



# Winter Survival Skills in the School Forest

## Nutshell

In this lesson, students will use human anatomy and physiology concepts to understand hazards to the human body during outdoor recreation in Wisconsin winters. Research will allow students to learn more about severe conditions brought on by spending too much time in the cold weather, first-aid responses to those conditions, and how to construct survival shelters in the forest.

## Learner Objectives

Students will...

- demonstrate skills that will be useful to them when they are out of doors during the winter.
- construct a winter shelter and demonstrate how to build the shelter to their peers
- demonstrate first-aid techniques to winter recreational injuries
- understand the anatomy and physiology concepts within the human body that allow the body to survive in cold-weather conditions

## WI State and Cores Standards

*Science:* A.12.5, B. 12.5, C.12.1, C.12.5, F.12.2, F.12. 7, F.12.8, F.12.9, F.12.12

*Environmental Education:* B.12.2, B.12.3, B.12.6

*Physical Education:* D.12.3, F.12.5

*Literacy in All Subjects 6-12:* RI.8.1, RI.9-10.1, RI.11-12.1, SL.8.4, SL.9-10.1, SL.9-10.4, SL.11-12.1, SL.11-12.4

## Materials

- Clipboards
- Copies of the student worksheets
- Writing utensil
- Computer
- First-aid kit
- Check with students to see if they need any materials for demonstrating their survival shelters or first aid response techniques.



## Teacher Preparation

- notify the main office that you will be gone
- schedule a bus and substitute if needed
- be sure students are appropriately dressed for the weather
- gather all needed materials for the activity
- be sure to have permission slips for all students attending field trip
- remind students that classroom behavior guidelines are expected to be followed at the forest



## Procedure

This lesson is designed to be done on multiple days. The students need background information presented in class, time in the library or computer lab for research, and then a field trip to the school forest.

1. Concepts such as ecology of the temperate deciduous forest ecosystem, cold weather animal adaptation, hypothalamus response, the integumentary system, and circulatory system for connection of animal physiology to human anatomy and physiology. Students should have a good understanding of each of these.
2. You may want to invite the school nurse in as a guest speaker to present information on cold-weather survival issues. Discuss hypothermia, frost-bite, and other first aid measures that would be beneficial when spending large amounts of time outdoors.
3. Allow students library and computer lab access. Students will research the shelter designs and first aid practices assigned to their team for peer teaching at the school forest.
4. Take a field trip to the school forest. At the school forest, students will use the research and information they collected about shelter designs to build a shelter in the forest. They should use the information collected about first aid to explain to the other team how to be safe in the outdoors and demonstrate first aid safety techniques to the other team as if those hazardous conditions had presented themselves to someone on that team.
5. After the field trip to the school forest, students should summarize the information learned throughout this lesson. They will journal how they integrated the concepts they learned in class to their practical experience for winter survival at the school forest.

## Further Enrichment

- Have students brainstorm a list of other outdoor survival skills and first aid responses needed for seasons other than winter. Have the students individually research these skills and first aid technique, and demonstrate them to the class. Correct anatomy and physiology terms should always be used when describing how to provide first aid to the human body.



# Team A – Winter Survival Research and Planning

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## Team A Members:

### Shelter Style: Debris Hut

1. Describe 2 outdoor situations where you would need to seek and build an emergency shelter.
2. Research debris hut construction on the Internet. Cite the sources you use below:
3. Sketch what your shelter should look like below.
4. List below the steps needed to construct a debris hut.
5. What materials will you need to construct your shelter?
6. What are the important things to remember about your shelter construction so that the bodies inside are sheltered from the cold conditions outside? Think hard about your shelter design and placement!
7. Meet with the members of your team right now. Choose a leader and member roles to efficiently construct your shelter. Record each person's name and task below.



## Team A - First Aid Response: Hypothermia



1. Research hypothermia on the Internet. Cite the sources you used in this search below.

2. What environmental conditions cause hypothermia?

3. List the correct anatomy of the human body that is affected when a person experiences hypothermia? (Use correct names of anatomical features!)

4. What is the physiological response of the body to hypothermia?

5. How can you tell if a person is hypothermic? (What are the signs?)

6. What are the first aid responses to a hypothermic body?

7. What should you never do for someone who is hypothermic?

# Team B – Winter Survival Research and Planning

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## Team B Members:

### Shelter Style: Snow Cave

1. Describe 2 outdoor situations where you would need to seek and build an emergency shelter.
2. Research snow cave construction on the Internet. Cite the sources you use below:
3. Sketch what your shelter should look like below.
4. List below the steps needed to construct a snow cave.
5. What materials will you need to construct your shelter?
6. What are the important things to remember about your shelter construction so that the bodies inside are sheltered from the cold conditions outside? Think hard about your shelter design and placement!
7. Meet with the members of your team right now. Choose a leader and member roles to efficiently construct your shelter. Record each person's name and task below.

## Team B - First Aid Response: Ankle Sprain



1. Research sprains on the Internet. Cite the sources you used in this search below:

2. What environmental conditions cause sprains?

3. List the correct anatomy of the human body that is affected when a sprained ankle becomes the problem? (use correct names of bones, muscles, and tissues!)

4. What is the physiological response of the body to an ankle sprain?

5. How can you tell if a person has a sprained ankle? (What are the signs?)

6. What are the first aid responses to an ankle sprain?

7. What should you never do for someone who has a sprained ankle?



# School Forest Field Trip Rubric: Winter Survival Skills

At the school forest you will work as a team to build your shelter and teach others about the first aid responses for your assigned dilemma for winter survival. Be sure to read the criteria in the rubric below so that you can expertly survive your winter experience.

<u>Team-work Skills</u>	<u>Shelter Design</u>	<u>First-Aid Response</u>	<u>Teaching Experience</u>
<p>WOW! What a team player. You were actively involved in helping your team succeed and accomplish the task.</p> <p>10</p>	<p>PICTURE PERFECT! Your shelter is structurally sound to limit the cold elements that would threaten life.</p> <p>10</p>	<p>DOCTOR MATERIAL! You followed proper procedure to keep an injured person alive in the cold environment.</p> <p>10</p>	<p>PROFESSOR! You did a super job explaining the correct information to your peers in a way that they could understand.</p> <p>10</p>
<p>Great! You worked well as a team. There were a few "rough" spots throughout the day, but you persevered.</p> <p>8</p>	<p>The shelter looks good, but a person would not survive well overnight in the cold elements.</p> <p>8</p>	<p>You had the right idea, but forgot some concepts that would have helped keep the injured person more comfortable.</p> <p>8</p>	<p>You did a good job explaining the information, but forgot about some of the important info.</p> <p>8</p>
<p>You helped your team complete the task, but many times had to be asked by the team to help.</p> <p>5</p>	<p>The shelter was attempted, but was very poorly constructed and a person would not be able to survive in the cold environment.</p> <p>5</p>	<p>You played the guessing game and forgot very important concepts about your first aid problem and how to help the injured person.</p> <p>5</p>	<p>You were shared some information, but forgot a lot of the important concepts we needed to learn about.</p> <p>5</p>
<p>You refused to work with your team and they had to shoulder all of your work.</p> <p>0</p>	<p>You did not complete a shelter.</p> <p>0</p>	<p>You did not provide any information to help the injured person.</p> <p>0</p>	<p>You were unprepared to share your assigned information with the group. We were unable to learn from your group.</p> <p>0</p>

Student's Name: \_\_\_\_\_ Team A or B Total Points: \_\_\_\_\_/40

