



# PROCEDURE

# SO-003

## EXTREME WEATHER

<b>Superintendent Responsible:</b> Superintendent of Education, Human Resources	<b>Initial Effective Date:</b> 2020/05/25
<b>Last Updated:</b> 2024/02/27	<b>Next Review Date:</b> 2028/02/28

### Purpose:

To provide steps to be used by Grand Erie District School Board (Grand Erie) employees when extreme weather conditions (hot/cold) or air quality may produce health implications.

### Guiding Principles:

Grand Erie will ensure compliance with Ministry of Labour Health and Safety Regulations, local Public Health directives and Ministry of Education Guidelines to create a safe environment in all Grand Erie facilities. This includes ensuring schools are safe for students, employees, and visitors.

### 1.0 Hot Weather Action Plan

- 1.1 This plan will be put in place when in place when there is an elevated risk of dealing with excessively hot and humid weather (usually between May 1 and September 30).
- 1.2 The plan will be initiated when all of the following conditions occur:
  - When heat waves/warnings are triggered in our Region: 2+ consecutive days reaching daytime maximum temperatures of 31°C or higher and an evening minimum temperature of 20°C
  - When the humidex reaches or exceeds 35°C.
  - When there is a smog alert combined with higher temperatures; and
  - When there is an Environment Canada Humidex advisory regarding ambient air temperatures exceeding 30°C and a humidex rating which exceeds 40°C.

*Note: During excessively hot/humid days, it is recommended to consume potable water on a regular basis to stay hydrated. Supervisors are responsible to ensure that potable water (ex: drinking fountains, bottle filling stations, tap water, etc.) is available for consumption.*

### 2.0 Controls and Reactive Measures

- 2.1 When there is a potential for exposure to excessively high temperatures which may cause heat stress- related illnesses, control measures must be taken to control exposure to excessive heat in the workplace.

*Note: First aid or medical attention including emergency response may be required to treat heat stress related medical incidents.*

#### 2.2 School Administrator(s) Actions:

- Monitor environmental conditions (including humidex) and the possibility of heat stress related illness, especially during the first week of elevated temperatures while individuals are acclimatizing.
- Ensure that trained First Aid providers can respond to heat-related illnesses throughout periods during which heat stress-related illnesses are likely to occur.
- Communicate heat stress related information and recommendations to all employees. Provide information on heat stress and staying cool and hydrated to students that is age appropriate.

- The School Administrator(s) shall make announcements throughout the day reminding staff and students of hydration needs.
- A cool location should be made available in the building to allow employees to cool down during break and lunch times.
- Consideration should be given for outdoor activities with students like recess etc. to encourage the use of shaded areas and limiting physical activity to stay cool.
- Ensure employees are trained to recognize signs and symptoms of heat stress, along with the causes, treatment, and preventative action (refer to Appendix A). A “buddy system” can be used where staff monitors each other for signs of heat stress since people may not notice their own symptoms.
- Modify activities that involve physical exertion, exposure to sun and hot environments (rest periods, hydration, activity location change, and greater vigilance for heat stress symptoms should be considered).
- Review schedules for individuals exposed to high temperature conditions (such as grounds staff and during summer clean) and increase the frequency and or length of rest breaks when possible.
- Schedule strenuous jobs to be done during cooler times of the day.
- Investigate and follow-up on any high temperature related incidents which are reported or observed.
- Encourage staff to open windows to allow air to circulate where effective and applicable.
- Promote the use school purchased portable fans to assist in circulating air.
- Use blinds, curtains, or reflective coatings on windows to reduce direct sunlight.
- Relocate staff and students when necessary to a cooler location (e.g., third floor class moved to the first floor, cafeteria, library or outdoors).
- Encourage parent(s)/caregiver(s) to remind students about safe play in hot weather at all opportunities. Appendix E contains key messages for parent(s)/caregiver(s) that can be sent home with students.

### 2.3 Employee Responsibilities:

- Wear loose fitting clothing that is light in weight and covers the head to prevent exposure to direct sunlight when outdoors in the summer months. Light colour clothing is better than dark, in hot weather.
- Wear clothing made of fabrics that wick sweat away from the skin and allow sweat to evaporate, in hot weather.
- Employees should dress appropriately for cold weather months, (layers, proper winter footwear, coat, hat and mitts for outside work).
- Employees should alter time of day for physically demanding tasks and/or reduce pace of work.
- Alter type of physical activities for students.
- Employees and students should eat lightly and drink plenty of liquids to replace fluid loss due to heat. The Ontario Ministry of Labour recommends drinking a cup of water every 20 minutes in extreme heat. Fluids include water or fruit juice, not caffeinated drinks.
- Wear sunscreen with an SPF of 15 or higher whenever working outdoors; other protective measures are a hat and sunglasses.
- Use available fans to help increase circulation.
- Open interior doors and perimeter windows to increase the exchange of fresh air (when exterior temperatures are cooler)
- Turn off or limit the use of heat generating equipment and appliances if safe and practical to do so
- Be conscious of medications side effects and avoid beverages which contain sugars and caffeine as this may contribute to dehydration

*Note: Additional controls to prevent exposure to high temperatures may be required for vulnerable individuals such as employees and students with special needs or medical conditions.*

#### 2.4 Personal Risk Factors Affecting Heat Tolerance:

- 2.4.1 There are several factors that can affect an individual's level of heat tolerance and their ability to work in hot environments. These factors include but are not limited to:
- Diseases such as cardiovascular, multiple sclerosis, diabetes, etc.
  - Physical conditions such as pregnancy, reduced level of fitness, and age.
  - Use of therapeutic drugs and medications (e.g., Blood pressure medications, diuretics, etc.)
- 2.4.2 It is important for individuals to seek advice from their personal physician if they are feeling the effects of heat and to identify any restrictions related to working in hot conditions. Employees should provide information about specific heat-related restrictions to their School Administrator(s)/Immediate Supervisor. Appendix E contains key messages for parent(s)/caregiver(s) related to hot weather that can be sent home with students. See Appendix F Heat Stress Awareness Tool.

### 3.0 Cold Weather Conditions

#### 3.1 Outdoor Temperature:

- 3.1.1 Low temperatures, especially combined with strong winds, can lead to frost nip and frost bite and in extreme cases, hypothermia (Refer to Appendix C-Table 1 for a list of cold related signs and symptoms and preventative measures that can be taken).
- 3.1.2 Wind chill factor is a measure of the combined chilling effect of wind and temperature. For example, the combination of a specific temperature and wind speed can be related to how fast exposed flesh will freeze. See Appendix B Table 2 Wind Chill Calculation Chart.

#### 3.2 Cold Weather and Outdoor Play:

- 3.2.1 Time spent outdoors is an integral part of the school day. Students need fresh air and exercise, and time spent outside gives them an opportunity to break free from the classroom's structure.
- 3.2.2 In the winter, it is important students come to school prepared for the cold. Boots, mittens or gloves and hats should be worn to school and it's a good idea for parent(s)/caregiver(s) to provide extra mittens, socks, etc. in the event they are needed.
- 3.2.3 When the temperature or wind chill reaches  $-20^{\circ}\text{C}$  (twenty degrees below zero, Celsius), students will be granted immediate entry to school upon arrival, and students will remain indoors during nutrition breaks. When temperature thresholds are in effect, students must keep their outdoor coats/jackets with them throughout the instructional day, in case of a need to evacuate the school.
- 3.2.4 When the temperature or wind chill reaches  $-15^{\circ}\text{C}$  (fifteen degrees below zero, Celsius), School Administrator(s) must consider reducing the amount of time students will be exposed. Consideration of other factors before sending students outside includes:
- condition of playground (ice, snow, etc.)
  - location of the school (perhaps the building or trees block the wind on the playground)
  - the age of the students
  - the adequacy of student clothing
- 3.2.5 Schools should encourage parent(s)/caregiver(s) to dress students appropriately at all opportunities. Appendix D contains key messages for parent(s)/caregiver(s) related to cold weather that can be sent home with students.

#### 4.0 Outdoor Air Quality issues related to air quality index

The air quality health index (AQHI) is a tool used to tell you about:

- the health risks associated with local air pollution (this can include increased air pollution due to wildfire smoke)
- actions you can take to protect your health

Health Risks:

People with lung disease (such as asthma) or heart disease, older adults, children, pregnant people, and people who work outdoors are at higher risk of experiencing health effects caused by Poor air quality and wildfire smoke.

The Board will follow directions and recommendations as provided by the local Public Health authority, these will be communicated to schools and staff.

Steps taken will be based on the Air Quality Index and the health messages by category. (See appendix C

It is recommended that students/staff with known respiratory conditions such as asthma should have a supply of their medications in school/work.

Stop outdoor activities and contact your health care provider if you or someone in your care experiences shortness of breath, wheezing (including asthma attacks), severe cough, dizziness, or chest pains. Stay inside if you are feeling unwell and experiencing symptoms.

#### Keep indoor air clean and safe

Protect the air inside by:

- Ensure HVAC systems are functioning. In our Board we have MEERV 13 filters in most HVAC systems.
- Running the portable HEPA air purifier (provided in areas without HVAC or MEERV 13 filters) to remove pollution and smoke from indoor air

#### Definitions:

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

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 stroke: 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

Note: In the later stages, a person may experience loss of consciousness and possibly convulsions. Heat stroke is a medical emergency. If not recognized and addressed, this condition can result in serious illness or even death.

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. See Appendix B Table 1.

Wind chill factor: A measure of the combined chilling effect of wind and temperature. The advantage of wind chill factor over other measured methods is that it represents a real rate of cooling. For example, the combination of a specific temperature and wind speed can be related to how fast exposed flesh will freeze. See Appendix C Table 2 Wind Chill Calculation Chart

**APPENDIX A**

**Ministry of Labour, Health and Safety Guidelines for Treatment and Prevention of 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. Employees 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. Employees should check on each other to help spot the symptoms that often precede heat stroke.

<p><b>Heat Exhaustion</b></p>	<p>Fluid loss and inadequate salt and water intake causes a person's body's cooling system to start to break down.</p>	<p>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.</p>	<p>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.</p>	<p>Reduce activity levels and/or heat exposure. Drink fluids regularly. Employees should check on each other to help spot the symptoms that often precede heat stroke.</p>
<p><b>Heat Stroke</b></p>	<p>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.</p>	<p>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.</p>	<p>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.</p>	<p>Reduce activity levels and/or heat exposure. Drink fluids regularly. Employees should check on each other to help spot symptoms that often precede heat stroke.</p>

APPENDIX B

Table 1: Humidex Reading and Degree of Discomfort

TEMPERATURE RANGE INCLUDING HUMIDEX	DEGREES OF COMFORT	
19-24	Comfortable	A temperature range in which most individuals are comfortable
26-34	Some discomfort	Some individuals may experience discomfort
35-44	Great discomfort	Most individuals will experience high levels of discomfort (initiate hot weather action plan and avoid exertion)
45 and above	HEALTH RELATED ILLNESS LIKELY TO OCCUR	

Appendix C: Health messages by category:

This table is a summary of air quality health messages by category

Health Risk	Air Quality Health Index	Health Messages	
		At Risk Population*	General Population
Low Risk	1-3	Enjoy your usual outdoor activities.	Ideal air quality for outdoor activities.
Moderate Risk	4-6	Consider reducing or rescheduling strenuous activities outdoors if you are experiencing symptoms.	No need to modify your usual outdoor activities unless you experience symptoms such as coughing and throat irritation.
High Risk	7-10	Reduce or reschedule strenuous activities outdoors. Children and the elderly should also take it easy.	Consider reducing or rescheduling strenuous activities outdoors if you experience symptoms such as coughing and throat irritation.
Very High Risk	Above 10	Avoid strenuous activities outdoors. Children and the elderly should also avoid outdoor physical exertion.	Reduce or reschedule strenuous activities outdoors, especially if you experience symptoms such as coughing and throat irritation.



APPENDIX C

Table 1: Environment Canada Wind Chill Hazards and Prevention

	Description	Health Concern	What to Do
0 to -9	Low	Slight increase in discomfort	Dress warmly, with the outside temperature in mind.
-10 to -27	Low	Uncomfortable Risk of hypothermia if outside for long periods without adequate protection	Dress in layers of warm clothing, with an outer layer that is wind resistant. Wear a hat, mittens and scarf. Keep active
-28 to -39	Increasing risk: exposed skin can freeze in 10 to 30 minutes	Check face and extremities (fingers, toes, ears and nose) for numbness or whiteness Risk of hypothermia if outside for long periods without adequate protection	Dress in layers of warm clothing, with an outer layer that is wind resistant. Cover exposed skin: wear a hat, mittens and a scarf, neck tube or facemask. Keep active.
-40 to -47	High risk: exposed skin can freeze in 5 to 10 minutes	Check face and extremities frequently for numbness or whiteness (frostbite) Risk of hypothermia if outside for long periods without adequate protection	Dress in layers of warm clothing, with an outer layer that is wind resistant. Cover exposed skin: wear a hat, mittens and a scarf, neck tube or facemask. Keep active.

**Table 2: Environment Canada Wind Chill – Minutes to Frostbite**

The following are approximate values

Temperature (°C)	-15	-20	-25	-30	-35	-40	-45	-50
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

**APPENDIX D****Suggested Parent(s)/Caregiver(s) Guidelines for Cold Weather**

Winter can be a wonderful time for play. Participating in winter sports will help keep the whole family healthy, but injuries can spoil the fun. Here's how to keep kids safe during winter play.

Clothing for outdoor play:

All winter activities require warm, dry clothing. To prevent frostbite, students should be dressed in warm clothes, including:

- a hat (warm, close-fitting, and covering ear lobes; not a 'fashion' hat or baseball cap),
- mittens (gloves do not keep hands warm as effectively as mittens),
- loose layers (an absorbent synthetic fabric next to skin, a warmer middle layer, and a water resistant/repellent outer layer),
- socks A single pair of socks, either wool or a wool blend (with silk or polypropylene) is better than cotton which offers no insulation when wet. Avoid extra thick socks as they can cause cold feet by restricting blood flow and air circulation around the toes.
- boots Be sure boots are dry and not too tight.

Students should get out of wet clothes and shoes as quickly as possible as they are the biggest factors in frostbite.

Jackets should be zipped up. To avoid strangulation during play, use tube-shaped neck warmers instead of scarves. If scarves must be used, tuck them into jackets. Remove drawstrings on hoods and jackets because they are also a safety hazard; better yet, buy clothes without drawstrings.

**Safe weather for outdoor play:**

1. Students must play indoors if the temperature falls below -20C, regardless of the wind chill factor.
2. Students must play indoors, regardless of the temperature, if the following occurs:  
The wind chill factor is reported as -20 C or greater (This is the temperature at which exposed skin freezes in a few minutes)
3. Adopted from guidelines published by The Hospital for Sick Children, University of Toronto.

**APPENDIX E****Suggested Parent(S)/Caregiver(s) Guidelines for Hot Weather**

Summer can be a wonderful time of year, but it also brings warmer weather and humidity. Here's how to keep kids safe during the summer months.

- Wear loose fitting clothing that is light in weight; light colour clothing is better than dark.
- Wear clothing made of fabrics that wick sweat away from the skin and allow sweat to evaporate.
- When outside wear a bucket hat with a wide brim
- Students should eat light meals and drink plenty of liquids to replace fluid loss due to heat.
- Encourage students to bring refillable water bottles to school that they can keep with them both outside and while in class.
- Allow students to make frequent trips to the water filling stations to ensure they have water with them

Safe activities for outdoor play:

- Alter types of physical activities for students so they are not overexerting themselves in the hot weather
- Encourage kids to find shady spots to take a break when outside
- Ensure students remain hydrated when outside
- Encourage kids to wear sunscreen when outside SPF 30 or higher

Classroom activities:

Environmental Controls such as the following can be used to help make a more comfortable environment in the warm weather

- Open windows and doors to allow air to circulate where effective and applicable.
- Use school purchased portable fans to assist in circulating air.
- Use blinds, curtains, or reflective coatings on windows to reduce direct sunlight.  
Relocate staff and students when necessary to a cooler location (e.g., third floor class moved to the first floor, cafeteria)

Heat Stress Awareness Tool

**HEAT STRESS AWARENESS TOOL**

**Workplace Temperature Humidity (%)**

80+  
70-79  
60-69  
50-59  
40-49

**Cut out wedge.**

**How to find the temperature & humidity:**

- Check a workplace thermometer & hygrometer
- If working outside, listen to broadcast reports or visit [www.weatheroffice.ec.gc.ca](http://www.weatheroffice.ec.gc.ca)

**Heat stress action chart**

Conditions/actions listed below apply to **unacclimatized workers**. Never ignore symptoms. Refer to *Heat Stress Awareness Guide* for extra clothing and/or radiant heat conditions.

HUMIDEX	ACTION RECOMMENDED
<b>LOW</b> 30-37	<ul style="list-style-type: none"> <li>• Post heat stress alerts</li> <li>• Drink water</li> </ul>
<b>MEDIUM</b> 38-39	<ul style="list-style-type: none"> <li>• Reduce physical activity (e.g., slower pace, more breaks)</li> <li>• Drink a cup of water every 20-30 minutes</li> </ul>
<b>MODERATE</b> 40-41	<ul style="list-style-type: none"> <li>• Further reduce physical activity</li> <li>• Drink a cup of water every 15-20 minutes</li> </ul>
<b>HIGH</b> 42-44	<ul style="list-style-type: none"> <li>• Severely curtail physical activity</li> <li>• Ensure sufficient rest/recovery time</li> <li>• Drink a cup of water every 10-15 minutes</li> </ul>
<b>EXTREME</b> 45+	<ul style="list-style-type: none"> <li>• Hazardous to continue physical activity</li> </ul>

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**HEAT STRESS AWARENESS TOOL**

**HEAT STRESS**

RECOGNIZE THE SYMPTOMS...  
weakness, fatigue, & dizziness

**How to use this tool:**

1. Measure workplace temperature & humidity.
2. Turn the wheel to display the workplace temperature. Then, find the humidity value on the left axis.
3. Refer to the colour on the instruction chart for recommended action.
4. Refer to the *Heat Stress Awareness Guide* for more detailed information.

Keep your cool!

Once cutting and folding is complete, insert wheel so that the coloured side shows through the cut-out wedge.

Insert fastener at small black dot below the wedge to hold together, and rotate wheel.

Cut along vertical edges.

Fold on dotted line.

