

# Winter Worries and Health Hazards

Sir Ranulph Fiennes, the man the *Guinness Book of World Records* named "The World's Greatest Living Explorer" in 1984, is certainly no stranger to cold temperatures. In 1982, he was one of the first people ever to go around the world from pole to pole. In 1980 and again in 1993, he crossed the entire Antarctic alone! In 2000, he was attempting to walk to the North Pole, a 520-mile journey, on his own, in a record-breaking 80 days. He was doing it both for the challenge and to raise money for cancer research. He had supplies, clothes, maps, and sleds; but there was one thing he hadn't counted on. As he pulled his two heavy sleds behind him, one of them unexpectedly broke through some thin ice. It quickly began to sink. Knowing that he couldn't last out in this frozen wilderness without it, Fiennes reached into the water with his left hand and pulled the sled back out.

Within a minute Fiennes' hand was frozen and completely useless. He knew that he only had a matter of minutes before his core temperature (the temperature of his major organs) would begin to fall. Disappointed, Fiennes knew he had only one real choice. He had to turn around and go back. This was no small chore either. The return trip to base camp was 12 hours long. By the time he got there, his temperature was dangerously low, and he was in trouble. He radioed for help and was flown to Ottawa for medical attention.

## Winter's Worst Villains

The two main dangers of cold temperatures, such as in places with cold winters, are frostbite and hypothermia. When you are outside in the cold, they are the ones to watch out for. They can happen while you are sledding, skiing, skating, or just shoveling snow.

Hypothermia is known as the "Killer of the Unprepared." If you are out in the cold for too long, and you aren't properly protected, your core body temperature will begin to go down. If your clothes or shoes are wet, this is especially dangerous. Wet clothes can make you lose heat 200 times faster than if your clothes are dry. If conditions are right, hypothermia can happen even when the temperature is above freezing.

The first sign to watch out for is shivering. Your blood begins to cool, and this means you will begin to lose control of your arms and legs. Your brain won't get the oxygen it needs. You will become clumsy and unable to think

straight. You will feel tired, and if your temperature goes low enough, you can faint. If you begin to shiver, get into a warm area to start bringing your body temperature back to normal. Change into dry clothing if your clothes are damp or wet.

Frostbite is something quite different. It is not usually caused by how long you have been out in the cold, but by how much of your skin is exposed. Ice crystals can form on your skin and in the tissues underneath without you even knowing it.

Your hands, feet, nose, ears, and cheeks are the most likely to get frostbitten. The blood vessels in these parts can get smaller, cutting off the supply of blood you need to keep warm. You may feel a tingling feeling in them, or even some pain. Another person may notice a very white or gray spot on your skin if you've been frostbitten. Your skin would feel soft and cold.

Frostbite needs immediate attention. Don't wait! Get to a warm place, and put on warm, dry clothing. Drink warm liquids. Check your skin. Get medical help if it is hard, blue, blotchy, or blistered.

## Taking Precautions

The best way to protect yourself from a case of hypothermia or frostbite is by doing some simple things. Here are the basics for staying safe in the cold:

- Dress in layers. Wear loose-fitting, lightweight clothes in three or four layers. You can take a layer or two off if you begin to overheat outside. Wool is the best fabric. It keeps you warmer than other fabrics, and it stays dry better than others.
- Wear a hat or cap. Between 20 and 50 percent of your body heat is lost through your exposed head.
- Wear sunglasses and sunblock to protect your eyes and skin. They aren't just for hot sunny days.
- Wear lip balm to protect yourself from chapped lips.
- Wear mittens rather than gloves. They are warmer.
- Know the signs of frostbite and hypothermia, and watch for them. Respond right away if you suspect either one.
- Watch the weather report carefully. Check out the wind chill factor, and talk to your parents about how safe it is to be outside.
- Learn first aid or take a first-aid class in how to respond to frostbite and hypothermia.

Winter is a wonderful season. Nothing beats spending a couple of hours sledding with friends and then building a snowman before heading in for a cup of hot chocolate. Just make sure that you are staying safe while you are out there having fun!

### **Take Action: Learning the Terms**

Sometimes the weather report can be confusing. Many of the terms sound similar. Here are some common terms and their definitions:

*Winter Storm Watch:* A winter storm is likely. The storm may include sleet, snow, ice, or a combination of them.

*Winter Storm Warning:* The winter storm is expected to enter the area.

*Blizzard Warning:* A combination of snow and wind will create limited visibility, drifting snow, and dangerous wind chills.

*Winter Weather Advisory:* Conditions from recent winter weather can be hazardous (especially for drivers).

*Frost/Freeze Warning:* The temperature will dip below freezing.

*Ice Storm Warning:* There will be dangerous accumulations of ice.

*Heavy Snow Warning:* There will be more than four inches in 12 hours or six inches in 24 hours.

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

1. What are the two main dangers of cold temperatures?

- A frostbite and hypothermia
- B exhaustion and dizziness
- C anxiety and depression
- D measles and pneumonia

2. The text is divided into sections with subheadings. What does the section with the subheading "Taking Precautions" list?

- A tips for getting into the *Guinness Book of World Records*
- B tips for walking to the North Pole
- C tips for staying safe in the cold
- D tips for building a snowman

3. Based on the article's description of what happened to Sir Ranulph Fiennes after his left hand got wet, what did he probably experience?

- A fever
- B frostbite
- C a heart attack
- D hypothermia

4. Imagine that you are outside in the cold. Your nose starts to tingle and hurt. What might you be experiencing?

- A fever
- B frostbite
- C a heart attack
- D hypothermia

5. The main purpose of this article is

- A to persuade people to play it safe and stay inside during cold weather
- B to explain two dangers of cold temperatures and how to guard against them
- C to celebrate the bravery and accomplishments of Sir Ranulph Fiennes
- D to inform the reader about terms commonly used in winter weather reports

6. List three recommendations from the article for staying safe in winter weather.

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7. Why is hypothermia known as the "Killer of the Unprepared"? Provide evidence from the article to support your answer.

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8. The question below is an incomplete sentence. Choose the word that best completes the sentence.

You can safely enjoy winter activities like sledding \_\_\_\_\_ you take the proper precautions.

- A unless
- B until
- C although
- D if

9. Answer the following questions based on the sentence below.

In 2000, Sir Ranulph Fiennes tried walking to the North Pole in order to challenge himself and raise money for cancer research.

Who? \_\_\_\_\_

(did) What? tried walking

Where? \_\_\_\_\_

When? \_\_\_\_\_

Why? \_\_\_\_\_

10. **Vocabulary Word:** core: central.

Use the vocabulary word in a sentence: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

## Teacher Guide &amp; Answers

**Passage Reading Level:** Lexile 770

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- C to celebrate the bravery and accomplishments of Sir Ranulph Fiennes
- D to inform the reader about terms commonly used in winter weather reports

6. List three recommendations from the article for staying safe in winter weather.

**Suggested answer:** The article makes recommendations such as dressing in layers, wearing a hat or cap, wearing sunglasses and sunblock, using lip balm, wearing mittens, knowing the signs of frostbite and hypothermia, paying attention to weather reports, and learning first aid. [bulleted list after paragraph 9]

7. Why is hypothermia known as the “Killer of the Unprepared”? Provide evidence from the article to support your answer.

**Suggested answer:** According to the article, staying out in the cold too long and failing to protect yourself against low temperatures can cause hypothermia. As a result, those who don’t prepare and dress properly for the cold are especially likely to get hypothermia. For that reason, calling it the “Killer of the Unprepared” makes sense. [paragraph 4]

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(did) What? tried walking

Where? **to the North Pole**

When? **in 2000**

Why? **in order to challenge himself and raise money for cancer research**

10. **Vocabulary Word:** core: central.

Use the vocabulary word in a sentence: answers may vary.