

Guidance for Schools & Child Care Facilities For Poor Air Quality Days in Minnesota (Ozone & Fine Particles)

ACTIVITY	Air Quality Index (AQI)				
	0 to 50 GOOD	51 to 100 MODERATE	101 to 150 UNHEALTHY FOR SENSITIVE GROUPS (children & people with respiratory or cardiovascular diseases*)	151 to 200 UNHEALTHY	201 to 300 VERY UNHEALTHY
Recess or Other Outdoor Activities (15 to 30 minutes)	No Limitations	No Limitations	Sensitive groups should limit prolonged or heavy outdoor exertion.** Increase rest periods and substitute players to lower breathing rates.	Everyone should limit prolonged or heavy outdoor exertion.** Increase rest periods & substitute players.	Restrict outdoor activities to light or moderate exercise.
Physical Education Class or Outdoor Activities (30 to 60 minutes)	No Limitations	No Limitations	Sensitive groups should limit prolonged or heavy outdoor exertion.** Increase rest periods and substitute players to lower breathing rates.	Everyone should limit prolonged or heavy outdoor exertion.** Increase rest periods & substitute players.	Restrict outdoor activities to light or moderate exercise not to exceed one hour.
Scheduled Sporting Events or Outdoor Activities	No Limitations	Unusually sensitive individuals should consider reducing prolonged or heavy outdoor exertion.** Individuals with asthma or other respiratory/ cardiovascular illness (or their caregivers) should be medically managing their condition.	Sensitive groups should limit prolonged or heavy outdoor exertion.** Increase rest periods and substitute players to lower breathing rates.	Everyone should limit prolonged or heavy outdoor exertion.** Consideration should be given to rescheduling or relocating event/activity. Increase rest periods or substitute players.	Event should be rescheduled or relocated.
Athletic Practice and Training (2 to 4 hours)	No Limitations	Unusually sensitive individuals should consider reducing prolonged or heavy outdoor exertion.** Individuals with asthma or other respiratory/ cardiovascular conditions (or their caregivers) should be medically managing their condition.	Sensitive groups should limit prolonged or heavy outdoor exertion.** Increase rest periods and substitute players to lower breathing rates.	Limit prolonged or heavy outdoor exertion.** Consideration should be given to rescheduling or relocating practice or training. Increase rest periods or substitute players.	Sustained rigorous exercise for more than one hour must be rescheduled, moved indoors or discontinued.

*Individuals with asthma or other respiratory or cardiovascular conditions (or their caregivers) should be medically managing their conditions.

**Prolonged exertion means any outdoor activity that you will be doing intermittently for several hours and that makes you breathe slightly harder than normal. Heavy exertion means intense outdoor activities that cause you to breathe hard and increases your cardiovascular rate. For a brochure with related information, visit the US Environmental Protection Agency air quality web site at http://www.epa.gov/airnow/aqi_brochure_08-09.pdf.

ASTHMA AND POOR AIR QUALITY

Exercise is important. The intent of this table is to help children and adults continue to exercise while protecting their health when air quality is poor. The use of this table is voluntary. On most days of the year, Minnesota has good to moderate air quality and there is no reason to limit physical activities. Participation in regular physical activity promotes normal growth and development, and helps to reduce the risk of developing obesity and chronic diseases (e.g., diabetes).

Fine Particles: In Minnesota, fine particle (2.5 microns and smaller) levels in outdoor air generally are highest during the fall and winter months. Children and adults who are exposed to fine particles may experience respiratory symptoms such as asthma symptoms and difficulty breathing.

Fine particle concentrations indoors will vary depending on several site-specific school factors, such as cooking and cleaning practices, indoor sources and ventilation, and therefore, no information is available to make general recommendations about whether going indoors or outdoors will reduce exposures.

Ozone: Ozone (O₃) is an invisible pollutant and a strong irritant that can cause constriction of the airways, forcing the respiratory system to work harder in order to provide oxygen. It can aggravate asthma and other respiratory conditions and can damage to the deep tissues of the lungs. Breathing in ozone can lead to wheezing, dry throat, headache, nausea, increased fatigue, and reduced athletic performance.

Ozone usually reaches its highest level during the afternoon and early evening hours, and the highest concentrations are often downwind of the urban area. During ozone air pollution health alerts, routine physical activities may be continued indoors because indoor ozone levels are considerably lower than outdoor levels.



HOW TO USE THIS TABLE

Here's an example of how this table might be used to determine changes to be made for a Friday afternoon physical education program. Because forecasted information is only available for the Twin Cities and Rochester, this example only applies to these locations.

Step 1: On Thursday afternoon, check Friday's forecast <http://aqi.pca.state.mn.us>.

Step 2: If the forecast for Friday is *Unhealthy for Sensitive Groups (101-150)*, follow the guidance in the table (e.g., sensitive groups should limit prolonged/heavy exertion); make arrangements to have indoor space available for individuals with asthma and other respiratory diseases or cardiovascular diseases.

Step 3: On Friday prior to class, check the current Air Quality Index (AQI). Since fine particles can vary from one area to another, click on the map for a representation of fine particle levels in your area. If the AQI in your area has moved to *Moderate (51-100)*, sensitive individuals may need to modify their activities. However, if the AQI has moved to *Unhealthy (151-200)*, note that everyone is advised to limit prolonged or heavy physical exertion.

Please note: Before cancelling a scheduled outdoor athletic event in the Twin Cities or Rochester, call the AQI Hotline. For hourly updated information on air quality conditions for the Twin Cities and Rochester: 651-297-1630 (Twin Cities) or 1-800-657-3694.

ADDITIONAL RESOURCES ON ASTHMA

www.health.state.mn.us/asthma MDH Asthma web page;
<http://www.health.state.mn.us/asthma/schoolmanual.html> Managing Asthma in Minnesota Schools; and
<http://www.winningwithasthma.org/> Coach's Asthma Clipboard Program.

ADDITIONAL RESOURCES ON AIR POLLUTION

<http://mn.enviroflash.info/> Sign up to receive air pollution alerts by email;
<http://aqi.pca.state.mn.us/> View daily air quality conditions-MN Pollution Control Agency;
www.aimow.gov View National data;
<http://www.health.state.mn.us/divs/eh/air/pm.htm> Health effects from fine particles; and
<http://www.health.state.mn.us/divs/eh/air/ozone.htm> Health effects from ozone.

This guidance was developed by the Minnesota Department of Health and the Minnesota Pollution Control Agency.
The table was adapted from the Sacramento Metropolitan Air Quality Management District air quality guidelines for schools.