



COLORADO

State Patrol

Department of Public Safety

Safety Corner

Lesson Plan

Topic: Winter Weather Skills

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Learning Objective: Participants will describe ways to stay safe during Colorado winters.

Time: 50 minutes

Note (Activity): If you are able to, you may take the students out to your car to show them examples of how to check tread on tires, check tire pressure, and show them what to have in their vehicles.

Connect with Students (10 Minutes)

Introduce yourself.

- Introduce your learning objective.

Instructor: Winter in Colorado can be brutal, cold, and potentially dangerous. Let's talk today about how to keep safe on the road and in your home when the weather outside is frightful. As much as I enjoy winters in Colorado, there have been a time or two when things didn't go so well. (Share a time when you fell prey to the dangers of winter weather)

Ex. - Slipped on an ice patch, lost your keys in the snow, got caught in a snow storm, etc.)

Instructor: What about you? Have you ever experienced winter weather in a way you wish you hadn't? Share your experience with a partner. We will debrief after five minutes.



Winter months can be fun, but they also can present special safety hazards due to shifting weather conditions that include snow, fierce winds, hail, frigid temperatures, ice, sleet, and decreased visibility.

The following tips will be helpful to have a safe Colorado winter:

Instructor: When is the safest time to shovel snow? (Wait for Responses)

(Note: Students may participate in the warm up and show an example of what type of shovel to use)

Take a couple of stretches, knee bends or jumping jacks before you venture out to work in the snow. Head out shortly after the first snowfall and shovel while the snow is light and fluffy. If snow continues to fall for hours, you may need to shovel periodically throughout the storm.

Try to get the snow moved before it becomes wet. When surface temperatures are just above freezing, snow can melt slightly, adding more moisture and creating heavy wet snow. Wet snow is heavier to lift and move. Should you have to move wet snow, use a light plastic shovel rather than a heavy steel one, and push the snow, rather than lift it, to ease the strain on your back.

Take frequent breaks every 20 minutes or so and hydrate with water as you work. If you are sweating you are losing fluid that will need replenishing. If you should get warm, take off a layer of clothing to remain comfortable. Every year someone collapses of a heart attack while shoveling snow. Make sure you don't exert yourself too much. If you feel tired, put the shovel down and rest. Or if you can afford to do so, invest in a snow blower.

Instructor: What are some ways to stay safe with outdoor activities in the winter? (Wait for Responses)

There are other activities you may do outside - such as winterizing your home or engaging in winter recreation. How do you avoid getting frostbite when working or playing outside in the cold?

It is a good practice to tell people where you are going when you go out. Your friends or relatives need to know where to go looking for you if you fall or get into some type of trouble.



Layer up! Layered clothing will provide ventilation and insulation. A waterproof, breathable outer layer and waterproof boots or shoes are important as you may come in direct contact with wet snow. If your clothes get wet, you will lose body heat faster than if not. Cotton, in particular, holds water and dries slowly. In cold temperatures this would chill the body rapidly. Clothes made of synthetic fabric are preferred for layered wear. You should always remove wet clothing as soon as possible.

As for your hands, mittens are warmer than gloves. Insulated mittens or gloves are recommended. And don't forget a hat, scarf, face mask, wool socks and thermal under layers. Your head, ears, hands, and any other external skin should be protected from the cold.

Check your local news for weather updates. If the wind chill is significant, limit your time outside and recognize the signs of hypothermia - shivering, confusion, and loss of muscle control. If your skin appears white, waxy, hard to the touch and numb, you may be getting frostbite. Move inside immediately, warm the area gradually with body heat or warm water and seek medical attention.

Instructor: What should you have in your car during the winter? (Wait for Responses)
(Note: You may take the students to your car for demonstration or have items available in the classroom)

You could get stranded in your vehicle during a snow storm. What kind of emergency supplies should you keep in your car?

You need everything included in a home emergency kit plus items for your car such as:

- Flares to notify people where you are
- A bag of sand or cat litter to provide tire traction if you get stuck.
- A shovel may also be helpful to release your car from mud, sleet or snow.
- Jumper cables will help if you or someone else needs to start a car that has a dead battery.
- A first aid kit for minor injuries
- Non-perishable, high calorie food like trail mix
- Extra batteries for the flashlight or radio
- An ice scraper should remain in your car always as we never know exactly when we might see some snowfall or frost during the colder months.
- Window washing fluid
- Cell phone
- Along with a blanket you may want to also keep an extra set of warm clothes, including socks.
- Emergency cash
- Aerosol tire filler to fix flats



Instructor: How is driving a car in the winter different? (Wait for Responses)

Icy roads can be dangerously slippery to drive. How much longer does it take to stop on an icy road than a dry one?

It takes 9 to 10 times longer to stop so give yourself plenty of time and room to brake. It's not just braking however. Everything about driving takes longer on snowy, icy, and muddy roads - accelerating, braking, turning, and maneuvering. This is true regardless of the type of vehicle you drive, including four-wheel drive and all-wheel drive vehicles. Driving should occur with slow deliberation.

To decelerate, apply firm, steady pressure on the brake and slowly bring the car to a full stop. Place at least 3 to 4 car lengths of space between you and the driver ahead so you are not easily caught in the path of a potential spin out. You may need more space between cars if traveling in highly congested areas or at higher speeds. Remember your car is far more likely to spin out if you are traveling faster than is reasonably safe given the weather conditions.

If you feel your car start to spin, avoid sudden turns, take your foot off the gas and steer into the direction the rear end of the car is sliding. As difficult as it might be at the time, try to remain calm. You will react much more effectively. That said, if you crash or find yourself in a vehicle pile-up, remain seat-belted, and don't exit the car until you are sure that there will be no more collisions.

Driving hills or mountains also requires slow and steady acceleration and deceleration. Gain some speed on the flat road before you start climbing, shift to a lower gear if driving a manual transmission, then continue a steady slow climb to the plateau. When going downhill, go as slow as possible.

Instructor: How should you winterize your car? (Wait for Responses)

(Note: You can take the students to your car for demonstrations)

There is nothing like the sinking feeling you get when you turn your car key or push the start button and hear the empty click of a dead battery.

- Have your electrical and charging systems checked before the first big snow.
- Check all your fluids including your windshield and antifreeze fluids.
- Make sure your windshield wipers are in good condition.
- Use tires appropriate for the winter that will provide the traction you need when driving through snow. An easy way to check tire traction is to take a quarter and insert the head between the ridges in the tire. If Washington's head is submerged, you have adequate traction. If the top of the head is visible, it is time to visit your nearest tire store. Conduct this test at multiple points.



- Don't forget to check the tires periodically for adequate air pressure as tires often lose air in cold weather.
- Always keep at least a half a tank of gas in the car.
- Restock your car emergency kit.
- Clear the windshield and windows, tire wells, headlights and taillights of snow before you leave and periodically throughout a long journey. Driving with your vision obscured by snow or mud is reckless. It only takes a few minutes to ensure you drive with clear vision on all sides and clear headlights.
- To defrost your front windshield quickly:
 - turn the temperature control to the hottest setting,
 - turn the defroster fan to the highest setting,
 - turn on the air conditioner,
 - turn off the air recirculation, and
 - crack the windows.

Recap: Finally, if the roads look icy, slippery, slick, sludgy, or scary - don't go out if you don't have to. It's Colorado, after all, and if you wait an hour or two, the sun will be out in no time! Are there any questions? What did we learn today?

Sources:

National Safety Council, www.nsc.org
Centers for Disease Control and Prevention, www.cdc.gov
National Weather Service, www.weather.gov