

Air Quality Activity Recommendations for Butte County Schools

PROTECT STUDENT HEALTH DURING POOR AIR QUALITY

Air quality is an important consideration for schools in terms of student activities. Butte County Air Quality Management District (BCAQMD) and Butte County Public Health (BCPH) can assist schools with understanding local air quality concerns and actions they can take to protect student health. To find out more, contact BCAQMD or BCPH.



The following school activity recommendations are based on consultation with health researchers and several important principles drawn from recent studies.

Activity	Air Quality Level				
	LEVEL 1 GOOD AQI: 0-50	LEVEL 2 MODERATE AQI: 51-100	LEVEL 3 UNHEALTHY FOR *SENSITIVE GROUPS AQI: 101-150	LEVEL 4 UNHEALTHY AQI: 151-200	LEVEL 5 VERY UNHEALTHY AQI: 201-300 <i>School districts may consider closures.</i>
Recess (15min)	No restrictions	No restrictions, but allow students with asthma or other respiratory conditions to stay indoors.	Keep students with asthma/other respiratory conditions, and heart disease indoors. Make indoor space available for all students.	No outdoor activity. Keep students indoors and activity Levels light	No outdoor activity. Keep students indoors and activity Levels light
P.E. (1hr)	No restrictions	Monitor students with asthma or other respiratory conditions. Limit their vigorous activities & increase rest periods.	Limit P.E. to light outdoor activities. Keep students with asthma/other respiratory conditions, and heart disease indoors & keep activity levels light.	No outdoor activity. Keep students indoors and activity Levels light	No outdoor activity. Keep students indoors and activity Levels light
Athletic Practice & Training (2-4hrs)	No restrictions	Monitor students with asthma or other respiratory conditions. Limit their vigorous activities & increase rest periods.	Reduce vigorous exercise to 30 minutes per hour of practice time. Increase rest periods and substitutions. Students with asthma/other respiratory conditions, and heart disease should practice indoors.	Consider cancelling, rescheduling or relocating outdoor events to an area of good air quality, if this can be done without much transit through areas with poor air quality	No outdoor activity. Keep students indoors and activity Levels light
Scheduled Sporting Events	No restrictions	Monitor students with asthma or other respiratory conditions. Limit their vigorous activities & increase rest periods.	Consider moving the event/practice indoors. Increase rest periods and substitutions. Students with asthma/other respiratory conditions, and heart disease should practice indoors.	Consider cancelling, rescheduling or relocating outdoor events to an area of good air quality, if this can be done without much transit through areas with poor air quality	Consider cancelling, rescheduling or relocating outdoor events to an area of good air quality, if this can be done without much transit through areas with poor air quality

Air Quality Guidelines for Schools

About the Guidelines:

- These guidelines are based on the United States Environmental Protection Agency (U.S. EPA) and Centers for Disease Control's [Air Quality and Outdoor Activity Guidance for Schools](#) and [Wildfire Smoke: A Guide for Public Health Officials](#). The guidelines are designed to assist in your decision-making process.
- These guidelines are intended to assist school districts in making decisions when air quality is poor. *School closure and event cancellation is ultimately a school district-by-school district decision based on local conditions.*
- The impact of smoke depends on the sensitivity of the person and the length of exposure, as outlined in the Air Quality Activity Recommendations chart. Children with respiratory or heart conditions are vulnerable to poor air quality and may require extra precautions. School districts should advise parents to consult with their family health care provider.

Using the Guidelines:

- School districts can monitor local air quality conditions by visiting the AirNow Fire and Smoke Map at fire.airnow.gov. Additional tools as well as daily forecasts are available at www.butteairquality.com. See Page 2 of these Guidelines for more information on obtaining air quality information.
- School districts should make decisions about school activities and closures based on air quality measurements and local conditions, such as the availability and quality of school building air filtration and direct observation of onsite indoor/outdoor air quality.
- School districts may wish to consult with the Butte County Air Quality Management District regarding outdoor air and the Butte County Public Health Department regarding indoor air before making a final determination.
- School districts should report any school closures to the Butte County Office of Education for media notification as well as announce closures to families using normal school closure procedures.

Level 6: Hazardous Air Quality

- Hazardous air quality occurs when the AQI reading is 301 or higher and visibility is less than one mile.
- During School recess and P.E. class, students should stay indoors and activity levels should be light.
- Schools should consider cancelling or rescheduling outdoor sporting events and practices.

Additional Information & Resources

Air Quality Tools:

- There are a variety of sources to obtain air quality information for locations in Butte County. Below are websites recommended by the Butte County Air Quality Management District. Feel free to contact the Air District at 530-332-9400 for assistance. These resources are also linked to at the Air District's website: www.butteairquality.com.

AirNow Fire and Smoke Map: <https://fire.airnow.gov>

- The Airnow Fire and Smoke Map is the primary resource for tracking smoke impacts. Data shown comes from official monitoring stations and low-cost particulate sensors. The network of particulate sensors in Butte County continues to expand for better coverage. Click on a location for trends and health messaging for that AQI level.

AirNow: www.airnow.gov

- Only shows official monitoring data (no sensors). Best for tracking ozone (summertime smog). To use, go to www.airnow.gov and enter your zip code.

Purple Air: www.purpleair.com/map

- Purple Air sensors are low-cost particulate sensors that instantaneously estimate PM2.5 levels. Although the data is experimental, unofficial, and not quality controlled, Purple Air sensors can help show air quality trends in areas without official monitoring stations. Many local sensors are used in the AirNow Fire and Smoke Map. Good for tracking very short-term changes in AQI.
- If using the Purple Air site, click on MAP, then go to the lower left of the screen to the box labeled "Map Data Layer." Change the conversion drop-down on the right to **US EPA** instead of none to adjust the data to reflect the current science on the readings for these sensors.

About Masks:

- When air is unhealthy, the best option is to reduce physical activity and stay indoors with windows/doors closed. If indoor temperature is high, get to a location with clean filtered air such as a public library, shopping mall or other building with heating, ventilation, and air conditioning (HVAC) system filtration.
- N95 masks have limitations. Surgical gauze masks provide no protection from smoke. N95 respirator masks are designed for professional use by trained adults and **are not intended for children**. Therefore, N95 masks are not recommended for children by air quality districts/public health agencies.
- N95 masks require a perfect seal to be effective. If these masks are not fitted correctly, they will provide little if any protection.
- N95 masks can exacerbate breathing difficulty for sensitive breathers or potentially cause deeper breathing, which draws particulates deeper into the lungs if they are not fitted correctly.
- N95 masks must be kept clean and replaced frequently to be effective. If a mask is used, please refer to the mask manufacturer's recommendations on cleaning and replacement intervals

Recommendations for Ensuring Cleaner Air at School:

- Install and maintain HVAC air conditioning system with medium or high-efficiency filtration. Install high efficiency particulate air (HEPA) filters if possible. See below for U.S. EPA recommendations for air filtration. <https://www.airnow.gov/sites/default/files/2021-07/indoor-air-filtration-factsheet.pdf>
- Install portable HEPA filters in classrooms where possible. Approved filters: <https://www.arb.ca.gov/research/indoor/aircleaners/certified.htm>
- Be sure that portable filters are sized correctly for the room.
- Ensure doors and windows are sealed tightly. Minimize air movement in and out of room.