



## **Extreme Weather Guidelines**

### **# 200.45**

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<b>Adopted:</b>	January 11, 2013
<b>Last Reviewed/Revised:</b>	January 15, 2022
<b>Responsibility:</b>	Superintendent of Education
<b>Next Scheduled Review:</b>	2025

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#### **PURPOSE:**

This procedure will provide direction to school administration when extreme weather conditions may have health implications for students. This procedure provides steps to be taken to ensure compliance with Ministry of Labour and the Ministry of Education expectations thereby ensuring schools are safe for students, staff, and visitors during extreme cold and extreme heat.

#### **APPLICATION AND SCOPE:**

##### **Responsibilities**

This procedure applies to all school board staff, students, and visitors.

##### **Information**

Time outdoors is an integral part of each school day. Children need fresh air and exercise, and time spent outside offers students an opportunity to break free from the structure of the classroom.

During the Canadian winter climate, time spent outside means donning winter coats, gloves or mittens, hats, and snow pants. In the winter, it is important for our students to come to school prepared for the cold. Cold weather conditions may have a negative impact on the health and safety of our students and staff. Through the implementation of these guidelines, the Board wishes to minimize, to the greatest extent possible, risks associated with cold weather conditions including frostbite and hypothermia (lowered body temperature).

There is an elevated risk to students and staff during excessively hot and humid weather where daytime maximum temperatures are in excess of 30°C and the humidex reaches or exceeds 35°C. Smog alerts combined with higher temperatures further exacerbate the risk. When there is a potential for exposure to excessively high temperatures which may cause heat stress-related illnesses, measures will be taken to limit exposure to excessive heat.

During the warmer months, school administrators will remind staff, students, and parents/guardians about appropriate dress, and the importance of hydration and safe play in hot weather.

It is important for individuals (especially with compromised health) to seek advice from their personal physician if they are feeling the effects of heat and to identify any restrictions related to working or learning in hot conditions.

#### **REFERENCES:**

- Environment Canada [https://www.ec.gc.ca/meteo-weather/80B0F2AF-9697-4BEE-AB17-D401EBBA5B4B/WindChill\\_factsheet\\_en.pdf](https://www.ec.gc.ca/meteo-weather/80B0F2AF-9697-4BEE-AB17-D401EBBA5B4B/WindChill_factsheet_en.pdf).
- Environment Canada Sun Safety Throughout the Season <https://www.canada.ca/en/environment-climate-change/services/weather-health/uv-index-sun-safety/seasons.html>
- The Government of Canada Wind Chill and Humidex Calculator [https://weather.gc.ca/windchill/wind\\_chill\\_e.html](https://weather.gc.ca/windchill/wind_chill_e.html)

#### **FORMS:**

N/A

#### **APPENDICES:**

- Appendix A: Wind Chill Information



- Appendix B: Hot Weather-Related Hazards

## DEFINITIONS:

**Wind-chill factor:** is a measure of the combined chilling effect of wind and temperature. The combination of a specific temperature and wind speed can be related to how fast exposed flesh will freeze.

**Frostbite:** injury to body tissues caused by exposure to extreme cold, typically affecting the nose, fingers, or toes and sometimes resulting in gangrene.

**Hypothermia:** lowered body temperature as a result of losing heat faster than it's produced, which can be caused by exposure to cold temperatures.

**Hyperthermia:** abnormally high body temperature, which may be caused as part of treatment, by an infection, or by exposure to heat.

**Heat cramps:** a heat-induced condition characterized by painful cramps in the arms, legs or stomach which can occur at work or later at home. This condition can be a warning of other more serious heat-induced illnesses.

**Heat exhaustion:** a heat-induced condition characterized by sweating, cool-moist skin, body temperature over 38°C, weak pulse, abnormal or low blood pressure.

**Heat stress:** heat stress refers to an increase in the body's core temperature. This could be related to a variety of factors, including high temperature, humidity, radiant heat and activity level. If a person is experiencing heat stress, then serious heat-related illnesses can occur, including heat rash, heat cramps, heat exhaustion, or heat stroke.

**Heat rash:** a heat-induced condition characterized by a red, bumpy rash with severe itching.

**Heat stroke:** heat stroke can become a medical emergency. It is a heat-induced condition characterized by high body temperature (41°C) and any one of the following:

- weakness
- confusion
- emotional upset and strange behavior
- hot, dry, red skin
- elevated pulse
- headaches and dizziness
- loss of consciousness and possibly convulsions.

**Humidex:** the term "humidex" is short for humidity index. Humidex is an equivalent scale intended for the public to express the combined effects of warm temperatures and humidity. Environment Canada uses humidex ratings to inform the general public when conditions of heat and humidity are possibly uncomfortable.

**Absolute humidity:** the amount of moisture in a particular volume of air, measured in grams per cubic meter. (i.e., 100 percent relative humidity would mean that the air is saturated).

**Relative humidity:** the amount of moisture that the air contains compared to how much it could hold at a given temperature. Relative humidity is normally at its maximum when the temperature is at its lowest point of the day, usually at dawn. Even though the absolute humidity may remain the same throughout the day, the changing temperature causes the ratio to fluctuate.

## ADMINISTRATIVE PROCEDURES:

In general School Administrators and Supervisors will:

- Review the criteria and procedures for indoor nutrition breaks with staff, students and parents in their respective schools and check the weather conditions each day in determining whether or not to have indoor nutrition breaks.



- Review the needs of children with any special health conditions. For example, asthmatic children, need special accommodations during extreme weather conditions. Parents and schools must work together to ensure the safety of the students.
- Ensure that the school and Board administrative procedure for extreme weather guidelines is placed in the student/parent handbook, website, as well as reminders in school newsletters.
- Ensure safe conditions of the playground (for example, ice, snow drifts, snow hills, provision of shaded areas).
- Review schedules for certain staff that work outdoors or are otherwise exposed to high temperature conditions and increase the frequency and or length of rest breaks when possible. Schedule strenuous jobs to be done during cooler times of the day.

### 1.0 COLD WEATHER

- 1.1 Cold weather conditions may have a negative impact on the health and safety of our students and staff. Through the implementation of these guidelines, the Board wishes to minimize, to the greatest extent possible, risks associated with cold weather conditions including frostbite and hypothermia (lowered body temperature).
- 1.2 Children are more prone to develop hypothermia when the body's rate of heat loss is greater than the rate of heat production. Fifty to sixty percent of the body's heat loss may take place from the head and hands. Hypothermia is present when the core body temperature drops below 35°C.
- 1.3 Parents will ensure children are adequately dressed for winter conditions.
- 1.4 Elementary students will remain indoors if the temperature falls below -20°C with or without wind chill (Appendix A). If the temperature is between -10°C and -20°C with or without wind chill, students may go outside for no more than twenty (20) minutes. This response may vary dependent on local factors. School Administrators will ensure:
  - 1.4.1 Children will be granted immediate entry to school upon arrival and remain indoors when temperatures drop below -20°C (with or without wind chill). ~~and do~~
  - 1.4.2 Children do not spend more than 20 minutes outdoors when the temperature is between -10°C and -20°C (with or without wind chill).
  - 1.4.3 Students have access to their outdoor coat/clothing throughout the school day when the temperature is below -20° C, in case of a need to evacuate the school.
  - 1.4.4 Give consideration for other factors before sending children outside (icy surfaces, local environment, the age of the students, adequacy of student clothing etc.)

### 2.0 HOT WEATHER

- 2.1 High humidity (the amount of water vapour in the air) can make people feel hotter than they would on a drier day. The Humidex is a parameter that combines temperature and humidity in order to reflect the perceived temperature for the average person.
- 2.2 Staff and students will avoid working or exercising intensely if it is very hot or humid outside (or inside).
- 2.3 Staff will ensure students have access to plenty of liquids and take frequent rest breaks.
- 2.4 Choosing foods that help maintain salt levels in your body and avoiding high-protein foods is encouraged.
- 2.5 Staff should help students recognize the signs for heat exhaustion and heat stroke.
- 2.6 School administration will monitor the Humidex each day. An extremely high Humidex reading is any reading over 40. In such conditions, schools will reduce or possibly eliminate all unnecessary physical activity. If the reading is in the mid to high 30s, the school administration will monitor and use discretion when permitting outdoor activity considering age, health, available shade, appropriate dress of students etc.  
**This response may vary dependent on local factors.**



### Humidex table

Reference Legend

Humidex and degree of comfort: Legend	
Humidex	Degree of comfort
20 - 29	Little discomfort
30 - 39	Some discomfort
40 - 45	Great discomfort; avoid exertion
46 and over	Dangerous; possible heat stroke

- 2.7 Ultraviolet (UV) rays are the sun’s rays that can cause sunburn. Long-term exposure to UV rays is associated with skin aging, eye cataracts, weakening of the immune system, and skin cancer. The amount of UV that you receive depends on how high the UV index is and the length of time you spend in the sun. The UV Index is a 0 - 11+ scale (the higher the number the higher the UV).
- 2.8 When the UV index is high, schools may reduce time outside in the sun, particularly between 11:00 a.m. and 4:00 p.m. from April to September depending on local factors (age, time of day, availability of shade, appropriate dress of students).
- 2.9 Parent should plan appropriately and send students with broad-brimmed hat, a shirt with long sleeves, and sunglasses.
- 2.10 Staff and students should wear loose fitting clothing that is light in weight. Light colour clothing is better than dark, in hot weather. Fabrics that wick sweat away from the skin and allow sweat to evaporate are helpful.
- 2.11 Parents should ensure students have a "broad spectrum" sunscreen with both UVA and UVB protection, with a sun protection factor (SPF) of 15 or higher. Schools will have limited supply on hand.
- 2.12 School administration will plan for projected heat warnings when temperatures exceed 30 degrees and/or the humidex exceeds 35°C. Schools will consider:
  - 2.12.1 Students and staff access to water (i.e. drinking fountains, bottle filling stations, etc.).
  - 2.12.2 Alerting staff with first aid certification to the possibility of a response being required to treat heat-related medical incidents.
  - 2.12.3 Exercising more caution during the first period of extreme heat while individuals are acclimatizing and then continue to provide reminders to staff and students on heat stress and staying cool and hydrated.
  - 2.12.4 The use of shaded areas outdoors and limiting certain physical activity to stay cool.
  - 2.12.5 Modifications to activities that involve physical exertion (length of time, rest periods, hydration, activity location change).
  - 2.12.6 Using blinds, curtains, or reflective coatings on windows to reduce direct sunlight.
  - 2.12.7 The relocation of staff and students in troublesome areas, where possible, to a cooler location in the building.
  - 2.12.8 Turning off or limit the use of heat generating equipment and appliances if safe and practical to do so.



## Wind Chill Information

Wind Chill	Description	Health Concern	What to Do
0 to -9	Low	<ul style="list-style-type: none"> <li>Slight increase in discomfort</li> </ul>	<ul style="list-style-type: none"> <li>Dress warmly, with the outside temperature in mind.</li> </ul>
-10 to -27	Low	<ul style="list-style-type: none"> <li>Uncomfortable</li> <li>Risk of hypothermia if outside for long periods without adequate protection</li> </ul>	<ul style="list-style-type: none"> <li>Dress in layers of warm clothing, with an outer layer that is wind resistant.</li> <li>Wear a hat, mittens and scarf.</li> <li>Keep active</li> </ul>
-28 to -39	Increasing risk: exposed skin can freeze in 10 to 30 minutes	<ul style="list-style-type: none"> <li>Check face and extremities (fingers, toes, ears and nose) for numbness or whiteness</li> <li>Risk of hypothermia if outside for long periods without adequate protection</li> </ul>	<ul style="list-style-type: none"> <li>Dress in layers of warm clothing, with an outer layer that is wind resistant.</li> <li>Cover exposed skin: wear a hat, mittens and a scarf, neck tube or facemask.</li> <li>Keep active.</li> </ul>
-40 to -47	High risk: exposed skin can freeze in 5 to 10 minutes	<ul style="list-style-type: none"> <li>Check face and extremities frequently for numbness or whiteness (frostbite)</li> <li>Risk of hypothermia if outside for long periods without adequate protection</li> </ul>	<ul style="list-style-type: none"> <li>Dress in layers of warm clothing, with an outer layer that is wind resistant.</li> <li>Cover exposed skin: wear a hat, mittens and a scarf, neck tube or facemask.</li> <li>Keep active.</li> </ul>

## Environment Canada Wind Chill – Minutes to Frostbite

The following are approximate values.

Temperature (°C)	-15	-20	-25	-30	-35	-40	-45	-50
Wind (km/h)								
10	*	*	22	15	10	8	7	2
20	*	30	14	10	5	4	3	2
30	*	18	11	8	5	2	2	1
40	42	14	9	5	5	2	2	1
50	27	12	8	5	2	2	2	1
60	22	10	7	5	2	2	2	1
70	18	9	5	4	2	2	2	1
80	16	8	5	4	2	2	2	1

\* = Frostbite unlikely

The wind speed, in km/h, is at the standard anemometer height of 10 metres (as reported in weather observations).

### Legend:

Frostbite possible in 2 minutes or less

2

Frostbite possible in 3 to 5 minutes

5

Frostbite possible in 6 to 10 minutes

10



## Hot Weather-Related Hazards

	<b>Cause</b>	<b>Symptoms</b>	<b>Treatment</b>	<b>Prevention</b>
<b>Heat Rash</b>	Hot humid environment; plugged sweat glands.	Red bumpy rash with severe itching.	Change into dry clothes and move to a cool area. Rinse skin with cool water.	Wash regularly to keep skin clean and dry.
<b>Sunburn</b>	Too much exposure to the sun.	Red, painful, or blistering and peeling skin	If the skin blisters, seek medical aid. Use skin lotions (avoid topical anesthetics) and work in the shade.	Work in the shade; cover skin with clothing; apply skin lotions with a sun Protection factor of at least 15. People with fair skin should be cautious.
<b>Heat Cramps</b>	Heavy sweating drains a person's body of salt, which cannot be Replaced by just drinking water.	Painful cramps in arms, legs or stomach, which occur suddenly at work or later at home. Heat cramps are serious because they can be a warning of other more dangerous heat induced illnesses.	Move to a cool area; loosen clothing and drink cool salted water (1 tsp. Salt per gallon of water) or commercial fluid replacement beverage. If the cramps are severe or don't go away, seek Medical aid.	Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot the symptoms that often precede heat stroke.
<b>Fainting</b>	Fluid loss and inadequate water Intake.	Sudden fainting after at least two hours of work; Cool moist skin; weak Pulse.	GET MEDICAL ATTENTION. Assess need for CPR. Move to a cool Area; loosen clothing; make person lie down; and if the person is conscious, offer sips of cool water. Fainting may also be due to other illnesses.	Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot the symptoms that often precede heat Stroke.
<b>Heat Exhaustion</b>	Fluid loss and inadequate salt and water intake causes a Person's body's cooling system to start to break down.	Heavy sweating; cool moist skin; body temperature over 38°C; weak pulse; normal or Low blood pressure; person is tired and weak and has nausea and vomiting; is very thirsty; Or is panting or breathing rapidly; vision may be Blurred.	GET MEDICAL AID. This condition can lead to heat stroke, which can kill. Move the person to a cool shaded area; loosen or remove excess clothing; provide cool water to drink; fan and spray with cool water.	Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot the symptoms that often precede heat stroke.
<b>Heat Stroke</b>	If a person's body has used up all its water and salt reserves, it will Stop sweating. This can cause body temperature to rise. Heat stroke may develop suddenly or May follow from heat exhaustion.	High body temperature (over 41°C) and any one of the following: the Person is weak, confused, upset or acting strangely; Has hot, dry, red skin; a fast pulse; headache or dizziness. In later stages, a person may pass out And have convulsions.	CALL AMBULANCE. This condition can kill a person quickly. Remove excess clothing; fan and spray the person with cool water; offer sips of cool water if the person is conscious.	Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot symptoms that often precede heat Stroke.