

There is no Such Thing as Bad Weather, Only Bad Clothing!

Lesson Overview

During this lesson, students will:

- Learn how to provide first aid in case of hypothermia
- Learn about immersion hypothermia and how to re-heat someone who is suffering from hypothermia
- Learn which fabric is the best for staying warm
- Learn the signs and symptoms of frostbite and first aid techniques
- Learn the definition of frostbite and how to recognize the stages of frostbite (superficial and deep)
- Discuss the way the body loses heat- examples and prevention
- Discuss the appropriate layering of clothing for outdoor activities
- Discuss injuries caused by the cold
- Review the types of hypothermia (light, moderate, serious)

Overall and Specific Expectations

- PPL 10: 1, 1.5; A3, A3.1
- PPL 20: 1, 1.5; A3, A3.1
- PPL 30: 1, 1.5; A3, A3.1
- PPL 40: 1, 1.5; A3, A3.1

Learning Goals

- I can behave responsibly and apply appropriate safety rules and procedures that maximize my safety and that of others during outdoor activities.
- I can think critically to analyze situations, evaluate my choices and make safe decisions in a variety of situations.

Materials

- Clothing to create layers
- Heavy coat/jacket of any material
- One “good” sleeping bag and one that’s lost loft
- Slide show – create a presentation of activity information, with one slide per text box (or possibly show the pages below on a screen)
- Socks or gloves in a variety of fabrics such as cotton, wool, and polyester
- **Student Resource: There Is No Such Thing as Bad Weather, Only Bad Clothing! - Exit Card**
- **Student Resource: There Is No Such Thing as Bad Weather, Only Bad Clothing! - Observation Sheet**
- Whiteboards and markers for small-group work

Ontario Physical Activity Safety Standards in Education

Tools and Resources

- **Concussions**
- **Disability-Centred Safety**
- **First Aid Plan and First Aid Emergency Response**
- **Outside Activity Providers**

- Temperatures

Other

Risk Management

Assessment for Learning

At the beginning of the lesson, work with students to co-create criteria for assessing knowledge and skills needed to apply safety rules and procedures during outdoor education activities. For example, success criteria might include:

- I can identify the rules for staying warm during winter outdoor excursions.
- I know what behaviours reduce the risk of injuries due to cold.

Students will complete the *Student Resource: There Is No Such Thing as Bad Weather, Only Bad Clothing! - Observation Sheet* during the activity. After the activity, review the co-created criteria with students, and then have them complete their *Student Resource: There Is No Such Thing as Bad Weather, Only Bad Clothing! - Exit Card*.

Collect and review the *Student Resource: There Is No Such Thing as Bad Weather, Only Bad Clothing! - Observation Sheet* and *Student Resource: There Is No Such Thing as Bad Weather, Only Bad Clothing! - Exit Card*. Use the co-created criteria and a master observation sheet to evaluate student learning and offer feedback. If needed, provide feedback to individual students or the entire group, to clarify or reinforce their understanding of cold-weather preparedness and safety, and answer any remaining questions.

Optional

Have students come back the next day with appropriate clothing for outdoor activities in cold weather and have them work in pairs. One student can show how to layer clothing for outdoor winter activities while another student offers feedback and fills in the *Student Resource: There Is No Such Thing as Bad Weather, Only Bad Clothing! - Observation Sheet*.

Minds On

Put the socks under the tap, run water until they're completely wet, and then squeeze them out one pair at a time. Ask volunteers to put the socks on their hands and describe how the socks feel (wet, heavy, cold, etc.). Have students make notes of their responses.

Action

Have students work in small groups to brainstorm causes that lead to "feeling cold." On the board, write:

Temperature**Moisture (from sweat or rain)****Wind**

Have one small group come to the front and pick three items of clothing for the top half of the body from the bag of clothes that they would wear during outdoor activities.

Slideshow

Slide 1: *Wicking layer: next to the skin, allows sweat to wick (move away from skin) and evaporate Good wicking materials: wool, bamboo, silk, artificial Bad wicking material: cotton*

Ask students to identify which wet socks were coldest and which were warmest or most comfortable.

Additionally, have students check the label on the back of their shirts. Ask, "How many are wearing cotton clothing versus other fabrics? Why do so many people wear cotton if it is not a good base layer?" Allow students to discuss answers for a few minutes.

Slide 2: *Insulating layer: keeps heat close to the body Examples of good insulating clothing:*

- *Wool shirt*
- *Fleece shirt, jacket, or vest*
- *Down jacket*

Pass the heavy coat/jacket around. Ask students to touch it and think about the material it's made from. Ask, "How does a coat keep your body warm?" (Answer: It retains your body heat.)

Slide 3:*Protective layer: blocks wind; good for hot or cold weather; sometimes called “outer layer”. Ideally your outer layer protects against rain and also allows sweat and moisture to pass through. Examples of good outer, protective clothing:*

- *Windbreaker*
- *Nylon jacket*
- *Canvas coat*

Show students examples of each article of clothing.

Students may think all wool is itchy. If possible, pass around some socks made from merino wool or an alternative wool (for example, llama) that is not itchy. (Keep in mind that some people are sensitive to sheep or other wool, so are genuinely unable to wear it.)

Slide 4:*Key pieces of clothing:*

- *Boots, with removable linings if possible.*
- *Mittens and liner gloves that provide warmth even if damp.*
- *Socks of appropriate material; some people recommend socks that are at least 50% wool, although other materials work well. (Note: You may want to wear more than one layer of socks. Keep it to two layers, because too many layers will crowd your foot inside your boot, reducing circulation in your feet and causing your feet to feel cold!)*

Ask students to name appropriate materials for boots (for example, waterproof), mittens (for example, wool, nylon), liner gloves (silk, artificial), and socks (for example, silk, bamboo, artificial).

Slide 5:*Tips for Staying Warm on a Trip:*

- *Add a layer when you stop and remove it when you are moving. This helps to regulate your temperature (which means “maintain about the same temperature”).*
- *Keep a spare pair of wool socks easily accessible in your backpack. If your feet are damp or cold, add them as another layer or to change your socks.*

Have a volunteer demonstrate how to add or remove layers of clothing to regulate their temperature when cross country skiing and taking breaks.

Slide 6: *Tips for Staying Warm at Night:*

- *Wear a dry wicking layer to sleep in; a small amount of sweat = cold!*
- *Wear a hat (toque) while you sleep.*
- *Hang up your boot laces and wet clothing each night so they can dry.*
- *Pee if you need to! Your body uses energy and heat to keep your pee warm.*

Ask students to name appropriate materials for a hat/toque (for example, fleece, wool). Then have them discuss the other tips on the slide. Answer any questions they may have.

Slide 7: *Sleeping Bags:*

- *Sleeping bags called “mummy bags” keep heat in the best, because they follow the form of your body.*
- *They may be filled with down (feathers), but if these get wet, they will not keep you warm. Most good bags have artificial material for the filling.*
- *The most important feature of a sleeping bag for outdoor camping is how well it lofts or fluffs up. A bag with good loft traps air warmed by your body heat and keeps you warm.*

Set out the two examples of sleeping bags and invite students to spend a couple of minutes examining them (or, pass them around). Have students feel the spaces between the insulating materials in the one with less loft.

Consolidation

Lead a whole-class discussion, using the following prompt:

"You are responsible for your body heat during the trip. How might your feeling too hot or too cold have an impact on the group?"

Have students complete their *Student Resource: There Is No Such Thing as Bad Weather, Only Bad Clothing!* - Exit Card.

Notes to Teachers

Prepare the slide show ahead of time. Determine a way to present the slide content given below, or copy and paste the information into a slide presentation (for example, PowerPoint or a similar program).

Remember to check school board policies and procedures applicable to any outdoor education activity.