



What you need to know about your school's new carbon dioxide (CO₂) monitors

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1. A CO₂ monitor is a device used to measure the concentration of CO₂ in a room.
2. In the context of SARS-CoV-2 transmission, CO₂ measurements are not a reliable proxy of risk to airborne exposure to the virus (SAGE¹, 2020). Nevertheless, CO₂ measurements can be used to identify poorly ventilated multi-occupancy spaces.
3. The Department of Education has funded the provision of a number of portable CO₂ monitors for schools to use if they wish. The use of CO₂ monitors can provide a useful general indication that areas/rooms within a building may not be adequately ventilated and can enable occupants to become familiar with the impact that activities, outdoor weather and window openings have on levels of good ventilation within a room. This information can be used to inform strategies for improving ventilation.
4. The number of units provided will depend on the size of your school.
5. Your monitors will be delivered directly to the school over the coming months.
6. The monitors are self-contained, will come pre-set, ready to go and require no adjustment.
7. The monitors are simple to operate just unwrap it, plug it in and it starts to work.
8. The monitor is electrically powered and can operate in much the same manner as a mobile phone - either powered via a USB cable from a laptop/ computer or from the mains power adaptor. Monitors only work when receiving electrical power.
9. The monitor should be placed at least 0.5 metres away from people and should not be placed near windows or ventilation grilles.
10. In order to make best use of the portable monitors, their use should be focussed to those rooms where most beneficial (i.e. not placed in an idle room or in a large well-ventilated area with few pupils) and used across rooms as necessary.
11. The monitor can provide information to occupants to indicate levels of poor ventilation. Both the Chartered Institute of Building Services Engineers² and the Air Infiltration and Ventilation Centre³ advise that CO₂ concentrations above 1400 – 1500 ppm are likely to be indicative of poor ventilation (CIBSE, 2020, AIVC, 2021) and therefore require ventilation to be increased by opening windows, doors etc.

The monitor gives a digital reading but also has an LED display that changes colour like a traffic light. They have pre-set specific bands operating in a “traffic-light style”

The lower the CO₂ reading the higher the level of ventilation present in multi occupancy rooms and the higher the ventilation dilution effect that is possible while maintaining an appropriate balance between ventilation and comfort levels.

For information on ways to optimise ventilation, refer to the guidance provided in **Practical Steps for the Deployment of Good Ventilation Practices in Schools.**

1. SAGE UK is a Scientific Advisory Group for Emergencies providing scientific and technical advice to support UK government decision makers during emergencies.
2. CIBSE: Chartered Institute of Building Services Engineers
3. The Air infiltration and Ventilation Centre (AIVC) is the International Energy Agency's information centre on energy efficient ventilation