

Healthier Classrooms, Measurable Results

Anonymized Case Study | Arizona Elementary School





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Client and site identifiers withheld under NDA.



Case Study Detail	Information
Market Vertical	Education / K-12 Facilities
Location	Arizona
Case Study Type	Measured Performance Review / Field Validation
Prepared By	PuriFi Labs
Document Status	Anonymized case study
Client Site	Confidential Arizona elementary school

1. Executive Summary

An Arizona elementary school participated in an **Indoor Environmental Quality (IEQ) Assessment** to evaluate measurable changes in classroom air quality following the installation of PuriFi IQ indoor air purification technology.

Because the project is subject to a nondisclosure agreement, the school's name, district name, identifying images, personnel references, school branding, mascots, and room identifiers have been intentionally withheld from this version.

Independent third-party testing compared pre-installation baseline conditions with post-treatment results across multiple indoor locations. The assessment evaluated airborne particulate matter, airborne culturable bacteria, surface bacteria, airborne culturable fungi, total airborne mold spores, VOCs, formaldehyde, carbon monoxide, carbon dioxide, temperature, and relative humidity.

The post-treatment review showed meaningful reductions across several key indicators associated with indoor air and surface quality, including lower airborne particulate matter, lower airborne culturable bacteria, lower surface bacterial samples, and fewer airborne culturable fungi.

Executive Summary Element	Summary
Client / Site	Confidential Arizona elementary school
IAQ Opportunity	Evaluate measurable air and surface quality changes in real classroom conditions.
Solution Deployed	PuriFi IQ indoor air purification systems integrated with the facility HVAC environment.
Measured Result	99.7% lower surface bacterial samples; 89% fewer airborne culturable fungi; 82% lower airborne culturable bacteria; 62% lower airborne particulate matter.
Operational Value	Supports cleaner learning environments, facility confidence, modernization discussions, and Proof. Not Promises.® positioning.



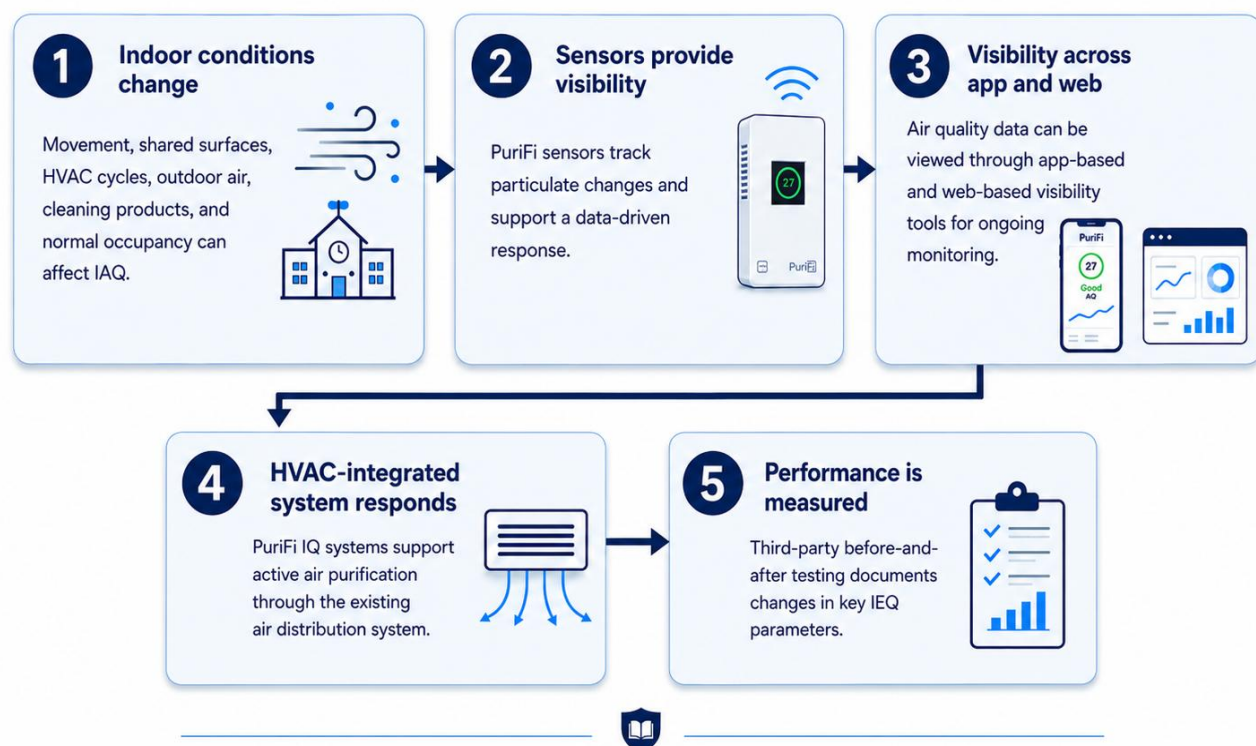
2. The Challenge / Opportunity

Schools are high-occupancy environments where indoor air quality can change quickly throughout the day. Student movement, classroom activity, shared surfaces, HVAC cycles, cleaning products, outdoor air intrusion, and normal respiratory activity can all affect the indoor environment.

For this elementary school, the objective was not simply to make a general wellness claim. The objective was to evaluate whether PuriFi could support measurable improvement in real-world classroom conditions using independent before-and-after testing.

Challenge / Opportunity	Evidence / Context	Why It Matters
Airborne particulates	Classroom activity, movement, tissues, dust, aerosols, and HVAC cycles can shift particulate levels.	Supports comfort, cleanliness perception, and classroom air quality management.
Biological load	Airborne bacteria can be affected by occupancy, coughing, sneezing, talking, and shared air.	Relevant to student/staff wellness and high-traffic learning environments.
Surface transfer	Shared desks, tables, doorknobs, supplies, and electronics are high-touch points.	Supports a more complete air-and-surface quality story.
Visibility gap	Schools often lack a simple way to show measurable IAQ performance.	Supports Proof. Not Promises.® and facility modernization conversations.

How PuriFi Supports a School IAQ Response



3. PuriFi Solution Deployed

PuriFi IQ indoor air purification systems were installed to support active air purification through the existing HVAC infrastructure. The systems were selected because the environment required more than a standalone, passive approach. The project needed a measurable, repeatable way to support indoor air quality in occupied learning spaces.

The PuriFi approach provided HVAC-integrated air purification, active air treatment, sensor-based visibility into particulate changes, and a non-disruptive implementation model designed for school environments.

Solution Component	Status / Quantity	Purpose / Notes
PuriFi IQ Generator	18 IQ Generators	HVAC-integrated indoor air purification system used for the evaluated school environment.
PuriFi Sensor	18 Smart Sensors	Supports visibility into particulate changes, including PM1, PM2.5, and PM10 where available.
Smart Hub / Connectivity	9 Smart Hubs	Supports system communication, visibility, and reporting where applicable.



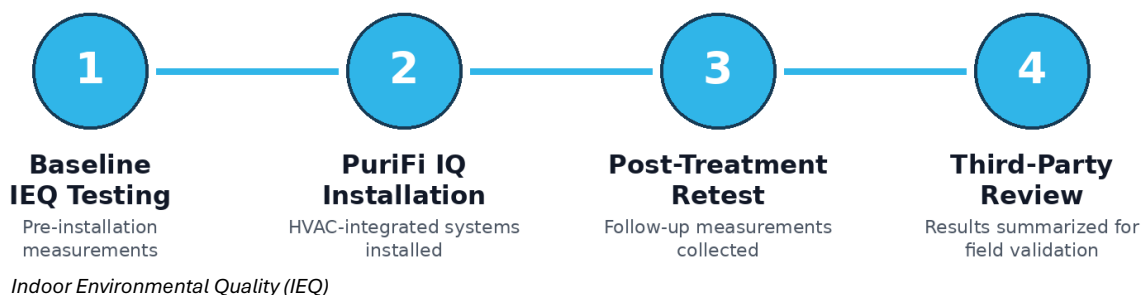
4. Measurement Approach

The performance review was based on independent field testing conducted before and after installation. Baseline testing established pre-treatment indoor conditions. Post-treatment testing was then completed after PuriFi IQ systems were installed.

The assessment included six indoor locations and measured both airborne and surface conditions. Microbial samples were submitted under chain of custody to an independent laboratory for analysis.

Because school environments are dynamic, results should be interpreted as point-in-time measurements under real operating conditions. Occupancy, movement, HVAC operation, cleaning product use, outdoor air, and classroom activity can all influence the measured conditions at any given moment.

Measurement Timeline



Measurement Category	Included in Review
Airborne particles	Particle size ranges including 0.3, 0.5, 1.0, 2.5, 5.0, and 10.0 microns.
Microbial air samples	Culturable airborne bacteria and culturable airborne fungi.
Surface samples	Culturable bacteria collected from high-touch surfaces.
Mold spores	Total airborne mold spore counts, with results varying by location.
Chemicals and gases	VOCs, formaldehyde, carbon monoxide, and carbon dioxide.
Comfort parameters	Temperature and relative humidity.

5. Results Dashboard

The post-treatment review showed measurable improvement across several key IAQ indicators. The results below are presented as an anonymized summary for case study use. The full source report should remain controlled and redacted before any external sharing.

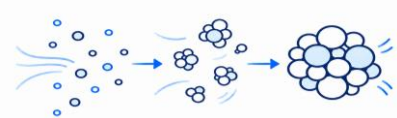
Measured IAQ Results Snapshot

Post-treatment results compared with baseline measurements from independent field testing.



IAQ Parameter	Post-Treatment Result	Case Study Positioning
Surface bacterial samples	99.7% lower	Supports air-and-surface quality story in high-touch school environments.
Airborne culturable fungi	89% fewer	Supports measurable reduction in viable airborne fungal samples.
Airborne culturable bacteria	82% lower	Supports measurable reduction of sampled airborne biological load.

PuriFi supports particle agglomeration, helping smaller airborne particles cluster into larger particles that can be more effectively managed through existing HVAC airflow and filtration. Because bacteria, viruses, and other biological contaminants can travel within airborne particles, droplets, and aerosols, this active HVAC-integrated approach supports a more complete air-quality strategy and measurable IAQ improvement in real-world classroom environments.



6. Results Interpretation

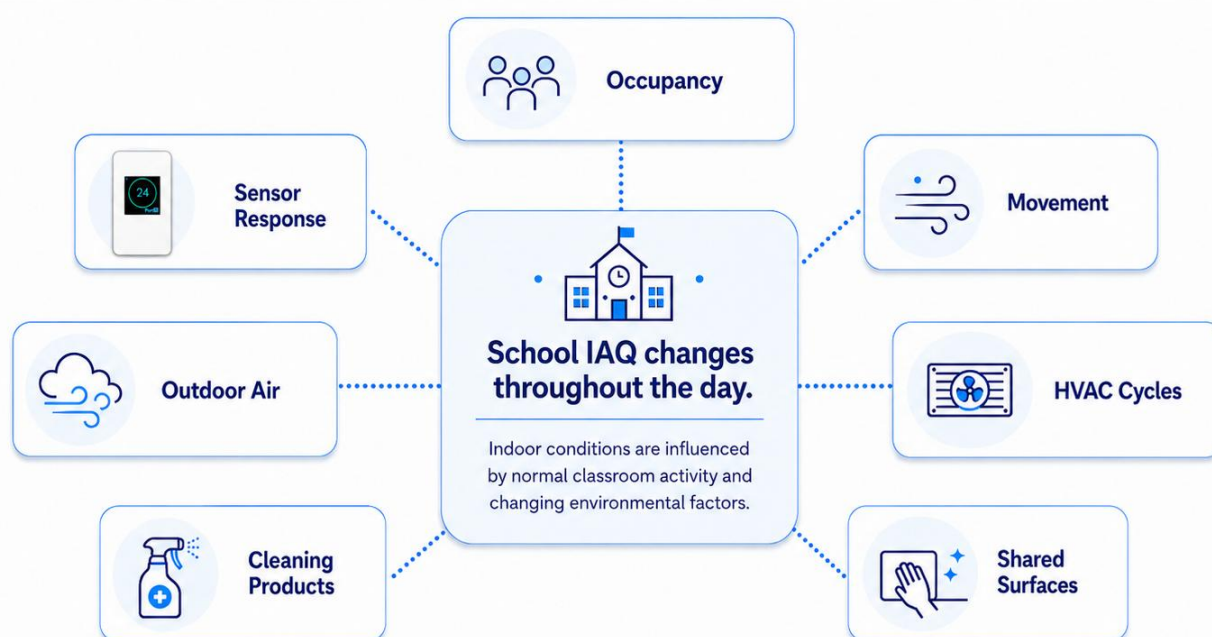
The strongest case study value is that the results were collected in an operating school environment rather than a controlled, laboratory-only setting. That matters because classrooms are active spaces. Students move, shared surfaces are used repeatedly, cleaning products may be present, HVAC systems cycle, and outdoor air can enter the building.

Despite those changing conditions, the post-treatment review showed lower levels across several measured IEQ indicators after PuriFi IQ systems were installed.

The results should be positioned as a field validation of measurable performance, not as a guarantee that every room will show identical results at every sampling moment. This distinction protects credibility while still allowing PuriFi to communicate the strength of the reductions observed in the review.

What the Data Supports	How to Say It
Measurable improvement across key IEQ indicators	PuriFi supported lower airborne particulates, lower airborne culturable bacteria, lower surface bacteria, and fewer airborne culturable fungi in the evaluated school environment.
Real-world performance relevance	The review reflects occupied, variable school conditions rather than only controlled testing.
Responsible limitations	Total airborne mold spore results varied by location and should be described separately from the stronger reduction categories.

Real-World Conditions Matter



PuriFi helps schools respond with real-time visibility and HVAC-integrated air purification.



Third-party review measured performance under real operating conditions.

7. Why This Matters for Schools

Indoor air quality is directly tied to how a school feels, functions, and supports its occupants. Schools are not intended to be sterile environments; however, they do benefit from systems that help reduce measured airborne particulates and biological load in occupied spaces.

For administrators, facilities teams, nurses, teachers, parents, and community stakeholders, the value is not only cleaner air. The value is having a measurable way to support healthier learning environments and communicate a stronger facility standard.

Impact Area	Why It Matters
Student and staff environment	Supports cleaner occupied spaces where students and staff spend extended periods of time.
Facility confidence	Creates a measurable IAQ story beyond general wellness claims.
School nurse and wellness relevance	Supports conversations around shared spaces, high-traffic areas, and daily occupant exposure.
Modernization alignment	Fits within broader discussions around healthy buildings, facility upgrades, and education infrastructure planning.
Community communication	Help schools communicate investment in indoor environmental quality when approved language is available.

PuriFi's Value for Schools

Cleaner air. Greater confidence. Measurable results.



PuriFi helps schools build healthier environments that support learning, performance, and trust.



Measured. Transparent.
Accountable.

8. Key Benefits Demonstrated

The third-party review demonstrated multiple measurable benefits across both air quality and surface quality indicators in the evaluated school environment. Taken together, the results show a clear improvement profile that supports cleaner indoor conditions and a more complete air-and-surface quality approach.

Benefit	Relevance
Measurable IAQ visibility	Documents lower measured results across multiple IEQ categories.
Active air purification	Supports active treatment through HVAC-integrated air purification.
Air-and-surface quality story	Combines reductions in airborne categories with surface bacterial sample reductions.
Education-market relevance	Applies to classrooms, nurse offices, shared spaces, and other high-occupancy school environments.
Scalable facility strategy	Provides a repeatable model for districts and education facilities evaluating IAQ modernization.

9. Strategic Relevance

This anonymized case study gives PuriFi a credible education-market example while remaining fully respectful of the NDA. By focusing on measurable results, third-party validation, and real-world school conditions, it allows PuriFi to share the impact of the project without identifying the participating school, district, staff, students, or location-specific details.

Best-fit audiences include school districts, private schools, charter schools, facilities directors, school nurses, superintendents, parent organizations, bond and modernization committees, architects, engineering partners, and indoor air quality consultants.

10. Conclusion

The third-party Indoor Environmental Quality review demonstrated that PuriFi IQ systems supported measurable improvement across several key classroom air quality indicators in an Arizona elementary school environment.

Post-treatment testing showed lower airborne particulate matter, lower airborne culturable bacteria, lower surface bacterial samples, and fewer airborne culturable fungi. While total airborne mold spore results varied by location, the overall findings support PuriFi's role as a measurable, active air purification solution for education environments.

This field review reinforces the importance of evaluating indoor air quality under actual operating conditions. In occupied school environments, airborne particles and biological contaminants are influenced by movement, HVAC cycles, shared spaces, and daily classroom activity. Together with PuriFi's broader third-party testing foundation for biologically relevant contaminants, including bacteria and viruses, this Arizona school review demonstrates real-world field performance through measurable reductions in airborne culturable bacteria, surface bacterial samples, airborne culturable fungi, and particulate matter.

For schools seeking to improve indoor environmental quality, support facility modernization, and provide greater confidence to students, staff, and families, PuriFi offers more than an air purification system. It offers measurable performance.

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