



Mike Braun
Governor

Lindsay M. Weaver, MD, FACEP
State Health Commissioner

September 3, 2026

RLP #665

Lemuel Hucks, Head of School
1223 Begonia Street
Demotte, IN 46310

Dear Mr. Hucks:

The purpose of this letter is to report the result of our indoor air quality evaluation at Demotte Christian Grade School on August 25th. This evaluation was conducted at the request of a concerned citizen to address the health concerns of the occupants that may be related to indoor air quality at the school.

The Indiana State Department of Health's Microbiological Laboratory incubated and counted the fungal and bacterial units. The total colony forming units per cubic meter of air (CFU/M³) were computed by adding the fungal and bacterial counts and dividing the sum by the total volume of the sampled air. Please refer to Table 1 for further details. Fungal (mold) concentrations inside the building were lower than the outdoor concentration. There are no limits established as an acceptable concentration of fungal counts indoors. There are guidelines that recommend having lower concentrations indoors compared to outdoors.

The Carbon dioxide (CO₂) levels inside were measured with the highest reading at 1728 CO₂ per million parts of air (ppm). The School Indoor Air Quality rule, 410 IAC 33-4-2 states "(a) 'Outdoor Air shall be supplied to classrooms when occupied. (b) Carbon dioxide concentrations in the breathing zone shall never exceed 700 ppm over the outdoor concentration, in this case giving a limit of 1090 ppm. ASHRAE (American Society of Heating, Refrigeration, and Air Conditioning Engineers) recommends 15 cfm (cubic feet per minute) of outdoor air per person for classrooms.

To **promote**, **protect**, and **improve** the health and safety of all Hoosiers.



The outdoor relative humidity was determined at 49 percent (%), and the indoor relative humidity had a range of 46% to 56%. The American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) recommend the relative humidity in habitable spaces preferably should be maintained between 30% and 60% to minimize growth of allergenic and pathogenic organisms. Humidity levels above 50% have been found to increase the population size of molds, fungi and mites that may cause allergies. The evidence suggests that humidity levels should be maintained between 40% and 50% to reduce the incidence of upper respiratory infections and to minimize the adverse effect on people suffering from asthma or allergies. Such a range would be hard to maintain, however, exposure to higher or lower levels are unlikely to affect the health of most people.

Based on our measurements and our visual inspection we note the following:

- 1) **410 IAC 33-4-2 (b): states “carbon dioxide concentrations in the breathing zone shall never exceed 700 ppm over the outdoor concentration”.** Several classrooms exceeded the carbon dioxide concentration limit of 1090 ppm. Please ensure the mini-split HVAC units can bring outside air into the classrooms. These units must supply adequate amounts of fresh air and operate while the classrooms are being occupied as specified in the rule.
- 2) **410 IAC 33-4-6 (d): states “when mold or mold-contaminated material is discovered, corrective action shall be taken within forty-eight (48) hours. Mold is not to be growing in the school.”** Mold growth was noticed on several ceiling tile in the music room. Please inspect the plenum space above the tile for active water leaks and /or drips. Published guidelines such as those available by EPA (Environmental Protection Agency) or CDC (Centers for Disease Control) should be used for removing contaminated materials with mold growth. We suggest using air scrubbers during remediation.
- 3) **410 IAC 33-4-6 (c): states “when a water leak or intrusion is discovered, corrective action shall be taken within forty-eight (48) hours”.** We noticed there were several stained ceiling tile in the school. Please repair any active water leaks and/or drips. It is imperative that any source of water intrusion be



addressed to ensure mold growth does not return. Replace any stained ceiling tile as they are discovered.

- 4) **410 IAC 33 also requires schools to have written policies for Vehicle Idling, Animals in Classrooms, and Chemical Management.** The school did not have policies. The rule requires all schools to have these written policies in place.
- 5) **410 IAC 33 requires schools to designate an individual as their Indoor Air Coordinator and states "The IAQ Coordinator's contact information shall also be published: 1) on the school website and 2) in the school handbook".** The school needs to designate an Indoor Air Coordinator and ensure they are meeting the requirements specified in the rule.
- 6) **410 IAC 33-5 a) states "Schools shall establish and maintain a written procedure for routine maintenance of HVAC systems".** This procedure shall include but is not limited to the following items: 1) A schedule for inspecting the HVAC system including an annual inspection. 2) Ensuring that all supply and return air pathways in the ventilation system are unobstructed and perform as required. 3) A schedule for cleaning the HVAC coils annually at a minimum. 4) A schedule for inspecting and changing filters. 410 IAC 33-5 b) states "Schools shall establish and maintain written maintenance logs covering cleaning and filter changes of the HVAC systems for a minimum of three (3) years. These written procedures and logs do not have to be maintained on site, but there needs to be a means of making them available for our inspector's review.

The School Indoor Air Quality rule 410 IAC 33-6-2 requires this report and any response to this report be posted within (5) days of receipt. The report(s) shall remain posted for (14) consecutive days both at the school building stated in the report, and on the school's website, where it is accessible to students, parents, and employees.

410 IAC 33 requires you to respond within 60 days of any actions you take based upon this report.

The School Indoor Air Quality rule 410 IAC 33 is available at <https://www.in.gov/health/eph/files/A00330.pdf>.



We have prepared Best Practices documents to aid schools in developing the policies required under this rule at <https://www.in.gov/health/eph/files/Indoor-Air-Quality-in-Schools-Best-Practices-Manual.pdf>

Individuals experiencing health problems should seek medical advice from a physician.

If you have questions, I can be reached at 317.682.9030.

Sincerely,

A handwritten signature in black ink, appearing to read 'Rick Plew'.

RICK PLEW, Industrial Hygienist
Indoor Air Section, Environmental Public Health Division
Enclosure



TABLE 1

Demotte Christian Grade School
1223 Begonia Street
Demotte, IN 46310

Computed Microbiological Air Sample Results
Taken August 25, 2026

Sample	Location	Persons	Temp °F	RH %	CO2 ppm	Fungal CFU/M ³	Bacterial CFU/M ³
5	Front Hallway	4	75	46	972	120	220
6	Room 5	15	74	49	667	200	120
7	Room 8	18	75	50	1372	340	60
8	Music Room	17	73	52	978	240	260
9	Room 22	21	74	51	1583	240	280
10	Room 19	3	73	51	1544	180	80
11	Library	24	72	56	1161	300	60
12	Room 10	2	73	50	1046	100	0
13	Room 14	15	72	47	1366	260	60
14	Room 13	17	74	48	1728	140	20
15	Outdoor	0	75	49	390	520	60

Notes:

% -----percent

ppm-----parts per million

CFU/M³—colony forming units per cubic meter of air