a medical professional for further treatment.

Nuclear Power Plants

Nuclear power plants operate in most states in the country and produce about 20 percent of the nation's power. Nearly three million Americans live within 10 miles of an operating nuclear power plant.

Although the construction and operation of these facilities are closely monitored and regulated by the

Nuclear Regulatory Commission (NRC), accidents at these plants are possible. An accident could result in dangerous levels of radiation that could affect the health and safety of the public living near the nuclear power plant.

Local and state governments, federal agencies and the electric utilities have emergency response plans in the event of a nuclear power plant incident. The plans define two "emergency planning zones." One covers an area within a ten-mile radius of the plant where it is possible that people could be harmed by direct radiation exposure. The second zone covers a broader area, usually up to a 50-mile radius from the plant, where radioactive materials could contaminate water supplies, food crops and livestock.

Understanding Radiation

Radioactive materials are composed of atoms that are unstable. An unstable atom gives off its excess energy until it becomes stable. The energy emitted is radiation.

Each of us is exposed to radiation daily from natural sources, including the sun and earth. Small traces of radiation are present in food and water. Radiation also is released from man-made sources such as x-ray machines, television sets and microwave ovens. Nuclear power plants use the heat generated from nuclear fission in a contained environment to convert water to steam, which powers generators to produce electricity.

Radiation has a cumulative effect. The longer a person is exposed to radiation, the greater the risk. A high exposure to radiation can cause serious illness or death. The potential danger from an accident at a nuclear power plant is exposure to radiation. This exposure could come from the release of radioactive material from the plant into the environment, usually characterized by a plume (cloud-like) formation of radioactive gases and particles. The area the radioactive release may affect is determined by the amount released from the plant, wind direction and speed, and weather conditions. The major hazards to people in the vicinity of the plume are radiation exposure to the body from the cloud and particles deposited on the ground, inhalation of radioactive materials, and ingestion of radioactive materials.

If an accident at a nuclear power plant were to release radiation in your area, local authorities would activate warning sirens or use another approved alerting method. They would also instruct you through the Emergency Alert System (EAS) on local television and radio stations on how to protect yourself.

The three ways to minimize radiation exposure are: distance, shielding and time:

- **Distance.** The more distance between you and the source of the radiation the better. In a serious nuclear power plant accident, local authorities will call for an evacuation to increase the distance between you and the radiation.

- **Shielding.** Like distance, the more heavy, dense material between you and the source of the radiation the better. This is why local authorities could advise you to remain indoors if an accident occurs at a nearby nuclear power plant. In some cases, the walls in your home would be sufficient shielding to protect you.
 - **Time.** Most radioactivity loses its strength fairly quickly. In a nuclear power plant accident, local authorities will monitor any release of radiation and determine when the threat has passed.
4. Learn the emergency plans for schools, day care centers, nursing homes and other places where members of your household frequent. Learn where people would go in case of evacuation. Stay tuned to your local radio and television stations.
 5. Be prepared to evacuate.
 - Prepare an emergency evacuation supply kit (see the “72-Hour Disaster Supply Kits” section).
 - Consider your transportation options. If you do not own or drive a car, ask your local emergency manager about plans for people without private vehicles. (See the “Evacuation” section for important details.)

What to Do Before a Nuclear Power Plant Emergency

1. Know the terms used to describe a nuclear emergency:
 - **Notification of Unusual Event**—A small problem has occurred at the plant. No radiation leak is expected. Federal, state and county officials will be told right away. No action on your part will be necessary.
 - **Alert**—A small problem has occurred, and small amounts of radiation could leak inside the plant. This will not affect you. You should not have to do anything.
 - **Site Area Emergency**—A more serious problem. Small amounts of radiation could leak from the plant. If necessary, state and county officials will act to assure public safety. Area sirens may be sounded. Listen to your radio or television for safety information.
 - **General Emergency**—The most serious problem. Radiation could leak outside the plant and off the plant site. The sirens will sound. Tune to your local radio or television station for reports. State and county officials will act to protect the public. Be prepared to follow instructions promptly.
2. Learn your community’s warning system. Nuclear power plants are required to install sirens and other warning systems (flash warning lights) to cover a ten-mile area around the plant.
 - Find out when the warning systems will be tested next.
 - When tested in your area, determine whether you can hear and/or see sirens and flash warning lights from your home.
3. Obtain public emergency information materials from the power company that operates your local nuclear power plant or your local emergency services office. If you live within 10 miles of the power plant, you should receive these materials yearly from the power company or your state or local government.

What to Do During a Nuclear Power Plant Emergency

1. Listen to the warning. Not all incidents result in the release of radiation. The incident could be contained inside the plant and pose no danger to the public.
2. Stay tuned to local radio or television. Local authorities will provide specific information and instructions.
 - The advice given will depend on the nature of the emergency, how quickly it is evolving and how much radiation, if any, is likely to be released.
 - Local instructions should take precedence over any advice given in this handbook.
 - Review the public information materials you received from the power company or government officials.
3. Evacuate if you are advised to do so.
 - Close and lock doors and windows.
 - Keep car windows and vents closed; use recirculating air.
 - Listen to the radio for evacuation routes and other instructions.
 - See the “Evacuation” section for important details.
4. If you are not advised to evacuate, remain indoors.
 - Close doors and windows.
 - Turn off the air conditioner, ventilation fans, furnace and other air intakes.
 - Go to a basement or other underground area if possible.
 - Keep a battery-powered radio with you at all times.
5. Shelter livestock and give them stored feed, if time permits.

Technological Hazards

6. Do not use the telephone unless absolutely necessary. Lines will be needed for emergency calls.
7. If you suspect exposure, take a thorough shower.
 - Change clothes and shoes.
 - Put exposed clothing in a plastic bag.
 - Seal the bag and place it out of the way.
7. Put food in covered containers or in the refrigerator. Food not previously covered should be washed before being put in containers.

What to Do After a Nuclear Power Plant Emergency

1. If told to evacuate, do not return home until local authorities say it is safe.
2. If you were advised to stay in your home, do not go outside until local authorities indicate it is safe.
3. Seek medical treatment for any unusual symptoms, like nausea, that may be related to radiation exposure.
4. See the “Shelter” and “Recovering from Disaster” sections for more information.

National Security Emergencies

In addition to the natural and technological hazards described in this manual, Americans face threats posed by hostile governments or extremist groups. These threats to national security include acts of terrorism and acts of war.

The following is general information about national security emergencies. For more information about how to prepare for them, including volunteering in a Citizen Corps program, see the “For More Information” section on pages 88-89.

Terrorism

Terrorism is the use of force or violence against persons or property in violation of the criminal laws of the United States for purposes of intimidation, coercion, or ransom. Terrorists often use threats to create fear among the public, to try to convince citizens that their government is powerless to prevent terrorism, and to get immediate publicity for their causes.

Acts of terrorism range from threats of terrorism, assassinations, kidnappings, hijackings, bomb scares and bombings, cyber attacks (computer-based), to the use of chemical, biological and nuclear weapons.

High-risk targets include military and civilian government facilities, international airports, large cities and high-profile landmarks. Terrorists might also target large public gatherings, water and food supplies, utilities, and corporate centers. Further, they are capable of spreading fear by sending explosives or chemical and biological agents through the mail.

In the immediate area of a terrorist event, you would need to rely on police, fire and other officials for instructions. However, you can prepare in much the same way you would prepare for other crisis events.

Preparing For Terrorism

1. Wherever you are, be aware of your surroundings. The very nature of terrorism suggests there may be little or no warning.
2. Take precautions when traveling. Be aware of conspicuous or unusual behavior. Do not accept packages from strangers. Do not leave luggage unattended. Unusual behavior, suspicious packages and strange devices should be promptly reported to the police or security personnel.
3. Do not be afraid to move or leave if you feel uncomfortable or if something does not seem right.
4. Learn where emergency exits are located in buildings you frequent. Notice where exits are when you enter unfamiliar buildings. Plan how to get out of a building, subway or congested public area or traffic. Note where staircases are located. Notice

heavy or breakable objects that could move, fall or break in an explosion.

5. Assemble a disaster supply kit at home and learn first aid. Separate the supplies you would take if you had to evacuate quickly, and put them in a backpack or container, ready to go.
6. Be familiar with different types of fire extinguishers and how to locate them. Know the location and availability of hard hats in buildings in which you spend a lot of time.

Protection against Cyber Attacks

Cyber attacks target computer or telecommunication networks of critical infrastructures such as power systems, traffic control systems, or financial systems. Cyber attacks target information technologies (IT) in three different ways. First, is a direct attack against an information system “through the wires” alone (hacking). Second, the attack can be a physical assault against a critical IT element. Third, the attack can be from the inside as a result of compromising a trusted party with access to the system.

1. Be prepared to do without services you normally depend on that could be disrupted—electricity, telephone, natural gas, gasoline pumps, cash registers, ATM machines, and Internet transactions.
2. Be prepared to respond to official instructions if a cyber attack triggers other hazards, for example, general evacuation, evacuation to shelter, or shelter-in-place, because of hazardous materials releases, nuclear power plant incident, or dam or flood control system failures.

Preparing For a Building Explosion

Explosions can collapse buildings and cause fires. People who live or work in a multi-level building can do the following:

1. Review emergency evacuation procedures. Know where emergency exits are located.
2. Keep fire extinguishers in working order. Know where they are located, and learn how to use them.
3. Learn first aid. Contact the local chapter of the American Red Cross for information and training.
4. Building owners should keep the following items in a designated place on each floor of the building.
 - Portable, battery-operated radio and extra batteries
 - Several flashlights and extra batteries
 - First aid kit and manual
 - Several hard hats
 - Fluorescent tape to rope off dangerous areas.

Bomb Threats

If you receive a bomb threat, get as much information from the caller as possible. Keep the caller on the line

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and record everything that is said. Then notify the police and the building management.

If you are notified of a bomb threat, do not touch any suspicious packages. Clear the area around suspicious packages and notify the police immediately. In evacuating a building, don't stand in front of windows, glass doors or other potentially hazardous areas. Do not block sidewalks or streets to be used by emergency officials or others still exiting the building.

Suspicious Parcels and Letters

Be wary of suspicious packages and letters. They can contain explosives, or chemical or biological agents. Be particularly cautious at your place of employment.

Some typical characteristics postal inspectors have detected over the years, which ought to trigger suspicion, include parcels that—

- Are unexpected or from someone unfamiliar to you.
- Have no return address, or have one that can't be verified as legitimate.
- Are marked with restrictive endorsements, such as "Personal," "Confidential" or "Do not x-ray."
- Have protruding wires or aluminum foil, strange odors or stains.
- Show a city or state in the postmark that doesn't match the return address.
- Are of unusual weight, given their size, or are lopsided or oddly shaped.
- Are marked with any threatening language.
- Have inappropriate or unusual labeling.
- Have excessive postage or excessive packaging material such as masking tape and string.
- Have misspellings of common words.
- Are addressed to someone no longer with your organization or are otherwise outdated.
- Have incorrect titles or a title without a name.
- Are not addressed to a specific person.
- Have handwritten or poorly typed addresses.

With suspicious envelopes and packages other than those that might contain explosives, take these additional steps against possible biological and chemical agents.

- Refrain from eating or drinking in a designated mail handling area.
- Place suspicious envelopes or packages in a plastic bag or some other type of container to prevent leakage of contents. Never sniff or smell suspect mail.
- If you do not have a container, then cover the envelope or package with anything available (e.g., clothing, paper, trash can, etc.) and do not remove the cover.

- Leave the room and close the door, or section off the area to prevent others from entering.
- Wash your hands with soap and water to prevent spreading any powder to your face.
- If you are at work, report the incident to your building security official or an available supervisor, who should notify police and other authorities without delay.
- List all people who were in the room or area when this suspicious letter or package was recognized. Give a copy of this list to both the local public health authorities and law enforcement officials for follow-up investigations and advice.
- If you are at home, report the incident to local police.

What to Do If There Is an Explosion

Leave the building as quickly as possible. Do not stop to retrieve personal possessions or make phone calls. If things are falling around you, get under a sturdy table or desk until they stop falling. Then leave quickly, watching for weakened floors and stairs and falling debris as you exit.

1. If there is a fire:

- Stay low to the floor and exit the building as quickly as possible.
- Cover your nose and mouth with a wet cloth.
- When approaching a closed door, use the back of your hand to feel the lower, middle and upper parts of the door. Never use the palm of your hand or fingers to test for heat: burning those areas could impair your ability to escape a fire (i.e., using ladders and crawling).
 - If the door is NOT hot, open slowly and ensure fire and/or smoke is not blocking your escape route. If your escape route is blocked, shut the door immediately and use an alternate escape route, such as a window. If clear, leave immediately through the door. Be prepared to crawl. Smoke and heat rise. The air is clearer and cooler near the floor.
 - If the door is hot, do not open it. Escape through a window. If you cannot escape, hang a white or light-colored sheet outside the window, alerting fire fighters to your presence.
- Heavy smoke and poisonous gases collect first along the ceiling. Stay below the smoke at all times.

2. If you are trapped in debris:

- Do not light a match.
- Do not move about or kick up dust. Cover your mouth with a handkerchief or clothing.

- Rhythmically tap on a pipe or wall so that rescuers can hear where you are. Use a whistle if one is available. Shout only as a last resort when you hear sounds and think someone will hear you—shouting can cause a person to inhale dangerous amounts of dust.

Chemical and Biological Weapons

In case of a chemical or biological weapon attack near you, authorities will instruct you on the best course of action. This may be to evacuate the area immediately, to seek shelter at a designated location, or to take immediate shelter where you are and seal the premises. The best way to protect yourself is to take emergency preparedness measures ahead of time and to get medical attention as soon as possible, if needed.

Chemical Weapons

Chemical warfare agents are poisonous vapors, aerosols, liquids or solids that have toxic effects on people, animals or plants. They can be released by bombs, sprayed from aircraft, boats, or vehicles, or used as a liquid to create a hazard to people and the environment. Some chemical agents may be odorless and tasteless. They can have an immediate effect (a few seconds to a few minutes) or a delayed effect (several hours to several days). While potentially lethal, chemical agents are difficult to deliver in lethal concentrations. Outdoors, the agents often dissipate rapidly. Chemical agents are also difficult to produce.

There are six types of agents:

- Lung-damaging (pulmonary) agents such as phosgene,
- Cyanide,
- Vesicants or blister agents such as mustard,
- Nerve agents such as GA (tabun), GB (sarin), GD (soman), GF, and VX,
- Incapacitating agents such as BZ, and
- Riot-control agents (similar to MACE).

Biological Weapons

Biological agents are organisms or toxins that can kill or incapacitate people, livestock and crops. The three basic groups of biological agents which would likely be used as weapons are bacteria, viruses, and toxins.

1. **Bacteria.** Bacteria are small free-living organisms that reproduce by simple division and are easy to grow. The diseases they produce often respond to treatment with antibiotics.
2. **Viruses.** Viruses are organisms which require living cells in which to reproduce and are intimately dependent upon the body they infect. Viruses produce diseases which generally do not respond

to antibiotics. However, antiviral drugs are sometimes effective.

3. **Toxins.** Toxins are poisonous substances found in, and extracted from, living plants, animals, or microorganisms; some toxins can be produced or altered by chemical means. Some toxins can be treated with specific antitoxins and selected drugs.

Most biological agents are difficult to grow and maintain. Many break down quickly when exposed to sunlight and other environmental factors, while others such as anthrax spores are very long lived. They can be dispersed by spraying them in the air, or infecting animals which carry the disease to humans as well through food and water contamination.

- **Aerosols**—Biological agents are dispersed into the air, forming a fine mist that may drift for miles. Inhaling the agent may cause disease in people or animals.
- **Animals**—Some diseases are spread by insects and animals, such as fleas, mice, flies, and mosquitoes. Deliberately spreading diseases through livestock is also referred to as agroterrorism.
- **Food and water contamination**—Some pathogenic organisms and toxins may persist in food and water supplies. Most microbes can be killed, and toxins deactivated, by cooking food and boiling water.

Anthrax spores formulated as a white powder were mailed to individuals in the government and media in the fall of 2001. Postal sorting machines and the opening of letters dispersed the spores as aerosols. Several deaths resulted. The effect was to disrupt mail service and to cause a widespread fear of handling delivered mail among the public.

Person-to-person spread of a few infectious agents is also possible. Humans have been the source of infection for smallpox, plague, and the Lassa viruses.

What to Do to Prepare For a Chemical or Biological Attack

- Assemble a disaster supply kit (see the “72-Hour Disaster Supply Kits” section for more information) and be sure to include:
 - A battery-powered commercial radio with extra batteries.
 - Non-perishable food and drinking water.
 - A roll of duct tape and scissors.
 - Plastic for doors, windows and vents for the room in which you will shelter in place—this should be an internal room where you can block out air that may contain hazardous chemical or biological agents. To save critical time during an emergency, sheeting should be pre-measured and cut for each opening.
- A first aid kit.

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- Sanitation supplies including soap, water and bleach.

What to Do During a Chemical or Biological Attack

1. Listen to your radio for instructions from authorities such as whether to remain inside or to evacuate.
2. If you are instructed to remain in your home, the building where you are, or other shelter during a chemical or biological attack:
 - Turn off all ventilation, including furnaces, air conditioners, vents and fans.
 - Seek shelter in an internal room, preferably one without windows. Seal the room with duct tape and plastic sheeting. Ten square feet of floor space per person will provide sufficient air to prevent carbon dioxide build-up for up to five hours. (See the “Shelter” section.)
 - Remain in protected areas where toxic vapors are reduced or eliminated, and be sure to take your battery-operated radio with you.
3. If you are caught in an unprotected area:
 - Attempt to get upwind of the contaminated area.
 - Attempt to find shelter as quickly as possible.
 - Listen to your radio for official instructions.

What to Do After a Chemical Attack

Immediate symptoms of exposure to chemical agents may include blurred vision, eye irritation, difficulty breathing and nausea. A person affected by a chemical or biological agent requires immediate attention by professional medical personnel. If medical help is not immediately available, decontaminate yourself and assist in decontaminating others. Decontamination is needed within minutes of exposure to minimize health consequences. (However, you should not leave the safety of a shelter to go outdoors to help others until authorities announce it is safe to do so.)

1. Use extreme caution when helping others who have been exposed to chemical agents:
 - Remove all clothing and other items in contact with the body. Contaminated clothing normally removed over the head should be cut off to avoid contact with the eyes, nose, and mouth. Put into a plastic bag if possible. Decontaminate hands using soap and water. Remove eyeglasses or contact lenses. Put glasses in a pan of household bleach to decontaminate them.
2. Remove all items in contact with the body.
3. Flush eyes with lots of water.
4. Gently wash face and hair with soap and water; then thoroughly rinse with water.

5. Decontaminate other body areas likely to have been contaminated. Blot (do not swab or scrape) with a cloth soaked in soapy water and rinse with clear water.
6. Change into uncontaminated clothes. Clothing stored in drawers or closets is likely to be uncontaminated.
7. If possible, proceed to a medical facility for screening.

What to Do After a Biological Attack

In many biological attacks, people will not know they have been exposed to an agent. In such situations, the first evidence of an attack may be when you notice symptoms of the disease caused by an agent exposure. You should seek immediate medical attention for treatment.

In some situations, like the anthrax letters sent in 2001, people may be alerted to a potential exposure. If this is the case, pay close attention to all official warnings and instructions on how to proceed. The delivery of medical services for a biological event may be handled differently to respond to increased demand. Again, it will be important for you to pay attention to official instructions via radio, television, and emergency alert systems.

If your skin or clothing comes in contact with a visible, potentially infectious substance, you should remove and bag your clothes and personal items and wash yourself with warm soapy water immediately. Put on clean clothes and seek medical assistance.

For more information, visit the website for the Centers for Disease Control and Prevention, www.bt.cdc.gov.

Nuclear and Radiological Attack

Nuclear explosions can cause deadly effects—blinding light, intense heat (thermal radiation), initial nuclear radiation, blast, fires started by the heat pulse, and secondary fires caused by the destruction. They also produce radioactive particles called fallout that can be carried by wind for hundreds of miles.

Terrorist use of a radiological dispersion device (RDD)—often called a “dirty nuke” or “dirty bomb”—is considered far more likely than use of a nuclear device. These radiological weapons are a combination of conventional explosives and radioactive material designed to scatter dangerous and sub-lethal amounts of radioactive material over a general area. Such radiological weapons appeal to terrorists because they require very little technical knowledge to build and deploy compared to that of a nuclear device. Also, these radioactive materials, used widely in medicine, agriculture, industry and research, are much more readily available and easy to obtain compared to weapons grade uranium or plutonium.

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Terrorist use of a nuclear device would probably be limited to a single smaller “suitcase” weapon. The strength of such a weapon would be in the range of the bombs used during World War II. The nature of the effects would be the same as a weapon delivered by an intercontinental missile, but the area and severity of the effects would be significantly more limited.

There is no way of knowing how much warning time there would be before an attack by a terrorist using a nuclear or radiological weapon. A surprise attack remains a possibility.

The danger of a massive strategic nuclear attack on the United States involving many weapons receded with the end of the Cold War. However, some terrorists have been supported by nations that have nuclear weapons programs.

If there were threat of an attack from a hostile nation, people living near potential targets could be advised to evacuate or they could decide on their own to evacuate to an area not considered a likely target. Protection from radioactive fallout would require taking shelter in an underground area, or in the middle of a large building.

In general, potential targets include:

- Strategic missile sites and military bases.
- Centers of government such as Washington, D.C., and state capitals.
- Important transportation and communication centers.
- Manufacturing, industrial, technology and financial centers.
- Petroleum refineries, electrical power plants and chemical plants.
- Major ports and airfields.

Taking shelter during a nuclear attack is absolutely necessary. There are two kinds of shelters—blast and fallout.

Blast shelters offer some protection against blast pressure, initial radiation, heat and fire, but even a blast shelter could not withstand a direct hit from a nuclear detonation.

Fallout shelters do not need to be specially constructed for that purpose. They can be any protected space, provided that the walls and roof are thick and dense enough to absorb the radiation given off by fallout particles. The three protective factors of a fallout shelter are shielding, distance, and time.

- **Shielding.** The more heavy, dense materials—thick walls, concrete, bricks, books and earth—between you and the fallout particles, the better.
- **Distance.** The more distance between you and the fallout particles, the better. An underground area, such as a home or office building basement, offers more protection than the first floor of a building. A

floor near the middle of a high-rise may be better, depending on what is nearby at that level on which significant fallout particles would collect. Flat roofs collect fallout particles so the top floor is not a good choice, nor is a floor adjacent to a neighboring flat roof.

- **Time.** Fallout radiation loses its intensity fairly rapidly. In time, you will be able to leave the fallout shelter. Radioactive fallout poses the greatest threat to people during the first two weeks, by which time it has declined to about 1% of its initial radiation level.

Remember that any protection, however temporary, is better than none at all, and the more shielding, distance and time you can take advantage of, the better.

Electromagnetic Pulse

In addition to other effects, a nuclear weapon detonated in or above the earth’s atmosphere can create an electromagnetic pulse (EMP), a high-density electrical field. EMP acts like a stroke of lightning but is stronger, faster and briefer. EMP can seriously damage electronic devices connected to power sources or antennas. These include communication systems, computers, electrical appliances, and automobile or aircraft ignition systems. The damage could range from a minor interruption to actual burnout of components. Most electronic equipment within 1,000 miles of a high-altitude nuclear detonation could be affected. Battery powered radios with short antennas generally would not be affected.

Although EMP is unlikely to harm most people, it could harm those with pacemakers or other implanted electronic devices.

What to Do Before a Nuclear or Radiological Attack

1. Learn the warning signals and all sources of warning used in your community. Make sure you know what the signals are, what they mean, how they will be used, and what you should do if you hear them.
2. Assemble and maintain a disaster supply kit with food, water, medications, fuel and personal items adequate for up to 2 weeks—the more the better. (See the “72-Hour Disaster Supply Kits” section for more information).
3. Find out what public buildings in your community may have been designated as fallout shelters. It may have been years ago, but start there, and learn which buildings are still in use and could be designated as shelters again.
 - Call your local emergency management office.
 - Look for yellow and black fallout shelter signs on public buildings. Note: With the end of the Cold War, many of the signs have been removed from the buildings previously designated.

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- If no noticeable or official designations have been made, make your own list of potential shelters near your home, workplace and school: basements, or the windowless center area of middle floors in high-rise buildings, as well as subways and tunnels.
 - Give your household clear instructions about where fallout shelters are located and what actions to take in case of attack.
4. If you live in an apartment building or high-rise, talk to the manager about the safest place in the building for sheltering, and about providing for building occupants until it is safe to go out.
 5. There are few public shelters in many suburban and rural areas. If you are considering building a fallout shelter at home, keep the following in mind.
 - A basement, or any underground area, is the best place to shelter from fallout. Often, few major changes are needed, especially if the structure has two or more stories and its basement—or one corner of it—is below ground.
 - Fallout shelters can be used for storage during non-emergency periods, but only store things there that can be very quickly removed. (When they are removed, dense, heavy items may be used to add to the shielding.)
 - See the “Tornadoes” section on pages 58-60 for information on a “Wind Safe Room and Shelter,” which could be used as shelter in the event of a nuclear detonation or for fallout protection, especially in a home without a basement.
 - All the items you will need for your stay need not be stocked inside the shelter itself but can be stored elsewhere, as long as you can move them quickly to the shelter.
 6. Learn about your community’s evacuation plans. Such plans may include evacuation routes, relocation sites, how the public will be notified and transportation options for people who do not own cars and those who have special needs. See the “Evacuation” section for more information.
 7. Acquire other emergency preparedness booklets that you may need. See the “For More Information” section on page 88.

What to Do During a Nuclear or Radiological Attack

1. Do not look at the flash or fireball—it can blind you.
2. If you hear an attack warning:
 - Take cover as quickly as you can, **BELOW GROUND IF POSSIBLE**, and stay there unless instructed to do otherwise.
 - If you are caught outside, unable to get inside immediately, take cover behind anything that

might offer protection. Lie flat on the ground and cover your head.

- If the explosion is some distance away, it could take 30 seconds or more for the blast wave to hit.
3. Protect yourself from radioactive fallout. If you are close enough to see the brilliant flash of a nuclear explosion, the fallout will arrive in about 20 minutes. Take shelter, even if you are many miles from ground zero—radioactive fallout can be carried by the winds for hundreds of miles. Remember the three protective factors: shielding, distance and time.
 4. Keep a battery-powered radio with you, and listen for official information. Follow the instructions given. Local instructions should always take precedence: officials on the ground know the local situation best.

What to Do After a Nuclear or Radiological Attack

In a public or home shelter:

1. Do not leave the shelter until officials say it is safe. Follow their instructions when leaving.
2. If in a fallout shelter, stay in your shelter until local authorities tell you it is permissible or advisable to leave. The length of your stay can range from a day or two to four weeks.
 - Contamination from a radiological dispersion device could affect a wide area, depending on the amount of conventional explosives used, the quantity of radioactive material and atmospheric conditions.
 - A “suitcase” terrorist nuclear device detonated at or near ground level would produce heavy fallout from the dirt and debris sucked up into the mushroom cloud.
 - A missile-delivered nuclear weapon from a hostile nation would probably cause an explosion many times more powerful than a suitcase bomb, and provide a greater cloud of radioactive fallout.
 - The decay rate of the radioactive fallout would be the same, making it necessary for those in the areas with highest radiation levels to remain in shelter for up to a month.
 - The heaviest fallout would be limited to the area at or downwind from the explosion, and 80% of the fallout would occur during the first 24 hours.
 - Because of these facts and the very limited number of weapons terrorists could detonate, most of the country would not be affected by fallout.
 - People in most of the areas that would be affected could be allowed to come out of shelter and, if necessary, evacuate to unaffected areas within a few days.

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3. Although it may be difficult, make every effort to maintain sanitary conditions in your shelter space.
4. Water and food may be scarce. Use them prudently but do not impose severe rationing, especially for children, the ill or elderly.
5. Cooperate with shelter managers. Living with many people in confined space can be difficult and unpleasant.
9. Stay away from areas marked “radiation hazard” or “HAZMAT.”

For more information relevant to terrorism consult the following sections:

- The “Earthquakes” section on pages 65-67 for information about protecting yourself when a building is shaking or unsafe and the “Fires” sections on pages 69-72 for tips on fire safety.
- The “Hazardous Materials Incidents” section on pages 73-74 for information about sealing a home.
- The “72-Hour Disaster Supply Kits” section on pages 37-41 for information about preparing a disaster supply kit.
- The “Emergency Water and Food Use” section on pages 43-45 for measures regarding water purification.
- The “Evacuation” section on pages 41-42 for information about evacuation procedures.
- The “Recovering from Disaster” and “Mental Health and Crisis Counseling” sections on pages 47-50 for information about crisis counseling.

Returning to Your Home

1. Keep listening to the radio for news about what to do, where to go, and places to avoid.
2. If your home was within the range of a bomb’s shock wave, or you live in a high-rise or other apartment building that experienced a non-nuclear explosion, check first for any sign of collapse or damage, such as:
 - Toppling chimneys, falling bricks, collapsing walls, plaster falling from ceilings.
 - Fallen light fixtures, pictures and mirrors.
 - Broken glass from windows.
 - Overturned bookcases, wall units or other fixtures.
 - Fires from broken chimneys.
 - Ruptured gas and electric lines.
3. Immediately clean up spilled medicines, drugs, flammable liquids, and other potentially hazardous materials.
4. Listen to your battery-powered radio for instructions and information about community services.
5. Monitor your radio and television for information on assistance that may be provided. Local, state and federal governments and other organizations will help meet emergency needs and help you recover from damage and losses.
6. The danger may be aggravated by broken water mains and fallen power lines.
7. If you turned gas, water and electricity off at the main valves and switch before you went to shelter:
 - Do not turn the gas back on. The gas company will turn it back on for you or you will receive other instructions.
 - Turn the water back on at the main valve only after you know the water system is working and water is not contaminated.
 - Turn electricity back on at the main switch only after you know the wiring is undamaged in your home and the community electrical system is functioning.
 - Check to see that sewage lines are intact before using sanitary facilities.
8. Stay away from damaged areas.

Homeland Security Advisory System

The Homeland Security Advisory System was designed to provide a comprehensive means to disseminate information regarding the risk of terrorist acts to federal, state, and local authorities and to the American people. This system provides warnings in the form of a set of graduated “Threat Conditions” that increase as the risk of the threat increases. At each threat condition, federal departments and agencies would implement a corresponding set of “Protective Measures” to further reduce vulnerability or increase response capability during a period of heightened alert.

Although the Homeland Security Advisory System is binding on the executive branch, it is voluntary to other levels of government and the private sector. There are five threat conditions, each identified by a description and corresponding color.

The greater the risk of a terrorist attack, the higher the threat condition. Risk includes both the probability of an attack occurring and its potential gravity.

Threat conditions may be assigned for the entire nation, or they may be set for a particular geographic area or industrial sector. Assigned threat conditions will be reviewed at regular intervals to determine whether adjustments are warranted.

Threat Conditions and Associated Protective Measures

There is always a risk of a terrorist threat. Each threat condition assigns a level of alert appropriate to the increasing risk of terrorist attacks. Beneath each threat

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condition are some suggested protective measures that the government and the public can take, recognizing that the heads of federal departments and agencies are responsible for developing and implementing appropriate agency-specific Protective Measures:

Low Condition (Green). This condition is declared when there is a low risk of terrorist attacks. Federal departments and agencies will consider the following protective measures.

- Refine and exercise prearranged protective measures;
- Ensure personnel receive proper training on the Homeland Security Advisory System and specific prearranged department or agency protective measures; and
- Institute a process to assure that all facilities and regulated sectors are regularly assessed for vulnerabilities to terrorist attacks, and all reasonable measures are taken to mitigate these vulnerabilities.

Members of the public can:

- Develop a household disaster plan and assemble a disaster supply kit. (see the “72-Hour Disaster Supply Kits” section).

Guarded Condition (Blue). This condition is declared when there is a general risk of terrorist attacks. In addition to the measures taken in the previous threat condition, federal departments and agencies will consider the following protective measures:

- Check communications with designated emergency response or command locations;
- Review and update emergency response procedures; and
- Provide the public with any information that would strengthen its ability to act appropriately.

Members of the public, in addition to the actions taken for the previous threat condition, can:

- Update their disaster supply kit;
- Review their household disaster plan;
- Hold a household meeting to discuss what members would do and how they would communicate in the event of an incident;
- Develop a more detailed household communication plan;
- Apartment residents should discuss with building managers steps to be taken during an emergency; and
- People with special needs should discuss their emergency plans with friends, family or employers.

Elevated Condition (Yellow). An Elevated Condition is declared when there is a significant risk of terrorist attacks. In addition to the measures taken in the previous threat conditions, federal departments and

agencies will consider the following protective measures:

- Increase surveillance of critical locations;
- Coordinate emergency plans with nearby jurisdictions as appropriate;
- Assess whether the precise characteristics of the threat require the further refinement of prearranged protective measures; and
- Implement, as appropriate, contingency and emergency response plans.

Members of the public, in addition to the actions taken for the previous threat condition, can:

- Be observant of any suspicious activity and report it to authorities;
- Contact neighbors to discuss their plans and needs;
- Check with school officials to determine their plans for an emergency and procedures to reunite children with parents and caregivers; and
- Update the household communication plan.

High Condition (Orange). A High Condition is declared when there is a high risk of terrorist attacks. In addition to the measures taken in the previous threat conditions, federal departments and agencies will consider the following protective measures:

- Coordinate necessary security efforts with federal, state, and local law enforcement agencies, National Guard or other security and armed forces;
- Take additional precautions at public events, possibly considering alternative venues or even cancellation;
- Prepare to execute contingency procedures, such as moving to an alternate site or dispersing the workforce; and
- Restrict access to a threatened facility to essential personnel only.

Members of the public, in addition to the actions taken for the previous threat conditions, can:

- Review preparedness measures (including evacuation and sheltering) for potential terrorist actions including chemical, biological, and radiological attacks;
- Avoid high profile or symbolic locations; and
- Exercise caution when traveling.

Severe Condition (Red). A Severe Condition reflects a severe risk of terrorist attacks. Under most circumstances, the protective measures for a Severe Condition are not intended to be sustained for substantial periods of time. In addition to the protective measures in the previous threat conditions, federal departments and agencies also will consider the following general measures:

National Security Emergencies

- Increase or redirect personnel to address critical emergency needs;
 - Assign emergency response personnel and pre-position and mobilize specially trained teams or resources;
 - Monitor, redirect, or constrain transportation systems; and
 - Close public and government facilities not critical for continuity of essential operations, especially public safety.
- Members of the public, in addition to the actions taken for the previous threat conditions, can:
- Avoid public gathering places such as sports arenas, holiday gatherings, or other high risk locations;
 - Follow official instructions about restrictions to normal activities;
 - Contact employers to determine status of work;
 - Listen to the radio and TV for possible advisories or warnings; and
 - Prepare to take protective actions such as sheltering-in-place or evacuation if instructed to do so by public officials.

For More Information

For More Information

To obtain the following publications, visit FEMA online at <http://www.fema.gov/library> or by calling FEMA's Distribution Center at 1-800-480-2520. FEMA can be reached via mail at Federal Emergency Management Agency, P.O. Box 2012, Jessup, MD 20794-2012. Local emergency management offices are also good sources for emergency management publications.

This is FEMA (L-135). Provides an overview of FEMA.

Are You Ready? A Guide to Citizen Preparedness (H-34).

Emergency Preparedness Checklist (L-154). Provides a checklist of suggested disaster preparedness steps and activities. Also available in Spanish.

Preparing for Emergencies: A Checklist, for People with Mobility Problems (L-154M). Provides information specific to people with limited mobility including children, people with disabilities, and the elderly.

Your Family Disaster Supplies Kit (L-189). Provides a checklist of emergency supplies that should be kept in the home and contained in a Disaster Supplies Kit. Also available in Spanish.

Your Family Disaster Plan (L-191). Provides guidelines and instructions to help families develop a disaster plan. Also available in Spanish.

Emergency Food and Water Supplies (L-210). Explains how to choose food for an emergency kit, emergency cooking, water purification, where to locate emergency water, and how to store emergency food and water supplies in the home.

Helping Children Cope with Disaster (L-196). Provides information on how to prep children prior to disaster and how to lessen the emotional effects of disaster. Also available in Spanish.

Disaster Preparedness Coloring Book (FEMA-243). For ages 3-10. Also available in Spanish.

Adventures of the Disaster Dudes (FEMA-242). Includes a video and presenters guide for use by an adult with children ages 9-11.

Before Disaster Strikes (FEMA-291). Contains information on how to make sure you are financially prepared to deal with a natural disaster. Also available in Spanish.

After Disaster Strikes (FEMA-292). Contains information on how to recover financially from a natural disaster. Also available in Spanish.

Emergency Management Guide for Business and Industry (FEMA-141).

When Disaster Strikes... (L-217). Provides information on donations and volunteer organizations.

The Adventures of Julia and Robbie: The Disaster Twins (FEMA-344). A collection of disaster related stories. Includes information on preparedness and how to mitigate against disasters.

FEMA for Kids (L-229). Provides information about what FEMA (specifically FEMA.gov) has to offer children.

After a Flood: The First Steps (L-198). Information for homeowners on preparedness, safety and recovery from a flood.

Community Shelter (FEMA-361). Contains guidance for constructing mass shelters for public refuge in schools, hospitals and other places of assembly.

Homeowner's Guide to Retrofitting: Six Ways to Protect Your House from Flooding (L-235). A brochure about obtaining information on how to protect your home from flooding.

Homeowner's Guide to Retrofitting: Six Ways to Protect Your House from Flooding (FEMA-312). A detailed manual on how to protect your home from flooding.

Taking Shelter from the Storm: Building a Safe Room Inside Your House (L-233). This brochure provides details about obtaining information on how to build a wind safe room to withstand a tornado, hurricane and other high winds.

Taking Shelter from the Storm: Building a Safe Room Inside Your House (FEMA-320). This manual provides detailed information on how to build a wind safe room to withstand a tornado, hurricane and other high winds.

Tornado Fact Sheet (L-148). Provides safety tips for before, during and after a tornado.

Against the Wind: Protecting Your Home from Hurricane and Wind Damage (FEMA-247).

Avoiding Earthquake Damage: A Checklist for Homeowners. Safety tips for before, during and after an earthquake.

Preparedness in High-Rise Buildings (FEMA-76). Earthquake safety tips for high-rise dwellers.

Learning to Live in Earthquake Country: Preparedness in Apartments and Mobile Homes (L-143). Safety tips on earthquake preparation for residents of apartments and mobile homes.

Family Earthquake Safety Home Hazard Hunt and Drill (FEMA-113). How to identify home hazards; how to conduct earthquake drills.

Wildfire: Are You Prepared? (L-203). Wildfire safety tips, preparedness and mitigation techniques.

Citizen Corps

Citizen Corps provides opportunities for people across the country to participate in a range of measures to make their families, their homes, and their communities safer from the threats of crime, terrorism, and disasters of all kinds. Through public education, training opportunities, and volunteer programs, every American can do their part to be better prepared and better protected.

For More Information

Citizen Corps is managed at the local level by Citizen Corps Councils, which bring together existing crime prevention, natural disaster preparedness, and public health response networks with the volunteer community and other groups. These Citizen Corps Councils will organize public education on disaster mitigation and preparedness, citizen training, and volunteer programs to give people of all ages and backgrounds the opportunity to support their community's emergency services and to safeguard themselves and their property.

By participating in Citizen Corps programs, you can make your home, your neighborhood and your community a safer place to live. To find out more, please visit the Citizen Corps website, www.citizencorps.gov or visit www.fema.gov.

Activities under Citizen Corps include existing and new federally sponsored programs administered under the Department of Justice (Neighborhood Watch, Volunteers in Police Service, and Operation TIPS), under FEMA (Community Emergency Response Teams - CERT), and under DHHS (Medical Reserve Corps), as well as other activities that share the common goal of community and family safety.

CERT

The Community Emergency Response Team (CERT) program helps train volunteers to assist first responders in emergency situations in their communities. CERT members give critical support to first responders in emergencies, provide immediate assistance to victims, organize spontaneous volunteers at a disaster site, and collect disaster intelligence to support first responder efforts. The role of a CERT volunteer is self-help/neighbor-help until such time as trained first-response personnel arrive.

The CERT course is taught in the community by a trained team of first responders who have completed a CERT Train-the-Trainer course conducted by their state training office for emergency management, or FEMA's Emergency Management Institute (EMI), located in Emmitsburg, Maryland. Training of CERT volunteers consists of 20 hours of instruction on topics that include disaster preparedness, disaster fire suppression, basic disaster medical operations, and light search and rescue operations.

For additional information on CERT, visit <http://training.fema.gov/>.

Disaster Public Education Websites

Federal Emergency Management Agency .www.fema.gov
U.S. Fire Administrationwww.usfa.fema.gov

Citizen Corpswww.citizencorps.gov
Department of Commerce www.doc.gov
Department of Health and Human Services . www.hhs.gov
Department of Energy.....www.energy.gov
U.S. Department of Agriculture..... www.usda.gov
Department of Justice.....www.justice.gov
Department of Interior..... www.doi.gov
Environmental Protection Agency www.epa.gov
U.S. Postal Service..... www.usps.gov
National Oceanic and Atmospheric Administration
.....www.noaa.gov
National Weather Service..... www.nws.noaa.gov
U.S. Geological Survey..... www.usgs.gov
Centers for Disease Control and Prevention www.cdc.gov
Food and Drug Administration www.fda.gov
Nuclear Regulatory Commission www.nrc.gov
American Red Cross.....www.redcross.org
National Fire Protection Association.....www.nfpa.org
Institute for Business and Home Safety ... www.ibhs.org
Humane Society of the United States.....
..... www.hsus.org/disaster

Independent Study Courses

To obtain the following Independent Study Courses from FEMA, Write to:

Independent Study Program
Emergency Management Institute
16825 South Seton Avenue
Emmitsburg, MD 21727

Online: <http://www.training.fema.gov>

- IS-1 Emergency Program Manager: An Orientation to the Position
- IS-2 Emergency Preparedness, USA
- IS-3 Radiological Emergency Management
- IS-5 Hazardous Materials: A Citizen's Orientation
- IS-7 A Citizen's Guide to Disaster Assistance
- IS-8 Building for the Earthquakes of Tomorrow: Complying with Executive Order 12699
- IS-9 Managing Floodplain Development Through the National Flood Insurance Program (NFIP)
- IS-10 Animals in Disaster—Module A, Awareness and Preparedness

For More Information

- IS-11 Animals in Disaster—Module B, Community Planning
- IS-120 An Orientation to Community Disaster Exercises
- IS-195 Basic Incident Command System
- IS-275 The EOC's Role in Community Preparedness, Response and Recovery Activities
- IS-279 Engineering Principles and Practices for Retrofitting Flood-Prone Residential Structures
- IS-288 The Role of Voluntary Agencies in Emergency Management
- IS-301 Radiological Emergency Response
- IS-324 Community Hurricane Preparedness
- IS-346 An Orientation to Hazardous Materials for Medical Personnel
- IS-393 Introduction to Mitigation
- IS-394 Mitigation for Homeowners
- IS-513 The Professional in Emergency Management
- IS-600 Special Considerations for FEMA Public Assistance Projects
- IS-630 Introduction to the Public Assistance Process
- SS-534 Emergency Response to Terrorism (presented by the National Fire Academy—12 hours).

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Emergency Phone Number Reference

Fire, Police, Ambulance

911

Poison Control

Doctor

Dentist

Hospital

Utility Companies

Highway Assistance

Home Teachers

Visiting Teachers

Relative or Close Friend

Bishop

Budget Worksheet

(Copy this worksheet and write on the copies)

Month

Actual Beginning Savings Balance \$

| | <u>Monthly</u> <u>Budget</u> | <u>Detail</u> | <u>Monthly</u> <u>Actual</u> | <u>Difference</u> <u>(Budget -</u> <u>Actual)</u> |
|---------------|---------------------------------|---------------|---------------------------------|---|
| Income | | | | |
| Wages | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| Commissions | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| Interest | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |

Total Income \$ \$ \$

| | | | | |
|--------------------------|-------------------------|--|-------------------------|-------------------------|
| Expenses | | | | |
| Tithing | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| Fast Offering | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| Taxes | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| Other Payroll Deductions | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| Credit/Debt Payments | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| Mortgage/Rent | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| Utilities | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| Telephone | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| Food | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| Household | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| Transportation | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| Health Care | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| Insurance | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
| Entertainment | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |
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| | \$ <input type="text"/> | | \$ <input type="text"/> | \$ <input type="text"/> |

Total Expenses \$ \$ \$

Income - Expenses \$ \$ \$

Ending Savings Balance* \$ \$ \$

*(Actual Beginning Balance + Income - Expenses)