

# Rest for Wildfire Firefighters

Written by: Chad Sanders



**Name:**

**Date:**

**Class Period:**



# Informational Sheet



## **Situation:**

William White is a wildfire firefighter trainee for the Western States Wildfire Fighting Association. In order to train new and incoming firefighters for the physically demanding and life threatening Adventures they will encounter, William will have to teach and train the new and incoming firefighters how to survive in such harmful situations. One of the most important lessons that William will have to teach his new and incoming wildfire fighters is how to construct a shelter that allows each firefighter to take a break from their work. William will also teach the firefighters when and were to use these portable shelters.

## **Challenge:**

William White is a wildfire firefighter trainee for the Western States Wildfire Fighting Association. In order to train new and incoming firefighters for the physically demanding and life threatening Adventures they will encounter, William will have to teach and train the new and incoming firefighters on how to survive in such harmful situations. One of the most important lessons that William will have to teach his new and incoming wildfire fighters is how to construct a shelter that allows each firefighter to take a break from their work. William will also teach the firefighters when and were to use these portable shelters.

## **Criteria:**

Research wildfire safety and the structures used by wildfire firefighters. The shelter must be portable and lightweight in order to maintain a safe location at all times from the wildfire firefighter. The structure must be resistant to extreme heat and comfortable for the firefighter to take a rest from work. The use of actual fire for this activity should not be used. When building the shelters, remember that wildfire firefighters are trained professionals and are trained to use the shelters over rock, bare soil or pavement to lessen the risk of fires inside the shelter.

## **Materials Provided:**

**Aluminum Foil**

**String**

**Fabric**

**Tarp**

**Grommets**

**Elastic**

**Clear Plastic Garbage Bags**

**Duct Tape**

**Masking Tape**

**Ruler**

**Hole Punch**

**Dowel rods**

*Tools that should be used with adult supervision:*

- Scissors
- Saw

## **Limitations:**

- **Build a structure that is light weight and portable.**
- **Use as little of the materials provided as possible.**
- **The size of the structure should be comparable to your own body height and length.**
- **The structure should be able to be folded up and placed in a small book bag for travel.**





# Materials List

List the materials you wish to use when constructing this model. These materials will be provided to you by the teacher.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.



# Brainstorming Worksheet

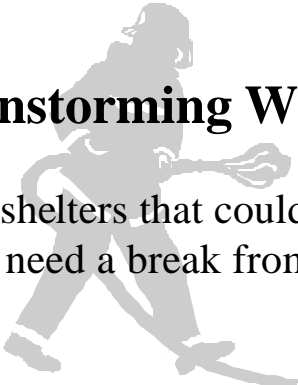
Brainstorm four shelters that could be used by wildfire firefighters when they need a break from their work.

Design 1

Design 2

Design 3

Design 4





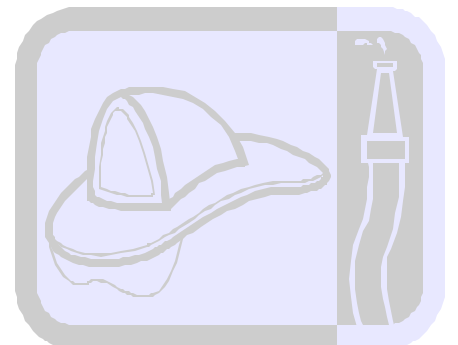
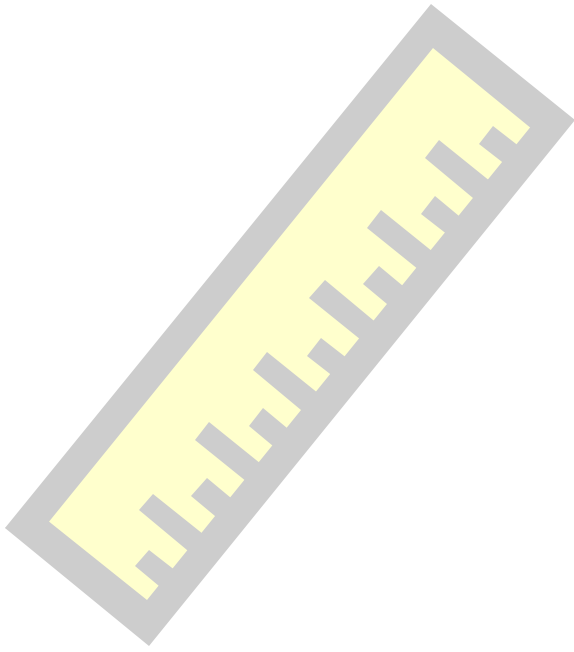
# Materials List

List the materials you wish to use when constructing a real world model. These materials should be comparable to the materials used in a wildfire firefighting shelter.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.



**Finalize a drawing of the model that you wish to construct. Scale down the models dimensions to the exact size of a real world model.**

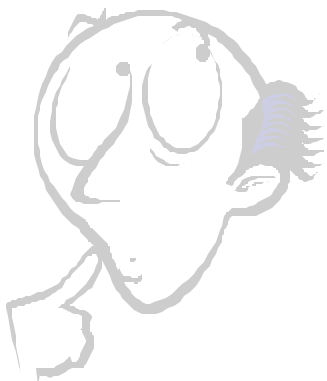




## Discussion Page

1) Write a paragraph about why you designed this structure the way you did.

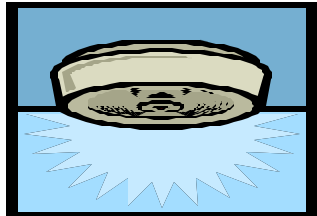
2) Describe in one paragraph how the structure is going to work.





## Fire Safety

Fire safety is important to learn about in order to protect yourself and others around you from accidents that might happen involving a fire. Further knowledge about how to properly protect you from a fire can be read about in books, magazines, articles, website, and etc. It's your responsibility to look up and find out how to correctly guard yourself from a fire. The information provided by fire men and policemen around the Country will also help you learn more about fire safety. Several helpful procedures and hints will be listed below. Take your time and read through them carefully. They might save your life. Also, look at the websites provided. They will guide you further on your way to learning proper fire safety.



### Smoke Alarm and Home Fire Escape Checklist:

1. Does your home have working smoke alarms on every floor and near or within areas where people sleep.
2. Are all of the smoke alarms working properly?
  - a. Press the buttons located on the smoke detectors to tell if the smoke detectors are working correctly.
  - b. Make sure all of the smoke detectors have batteries in them
  - c. Make sure to change the batteries twice a year to maintain proper fire safety.
3. Make sure that all of the exits in your home are free from furniture, clutter, and toys.
4. Does your family have a detailed fire escape plan that enables your family to escape through two emergency exits located in your home?

Stop Drop and Roll is one of the most useful ways to putting out a fire that might have come in contact with your clothes or more seriously your skin. Listed below are the steps needed to stop a fire right away that came in contact with your clothes and body. (Remember that burns are one of the most painful of injuries in the world and are the third leading causes of unplanned deaths in the United States).

**STOP** - Stop immediately where you are. Do not run if your clothes catch on fire.

**DROP** - Drop to the floor with your face towards the floor.

**ROLL** - Covering your face and mouth with your hands and roll over and over until the flame have been put out.

#### Steps to a safe escape from a burning building

1. Make sure you have at least two smoke alarms that work. (Remember to check them monthly).
2. Plan two ways out of every room for emergency situations.
3. Practice your planned escapes from every room twice a year.
4. Practice crawling low from different areas of the house.
5. Make sure to establish a meeting place outside of the house in case of an emergency.
6. When an emergency happens, call the fire department from your neighbor's house.
7. Once you are outside of your house, stay out.



Outdoor Fire Safety is as important as indoor fire safety. Remember to always be on the look out for potential fire causing areas or activities around you. Here are some important facts to remember when participating in some outdoor activities. There is more information provided about outdoor fire safety on the websites provided below, fire fighters, police officers, and etc.

- When Camping at a campground or outdoors in general, keep plenty of water handy and have a shovel for throwing dirt on the fire if it gets out of control. When you leave the fire for a long period of time, always put the fire out.
- If you have to burn trash, don't pile it up on the ground. The fire will not burn throughout the trash and cause the trash to blow all around when on fire. All local fire officials should provide or recommend an area or safe receptacle for burning trash. When burning your trash, you should place it in an open area free from overhead branches and power or electrical wires.
- Always contact your local fire enforcement or check your local laws for burning. Some places allow you to burn while others may not allow you to burn at all.



## Life Saving Websites:

### Outdoors Fire Safety Websites

- <http://www.firewise.org/pubs/outdoor/>
- [http://www.dfr.state.nc.us/firecontrol/fire\\_safetburning.htm](http://www.dfr.state.nc.us/firecontrol/fire_safetburning.htm)
- <http://www.ci.carlsbad.ca.us/cserv/vaca.html>
- <http://www.azcentral.com/news/specials/wildfires/O63Ofiresafety.html>

### Kids Website

- <http://www.usfa.fema.gov/kids/>
- <http://www.nfpa.org/sparky/>
- <http://www.dos.state.ny.us/kidsroom/firesafe/firesafe.html>

### Adult Web site

- <http://www.usfa.fema.gov/public/factsheets/safety.shtm>
- <http://www.nfpa.org/catalog/home/index.asp>

### Stop Drop and Roll Website

- <http://www.nfpa.org/Education/Intb/activitypages/stopdroprollstopdroproll.asp>
- <http://www.ci.phoenix.az.us/FIRE/stoproll.html>



## What a wildfire is?

A wildfire is a fire caused by nature from intense heat, dry weather, dry vegetation or man made chemicals. Wildfires contain small areas that move and start to contain other areas.

## What are wildfire firefighters?

A wildfire firefighter is a person that tries to control wildfires. They are dressed in special fire resistant gear that helps them get close to the wildfire.

## Vocabulary words related to this activity:

**Model:** small version of something that has all of the same characteristics and parts of a real world design.

**Design:** beginning sketch or outline showing main features of something to be performed or completed.

**Scale-down:** a decrease in measurement according to the actual size of the project. Example – 4 inches would now be written a 2 in a 2:1 ration.

**Construct:** something produced by human action.

**Structure:** something arranged in a definite pattern of organization.

**Resources:**

1. [http://www.fs.fed.us/fire/safety/10\\_18/10\\_18.html](http://www.fs.fed.us/fire/safety/10_18/10_18.html)
2. <http://www.firehouse.com/wildfires/1999/0921a.html>
3. <http://www.wildlandfire.com/books/books.htm#training>  
(Many interesting books from Historical events, to guide manuals, to fictional stories)
4. <http://www.wildlandfire.com/pics/hand9/nightfiring.jpg>
5. <http://www.wildlandfire.com/pics/hand9/heavyfuel.jpg>

**Examples from various websites listed above:**



# **Technology Learning Activity**

## **Rest for Wildfire Firefighters**



## **Teachers Guide**

**Technology Learning Activity  
Rest for Wildfire Firefighters**

### **Situation**

William White is a wildfire firefighter trainee for the Western States Wildfire Fighting Association. In order to train new and incoming firefighters for the physically demanding and life threatening Adventures they will encounter, William will have to teach and train the new and incoming firefighters how to survive in such harmful situations. One of the most important lessons that William will have to teach his new and incoming wildfire fighters is how to construct a shelter that allows each firefighter to take a break from their work. William will also teach the firefighters when and where to use these portable shelters.

The grade level appropriateness for this activity will be grade levels 4 through 7.

### **Challenge**

Design and construct a shelter that could be used by firefighters when they need a break from their work.

### **Criteria**

The shelter must be portable in order to maintain a safe location at all times, resistant to extreme heat, and comfortable. The use of actual fire for this activity is not recommended. When building the shelters, remember that wildfire firefighters are trained to use the shelters only over rock, bare soil or pavement to lessen the risk of fires inside the shelter.

### **To Do List**

Students will:

1. Research the internet, books, magazines, articles, etc. for background information.
2. Brainstorm ideas.
3. Sketch ideas.
4. Construct a model from the materials and limitations provided by the teacher.
5. Decide what materials would be used in a real world model.
6. Draw a detailed scaled down drawing of one of the ideas brainstormed about.
7. Complete discussion page.
8. Present to the class the model and an explanation about it.

### **Background**

Prior to starting this technology learning activity, the students will research Wildfire Firefighters and their shelters for safety on the internet, in books, magazines, articles, etc. Several books and videotapes are available for references also about

wildfire firefighters and their shelters. Students should also research information pertaining to fire safety, fireproof construction materials, and how and what a wildfire firefighter goes through when working.

### **Discussion Questions**

Important discussion questions should pertain towards what equipment a wildfire firefighter uses, what sort of circumstances he or she might face day in and day out, what types of equipment they use, what shelters they use for safety, etc.

### **Correlation to the Standards for Technological Literacy**

1. Students will develop an understanding of the effects of technology on the environment.
2. Students will develop an understanding of the attributes of design.

### **Correlation to PA Standards**

- 3.4.4.A Recognize basic concepts about the structure and properties of matter.  
3.2.4.D Recognize a use the technological design process to solve problems.

### **Related curriculum**

*Geography* – a study of specific regions and locations wildfires can occur in the United States.

*Language Arts* – Oral presentation techniques

*Art* – drawing shelters to scale

*Math* – converting dimensions to scale, measuring

### **Resources**

6. [http://www.fs.fed.us/fire/safety/10\\_18/10\\_18.html](http://www.fs.fed.us/fire/safety/10_18/10_18.html)
7. <http://www.firehouse.com/wildfires/1999/0921a.html>
8. <http://www.wildlandfire.com/books/books.htm#training>  
(Many interesting books from Historical events, to guide manuals, to fictional stories)
9. <http://www.firewise.org/pubs/wnn/vol13/no1/pp-03.html>  
(Background washout pictures)
10. <http://www.wildlandfire.com/pics/hand9/heavyfuel.jpg>.



## Rest for Wildfire Firefighters



Name: \_\_\_\_\_

Teacher: \_\_\_\_\_

Date Submitted: \_\_\_\_\_

Title of Work: \_\_\_\_\_

	<b>Criteria</b>				<b>Points</b>
	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	
<b>Voice</b>	The student always uses a quiet voice.	The student frequently uses a quiet voice.	The student talks in a regular voice.	The student talks in a loud voice and may make extra noises.	----
<b>Following Directions</b>	The student follows directions immediately.	The student follows directions.	The student follows directions with a reminder.	The student follows directions when the teacher calls his/her name.	----
<b>Cooperation With Others</b>	The student uses polite words when he/she cooperates with partner(s).	The student cooperates with partner.	The student teases their partner a little.	The student picks on partner or teases their partner a lot.	----
<b>Job Completion</b>	The student gets the job done quietly and quickly.	The student gets the job done.	The student needs a reminder or help to get the job done.	The student does not get the job done and is off task.	----
<b>Treatment Of Materials</b>	The student treats materials with care.	The student treats most materials with care.	The student treats few materials with care.	The student throws or breaks materials.	----
				<b>Total----&gt;</b>	----

**Teacher Comments:**