



# DISCOVER



## 4-H INCIDENT COMMAND CLUBS



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### Description

The Discover 4-H Clubs series guides new 4-H volunteer leaders through the process of starting a 4-H club or provides a guideline for seasoned volunteer leaders to try a new project area. Each guide outlines everything needed to organize a club and hold the first six club meetings related to a specific project area.

### Purpose

The purpose is to create an environment for families to come together and participate in learning activities while spending time together as a multi-family club. Members will experiment with new 4-H project areas.

### What is 4-H?

4-H is one of the largest youth development organizations in the United States. 4-H is found in almost every county across the nation and enjoys a partnership between the U. S. Department of Agriculture (USDA), the state land-grant universities (e.g., Utah State University), and local county governments.

4-H is about youth and adults working together as partners in designing and implementing club and individual plans for activities and events. Positive youth development is the primary goal of 4-H. The project area serves as the vehicle for members to learn and master project-specific skills while developing basic life skills. All projects support the ultimate goal for the 4-H member to develop positive personal assets needed to live successfully in a diverse and changing world.

Participation in 4-H has shown many positive outcomes for youth. Specifically, 4-H participants have higher participation in civic contribution, higher grades, increased healthy habits, and higher participation in science than other youth (Lerner et al., 2005).

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## Utah 4-H

4-H is the youth development program of Utah State University Extension and has more than 90,000 youth participants and 8,600 adult volunteers. Each county (Daggett is covered by Uintah County) has a Utah State University Extension office that administers the 4-H program.

## The 4-H Motto

"To Make the Best Better!"

## The 4-H Pledge

I pledge: My HEAD to clearer thinking, my HEART to greater loyalty, my HANDS to larger service and my HEALTH to better living, for my club, my community, my country, and my world.

## 4-H Clubs

What is a 4-H Club? The club is the basic unit and foundation of 4-H. An organized club meets regularly (once a month, twice a month, weekly, etc.) under the guidance of one or more volunteer leaders, elects its own officers, plans its own program, and participates in a variety of activities. Clubs may choose to meet during the school year, only for the summer, or both.

## Club Enrollment

Enroll your club with your local Extension office. Each member will need to complete a Club/member Enrollment form, Medical History form, and a Code of Conduct/Photo Release form (print these from the [www.utah4h.org](http://www.utah4h.org) website or get them from the county Extension office).

## Elect Club Officers

Elect club officers during one of your first club meetings. Depending on how many youth are in your club, you can decide how many officers you would like. This will typically include a president, vice president, pledge leader, and secretary. Other possible officers or committees are: song leader, activity facilitator, clean-up supervisor, recreation chair, scrapbook coordinator, contact committee (email, phone, etc.), field trip committee, club photographer, etc. Pairing older members with younger members as Sr. and Jr. officers may be an effective strategy to involve a greater number of youth in leadership roles and reinforce the leadership experience for both ages. Your club may decide the duration of officers—6 months, one year, etc.



## A Typical Club Meeting

Follow this outline for each club meeting:

- Call to order—president
- Pledge of Allegiance and 4-H Pledge—pledge leader (arranges for club members to give pledges)
- Song—song leader (leads or arranges for club member to lead)
- Roll call—secretary (may use an icebreaker or get acquainted type of roll call to get the meeting started)
- Minutes of the last meeting—secretary
- Business/Announcements—vice president
- Club Activity—arranged by activity facilitator and includes project, lesson, service, etc. These are outlined by project area in the following pages.
- Refreshments—arranged by refreshment coordinator
- Clean Up—led by clean-up supervisor



## Essential Elements of 4-H Youth Development

The essential elements are about healthy environments. Regardless of the project area, youth need to be in environments where the following elements are present in order to foster youth development.

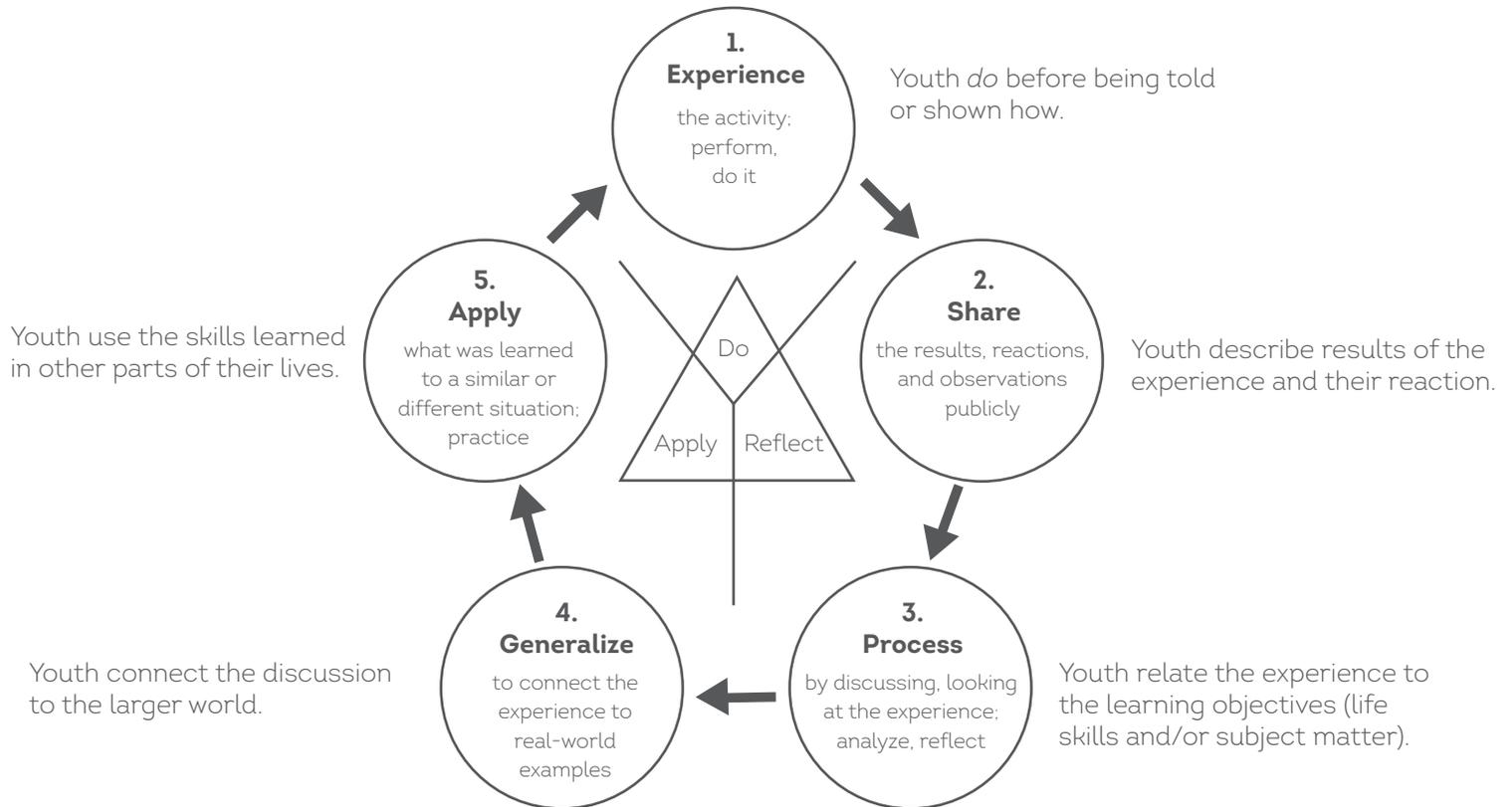
1. **Belonging:** a positive relationship with a caring adult; an inclusive and safe environment.
2. **Mastery:** engagement in learning, opportunity for mastery.
3. **Independence:** opportunity to see oneself as an active participant in the future, opportunity to make choices.
4. **Generosity:** opportunity to value and practice service to others.

(Information retrieved from: <http://www.4-h.org/resource-library/professional-development-learning/4-h-youth-development/youth-development/essential-elements/>)



## 4-H “Learning by Doing” Learning Approach

The Do, Reflect, Apply learning approach allows youth to experience the learning process with minimal guidance from adults. This allows for discovery by youth that may not take place with exact instructions.



## 4-H Mission Mandates

The mission of 4-H is to provide meaningful opportunities for youth and adults to work together to create sustainable community change. This is accomplished within three primary content areas, or mission mandates, - citizenship, healthy living, and science. These mandates reiterate the founding purposes of Extension (e.g., community leadership, quality of life, and technology transfer) in the context of 21st century challenges and opportunities.

(Information retrieved from: [http://www.csrees.usda.gov/nea/family/res/pdfs/Mission\\_Mandates.pdf](http://www.csrees.usda.gov/nea/family/res/pdfs/Mission_Mandates.pdf))

- 1. Citizenship:** connecting youth to their community, community leaders, and their role in civic affairs. This may include: civic engagement, service, civic education, and leadership.
- 2. Healthy Living:** promoting healthy living to youth and their families. This includes: nutrition, fitness, social-emotional health, injury prevention, and prevention of tobacco, alcohol, and other drug use.
- 3. Science:** preparing youth for science, engineering, and technology education. The core areas include: animal science and agriculture, applied mathematics, consumer science, engineering, environmental science and natural resources, life science, and technology.

## Getting Started

1. Recruit one to three other families to form a club with you.
  - a. Send 4-H registration form and medical/photo release form to each family (available at [utah4h.org](http://utah4h.org)).
  - b. Distribute the Discover 4-H Clubs curriculum to each family.
  - c. Decide on a club name.
  - d. Choose how often your club will meet (e.g., monthly, bi-monthly, etc.).
2. Enroll as a 4-H volunteer at the local county Extension office (invite other parents to do the same).
3. Enroll your club at the local county Extension office.
  - a. Sign up to receive the county 4-H newsletter from your county Extension office to stay informed about 4-H-related opportunities.
4. Identify which family/adult leader will be in charge of the first club meeting.
  - a. Set a date for your first club meeting and invite the other participants.
5. Hold the first club meeting (if this is a newly formed club).
  - a. See *A Typical Club Meeting* section above for a general outline.
    - i. Your activity for this first club meeting will be to elect club officers and to schedule the six project area club meetings outlined in the remainder of this guide. You may also complete a-d under #1 above.
  - b. At the end of the first club meeting, make a calendar outlining the adult leader in charge (in partnership with the club president) of each club meeting along with the dates, locations, and times of the remaining club meetings.
6. Hold the six project-specific club meetings outlined in this guide.
7. Continue with the same project area with the 4-H curriculum of your choice (can be obtained from the County Extension Office) OR try another Discover 4-H Club project area.



## Other Resources

Utah 4-H website: [www.Utah4-h.org](http://www.Utah4-h.org)

National 4-H website: [www.4-h.org](http://www.4-h.org)

4-H volunteer training:

To set up login:

<http://utah4h.org/htm/volunteers/get-involved/new-volunteer-training>

To start modules: <http://4h.wsu.edu/volunteertraining/course.html>

(password = volunteer)

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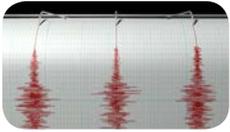
Information was taken from the Utah 4-H website ([utah4h.org](http://utah4h.org)), the National 4-H Website ([4h.org](http://4h.org)), the Utah Volunteer Handbook, or as otherwise noted.

Lerner, R., M. et al., (2005). Positive youth development, participation in community youth development programs, and community contributions of fifth grade adolescents: Findings from the first wave of the 4-H Study of Positive Youth Development. *Journal of Early Adolescence*, 25(1), 17-71.

**We would love feedback or suggestions on this guide; please go to the following link to take a short survey:**

<http://tinyurl.com/lb9tnad>

# 4-H INCIDENT COMMAND CLUB *Meetings*



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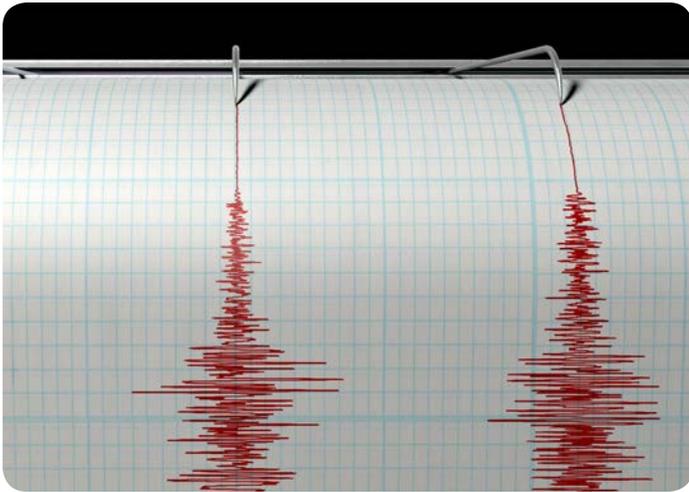


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# 4-H Club Meeting 1 Earthquake!



## Supplies

- Whiteboard, Whiteboard Markers
- Whiteboard Markers
- Light switch (and/or rumble track)
- Desks, tables, or other things that you can go into or go under for cover
- Soft, squishy items such as sponges or yarn balls, Stickers
- Pencils
- Paper
- Whiteboard, Whiteboard Markers

### PRIOR TO CLUB MEETING

Gather supplies and make sure they are ready for the activities.

### INTRODUCTION

Think you are ready to take on disaster? Well, this is the right curriculum for you. In the Incident Command (IC): Zombie Apocalypse club we believe that through facing imaginary danger, we can help youth be better prepared to face actual dangers. While completing this curriculum 4-Hers will have the opportunity to learn the skills they will need to not only survive but to thrive when disaster hits, then they will jump into a number of simulations that will allow them to test the skills they learn. We have a host of scenarios for you to pick, ranging from Sharknados to vampires, but today we will lay down the foundation for future events by taking on earthquakes.

## Activity #1 INTRODUCTIONS



### DESCRIPTION (10 MIN)

Throughout the Incident Command Zombie Apocalypse club, 4-Hers will work as a team, but initially it is hard to build trust with someone you don't know. Spend a few minutes getting to know the people in the group.

### WHAT TO DO

1. Introduce the goals of the IC: Zombie Apocalypse club, as well as some of the activities they have to look forward to.
2. Introduce yourself. Tell them why you decided to lead this club. Then tell them your answer to the question of the day, "What is the coolest or most interesting disaster?"
3. If you have a co-leader, introduce him or her now; if not, continue on to task 4.
4. Give everyone an opportunity to introduce themselves. Each 4-Her should give their name, grade, and answer the question of the day, "What is the coolest or most interesting disaster?"
5. Introduce today's topic, earthquakes.
6. Ask the group if anyone has experienced an earthquake. If anyone has, encourage them to briefly share their experience.

## Activity #2

### EARTHQUAKES



#### DESCRIPTION (10 MIN)

Once the introductions are complete, the earthquakes can hit randomly throughout club meeting. During this particular disaster scenario you are trying to practice proper duck and cover techniques, so don't forget to let the youth know how they weathered the earthquake after each drill.

#### WHAT TO DO

1. Randomly pick a moment when youth are least suspecting it.
2. Turn off the lights and/or the rumble track on while yelling, "Earthquake."
3. Let youth react for a moment then start walking around the classroom tossing soft squishy items on top of the desks that youth are hiding under.
4. Turn the lights on and announce that the earthquake has ended.
5. Talk about how successful youth were when ducking and covering. Successful youth will hold tightly onto what they are hiding under and are completely under the desk or table for the entire earthquake.
6. Repeat the drill randomly throughout the rest of the activity, but this time yell, "Aftershock."
7. When youth fail to keep themselves completely under the desk, then they become injured and you give them a sticker. The rest of the group will have to figure out how to transport the injured people to safety in an evacuation activity.

## Activity #3

### WHAT DO YOU PACK



#### DESCRIPTION (10 MIN)

When emergency hits, it is nice to have some supplies on hand to aid with your survival. That said, what student can keep a full 72-hour kit on them all of the time? Not many. Pare things down to the basics and create a locker or pocket 72-hour kit that you can realistically have on hand.

#### WHAT TO DO

1. Have the group brainstorm about all of the items they use in a 3-day period.
2. Remove all items from the list that are not actually needed. This includes anything you just use for school/clubs/sports, etc.
3. Remove all items that would be too large for you to realistically carry with you, such as a bed.
4. Come up with a short list. This list should include at least one of the following: Non-perishable food (such as granola bars or candies), water bottle or small filtration system, jacket or emergency blanket, hard copy of emergency phone numbers
5. Organize your list into a 72-hour kit.
6. Write down or take a picture of the list. It is hoped that everyone in the group will have collected all of these items and put them in one place by the end of the curriculum.

## Activity #4

### IDENTIFYING INSIDE HAZARDS



#### DESCRIPTION (10 - 15 MIN)

Earthquakes rarely kill people. Stuff falling because it was not properly secured/built before the earthquake kills a lot of people. Don't become a statistic. Locate the hazards around you and determine what steps you can take to mitigate the risk.

#### WHAT TO DO

1. After one of the aftershocks have hit the room, walk over to the door and make a show by jiggling the doorknob. Inform the group that the earthquake must have shifted the building and now they are stuck.
2. Split the 4-Hers into two groups.
3. Have one group identify and list as many hazards as they can find in the room. You may need to remind them to look up while they are creating the list, as some people forget to look for hazards on high shelves or the ceiling.
4. The second group should work to figure out as many ways as possible to mitigate hazards in the environment.
5. After 5 to 6 minutes, have the hazard team start listing possible problems on the whiteboard while the mitigation team lists solutions next to each problem.
6. If there are any problems which the mitigation team cannot find a solution for, work together as a group to find solutions.

## Activity #5

### EVACUATION



#### DESCRIPTION (10 MIN)

Clearly, if you can get stuck because the door to the room gets jammed, it is time to get out. Demonstrate how to get out of the building, especially if your primary exit is blocked.

#### WHAT TO DO

1. After another aftershock, give the door a good tug and announce that you can now escape.
2. Evacuate the room at a walk. While doing so, remind youth that unless the ceiling is literally coming down at that moment, evacuating a building at a walk is safer. Make sure you don't leave anyone behind who was "injured" in the earthquake.
3. Come to the first exit, and inform the group that it is blocked.
4. Have the group find a second exit, and inform them that it is also blocked.
5. Have the group find a third exit. If the exit does not have an alarm or is not a window/other unconventional exit, you may go through. If you cannot exit the door without setting off an alarm, then you may backtrack to one of the other exits and leave through that instead.

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## Activity #6

IDENTIFYING OUTDOOR HAZARDS



### DESCRIPTION (5 - 10 MIN)

You have successfully made it outdoors now, but that doesn't mean you are safe. Identify the hazards around so your group can find a safe place to wait for rescue.

### WHAT TO DO

1. Have everyone look around and try to locate hazards. Once again make sure that youth look up.
2. Estimate how tall outdoor objects around you are. Have the group estimate how far away they would have to be from that object to keep it from injuring them if it fell on its side.
3. Locate powerlines. You cannot cross any area where powerlines could have fallen down.
4. Once you have located an area free from hazards, get your group to that location. Make sure you do not leave people behind who received "injuries" during the earthquake.

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## Activity #5

BRINGING IT BACK TO REALITY



### DESCRIPTION (10 MIN)

Congratulations, you have just survived the earthquake scenario, but what good is a fictional depiction of disaster if it doesn't help you survive the real thing. Bring the skills you learned back to reality by leading a discussion about how the group will use this knowledge in an actual emergency.

### WHAT TO DO

1. Have the group determine in what type of emergency situations they would use the skills covered in today's meeting.
2. Discuss how they would adapt these skills to be used at home.
3. Discuss how skills might be used in other settings.
4. Ask the group how they might be able to teach people how to use today's skill set effectively.

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## Activity #6

BRIEF



### DESCRIPTION (5 MIN)

Hopefully everyone has had a fun time today taking on earthquakes, but in order to stay motivated about the next club meeting it is a good idea to introduce the next scenario. You will also use the briefing time to help determine what item to add to their personal 72-hour kits.

### WHAT TO DO

1. Congratulate the group on surviving today's disaster.
2. Have them decide on the one item to add to their pocket or locker 72-hour kit.
3. Briefly introduce the next club's scenario.
4. Excuse the group.



## Reflect

- What did you learn today about earthquakes?
- What types of natural disasters could damage or destroy a home?

## Apply

- How can we help our loved ones in a time of crisis or emergency?
- Have a meeting with your family to discuss what your family plan would be in an emergency. Where would you go?
- How would you communicate with each other to know that you were all safe?
- Where could you seek shelter if your home were destroyed?



## 4-H MISSION MANDATES

### Healthy Living

Club members learn techniques to help them during an earthquake. These techniques can keep them and those around themselves safe if disaster strikes.

### Citizenship

By learning how to prepare for safety during a disaster, club members become informed members of their society.

## ESSENTIAL ELEMENTS

### Belonging

As club members work in groups they learn to come together to help prepare for and create an incident control plan for an earthquake.



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# 4-H Club Meeting 2

## Vampires in the Dark



### Supplies

- Whiteboard
- Whiteboard markers
- Tables and chairs
- Someone outside of the room

### PRIOR TO CLUB MEETING

- Gather supplies and make sure they are ready for the activities.
- Recruit someone to play the vampire for your club meeting.

### INTRODUCTION

Few things are as scary as something dangerous prowling the halls of your school. During today's club, youth will be learning to deter that fear and learn to survive a vampire attack.

## Activity #1

### INTRODUCTIONS



### DESCRIPTION (5 MIN)

Today's activity will require teamwork. Help build that teamwork by making sure everyone knows each other and understands today's mission.

### WHAT TO DO

1. Reintroduce yourself. Then answer the question of the day, "What is the scariest movie monster?"
2. Give everyone an opportunity to introduce themselves. Each 4-Her should give his or her name and answer the question of the day, "What is the scariest movie monster?"
3. Introduce today's topic, vampires.
4. Ask the group to discuss what they know about vampires.

## Activity #2

### RUN, HIDE, FIGHT



### DESCRIPTION (10 MIN)

Did you know that the FBI has created a protocol to help you survive a vampire attack? This protocol can be summarized as three words...Run, Hide, and Fight. Discuss what types of actions would fall under the three words.

### WHAT TO DO

1. Draw three columns on the whiteboard. At the top of each column write one of the three words.
2. Ask youth what type of activities they could do to "Run" to avoid vampires.
3. Ask youth what type of activities they could do to "Hide" from vampires.
4. Ask youth what type of activities they could do to "Fight" vampires.
5. Discuss when you would do each of these activities. Reinforce the idea that you should run if it is safe, hide if that is the safe option, and fight as a last resort.

## Activity #3

RUN



### DESCRIPTION (10 MIN)

When a vampire is stalking you, sometimes your only option is to run. Practice running to safety in a vampire emergency.

### WHAT TO DO

1. Have youth determine a primary and a secondary evacuation path.
2. Head out the door assuming you can move through the primary evacuation path.
3. At a logical point, inform youth that a vampire has blocked your primary escape path.
4. Head out the secondary evacuation path.
5. Once outside, figure out how you would communicate the danger to others and safely prevent others from encountering that danger.

## Activity #4

HIDE



### DESCRIPTION (20 MIN)

Evacuating the building during a vampire attack may not always be an option. Learn how to barricade a classroom to keep a vampire out and you safe inside.

### WHAT TO DO

1. Have club members use the tables, desks, and chairs to barricade the classroom. If possible, make sure you have an open exit from the classroom. While you would barricade all exits in a real emergency, during today's event you want to have an evacuation path for an actual disaster.
2. Give youth feedback on how well they did. Concentrate on feedback about how much noise they made and how long it took them to build their barricade.
3. Reset classroom.
4. Try building a barricade again. You may interrupt the club members and have them reset the classroom and start the building process over if they make a particularly loud noise.
5. Have club members find a place where they could then be out of sight of any windows into the classroom.
6. If the club members haven't turned out the lights already, make sure they do so. Then have the group sit still and quiet for at least 3 minutes so they can get a feel for what it is like to hide in these types of emergencies.

## Activity #5

FIGHT



### DESCRIPTION (5 MIN)

Sometimes during a vampire attack you will have to fight. This should always be used as a last resort when running and hiding are no longer options. When possible, fight as a team. It increases the odds that you will be able to take down the vampire.

### WHAT TO DO

1. Discuss why fighting should only be used as a last resort.
2. Have youth look around the room and determine what types of items they could use to help defend themselves. If they get stuck, suggest chairs to distance themselves from the vampire.
3. Discuss why you would do better attacking as a team vs. alone.
4. Stress again, that fighting is a last resort and should only be used if cornered without a place to hide or run.

## Activity #6

BRING IT BACK TO REALITY



### DESCRIPTION (10 MIN)

Congratulations, you have just survived the vampire scenario. What good is a fictional depiction of disaster if it doesn't help you survive the real thing? Bring the skills you learned back to reality by leading a discussion about how the group of youth will use this knowledge in an actual emergency.

### WHAT TO DO

1. Have the group determine in what type of emergency situations they might use the skills covered in today's meeting.
2. Discuss how they would adapt these skills to be used at home.
3. Discuss how skills might be used in other settings.
4. Ask the group how they might be able to teach people how to use today's skill set effectively.

## Activity #7

VAMPIRE IN THE HALL



### DESCRIPTION (10 MIN)

So you have taught your youth what to do when attacked by vampires, but have they taken this knowledge to heart. Run a Vampire Drill to find out.

### WHAT TO DO

1. If possible, arrange for someone outside of the room to bang on the doors and windows at a designated time.
2. A few minutes before that, warn the class that there is a vampire loose in the school.
3. Allow youth to use their skills to respond to the threat.
4. Have the person outside the classroom bang on doors and windows to simulate a vampire attack and test members ability to keep quiet under stress.
5. After the attack is complete, have everyone put the classroom back together.



### DESCRIPTION (5 MIN)

Hopefully everyone has had a fun time today taking on vampires, but in order to stay motivated about the next club meeting, it is a good idea to introduce the next scenario. You will also use the briefing time to help determine what item everyone is going to add to their personal 72-hour kits.

### WHAT TO DO

1. Congratulate the group on surviving today's disaster.
2. Have them decide on the one item they are going to add to their pocket or locker 72-hour kit.
3. Briefly introduce the next club's scenario.
4. Excuse the group.



### Reflect

- Why would it be important to find a place out of sight of the windows if there were a vampire attack?
- Why is it important to sit so still?
- What are some items you would want to have in your emergency preparedness kit?
- What things do you think you could survive without, but that you would miss?

### Apply

- It is smart to have a small emergency preparedness kit at school. What other items could you add to your kits?
- What other accessories can you make at home to prepare yourself for emergencies?
- List ideas of things you can do to help your school become more prepared for emergencies.



## 4-H MISSION MANDATES

### Citizenship

Club members create a plan that benefits everyone in their group so that the team, as a whole, can successfully survive.

## ESSENTIAL ELEMENTS

### Mastery

After creating a plan, club members participate in a drill, putting into practice what they have learned.

### Belonging

Club members work as a team throughout this lesson, building a sense of community and belonging.



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# 4-H Club Meeting 3 Day After Tomorrow



## Supplies

- Desks or Tables
- 3-5 Blankets
- Flashlight
- Thermometer
- A School, Community Center, or other Public Space
- "Frostbite and Hypothermia Symptoms and Stages" Summary
- "Hypothermia and Frostbite Treatment" Article
- Whiteboard
- Whiteboard Markers
- Unbroken snow
- At least two youth wearing snow boots

## INTRODUCTION

- Gather supplies and make sure they are ready for the activities
- If this meeting is not going to occur in the winter months, or you are not in an area where snow is available, have the club members pretend they are in snow and follow the instructions in the activity.

## INTRODUCTION

A few weeks ago a piece of the Antarctic ice sheet broke loose, and the melt water from that chunk of ice has caused rapid cooling of the Atlantic Ocean and a superstorm has ushered in the next ice age. Today your goal is to find a way to stay alive and warm as the -150 °C eye of the storm passes over the school.

## Activity #1 BRIEFING AND REVIEW



### DESCRIPTION (10 MIN)

So, you have successfully survived last meeting's disaster. Review what you have learned so far and introduce this week's challenge.

### WHAT TO DO

1. Start by having everyone remind each other of their names while answering the question of the day, "What is your favorite winter sport?"
2. Once everyone has a chance to reintroduce themselves, make sure that everyone has added an item to their 72-hour kit.
3. Choose a skill that was used last week and do a short drill to review it.
4. Describe today's challenge to the group. You may use a video clip from the movie "Day After Tomorrow" to support your description of an ice age scenario.

## Activity #2

BUILD A FORT



### DESCRIPTION (20 MIN)

When the eye of the storm hits, even the temperature in the classroom is really going to drop. You need to build a structure that will help insulate your group from the worst of the chill.

### WHAT TO DO

1. Have youth build a blanket fort.
2. See if everyone can successfully fit in the blanket fort. (Success=everyone fits under the fort and no one is touching the ground.)
3. If the fort fails allow youth to reengineer and retest their fort until they succeed.
4. Have everyone in the group sit in the fort for 10 minutes and measure how much heat they produce.
5. While waiting for the fort to heat up, discuss other ways to stay warm in an emergency. Bring up insulating windows and doors, as well as heat-producing activities such as exercise.

## Activity #3

BUILD A FIRE



### DESCRIPTION (10 MIN)

Yes, we usually discourage any type of fire in a school or other public building, but when you are plunged into the next ice age, sometimes rules are meant to be broken. Figure out how to safely use fire in a contained space to prevent yourself from freezing. (Note-no actual fire will be used in this activity.)

### WHAT TO DO

1. Explain the problem-The power is out, but we still need a form of external heat. You are trying to find a place where it is safe to light a fire indoors.
2. Walk through the space until someone in the group points out the kitchen, science lab, or CTE shop as possible locations to light a fire.
3. Talk about the fact that fires larger than a candle need to be vented to the outside to prevent carbon monoxide poisoning.
4. Discuss what types of things you should keep away from a small fire (i.e., a candle) in an emergency situation.
5. Talk about why you want to avoid using fire in schools or other public buildings under most conditions.

## Activity #4

SIGNS OF HYPOTHERMIA



### DESCRIPTION (15 MIN)

You have protected yourself from the worst of the storm, but it is still really cold in this building. Some members of your group are starting to show signs of hypothermia. Use the information provided to figure out how to help them.

### WHAT TO DO

1. Split the youth into two groups.
2. Give one group the summary "Frostbite and Hypothermia Symptoms and Stages" and the other group the article "Hypothermia and Frostbite Treatment."
3. Have each group read through and discuss their article.
4. On the whiteboard create a symptoms list and a treatment list.
5. Draw lines between the symptoms and their corresponding treatments.

## Activity #5

BRINGING IT BACK TO REALITY



### DESCRIPTION (10 MIN)

Congratulations, you have just survived the storm that brought on the next ice age, but what good is a fictional depiction of disaster if it doesn't help you survive the real thing? Bring the skills you learned back to reality by leading a discussion about how youth will use this knowledge in an actual emergency.

### WHAT TO DO

1. Have the group determine in what type of emergency situations they may use the skill covered in today's meeting.
2. Discuss how they would adapt these skills to be used at home.
3. Discuss how skills might be used in other settings.
4. Ask the group how they might be able to teach people how to use today's skill set effectively.

## Activity #6

BRIEF



### DESCRIPTION (5 MIN)

Hopefully everyone has had a fun time today taking on the Day After Tomorrow, but in order to stay motivated about the next club meeting, introduce the next scenario. Also use the briefing time to help determine what item to add to the personal 72-hour kits.

### WHAT TO DO

1. Congratulate the group on surviving today's disaster.
2. Have them decide on one item to add to their pocket or locker 72-hour kit.
3. Briefly introduce the next club's scenario.
4. Excuse the group.

## Activity #7

BONUS: BREAKING TRAIL



### DESCRIPTION (10 MIN)

After the storm has cleared it can be a real challenge to get from point A to point B. Teach youth how to reduce the amount of energy it takes to travel in the snow by teaching them how to break trail as a team.

### WHAT TO DO

1. Have one of the youth with snow boots walk across the snow patch, dragging each foot as he or she walks to make deep furrows in the snow.
2. Have the rest of the class walk behind the trail breaker in single file.
3. Switch the person in the front of the line with someone else who also has boots and have him or her take a turn breaking trail.
4. Discuss how much easier it is to walk on a broken trail versus an unbroken one, and how working as a team can reduce the amount of work any one person has to do.



## Reflect

- Have you ever known someone who got frostbite or hypothermia?
- Candles are a great asset to have on hand during any emergency, but they can also be hazardous. Why is it important to know how to prevent any dangers that candles present?
- Heaters often run on electricity. What other ways can you stay warm if the electricity goes out and it's cold outside?

## Apply

- What can you do to be more prepared in a power outage?
- What other ways can you think of to cook if there is no electricity?
- What can you do to make sure you stay safe when making a fire?



## 4-H MISSION MANDATES

### Citizenship

Youth are challenged to create a structure that fits everyone in their group, no one is left out.

### Science

Club members learn the signs and symptoms of hypothermia and work to prevent it in their fellow club members.

## ESSENTIAL ELEMENTS

### Mastery

Youth learn the skill of breaking a trail after a storm to help them if they are ever found in a real life emergency situation.



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# Frostbite and Hypothermia

## *Symptoms & Stages Summary*



Frostbite and hypothermia are the consequences of cold exposure. The body is always trying to maintain a constant temperature. When it gets cold, the body tries to keep the blood circulating away from the skin to keep the vital organs warm and protect them. When the body starts to shiver, it is working to generate heat, but if the body stays cold and doesn't warm up, bad things can happen.

- Often the person will lie down and fall asleep. Sometimes he or she will die.

Summary of the "Frostbite and Hypothermia Symptoms and Stages" article is found here: <http://www.emedicinehealth.com/script/main/art.asp?articlekey=124962>

### **Frostbite**

When skin freezes, it is called frostbite.

Stages and symptoms of frostbite:

- First degree frostbite is superficial and can be reversed. Skin will be irritated and it might hurt when the area rewarms.
- Second degree frostbite causes blisters, signifying deeper tissue damage, but not major damage.
- Third degree frostbite causes permanent damage through all layers of the skin, causing skin to turn black and die.
- Fourth degree frostbite happens when bone and tendon freeze.

### **Hypothermia**

Hypothermia occurs when body temperature is less than 95° F (35° C). The colder a body gets, the less the brain will function. The brain will stop functioning at a temperature of 68° F (20° C).

Symptoms of hypothermia:

- As body temperature drops, the person will not want to eat and nausea can set in.
- After that, he or she will become confused, can lose consciousness, and may end up in a coma.

# Frostbite and *Hypothermia*



Frostbite and hypothermia are cold-related emergencies that may quickly become life or limb threatening. Preventing cold-related emergencies includes not starting an activity in, on, or around cold water unless you know you can get help quickly in an emergency. Be aware of the wind chill. Dress appropriately and avoid staying in the cold too long. Wear a hat and gloves when appropriate with layers of clothing. Drink plenty of warm fluids or warm water but avoid caffeine and alcohol. Stay active to maintain body heat. Take frequent breaks from the cold. Avoid unnecessary exposure of any part of the body to the cold. Get out of the cold immediately if the signals of hypothermia or frostbite appear. Frostbite is the freezing of a specific body part such as fingers, toes, the nose or earlobes.

## Signals of frostbite include—

Lack of feeling in the affected area;  
Skin that appears waxy, is cold to the touch, or is discolored (flushed, white or gray, yellow or blue).

## What to do for frostbite—

1. Move the person to a warm place.
2. Handle the area gently; never rub the affected area.
3. Warm gently by soaking the affected area in warm water (100–105 degrees F) until it appears red and feels warm.
4. Loosely bandage the area with dry, sterile dressings.
5. If the person's fingers or toes are frostbitten, place dry, sterile gauze between them to keep them separated.
6. Avoid breaking any blisters.
7. Do not allow the affected area to refreeze.
8. Seek professional medical care as soon as possible.

Hypothermia is another cold-related emergency. Hypothermia may quickly become life threatening and is caused by the cooling of the body caused by the failure of the body's warming system. The goals of first aid are to restore normal body temperature and to care for any conditions while waiting for EMS personnel.

## Signals of hypothermia include—

Shivering, numbness, glassy stare;  
Apathy, weakness, impaired judgment;  
loss of consciousness.

## What to do for hypothermia—

1. CALL 9-1-1 or the local emergency number.
2. Gently move the person to a warm place.
3. Monitor breathing and circulation.
4. Give rescue breathing and CPR if needed.
5. Remove any wet clothing and dry the person.
6. Warm the person slowly by wrapping in blankets or by putting dry clothing on the person. Hot water bottles and chemical hot packs may be used when first wrapped in a towel or blanket before applying. Do not warm the person too quickly, such as by immersing him or her in warm water. Rapid warming may cause dangerous heart arrhythmias. Warm the core first (trunk, abdomen), not the extremities (hands, feet). This is important to mention because most people will try to warm hands and feet first and that can cause shock.



### Supplies

- Shark plush or inflatable toy
- Timer
- Classroom or other indoor space
- Outdoor space
- Whiteboard
- Whiteboard Markers
- Incident Command Chart
- Tables and chairs
- Participant map for each club member
- Pencils or pens
- Mission facilitator map

### PRIOR TO CLUB MEETING

Gather supplies and make sure they are ready for the activities.

### INTRODUCTION

Today the forecast is rain with a chance of sharks! Today you will not only learn how to take on killer winds and killer sharks, you will have to work together to deal with the after effects of Sharknado hitting Salt Lake City. Be ready to take on this high-speed challenge.

## Activity #1

### INTRODUCTIONS



### DESCRIPTION (5 MIN)

Today we will be introducing the Incident Command structure. This structure doesn't function unless you have good communication skills. Take a moment to review everyone's names and share knowledge that will help your team survive.

### WHAT TO DO

1. Reintroduce yourself. Then tell them your answer to the question of the day, "What is the scariest thing about the ocean?"
2. Give everyone an opportunity to introduce themselves. Each 4-Her should give his or her name, and answer the question of the day, "What is the scariest thing about the ocean?"
3. Introduce today's topic, Sharknadoes.
4. Ask the group to discuss what they know about Sharknadoes.

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## Activity #2

### HOW TO TAKE DOWN A SHARK



#### DESCRIPTION (5 MIN)

While tornadoes are scary in their own right, the massive amounts of hungry sharks make it a challenging force to be dealt with. Review the skills you need to take down an attacking shark.

#### WHAT TO DO

1. Discuss how you can avoid being attacked by a shark. Bring up the fact that you want to avoid putting blood in the water. This not only means to avoid swimming in shark-infested water when you have open cuts and wounds, but also to avoid swimming when the girls in the group are on their periods.
2. Discuss what you should do if you see a shark approaching. Explain that you should keep calm and swim smoothly toward shore, a boat, or other forms of safety. Teach youth that they should not play dead or thrash as both of these actions can make you a bigger target for the shark.
3. Finally, discuss what you should do if the shark is actively attacking you. Teach youth to focus attention on the shark's nose, eyes, and gills as they are the most sensitive parts of the animal.
4. If you need additional information about how to take on a shark, visit <http://www.wikihow.com/Survive-a-Shark-Attack>.

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## Activity #3

### SHARK SURVIVAL PRACTICE



#### DESCRIPTION (10 MIN)

You learned how to avoid being attacked by a shark and what you should do if a shark attacks you. Use these skills to take down a mock shark.

#### WHAT TO DO

1. Introduce everyone to the shark.
2. Play hot potato with the shark. Set the timer to a random amount of time and hand the shark to the first player. The player must punch the shark in one of its three weak points before passing it on.
3. Discuss how they might use this skill in the future.

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## Activity #4

### SURVIVING A SHARKNADO INSIDE



#### DESCRIPTION (5 MIN)

So you know how to survive a shark attack, but you can't take on the shark if you don't survive the cyclonic winds first. Figure out how you would survive a tornado while sheltering in a building.

#### WHAT TO DO

1. Identify potential risks in the surrounding space. Look for things that could be moved or broken by debris-filled, fast-moving winds. Pay particular attention to any windows that allow you to see light from the outside and walls that face the outside. Just because a wall is made of brick doesn't mean it will keep you safe. A piece of straw can imbed itself in such walls when moved at high speeds.
2. Locate areas where you could hide to minimize your exposure to risks.
3. Demonstrate how to wait out a passing tornado.

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## Activity #5

### SURVIVING A SHARKNADO OUTSIDE



#### DESCRIPTION (5 MIN)

While it would be wonderful if Sharknadoes only hit when everyone is safely stowed in shark proof tornado bunkers, sometimes you get stuck outside when the storm hits. Head outside and determine where you would take shelter to survive a passing Sharknado.

#### WHAT TO DO

1. Identify potential risks including things such as trees, light poles, and powerlines that can be knocked over, as well as loose debris that the wind can pick up.
2. Locate areas where you could hide to minimize your exposure to risks. Look for depressions, ditches, and low earthen walls that can protect you from the worst of the storm.
3. Demonstrate how to wait out a passing tornado.

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## Activity #6

### INCIDENT COMMAND STRUCTURE



#### DESCRIPTION (5 MIN)

The incident command structure is an important system that is used to organize emergency response worldwide. In this activity youth will be introduced to the basics of the incident command structure so they would be able to use it to complete today's mission.

#### WHAT TO DO

1. Draw the incident command chart on the board.
2. Talk about the responsibilities of each position as you write them on the board.
3. As a group, discuss why an organized system such as the incident command structure would be useful in an emergency situation.

---

## Activity #7

### BACKGROUND DISCUSSION



#### DESCRIPTION (5 MIN)

You have learned about how to survive a Sharknado. Read about tornados in Utah.

#### WHAT TO DO

1. Read the following background Information: "Utah has one of the lowest incidences of tornadoes in the nation. On August 11, 1999, the most destructive tornado in Utah's history touched down in Salt Lake City. In the central U.S., tornadoes are frequently one-fourth of a mile wide and cause considerable destruction and death. However, Utah tornadoes are smaller in size and last only a few seconds to a few minutes. They are often no more than 60 feet wide (at the base) and the path is usually less than a mile."
2. Read the following about the Utah tornado on August 11, 1999. "The day began with calm but cloudy weather. Warm breezy winds blew over the Salt Lake Valley. As the day wore on, the clouds became steadily darker. Thunderstorms began to form throughout the valley. At about 12:40 PM, a thunderstorm near downtown Salt Lake

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## Activity #7

CONTINUED



City intensified and generated a rare F2 tornado (having winds of 113 to 157 mph). Throughout much of the tornado's destructive path, houses experienced damage, vehicles were tossed around, hundreds of trees were uprooted or damaged and vehicles were damaged or totaled by falling trees."

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## Activity #8

THE MISSION



### DESCRIPTION (30 MIN)

Let's map Utah's deadliest tornado.

### WHAT TO DO

Pass out a copy of the participant map to each club member. While reading the following, have club members mark significant places the tornado damaged with an X. Items 1 and 2 are not on the participant maps, so show these points on the facilitator map.

1. At approximately 12:40 PM, the storm produced F0 winds at about 400-500 South and Navajo (1340 West). Show the club members this point on the facilitator map.
2. Winds continued to about 300 South and Goshen (1040 West) where the tornado reached F2 strength at about 12:45 PM. Show this on the facilitator map.
3. The tornado traveled over I-15 toward downtown Salt Lake City. As it traveled, it hit power lines and damaged some abandoned Union Pacific warehouses.
4. The tornado winds took off part of the roof of the Delta Center (currently called the Vivint Smart Home Arena) at 301 West South Temple. Have club members mark the Delta Center on their maps.
5. All of the windows of the Wyndham Hotel (now the Radisson Hotel) at 215 West South Temple were shattered. The hotel had to be closed for several days until the damage could be repaired. Mark where the Wyndham Hotel was.
6. Across the street from the Wyndham Hotel, is an empty parking lot. The Outdoor Retailers Convention was setting up large temporary tents for their convention. The two giant tents covered the parking lot. One of the tents was completely demolished by the tornado. Find the parking lot and divide it in half from 300 West to 200 West. Put a large X in the south half to represent the tent.
7. After the tornado, canvas from the tent hung from a huge tree in front of the Museum of Church History and Art and a 30 foot-steel beam lay nearby. Both had blown more than a block to 45 North West Temple. Mark this on the map.
8. The tornado continued northeast past Temple Square. The temple was not damaged, but Temple Square was closed for 2 days while crews worked to clean up trees and shattered windows. The Salt Lake Temple remained open for scheduled weddings and appointments during and after the storm. Map Temple Square at 50 North Temple.
9. The tornado then hit the construction site where the Church of Jesus Christ of Latter-day Saints was building the Conference Center. The tornado crumpled scaffolding and snapped a 200-foot construction crane. Mini-



- mal damage was done to the building. Mark the Conference Center on the map at 60 W. North Temple.
10. The tornado uprooted trees and shattered windows of homes as it traveled northeast of Temple Square.
  11. The tornado headed to the Utah State Capitol Building. The tornado ripped up old, mature trees on the south side of the building. Mark the Utah State Capitol Building on the map at 350 North State Street.
  12. The tornado traveled through Memory Grove, a World War I memorial park at 300 Canyon Road. Mark this memorial park on the map.
  13. The tornado traveled along the northwest portion of the Avenues—just barely missing LDS Hospital at 8th Ave & C Street. Mark LDS Hospital on the map.
  14. The tornado then lifted off the ground above Edgehill Road which is above 18th Avenue.

## Discuss

Discuss the following questions with the club.

1. If you were in downtown Salt Lake City when the tornado hit, what would you do?
2. Where would the safest place have been?
3. Where would the most dangerous place have been?
4. Do you think your parents lived in Utah in 1999? Where do you think they were during the tornado?
5. Do you think you know someone who worked in downtown Salt Lake City at the time of the tornado?
6. Challenge club members to ask their parents or grandparents where they were when the tornado hit Salt Lake City.

## Bonus: Facts and Figures about the Tornado

The facilitator may choose to discuss these facts and figures, or use them as a reference if club members ask more questions.

1. F2 tornado
2. Lasted about 10 minutes
3. Traveled about 3.75 miles
4. Width of about 100 to 200 yards
5. 1 death
6. 80 injuries
7. 300 buildings or houses were damaged

8. 34 homes left uninhabitable
9. 500 trees were destroyed
10. 300 more trees were significantly damaged
11. \$170 million dollars in damage estimates

## BONUS VIDEO

A cameraman was taking video of a wedding on Temple Square when the tornado hit. The camera caught footage of the effects of the tornado. Show clips from “Salt Lake Temple Tornado Wedding” on YouTube. The full 9 minute video is found here: <https://www.youtube.com/watch?v=UhgIe6kzS4>. Watch the following clips. Total time of clips is about 92 seconds.

- Start at 1:35.
- Show the club members the clouds forming until 1:48.
- Watch the reactions of the wedding party and how they run up the stairs away from it at 2:27 until 2:47.
- Watch the funnel cloud from 3:16 to 3:30.
- The flag is ripped apart in the wind from 3:42 to 3:55.
- Continue watching the wedding party as it finished blowing from 4:10 to 4:22.
- Temple Square had a historic tree that grew like a love seat. Couples would sit on the tree for photographs. This tree was destroyed in the tornado. You can see this from 7:00 to 7:20.

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## Activity #9

BRING IT BACK TO REALITY



### DESCRIPTION (10 MIN)

Congratulations, you have just survived the Sharknado scenario. Bring the skills you learned back to reality by leading a discussion about how the 4-Hers will use this knowledge in an actual emergency.

### WHAT TO DO

1. Have the group determine in what type of emergency situations they may use the skills covered in today's meeting.
2. Discuss how they would adapt these skills to be used at home.
3. Discuss how skills might be used in other settings.
4. Ask the group how they might be able to teach people in their life how to use today's skill set effectively.

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## Activity #10

BRIEF



### DESCRIPTION (5 MIN)

Hopefully everyone has had a fun time today talking about Sharknados, but in order to stay motivated about the next club meeting, it is a good idea to introduce the next scenario. You will also use the briefing time to help determine what item everyone is going to add to their personal 72-hour kits.

### WHAT TO DO

1. Congratulate the group on surviving today's disaster.
2. Have them decide on the one item they are going to add to their pocket or locker 72-hour kit.
3. Briefly introduce them to next club's scenario.
4. Excuse the group.



## Reflect

- Is it safer to be inside or outside during a tornado? Why?
- What did you learn today about keeping safe during a tornado?

## Apply

- What are some games you can think of that would be fun to play in the dark? (Hide and seek, pigs in a blanket, guess who's talking, etc.)
- Ask your parents or grandparents if they were in Utah during the tornado of 1999. If they were in Utah, ask what they remember about that day.
- A major power outage occurred in parts of Salt Lake City after the tornado. How do you think you could help find sources of light could you use during a blackout?



## 4-H MISSION MANDATES

### Citizenship

As youth learn to set up an incident command communication pattern, they strengthen their ability to help others in an emergency situation.

### Science

Youth learn about what things attract and repel sharks, as well as how tornados form and are effected by weather patterns.

## ESSENTIAL ELEMENTS

### Mastery

Club members learn about tornados in Utah and use a map to understand where the tornados have hit.

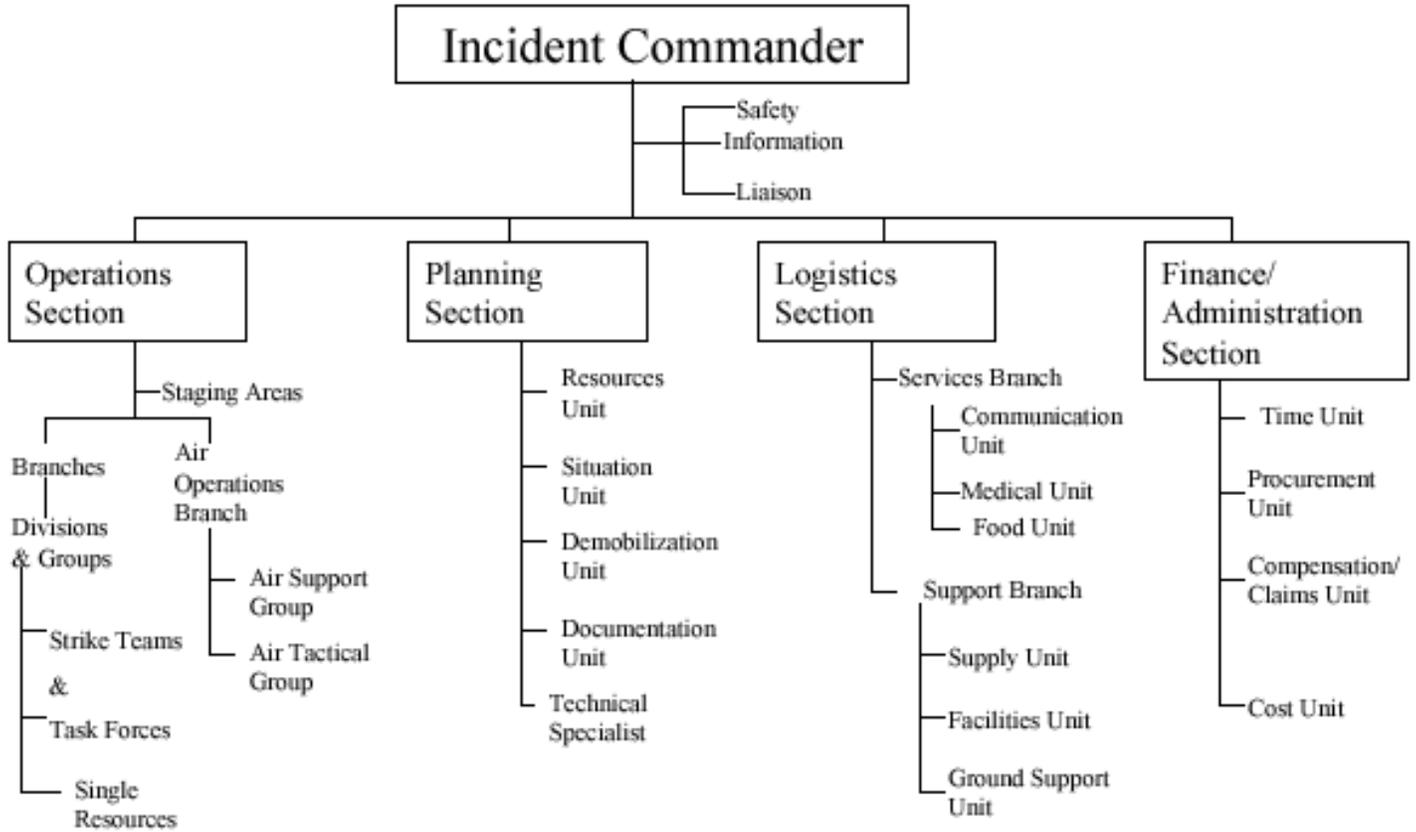


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## Incident Command System



<https://training.fema.gov/emiweb/is/icsresource/assets/icsorganization.pdf>



## Salt Lake City - Tornado - Wednesday, August 11<sup>th</sup>, 1999

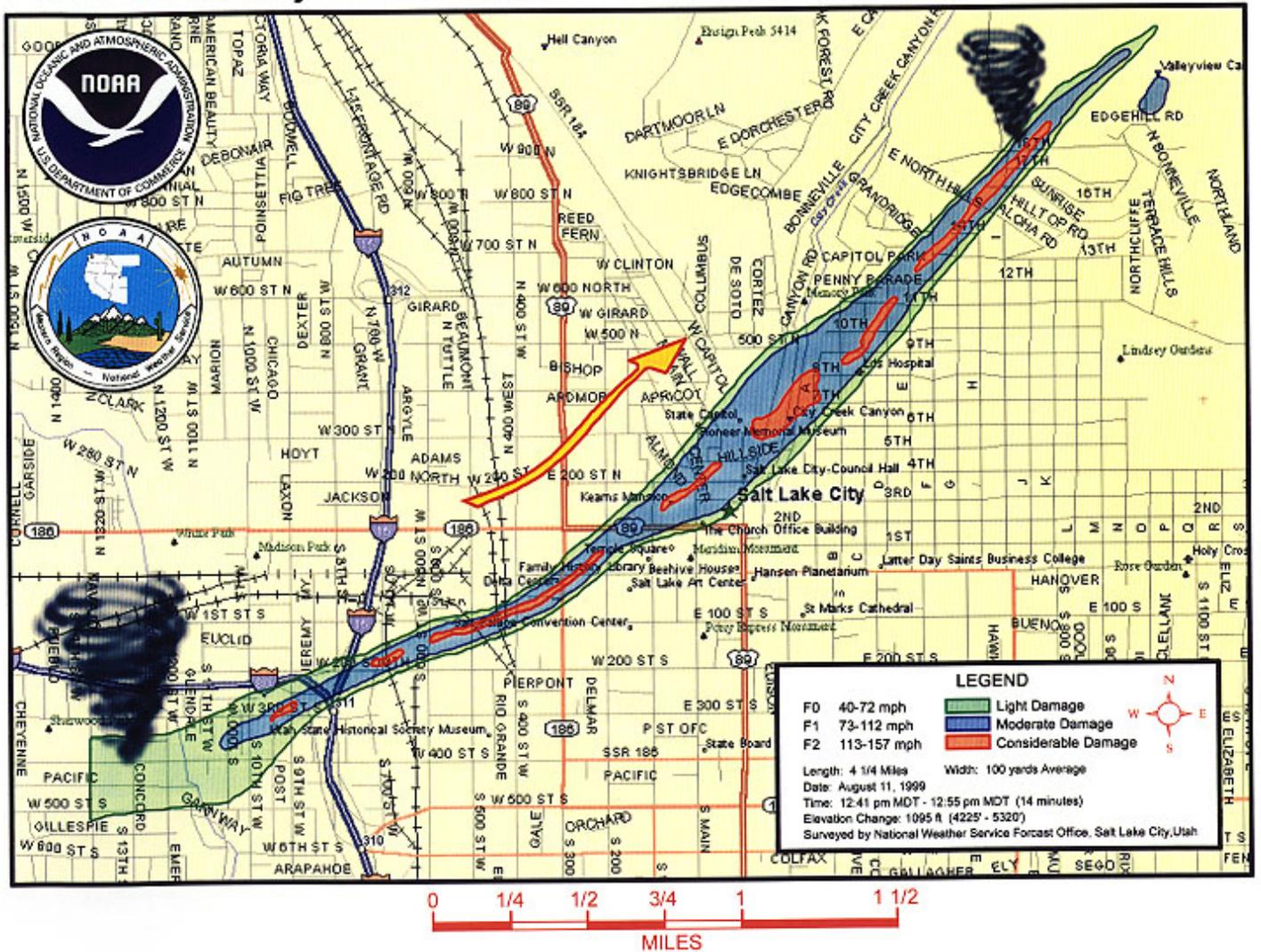


Image from Salt Lake City Tornado-August 11, 1999 (National Weather Service) <http://www.wrh.noaa.gov/slc/climate/tornado.php>



# DOWNTOWN SALT LAKE





### Supplies

- Computer
- Projector
- Internet connection
- Whiteboard
- Whiteboard markers
- Four Ways to Be Killed by a Volcano article

### PRIOR TO CLUB MEETING

Gather supplies and make sure they are ready for the activities.

### INTRODUCTION

One of the worst disasters that could ever take place in North America is about to occur. The volcano underneath Yellowstone is preparing to erupt. Today quickly gain basic knowledge about volcanic eruptions and create a plan on how to mitigate the damage from the upcoming eruption.

## Activity #1

### INTRODUCTIONS



### DESCRIPTION (5 MIN)

Today's activity will continue to use the incident command structure. As such, teamwork will be pivotal for your success. Take a moment and communicate with your team.

### WHAT TO DO

1. Reintroduce yourself. Then give your answer to the question of the day, "Favorite volcano?"
2. Give everyone an opportunity to introduce themselves. Youth should give their names, and answer the question of the day, "Favorite volcano?"
3. Introduce today's topic, super volcano eruptions again.
4. Ask the group to discuss what they remember about super volcano eruptions.

## Activity #2

TYPES OF VOLCANOES



### WHAT TO DO (10 MIN)

1. Use the computer to access the YouTube video titled "Different Volcanoes." <https://www.youtube.com/watch?v=DnBggrCdkNO>
2. After the video is complete, break youth into three groups.
3. Have each group draw one of the three most common volcanoes: Composite, Shield, and Cinder Cones.
4. Have the group include facts they have learned about their type of volcano, such as how explosive their eruptions are, next to the volcano picture.
5. Briefly show your drawing skills to the other groups.

## Activity #3

HOW VOLCANOES KILL PEOPLE



### DESCRIPTION (15 MIN)

In order to survive the dangers that volcanoes produce, you have to understand what those dangers are. Split into groups and learn about four ways volcanoes can destroy the human body.

### WHAT TO DO

1. Divide youth into four groups.
2. Give all of the groups a copy of the How Volcanoes Kill article from the BBC.
3. Assign a number from 1 to 4. That number will tell the group which of the volcano dangers they will read about.
4. Once the group has worked together to determine the danger, list those dangers on the board.
5. After everyone has had a chance to list their dangers on the board, work as a large group to come up with ways to protect yourself from these dangers. Note: Running away from the volcanic danger zone is a valid response and is often the correct one.

## Activity #4

YELLOWSTONE THE SUPER VOLCANO



### DESCRIPTION (10 MIN)

In order to defeat your enemy, you need to know your enemy. Take a moment to learn a little bit about one of the largest volcanoes on planet Earth.

### WHAT TO DO

1. Use the computer to access the YouTube video titled "Yellowstone's Supervolcano." <https://www.youtube.com/watch?v=M7xG-nXD9cc>
2. Watch a short clip produced by the National Park Service about the Yellowstone volcano and how they monitor it.
3. As a group, discuss how scientists monitor the Yellowstone Super Volcano and if they think it is safe to visit Yellowstone National Park.

## Activity #5

OUT OF HARM'S WAY



### DESCRIPTION (30 MIN)

So we know what the danger is, we know what will happen if we leave people in the path of the eruption, that leaves only one option—evacuation. But how do you successfully evacuate an entire community? It is your job to figure it out.

### WHAT TO DO

1. Divide youth into teams of four or five.
2. Have each team select one person to be the incident commander; the rest will become planning section members.
3. Give each team a volcano blast map and a city information sheet.
4. Using the information given, determine what type of risks your community will face, then figure out what you need to do to keep your citizens safe. A U.S. atlas may be used to determine evacuation routes and locations.
5. After 20 minutes of planning, have each team present evacuation plans.

## Activity #6

BRINGING IT BACK TO REALITY



### DESCRIPTION (10 MIN)

You have successfully gotten your people away from the volcanoes. How would the skills you just practiced help in a real life emergency?

### WHAT TO DO

1. Have the group determine the types of emergency situations that skills covered in today's meeting would help.
2. Discuss how they would adapt these skills to be used at home.
3. Discuss how skills might be used in other settings.
4. Ask the group how they might be able to teach people in their life to use today's skill set effectively.

## Activity #7

BRIEF



### DESCRIPTION (5 MIN)

Hopefully everyone has had a fun time today taking on volcanoes, but in order to stay motivated about the next club meeting it is a good idea to introduce the next scenario. You will also use the briefing time to help determine what item everyone is going to add to their personal 72-hour kits.

### WHAT TO DO

1. Congratulate the group on surviving today's disaster.
2. Have them decide on the one item they are going to add to their pocket or locker 72-hour kit.
3. Briefly introduce the next club's scenario.
4. Excuse the group.



## Reflect

- What was your favorite activity today and why?
- What did you learn about volcanoes?
- What are some of the positives and negatives of working as a team?
- What did you learn by working as a team?

## Apply

- Can you use any of the things you learned from these activities in the future? How?
- How can you work better as a team next time?



## 4-H MISSION MANDATES

### Citizenship

Youth are tasked with figuring out a plan to evacuate the entire city. This builds skills that can be used, if ever needed, to help with evacuations in their towns.

### Science

Youth learn about volcanoes and how they work.

## ESSENTIAL ELEMENTS

### Mastery

Youth are given the opportunity to present what they have learned about volcanoes to the group.



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# FOUR WAYS TO BE KILLED BY A VOLCANO *Article Summary*



There are active volcanoes all around the world. They can destroy entire cities and kill people. Lava (or molten rock) may seem to be the obvious reason for this destruction, but the lava that flows from volcanoes moves too slow to be truly deadly. Below are four frightening ways a volcano really can kill someone.

1. Cooked by super-hot waves of gas.
2. Buried by fast-flowing mud.
3. Suffocated by poisonous gases.
4. Annihilation from ash clouds.

## 1. Cooked by super-hot waves of gas.

Pyroclastic flows contain superheated gas, ash, and rock. They are the most deadly volcanic event because they can travel for miles and are impossible to outrun.

On August 24, 79AD, Mount Vesuvius erupted explosively, creating multiple pyroclastic flows.

When it erupted, it sent the hot gas down the sides of the volcano at high speeds to the Roman cities of Pompeii and Herculaneum. Herculaneum was hit first with temperatures as high as 500° C. The heat was hot enough to boil the brains and instantly vaporize the flesh of the people. Only their blackened skeletons remained.

The people in Pompeii were killed by a later wave of pyroclastic flow that was significantly cooler. The heat 'cooked' the victims' flesh instantly. The bodies were preserved by falling volcanic ash.

## 2. Buried by fast-flowing mud.

Lahars are thick mixtures of mud and water that slide down mountains like avalanches. They have enough force to carry huge boulders at high speeds for up to 40 miles.

In 1985, a volcano called Nevado del Ruiz erupted in

Colombia. The pyroclastic flows melted glaciers on the mountain. The melted water mixed with volcanic mud and rock, and caused four lahars to speed down the mountain at 40 mph. The lahars engulfed the town of Armero and killed over 20,000 people.

## 3. Suffocated by poisonous gases.

When a volcano is under a lake, gases from the magma can become trapped under the water as carbon dioxide (CO<sub>2</sub>). Violent movement, like an earthquake or a landslide can cause the carbon dioxide to rise.

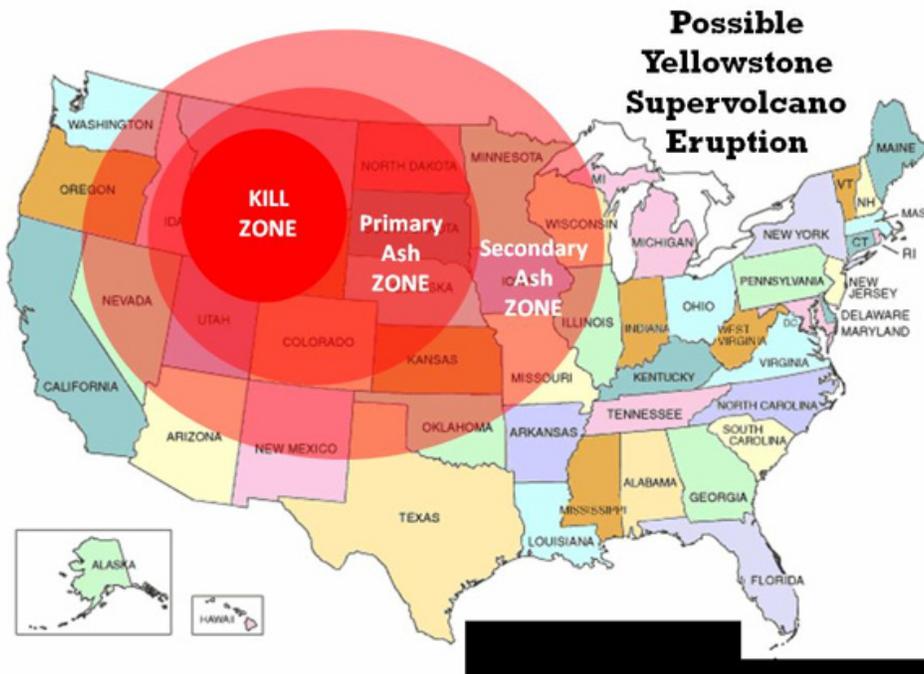
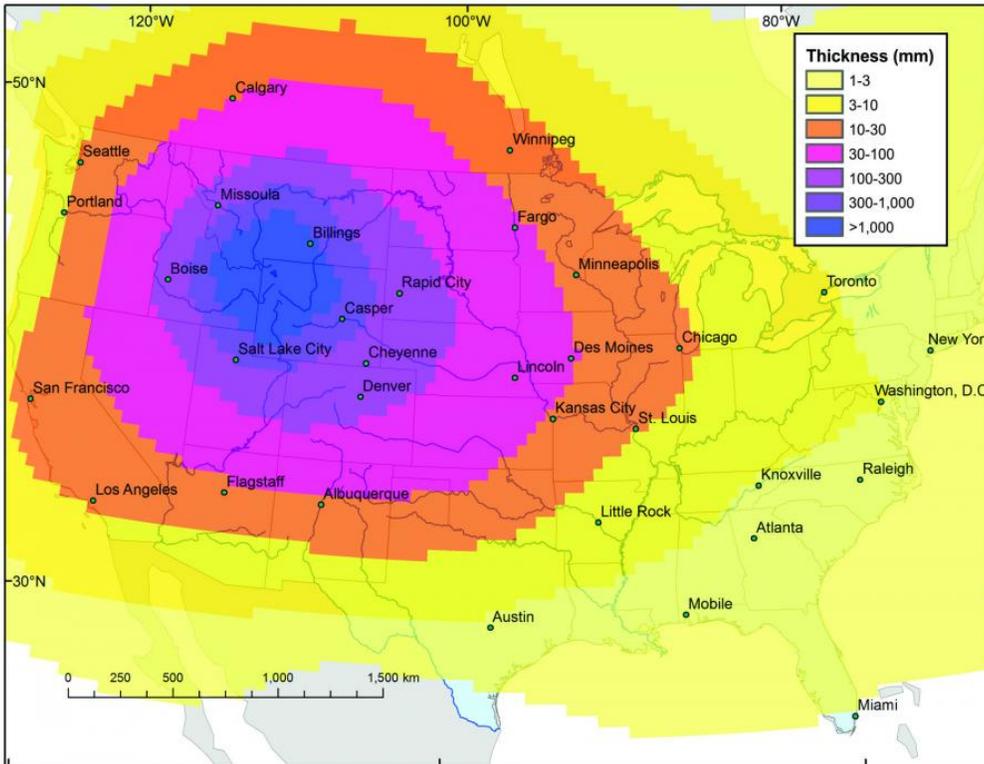
In Cameroon, Africa, a deep lake called Lake Nyos sits in the crater of an inactive volcano. In 1986, a landslide disturbed the lake, causing the carbon dioxide to be released. It killed more than 1,700 people and thousands of animals.

## 4. Annihilation from ash clouds.

Mount Pinatubo is located in the Philippines. In 1991, the volcano exploded and blasted ash into the atmosphere. The ash blew in all directions and then fell like thick snow on buildings. Many roofs collapsed because of the weight of the ash. 300 people were killed in their homes.

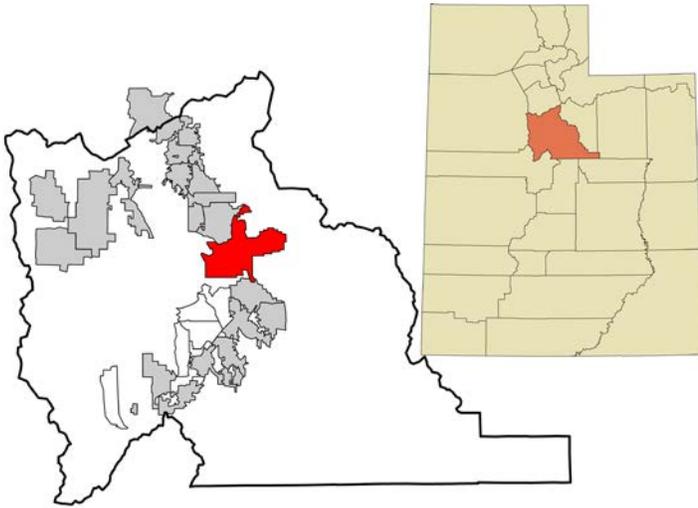
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Four Ways To Be Killed By A Volcano (BBC Science)  
<http://www.bbc.co.uk/science/0/21938018>





(From Wikipedia, the free encyclopedia)



Coordinates:  **40°14′40″N 111°39′39″W**  **Coordinates: 40°14′40″N 111°39′39″W**

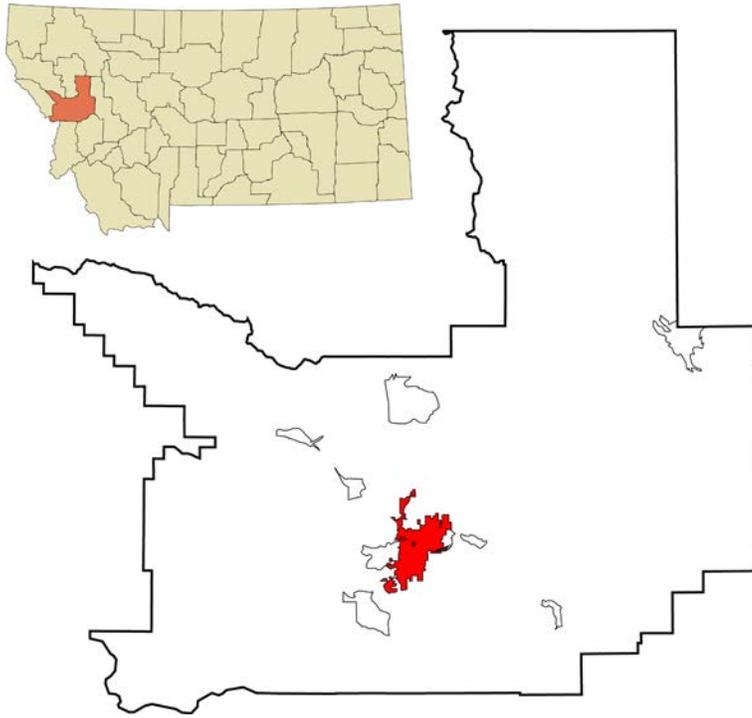
<b>Country</b>	United States
<b>State</b>	Utah
<b>County</b>	Utah
<b>Founded</b>	1849
<b>Incorporated</b>	April 1850
<b>Named for</b>	Étienne Provost <sup>[1]</sup>
<b>Area</b>	
• <b>City</b>	44.2 <u>sq</u> mi (114.4 km <sup>2</sup> )
• <b>Land</b>	41.7 <u>sq</u> mi (107.9 km <sup>2</sup> )
• <b>Water</b>	2.5 <u>sq</u> mi (6.5 km <sup>2</sup> )
<b>Elevation</b>	4,551 <u>ft</u> (1,387 m)
<b>Population (2013)<sup>[2][3]</sup></b>	
• <b>City</b>	116,288
• <b>Density</b>	2,600/ <u>sq</u> mi (1,000/km <sup>2</sup> )
• <b>Metro</b>	526,810

**Provo** is the third-largest city in the state of Utah, located 43 miles (69 km) south of Salt Lake City along the Wasatch Front. Provo is the largest city and county seat of Utah County. It lies between the cities of Orem to the north and Springville to the south. With a population at the 2010 census of 112,488, Provo is the principal city in the Provo–Orem metropolitan area, which had a population of 526,810 residents at the 2010 census.[6] It is the third-largest metro area in the state behind Salt Lake City and Ogden–Clearfield.

*Provo, Utah (Wikipedia) [https://en.wikipedia.org/wiki/Provo,\\_Utah](https://en.wikipedia.org/wiki/Provo,_Utah)*



(From Wikipedia, the free encyclopedia)



**Missoula** is a city in the state of Montana and is the county seat of Missoula County. It is located along the Clark Fork River near its confluences with the Bitterroot and Blackfoot Rivers in western Montana and at the convergence of five mountain ranges, thus is often described as the "hub of five valleys." In the 1990s, Missoula overtook Great Falls as Montana's second largest city, behind Billings. Missoula is home to the University of Montana, a public research university.

*Missoula, Montana (Wikipedia) [https://en.wikipedia.org/wiki/Missoula,\\_Montana](https://en.wikipedia.org/wiki/Missoula,_Montana)*

Coordinates:  **46°51'45"N 114°0'42"W**  Coordinates: **46°51'45"N 114°0'42"W**

#### Area<sup>[2][3][4]</sup>

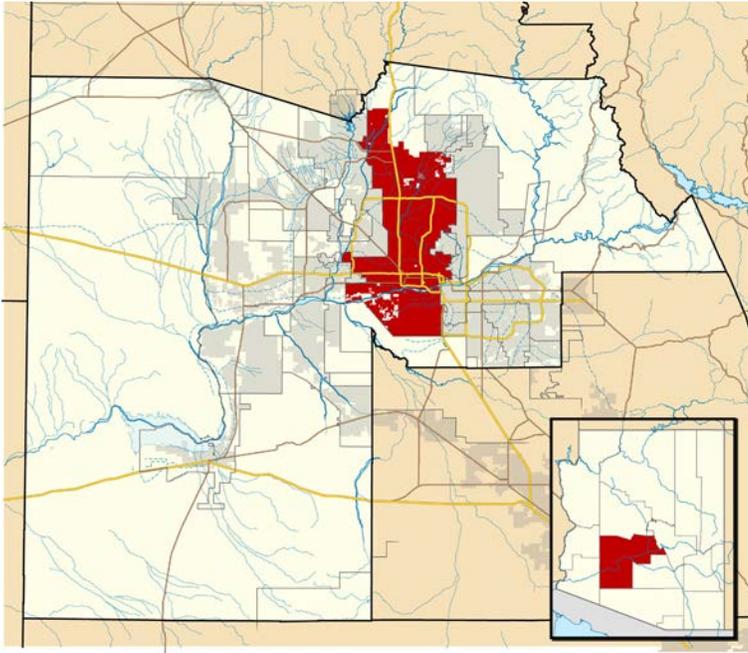
• <b>City</b>	29.08 <u>sq mi</u> (75.3 km <sup>2</sup> )
• <b>Land</b>	28.90 <u>sq mi</u> (74.9 km <sup>2</sup> )
• <b>Water</b>	0.184 <u>sq mi</u> (0.48 km <sup>2</sup> )
• <b>Urban</b>	45.43 <u>sq mi</u> (117.7 km <sup>2</sup> )
• <b>Metro</b>	2,618 <u>sq mi</u> (6,780 km <sup>2</sup> )

**Elevation** 3,209 ft (978 m)

#### Population (2010)<sup>[5]</sup>

• <b>City</b>	66,788
• <b>Estimate (2014)<sup>[6]</sup></b>	69,821
• <b>Density</b>	2,416/ <u>sq mi</u> (932.8/km <sup>2</sup> )
• <b>Metro</b>	112,684 (U.S.: 336th)

# Phoenix, Arizona *Map*



**Phoenix** is the capital, and largest city, of the state of Arizona. With 1,445,632 people (as of the 2010 U.S. Census), Phoenix is the sixth most populous city nationwide, the most populous state capital in the United States, and the only state capital with a population of more than 1 million residents.

*Phoenix, Arizona (Wikipedia) [https://en.wikipedia.org/wiki/Phoenix,\\_Arizona](https://en.wikipedia.org/wiki/Phoenix,_Arizona)*

Coordinates:  33°27'N 112°04'W Coordinates:  33°27'N 112°04'W

## Area

- **City** 517.948 [sq mi](#) (1,341.48 km<sup>2</sup>)
- **Land** 516.704 [sq mi](#) (1,338.26 km<sup>2</sup>)
- **Water** 1.244 [sq mi](#) (3.22 km<sup>2</sup>)
- **Metro** 14,565.76 [sq mi](#) (37,725.1 km<sup>2</sup>)

**Elevation**<sup>[1]</sup> 1,086 [ft](#) (331 m)

## Population (2010)<sup>[2]</sup>

- **City** 1,445,632
- **Estimate (2014)**<sup>[3]</sup> 1,537,058
- **Rank** US: 6th
- **Density** 2,967.59/[sq mi](#) (1,145.79/km<sup>2</sup>)
- **Urban** 3,629,114 (US: 12th)
- **Metro** 4,489,109 (US: 12th)
- **Demonym** Phoenician



# 4-H Club Meeting 6

## Epidemic!



### Supplies

- Whiteboard
- Whiteboard Markers
- Computer
- Projector
- Sound System
- Painter's Tape
- Emergency Blankets
- Pencil
- Paper

### PRIOR TO CLUB MEETING

Gather supplies and make sure they are ready for the activities.

### INTRODUCTION

Sometimes fact can be stranger than fiction. Today, take on a type of medical emergency that has happened several times in the past in different parts of the world. While on the surface, the situation may seem completely harmless or even humorous, but if you can't figure out the root cause of the problem, it may not seem funny as it spreads.

## Activity #1

### INTRODUCTIONS



### DESCRIPTION (10 MIN)

The best way to take on an emergency is to have a plan already in place. It is time to get on the same page in order to start planning.

### WHAT TO DO

1. Introduce the question of the day "When was the last time you got sick?"
2. Introduce today's topic, Epidemic.
3. Ask the group if anyone knows what an epidemic is. Allow club members to share. An epidemic is the rapid spread of infectious disease to a large number of people in a short period of time.

## Activity #2

### HYSTERICAL GIGGLING



### DESCRIPTION (5 MIN)

While most activities we have been working through have been based on works of fiction, this one is based on reality. Learn a little bit about a real laughing epidemic that occurred in 1962.

### WHAT TO DO

1. Play the following video clip about the historic laughing epidemic titled "Tanzanian Laughter Epidemic - Clip from Laughology." <https://www.youtube.com/watch?v=ms7MpUNvAK0>
2. Explain to the youth that their school is now ground zero for a similar laughing epidemic and they are the team on hand to find the cause.

---

## Activity #3

FINDING THE VECTOR



### DESCRIPTION (20 MIN)

Epidemics don't just appear, they have to be passed from person to person somehow. Learn about typical vectors for infection and create a plan about how to prevent people from getting sick.

### WHAT TO DO

1. Watch the video "How are Pathogens Spread and Controlled." <https://www.youtube.com/watch?v=vO5lsFre6fg>
2. Break youth into four equal groups.
3. Assign each group a vector (air, water, fluids, and contact).
4. Have each group identify three diseases that can be spread by their vector. You can rewatch the video clip if a group gets stuck.
5. Then, pick one disease from the list and try to come up with a way to prevent getting infected.

---

## Activity #4

QUARANTINE



### DESCRIPTION (30 MIN)

When people are quarantined, it usually is to stop a sick person from spreading disease, but historically healthy people have also been quarantined to prevent them from getting sick when a lot of people in the community are ill. With a laughing epidemic going on outside your classroom, work on securing the room to prevent infection so you have a time to figure out what is causing everyone to giggle.

### WHAT TO DO

1. Knowing that vectors cause disease, have the youth look around the room and figure out possible places where infection could enter the room.
2. Discuss a plan to seal up the room so they could quarantine in place.
3. Have youth use materials such as painter's tape and emergency blankets to demonstrate how to apply that plan. Encourage them to each tape off a section of door or window, but do not require them to seal off all ventilation to the room, and discourage them from climbing on things to complete this task.

---

## Activity #5

IS THERE A CURE?



### DESCRIPTION (10 MIN)

Turns out, scientists think they know what causes laughing epidemics. But just because you know the cause doesn't necessarily mean that you can come up with a cure. This project is going to take some teamwork and creativity.

### WHAT TO DO

1. Inform the youth that experts believe that they have discovered the cure. It turns out laughing epidemics are often caused by a lot of stress in the community.
2. Have all participants write something about school that causes stress.
3. Then have youth pair up, pick one of the school stressors, and work together to create a realistic plan to reduce stress at school. (Things like tests will not completely disappear, so they are going to need to get creative.)
4. Have each pair present their idea to the group.
5. As an entire group, select three ideas that they would like see in their school.



**DESCRIPTION (10 MIN)**

We have learned about the dangers of spreading disease and stress. How can we use what we learned when facing actual disasters?

**WHAT TO DO**

1. Have the group determine in what type of emergency situations they would use the skill covered in today's meeting.
2. Discuss how they could adapt these skills to be used at home.
3. Discuss how skills might be used in other settings.
4. Ask the group how they might be able to teach people in their lives to use today's skill set effectively.



**DESCRIPTION (5 MIN)**

You have survived today's epidemic, but that doesn't mean you are ready to take on the next emergency. Brief them on what is to come.

**WHAT TO DO**

1. Congratulate the group on surviving today's disaster.
2. Have them decide on the one item they are going to add to their pocket or locker 72-hour kit.
3. Briefly introduce them to next club's scenario.
4. Excuse the group.



**Reflect**

- Why is it important to have sanitation supplies in an emergency?
- What challenges did you face and how did you overcome those challenges?
- Being prepared for accidents is very smart. What other first aid skills do you think would be useful to know?

**Apply**

- What type of sanitation supplies could you add to an emergency kit at your home?
- If there were ever a natural disaster, which first aid skills do you think would be most necessary?
- First aid skills will come in handy eventually, no matter who you are or where you live. List what trainings you can take to help.
- Colds can be contagious. What are some ways you can help prevent a cold from spreading?



## 4-H MISSION MANDATES

### Citizenship

Club members learn steps they can take to stop an epidemic from occurring.

### Science

Club members learn about what an epidemic is and what it takes to cause an epidemic.

## ESSENTIAL ELEMENTS

### Belonging

Club members work together to come up with solutions to help the epidemic.



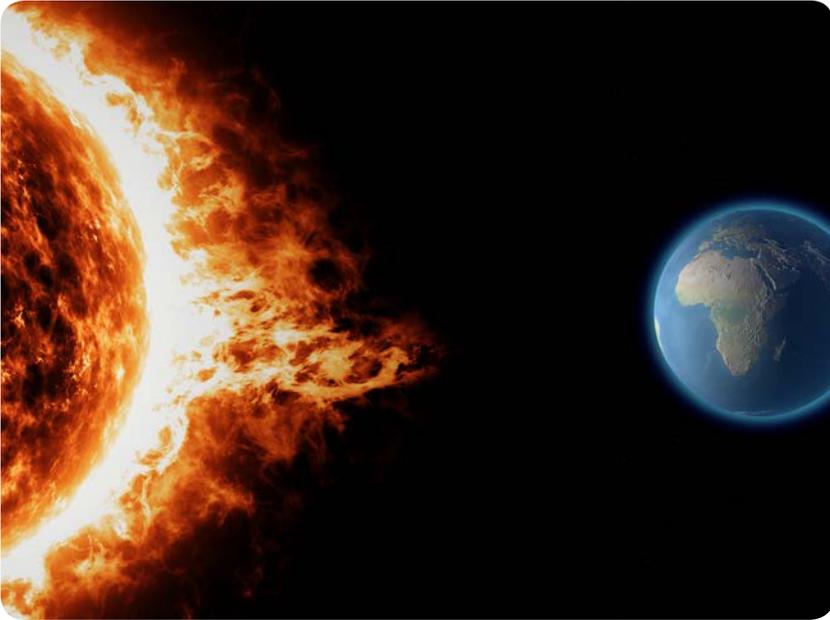
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# 4-H Club Meeting 7

## Solar Storm



### Supplies

- Whiteboard
- Whiteboard markers
- Computer
- Projector
- Faraday Cage article
- Tinfoil
- Clear tape
- Small plastic tub
- At least two charged cellphones
- Speaker
- Pencils
- Paper

### PRIOR TO CLUB MEETING

Gather supplies and make sure they are ready for the activities.

### INTRODUCTION

Solar storms don't really affect people, but they do affect electronics. Most of the time they only cause minor blackouts and damage to the instruction system. In a lot of scientific books, the author likes to force society to face down major solar events. Which brings up the question, how long could you survive without your cell phone?

## Activity #1

### INTRODUCTIONS



### DESCRIPTION (10 MIN)

In our technological age, disasters that can wipe out your favorite devices can be particularly scary. That said youth are not going to be facing these problems alone.

### WHAT TO DO

1. Ask the question of the day, "How long do you think you would be comfortable going without your phone?"
2. Introduce today's topic, "Solar Storms."
3. Ask the group if anyone has experienced or been through a solar storm. If anyone has, encourage him or her to briefly share the experience with the group.

## Activity #2

A STORM IS COMING



### DESCRIPTION (10 MIN)

As the only storms that can affect a whole solar system, solar storms are nothing to sneeze at. Learn about what solar storms are and how they affect Earth.

### WHAT TO DO

1. Play the video about solar storms from the science channel called "Why Solar Storms Are So Dangerous | Strip the Cosmos." [https://www.youtube.com/watch?v=ReSi\\_kPTNIc](https://www.youtube.com/watch?v=ReSi_kPTNIc)
2. Have youth talk about what they have learned. What aspects are interesting? What are scary? What can we do about it?
3. Solar storms are real, but if they are so scary, why aren't our electronic systems constantly getting knocked out? Learn about the Earth's secret weapon by watching the video called "Why Earth's Magnetic Shield Matters." <https://www.youtube.com/watch?v=XXFVpweCixY>
4. Have youth discuss what they have learned about the Earth's magnetic sphere.

## Activity #3

PROTECTING YOUR STUFF



### DESCRIPTION (40 MIN)

The best way to protect your stuff during a solar storm is to use the Faraday cage. Learn how Faraday cages work, and work as a group to build one for yourself.

### WHAT TO DO

1. Have the youth break into groups of four or five and give each group a couple of copies of the Faraday cage article.
2. In small groups discuss what they have learned from the article, then give each group 12 feet of tinfoil and a roll of tape.
3. Build the Faraday cages.
4. Test the Faraday cages by placing one cellphone inside of the tinfoil system and trying to call it. If you can't get the phone to connect, you know that team has succeeded to make a functioning Faraday cage.

## Activity #4

POWER OUTAGE



### DESCRIPTION (10 MIN)

With all your electronics currently out of the picture, it is time to focus on coming up with a plan to stay comfortable even though power is out.

### WHAT TO DO

1. The power grid is out and everything from cars to flashlights can't be used.
2. Work in teams of four to five youth to come up with a plan to have light, stay warm, travel, and communicate under these conditions.
3. Have youth present their group's favorite strategies and combine them into a class-wide plan.

---

## Activity #5

BRINGING BACK TO REALITY



### DESCRIPTION (10 MIN)

While solar storms happen every day, the magnetic shield around the earth protects us from most of them. That said, there are many more disasters that can cause you to lose power. How can you use the information to prepare yourself for the more common power losses?

### WHAT TO DO

1. Have the group determine in which emergency situations they may use the skill covered in today's meeting.
2. Discuss how they would adapt these skills to be used at home.
3. Discuss how skills might be used in other settings.
4. Ask the group how they might be able to teach people in their life how to use today's skill set effectively.

---

## Activity #6

BRIEF



### DESCRIPTION (5 MIN)

You have survived the worst the sun can throw at us. Now it is time to focus on future disasters.

### WHAT TO DO

1. Congratulate the group on surviving today's disaster.
2. Have them decide on the one item they are going to add to their pocket or locker 72-hour kit.
3. Briefly introduce the next club's scenario.
4. Excuse the group.



---

### Reflect

- What is something you learned while constructing the Faraday Cage?
- What do you feel are the main things to consider when preparing for a solar storm?

### Apply

- What modes of transportation could be affected by a solar storm, and how could you plan to get around without them?
- If a solar storm were to affect your city, how prepared would you be? What can you do to better prepare?



## 4-H MISSION MANDATES

### Science

Club members learn about the effects of solar storms on their electronics and why this happens.

## ESSENTIAL ELEMENTS

### Belonging

Club members are encouraged to discuss and make plans that do not involve using their electronic devices, encouraging face to face and in-person interactions with others.

### Mastery

Club members learn how to build a faraday cage to protect their electronics from solar storms.



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By Kristen Coyne

A Faraday cage is an important tool for some scientists at the MagLab. But they don't work with it – they work inside it.

Faraday cages are structures – as small as a shoebox or as big as a building – that protect what's inside from surrounding electromagnetic radiation (EM).

We're surrounded by invisible electromagnetic radiation in the form of AM and FM radio waves, visible light, microwaves, ultraviolet rays and other sources. Mostly, we benefit from these waves in the form of microwavable popcorn, tunes over the car radio, and the very light that allows us to see.

Some scientists, however, want none of it, because they conduct experiments so sensitive that the energy from these waves interferes with their work. The only way to

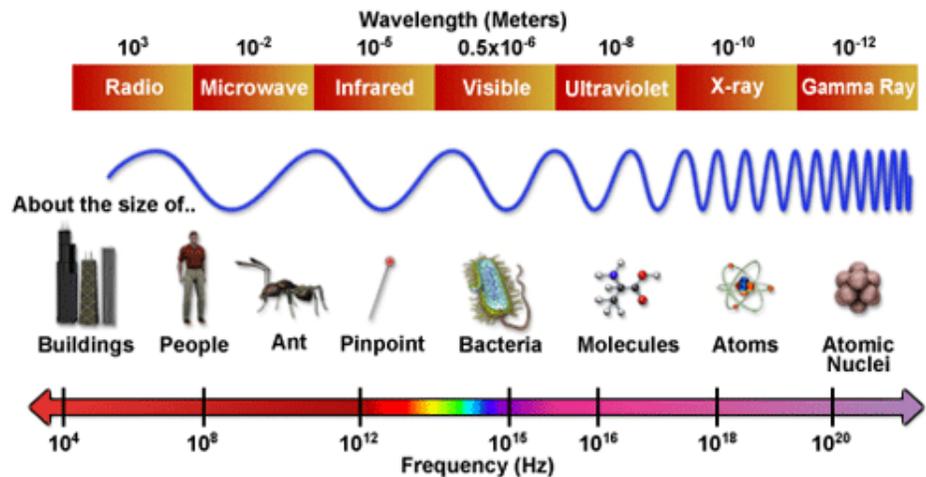
escape this interference is by putting themselves in a cage – a Faraday cage.

These structures are named after Michael Faraday, a legend in the history of science in general, and electromagnetism in particular. In the 1830s, the Englishman lined a room in metal foil and bombarded it with electricity produced by an electrostatic generator. An electroscope inside the room confirmed what Faraday suspected: The room was devoid of electrical charge. As it turned out, only the very surface of the metal foil conducted the current. The movement of electrons along the surface of the metal served to create an electrically neutral area inside the cage. This is how cars protect you from lightning: The charge is conducted along the outer layer of the metal but does not penetrate inside the vehicle.

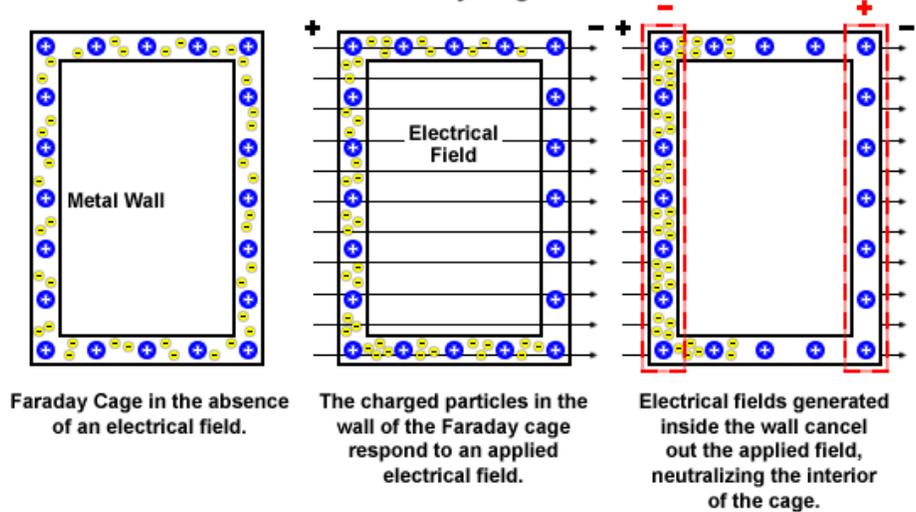


Faraday cages protect not just from static electrical charge but also from electromagnetic waves; this is known as electromagnetic shielding. The materials used to make your cage depend on the length of waves you're trying to keep out (those with long wavelengths and low frequencies, like radio waves, or shorter wavelengths and higher frequencies, like X-rays) and to what degree you need to exclude them. In the MagLab's High B/T Facility at the University of Florida's Microkelvin Laboratory in Gainesville, for example, all electromagnetic waves must be excluded. The magnet there is in a "tempest" quality shielded room, featuring walls made of layers of copper and welded steel that absorb the entire spectrum of EM radiation. Experiments there are conducted at extremely low temperatures, just microkelvins above absolute zero. (A Kelvin is a unit scientists use for measuring temperature; absolute zero is an absolute lack of any atomic movement, of any heat whatsoever ... it is as cold as cold can be, colder than any naturally occurring place in our solar system).

## Electromagnetic Spectrum



## Faraday Cage



At the MagLab's Millikelvin Facility in Tallahassee, scientists also conduct sensitive experiments, though not as sensitive to ambient radio frequencies as those at the High B/T Facility. (In the Millikelvin Facility, experiments can be kept within 7 thousandths of a Kelvin above absolute zero; in the Microkelvin facil-

ity, they can be kept within 40 millionths of a Kelvin above absolute zero!)

The original construction of the Millikelvin facility did not include electromagnetic shielding. Over time users began reporting interference with their experiments that they



could not account for from other likely sources. They suspected electromagnetic radiation was penetrating the facility, traveling into the experimental space via wires that connect the experiments to measurement equipment and computers, and interfering with the measurements.

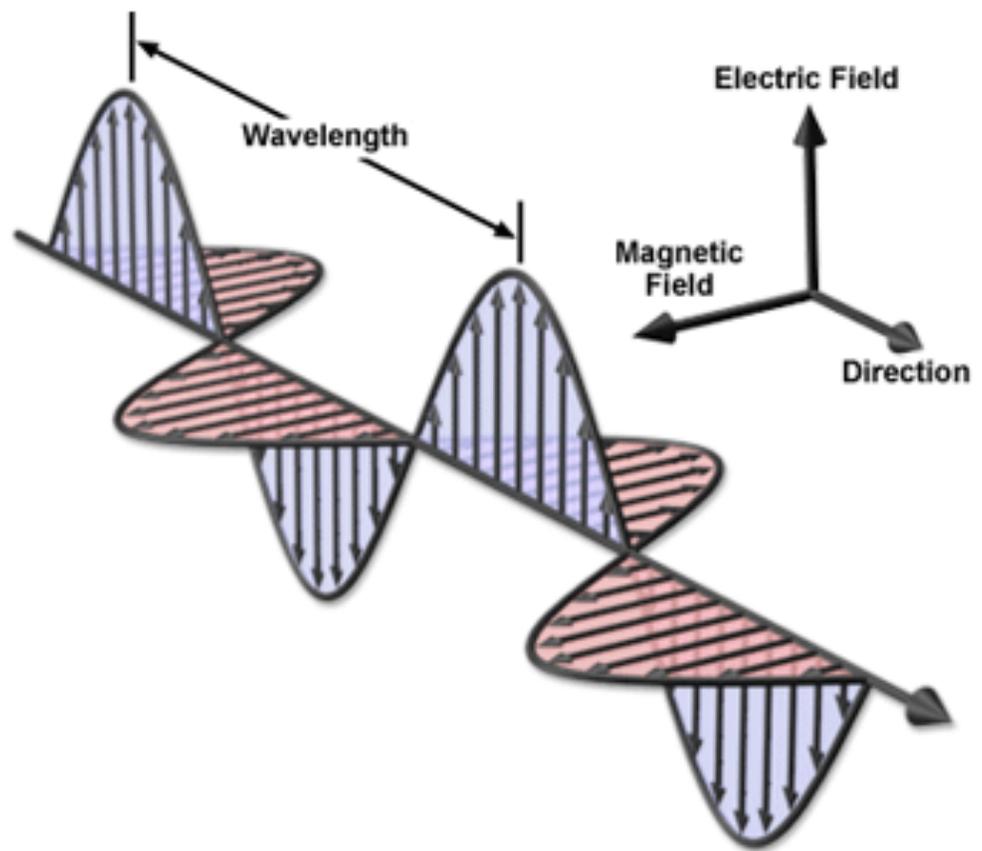
But Lab staffers couldn't figure out why the Millikelvin facility seemed to be affected by the suspected electromagnetic radiation more so than other experimental locations within the MagLab.

Eventually, the answer became as clear as glass: Unlike other experimental areas, the Millikelvin Facility has lots of windows. In fact, 450 square feet of the facility is covered in glass. The electromagnetic radiation from nearby radio stations, the airport and other sources was coming right through those windows, just as if they were open, allowing the incident RF energy to sneak past the surrounding metal walls. Deciding to sacrifice the view in the name of science, the Millikelvin facilities staff covered the windows in fine copper mesh,

blocking the electromagnetic waves' easy access and functioning as a Faraday cage.

The result? Before blocking the windows, the ambient RF power level in the facility – the cumulative energy of all those electromagnetic waves – was about the same as it was outside in the parking lot. After the copper mesh was installed, the ambient power was reduced by a factor of 100.

## Electromagnetic Wave



### How it works

Electromagnetic waves are two waves in one. An electrical wave creating an electrical field moves along one plane, and a magnetic wave creating a magnetic field that moves perpendicular to the electrical field, as shown below. The two fields feed off each other, creating a self-propagating wave.

Both of these fields are thwarted by the Faraday cage, but in different ways.



The electric field is diverted in the way discovered in Faraday's 1830s experiment. The field causes the electrons in the metal of the cage to rearrange, neutralizing any charge within the cage. Faraday also illustrated this phenomenon with an ice pail.

When magnetic waves come in contact with the Faraday cage, they create a current in the conductor known as an eddy current. (A moving magnetic field always generates a current in conductors – that's called electromagnetic induction). These eddy currents, in turn, create magnetic fields that oppose the field of the oncoming waves. So those waves are blocked from the interior of the cage.

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Thanks to DC Field Facility Director Tim Murphy, the scientific advisor for the article.

Murphy, T. (2016, December 16). Faraday Cage. National High Magnetic Field Laboratory. Retrieved from <https://nationalmaglab.org/about/around-the-lab/what-the/faraday-cage>



# 4-H Club Meeting 8

## Preparing for Zombies



### Supplies

- Whiteboard
- Whiteboard Markers
- Stopwatch
- At least one person outside of the classroom to act as the zombie

### PRIOR TO CLUB MEETING

- Gather supplies and make sure they are ready for the activities.
- Recruit people to be zombies and 'attack' outside the classroom.

### INTRODUCTION

Some disasters you have to dive right into, while some disasters you get a running start to get organized. Our zombie attack will be the latter. At some point in today's club the zombies will attack, but the participants will not know exactly when. Use time wisely, create a plan, and survive the first wave of zombie attacks.

## Activity #1

### INTRODUCTIONS



### DESCRIPTION (5 MIN)

Teamwork, as always, is important for getting through a disaster. Take a moment and focus on the individuals who make up your team.

### WHAT TO DO

1. Reintroduce yourself. Then tell them your answer to the question of the day, "In your opinion, what is the best zombie movie?"
2. Give everyone an opportunity to introduce themselves. Each 4-Her should give his or her name, and answer the question of the day, "In your opinion, what is the best zombie movie?"
3. Introduce today's topic, zombie attack.
4. Ask the group to discuss what they know about zombies.

## Activity #2

COMING UP WITH A PLAN



### DESCRIPTION (10 MIN)

You know the zombies are going to be showing up sooner or later. When they do you'd better have a plan of how your team is going to survive.

### WHAT TO DO

1. Have youth come up with a plan to survive a zombie attack. If they get stuck, encourage them to make sure they have:
  - a. An incident command structure plan
  - b. An evacuation map/plan
  - c. A shelter in place plan
  - d. A list of supplies they would need to take on zombies
2. At 9 minutes, let them know that time is limited and that they need to wrap things up.

## Activity #3

WHAT MAKES A LEADER



### DESCRIPTION (10 MIN)

You have figured out your command structure, but how are you going to figure out which role each person is going to play? One way is to do it based on seniority or training, but everyone here has a similar level of experience. What other tools could you use?

### WHAT TO DO

1. Come up with a list of attributes of a good leader.
2. Underline the attributes you think will be most critical for this upcoming disaster.
3. Find a way to test these attributes.
4. Divide these tests into two categories—physical attributes and mental attributes.
5. Explain to the group that everyone has a different list of attributes gained from personal life experience, and that everyone in this room has the ability to be an incredible leader. Not being selected as the leader of this activity doesn't mean you are not skilled, it just means you are still developing the skill set to take on zombies.

## Activity #4

TESTING PHYSICAL ABILITY



### DESCRIPTION (15 - 20 MIN)

Leading a zombie survival team will require you to not only be quick on your feet but also to endure. Test these abilities on yourself and on your team.

### WHAT TO DO

1. Have youth come up with at least three physical challenges.
  - a. Challenges can include things such as an army crawl race, staring contest, arm wrestling contest, etc. Just make sure they have a good mix of strength, speed, and endurance as you are trying to find a leader. The leader may not be the best at any of those traits, but has a good balance of all of them.
2. Run each of the contests, timing all of the participants.
3. Tally the numbers and rank the members of the team by contest.

## Activity #5

TESTING MENTAL ABILITY



### DESCRIPTION (15 - 20 MIN)

Running from zombies will only get you so far. You will also need to use your critical thinking skills.

### WHAT TO DO

1. Have youth come up with at least three mental ability challenges.
  - a. Challenges can include things such as a quiz about emergency response facts learned so far, ability to draw and label the Incident Command Structure, ability to complete a series of math equations while being distracted, etc. Just make sure they have a good mix of rote knowledge, operational knowledge, and quick thinking as you are trying to find a leader. While they may not be the best at any of those traits, a leader has a good balance of all of them.
2. Run each of the contests, timing all of the participants.
3. Tally the numbers and rank the members of the team by contest.

## Activity #6

ZOMBIES!



### DESCRIPTION (5 MIN)

You promised zombies, and you will deliver zombies.

### WHAT TO DO

1. Before class, let the zombies know that they should swing by the classroom 10 to 15 minutes before the club ends. Lay down the rules that they cannot enter the room but encourage them to make as much noise as possible and make faces in any of the windows. Zombies are also allowed to encourage their friends to come and make noise.
2. Continue the discussion about selecting the team leader until the banging outside of the door begins.
3. Allow youth to react to stress. Every student will behave a little different. For example, some will freeze, while some will immediately start barricading things.
4. Allow youth to react for about 3 minutes, then open the door and thank the zombies for their help.
5. Quickly refocus the class and encourage everyone to think about how they felt when the mock disaster hit.

## Activity #7

BRING IT BACK TO REALITY



### DESCRIPTION (10 MIN)

You have successfully organized your zombie survival team for next week. How would the skills you just practiced help in a real-life emergency?

### WHAT TO DO

1. Have the group determine in what type of emergency they could use the skills covered in today's meeting.
2. Discuss how they would adapt these skills to be used at home.
3. Discuss how skills might be used in other settings.
4. Ask the group how they might be able to teach people how to use today's skill set effectively.



## DESCRIPTION (5 MIN)

Hopefully everyone has had a fun time today taking on zombies, but in order to stay motivated about the next club meeting, it is a good idea to introduce the next scenario. You will also use the briefing time to help determine what item everyone is going to add to their personal 72-hour kits.

## WHAT TO DO

1. Congratulate the group on surviving today's disaster.
2. Have them decide on the one item they are going to add to their pocket or locker 72-hour kit.
3. Briefly introduce them to next club's scenario.
4. Excuse the group.



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## Reflect

- Why is it important for a team to have a leader?
- How did you feel when the zombies arrived?
- What surprised you the most about the zombie attack?
- Zombies need to eat, just like we do. What kinds of foods do you think would last the longest in food storage?
- What foods do you think zombies would be most likely to eat first?

## Apply

- What things could you do to become a better leader?
- What would you do differently if the zombies come again?
- Storing water can help us to be sure we have clean water to drink, cook and help us keep clean in an emergency. (Each person needs about 1 gallon of water every day.) Where can you keep a supply of water?
- How will you use what you learned today to prepare for a zombie attack?



## 4-H MISSION MANDATES

### Citizenship

Club members work together to determine what makes a good leader, learning about both physical and mental attributes.

### Healthy Living

Club members face and complete physical challenges testing their physical skills and abilities.

## ESSENTIAL ELEMENTS

### Independence

Club members learn how they react to stress when the zombies attack.

### Mastery

Club members are tested on their ability to think quickly under pressure while reciting knowledge of incident command procedures under pressure.



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- Zombie Preparedness. (n.d.). Centers for Disease Control and Prevention. Retrieved from [www.cdc.gov/phpr/zombies.htm](http://www.cdc.gov/phpr/zombies.htm)
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# 4-H Club Meeting 9

## Attack of the Zombies



### Supplies

- Whiteboard
- Whiteboard markers
- Zombies
- One missing person
- 4-H flag
- Blindfolds
- Cypher
- Key
- The cure (A box of granola bars)
- Safety vest

### PRIOR TO CLUB MEETING

- Gather supplies and make sure they are ready for the activities
- Recruit people to be zombies and 'attack' the club members

### INTRODUCTION

The school has been taken over by zombies, and the club members of the Incident Command: Zombie Apocalypse Club are the only people who are left to help. With time running out, will they find the cure in time?

## Activity #1

### INTRODUCTIONS



### DESCRIPTION (10 MIN)

It is time for the last activities, but before we can take on the challenge, we need to make sure everyone is on the same page.

### WHAT TO DO

1. Ask the question of the day, "What is the most interesting thing you have learned during the IC: Zombie Apocalypse Club?"
2. Introduce today's topic, Zombie Attack.
3. Ask the group if anyone has experienced a zombie attack. If anyone has, encourage him or her to briefly share the experience with the group.



### DESCRIPTION (45 MIN)

The zombies are loose and the only place that is safe is the classroom. As a leader recruiter, you will need to round up your walking dead before the activity starts. Remind your zombies that they are not allowed to run during the activity, that they will need to tap the participant on the arm in order tag them, and that all youth participants in the activity will be wearing a bandana around their arm. Having trouble finding zombies? We have found that tapping drama clubs or allowing any teacher in the school to be a zombie if they notice the club members passing by their classroom has been particularly successful.

### WHAT TO DO

Youth will have up to 15 minutes to complete each mission. If a student and a zombie come in contact with each other, the student will be blindfolded until the completion of that mission. The team cannot leave blindfolded youth behind. They must instead figure out a way to safely bring them along on the mission. Activity will end if: 1) 45 minutes are up, or 2) completion of all three missions and the successful curing of the zombies occurs.

#### Mission 1- Rescue

**Goal:** Locate a non-zombie person in need of rescue. That person will be wearing a safety vest.

**Set Up:** Have the youth explore the area of play, while looking for the missing person, and avoiding the zombies.

**Reward:** A coded message and information about where to find the key.

#### Mission 2- Unlocking the Code

**Goal:** Find the cypher for the coded message.

**Set Up:** Use the information given to you by the rescued person to locate the cypher while continuing to avoid zombies.

**Reward:** Cypher

#### Mission 3- Search for the Cure

**Goal:** Locate the cure for zombies, inoculate yourself, and then give the cure to the zombies.

**Set Up:** Youth will have all of the information to locate the cure, but they will have to decipher the directions. Once they have discovered the location of the cure, they must make one last dash to get their entire team to the location, avoiding the zombies as they go, open the box containing the cure, consume the cure, and then share the cure with the zombies.

**Reward:** The cure

**Club leader Hint:** The cure will be located under the 4-H Flag.

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## Activity #3

BRINGING IT BACK TO REALITY



### DESCRIPTION (10 MIN)

Whether the youth succeeded in finding the cure or not, take a moment and snack on the granola bars as you discuss how the zombie attack relates to real life disasters.

### WHAT TO DO

1. Have the group determine in what type of emergency situations that they could use the skills covered in today's meeting.
2. Discuss how they would adapt these skills to be used at home.
3. Discuss how skills might be used in other settings.
4. Ask the group how they might be able to teach people in their life how to use today's skill set effectively.

---

## Activity #4

DEBRIEF



### DESCRIPTION (5 MIN)

Hopefully everyone has had a fun time in this club. Use the briefing time to help determine what item everyone is going to add to their personal 72-hour kits.

### WHAT TO DO

1. Congratulate the group on surviving today's disaster.
2. Excuse the group.



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## Reflect

- Has anyone used Morse Code before?
- Government agencies make an effort to let people know when there are emergency situations. How do they usually broadcast this information?
- What do you feel are the most valuable knowledge and skills you have learned by participating in this club?
- Have you ever used any other secret code with your friends or family?

## Apply

- What can we do right now to prepare for emergencies or a zombie invasion?
- What skills have you learned during this project that will be beneficial in your school life or in the future?



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## 4-H MISSION MANDATES

### Healthy Living

As club members escape the zombies grasp and look for the person who needs to be rescued, they practice safety techniques.

## ESSENTIAL ELEMENTS

### Belonging

Club members work as a team to escape the zombies and find a cure for the outbreak.

### Mastery

Club members learn to read Morse Code and decipher a message with it in order to survive the zombie attack.



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## REFERENCES

Learning Morse Code. (n.d.). The National Association for Amateur Radio. Retrieved from <http://www.arrl.org/learning-morse-code>



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# International Morse Code

1. The length of a dot is one unit.
2. A dash is three units.
3. The space between parts of the same letter is one unit.
4. The space between letters is three units.
5. The space between words is seven units.

A ● —  
 B — ● ● ●  
 C — ● — ●  
 D — ● ●  
 E ●  
 F ● ● — ●  
 G — — ●  
 H ● ● ● ●  
 I ● ●  
 J ● — — —  
 K — ● —  
 L ● — ● ●  
 M — —  
 N — ●  
 O — — —  
 P ● — — ●  
 Q — — ● —  
 R ● — ●  
 S ● ● ●  
 T —

U ● ● —  
 V ● ● ● —  
 W ● — —  
 X — ● ● —  
 Y — ● — —  
 Z — — ● ●

1 ● — — —  
 2 ● ● — — —  
 3 ● ● ● — —  
 4 ● ● ● ● —  
 5 ● ● ● ● ●  
 6 — ● ● ● ●  
 7 — — ● ● ●  
 8 — — — ● ●  
 9 — — — — ●  
 0 — — — — —



# I SURVIVED THE ZOMBIE APOCALYPSE

Certificate of Achievement for  
(Insert Name)

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Instructor's Signature





## More to *Discover*

Congratulations on completing your Discover 4-H club meetings! Continue with additional curriculum in your current project area, or discover other 4-H project areas. Check out the following links for additional 4-H curriculum.

1. <http://utah4h.org/htm/discover4hclubs>
2. <http://www.4-h.org/resource-library/curriculum/>
3. <http://utah4h.org/htm/resource-library/view-all-curriculum>

## Become a 4-H Member or Volunteer

To **register** your Utah club or individuals in your club visit:

<http://www.utah-4.org/htm/staff-resources/4-h-online-support>

<http://utah4h.org/htm/about-4-h/newto4h/>

Non-Utah residents please contact your local 4-H office:

<http://www.4-h.org/get-involved/find-4-h-clubs-camps-programs/>



## Stay *Connected*

### Visit Your County Extension Office

Stay connected with 4-H activities and news through your county Extension office. Ask about volunteer opportunities and don't forget to register for your county newsletter. Find contact information for counties in Utah here:

<http://extension.usu.edu/htm/counties>

## Enjoy the Fair!

Enter your project or create a new project for the county fair. Learn about your county fair and fair judging here:

<http://utah4h.org/htm/events-registration/county-fairs>



## Participate in Local or State 4-H Activities, Programs, Contests or Camps

For Utah state events and programs visit:

<http://utah4h.org/htm/events-registration>

<http://www.utah4h.org/htm/featured-programs>

For local Utah 4-H events and programs, visit your county Extension office.

<http://extension.usu.edu/htm/counties>

Non-Utah residents, please contact your local 4-H office.

<http://www.4-h.org/get-involved/find-4-h-clubs-camps-programs/>



## Discover *Service*

### Become a 4-H Volunteer!

 <http://www.youtube.com/watch?v=UBemO5VSyK0>

 <http://www.youtube.com/watch?v=U8n4o9gHvAA>

To become a 4-H volunteer in Utah, visit us at:

<http://utah4h.org/htm/about-4-h/newto4h/>

### Serve Together as a 4-H Club or as an Individual 4-H Member

Use your skills, passions, and 4-H to better your community and world. You are needed! Look for opportunities to help in your area or participate in service programs that reach places throughout the world (religious groups, Red Cross, etc.).

### Hold a Club Service Project

USU Collegiate 4-H Club hosted "The Gift of Giving" as a club activity. Club members assembled Christmas stockings filled with needed items for CAPSA (Community Abuse Prevention Services Agency).

<http://tinyurl.com/lu5n2nc>



## Donate 4-H Projects

Look for hospitals, nursing homes, or other nonprofit organizations that will benefit from 4-H projects. Such projects include making quilts for CAPSA or Primary Children's Hospital, or making beanies for newborns. During Utah 4-H State Contests, 40 "smile bags" were sewn and donated to Operation Smile.

## Partner with Local Businesses

92,000 pounds of processed lamb, beef, and pork were donated to the Utah Food Bank in 2013 by multiple companies.

<http://tinyurl.com/pu7lxyw>

## Donate Money

Clubs or individuals can donate money gained from a 4-H project to a worthy cause. A nine-year-old 4-H member from Davis County donated her project money to help a three-year-old battle cancer.

<http://tinyurl.com/mqtfwxo>



## Give Us Your *Feedback*

Help us improve Discover 4-H curriculum. We would love feedback or suggestions on this guide; please go to the following link to take a short survey:

<http://tinyurl.com/lb9tnad>