

## VENTILATION FAQ'S

### **What is Ventilation?**

Mechanical Ventilation is the intentional introduction of outdoor air into a space. Ventilation is mainly used to control indoor air quality by diluting and displacing indoor pollutants; it can also be used to control indoor temperature, humidity, and air motion to benefit thermal comfort.

### **What COVID-19-related guidelines are utilized to determine best practices for Heating Ventilation and Air-Conditioning?**

BCPS is utilizing COVID-19-related guidelines developed by the Centers for Disease Control (CDC) and American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) to make informed heating ventilation and air-conditioning (HVAC)-related decisions.

### **How do HVAC systems work in BCPS buildings?**

Air is supplied to building spaces by a variety of mechanical equipment. This equipment controls the amount of outside air that is brought into a building as well as how the air is recirculated within the building. The equipment also contains air filters that filter both the outside air and the recirculated air. Mechanical equipment mixes a portion of the air from the space with a portion of outdoor air. All of this can be controlled and balanced as indicated by the mechanical code, the type and amount of occupancy of the building, and the air conditions immediately surrounding the building.

### **What did BCPS do to verify ventilation is functioning correctly in schools?**

Inspections of the ventilation and circulation systems have been performed at all schools to verify the ventilation, circulation, and filtration is functioning as designed. Identified repairs, modifications, and adjustments to ventilation, circulation, and filtration equipment at all schools has been completed. Any subsequent issues related to ventilation must be reported to the 24/7 Emergency Call Center (443-809-6488) and will be handled on a priority basis.

### **What other measures are being taken to improve ventilation in schools?**

Mechanical equipment will operate as if the buildings were at 100% occupancy for two hours prior to the start of school, and again for two hours after the end of the school day. Mechanical equipment will increase outdoor air volumes as much as possible, given the equipment design and the temperature and humidity conditions immediately surrounding the building. Facilities' staff will continue to perform scheduled preventive maintenance on HVAC systems.

### **How do I know if my building's HVAC systems provide enough ventilation or fresh air?**

Fresh air requirements are based on occupant density and the functions of the space, and schools are designed to meet or exceed mechanical code and the ASHRAE recommendations. By design, all mechanical systems are required to provide enough ventilation for maximum occupancy of spaces. With reduced numbers of staff and students on campus, building mechanical systems will provide higher than required amounts of fresh air. Also, schedules have been modified (as described above) to provide additional flushing of the building's air prior to and after occupancy.

### **Should I open my windows (if they do open)?**

Opening of windows is prohibited in spaces with mechanical ventilation. Mechanical ventilation systems are carefully designed to provide filtered, tempered air as needed and provide a precise quantity of air in all spaces. Designed quantities of air are carefully mixed with outside air and recirculated air to maintain the needed temperature and ventilation requirements of the space. By opening a window in the building, the entire equilibrium of desired quality and quantity of air in all spaces is negatively impacted by introducing non-regulated air and pollutants.

### **In reviewing classroom ventilation, are air changes the governing indicator?**

The design of the mechanical systems in schools follow code required recommendations for ventilation calculations that are based on the number of occupants (students and staff) in that space (classroom, media center, gymnasium, etc.) as well as the volume of that space. The term air changes per hour (ACH) is a calculation utilizing the volume of air flow per minute for the volume of the space. The code does not set an ACH that must be met.

### **I have an old school and old ventilation system isn't it dangerous?**

The CDC's science brief, [Transmission of SARS-CoV-2 in K-12 schools | CDC](#), based on reviews of COVID transmission in schools during the pandemic, did not attribute COVID transmission in schools to inadequate ventilation. Functioning ventilation systems are important, and efforts have been made to ensure that ventilation systems are functioning as designed.