

Ventilation of teaching spaces

Questions you need to ask

N.B. This is NOT DfE guidance, neither is it particularly compliant with the DfE guidance, which is impossible to achieve in most buildings and may be difficult to assure, even where it is theoretically achievable. It is an attempt to give you advice that you and your teams can apply practically in schools and the sort of spaces that your 'OOSS' activity will routinely happen in.

singing, wind and brass playing should not take place in larger groups such as choirs and ensembles, or assemblies unless significant space, natural airflow (at least 10l/s/person for all present, including audiences) and strict social distancing and mitigation as described below can be maintained.

*Guidance for full opening: special schools and other specialist settings
Updated 8 September 2020*

...I can't believe they can expect anywhere to have that kind of ventilation...Thinking about it more the pressure that kind of air flow in a small room like a classroom could even raise the pressure in a room to a point that it has potential to damage peoples hearing over extended periods of time.

Comment from an informed correspondent (PhD, MChem, BSc(Hons))

*Following today's session I called a former colleague who is something of an industry expert (former chairman of Chartered Institute of Building Services Engineers and recently working on the design of the covid Nightingale hospitals). He confirmed my concerns that the 10l/s per person requirement would in the vast majority of cases **NOT** be complied with for full class sizes. For a typical classroom size and ventilation this would be nearer half class sizes. Mechanical systems are typically only designed to 8l/s per person and naturally ventilated rooms are nearer 5 l/s per person.*

Comment from a member with professional experience

Schools with mechanical ventilation systems

This will certainly include recent and new build schools; some older buildings may have ventilation in some spaces or complete retro-fitted ventilation systems.

| Question | Response |
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| Is the ventilation system installed in the spaces you/your teams will be teaching? | Yes – ask the next question. No – go to the questions for schools without mechanical ventilation. |
| What is the capacity of the system in the spaces where you/your teams will teach? | It will probably have a working flow and a maximum flow. If it can manage an airflow of 10l/sec per person, you will need to check whether sound and draft levels are acceptable and how long the system can run at that speed. It may be quoted in air changes per hour, in which case, ideally, you want a number approaching 12. |

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| Does the system EXTRACT air and REPLACE with clean air from outside? | Yes – you can teach safely. Check regularly that the vents in the spaces are not obstructed. No – it’s unlikely that the school will be willing to have the system adapted, so ask about filtration. |
| If the system recirculates some or all of the air, does it use HEPA filtration? | Yes – ask about maintenance. No – HEPA filtration is the only acceptable standard for recirculated air. Leave the ventilation off and go to the questions for schools without mechanical ventilation. |
| If the system uses HEPA filtration, are the filters replaced according to the manufacturer’s instructions? | We understand that the standard is six monthly. Yes – you can teach safely. Check regularly that the vents in the spaces are not obstructed. No – leave the ventilation off and go to the questions for schools without mechanical ventilation. |

Schools without mechanical ventilation systems

| Question | Response |
|---|---|
| Can you open windows (or skylights) to the outside air in the spaces you/your teams will be teaching? | Yes – ask the next question. No, but the door opens into a well-ventilated space – ask about scheduling breaks to ventilate using a fan. No – it is unlikely that you can teach in the space safely. |
| Can you keep a door open to create ventilation across the space? | Yes – you can probably teach safely. No – ask the next question. |
| Can you use a fan to increase the flow of fresh air? | Yes – you can probably teach safely (but see the cautionary footnote) ¹ . No – consider breaks to air the space. |
| Can you schedule regular breaks to leave the space empty and ventilate? ² | Yes – you can probably teach safely. No – it is unlikely that you can teach in the space safely. |

Rehearsal length and ventilation

Accumulation of aerosols can be limited by keeping rehearsals short: no more than 40 minutes.

Ventilate the empty room for at least 15 minutes before another group uses the space. If there is any way to measure it, aim for one complete air change (three or more would be better).

Good ventilation is not an alternative to other control measures.

¹ **N.B.** position any fan *very* carefully to ensure that it is moving old air towards a window or fresh air into the room; just blowing stale air around other occupants is much worse than no fan at all.

² The frequency and length of breaks necessary will depend on the activity (a trombone group will create more aerosol accumulation than an individual guitar lesson in the same room) and the effectiveness of the ventilation.