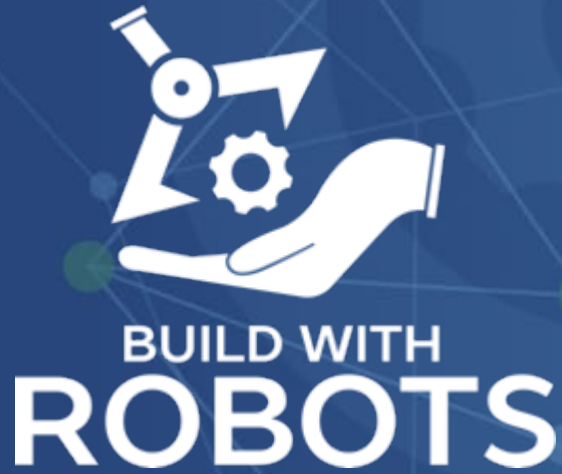


McCurdy Charter School Efficacy Results

Build With Robots
McCurdy Charter School
September 15, 2022



Synopsis



Build With Robots (BWR), a GBAC Advocate, partnered with McCurdy Charter School in their mission to provide a safe learning environment for the students of northern New Mexico.

The efficacy of fogging a standard classroom with a Green Clean Institute certified and EPA List N and List Q certified disinfectant was determined. Breezy Blue Response provides a robust, consistent, and quick disinfection solution.

Testing Protocol

*The correlation curve linking measured hydrogen peroxide concentration to pathogen kill rate shows:
≥ 97 mg/L : > 99.9% pathogen elimination rate*

- Location: McCurdy Charter School, Española, NM
- Disinfectant: Breezy Biocare RTU
- Disinfectant Equipment: BWR Stationary Fogger
- Approx. 25.5' x 27' x 9' Classroom Tested

- H₂O₂ test strips were placed in 10 various locations throughout the classroom.
- The classroom was fogged for 45 seconds with the door closed.
- Dwell time: 15 minutes.
- The door and windows were opened after the dwell time to help circulate the air.

Classroom Test



= Fogging Locations
and Direction



= Test Strip
Locations

8. Chairback

10. Ceiling

5. Ceiling

6. Desk

9. Sink Handle

1. Door Handle

7. Desk

11. Control*

4. Desk

3. Teacher's Desk

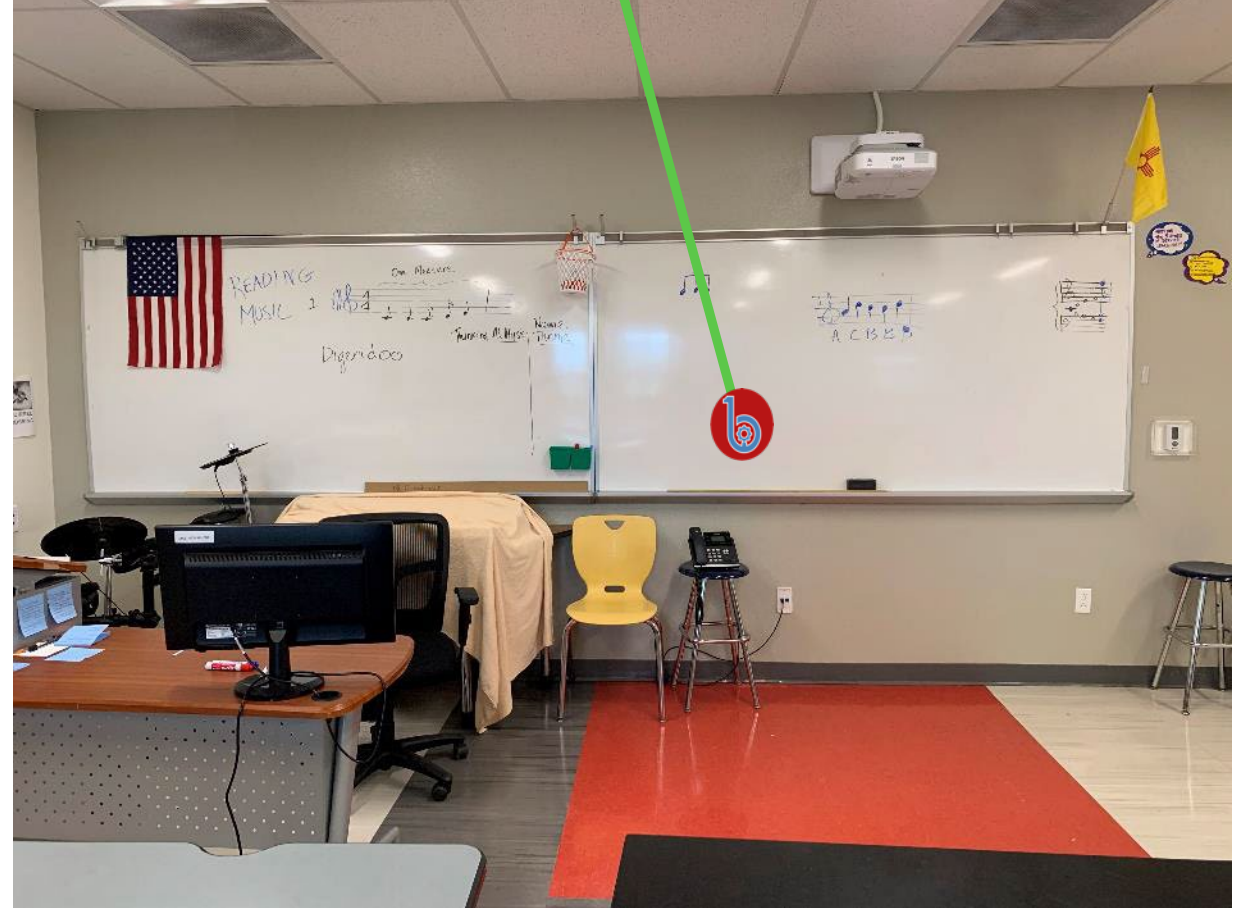
2. Whiteboard

BUILD WITH
ROBOTS

1. Door Handle
> 99.9 mg/L H₂O₂
99.9% Pathogen Elimination



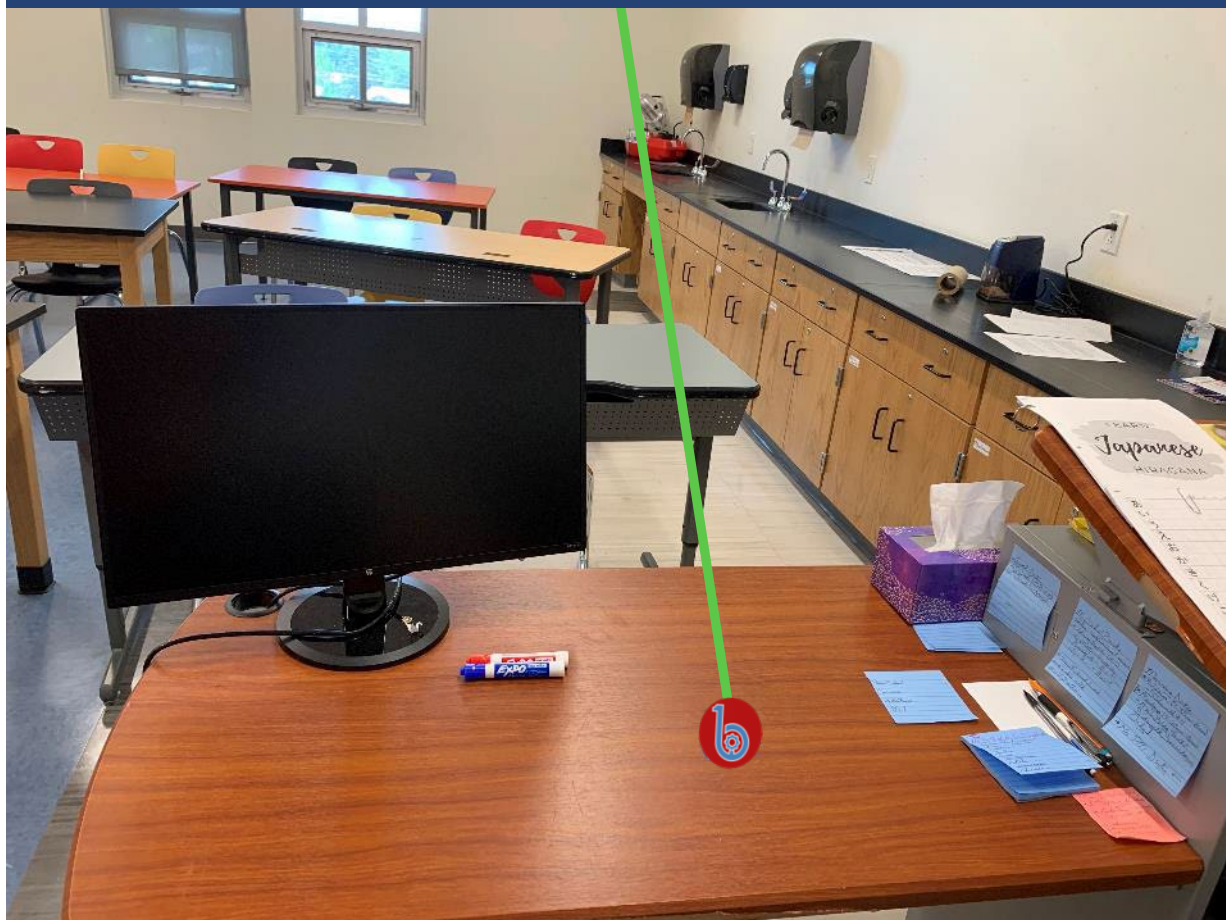
2. Whiteboard
> 99.9 mg/L H₂O₂
99.9% Pathogen Elimination



3. Teacher's Desk

> 99.9 mg/L H₂O₂

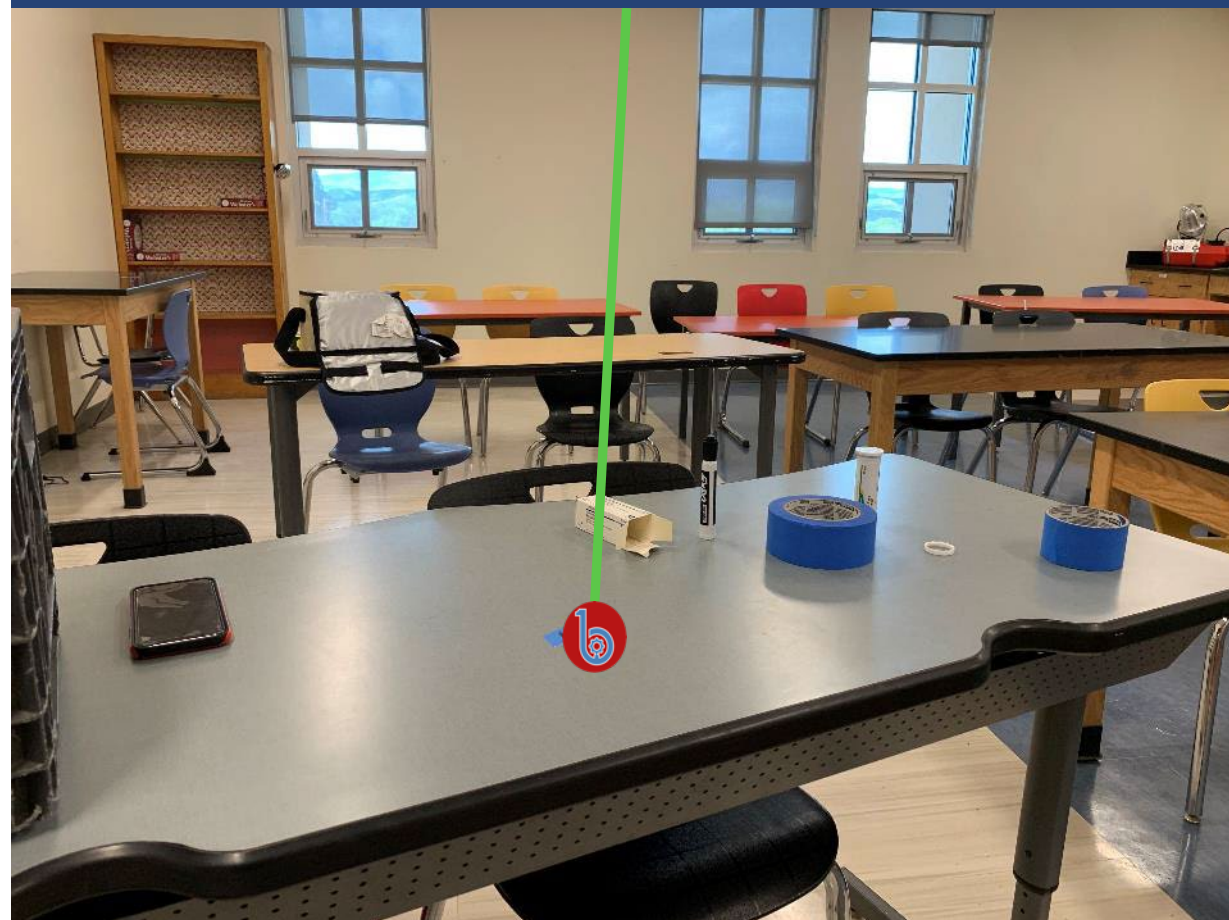
99.9% Pathogen Elimination



4. Desk (front row)

> 99.9 mg/L H₂O₂

99.9% Pathogen Elimination



5. HVAC Intake
> 99.9 mg/L H₂O₂
99.9% Pathogen Elimination



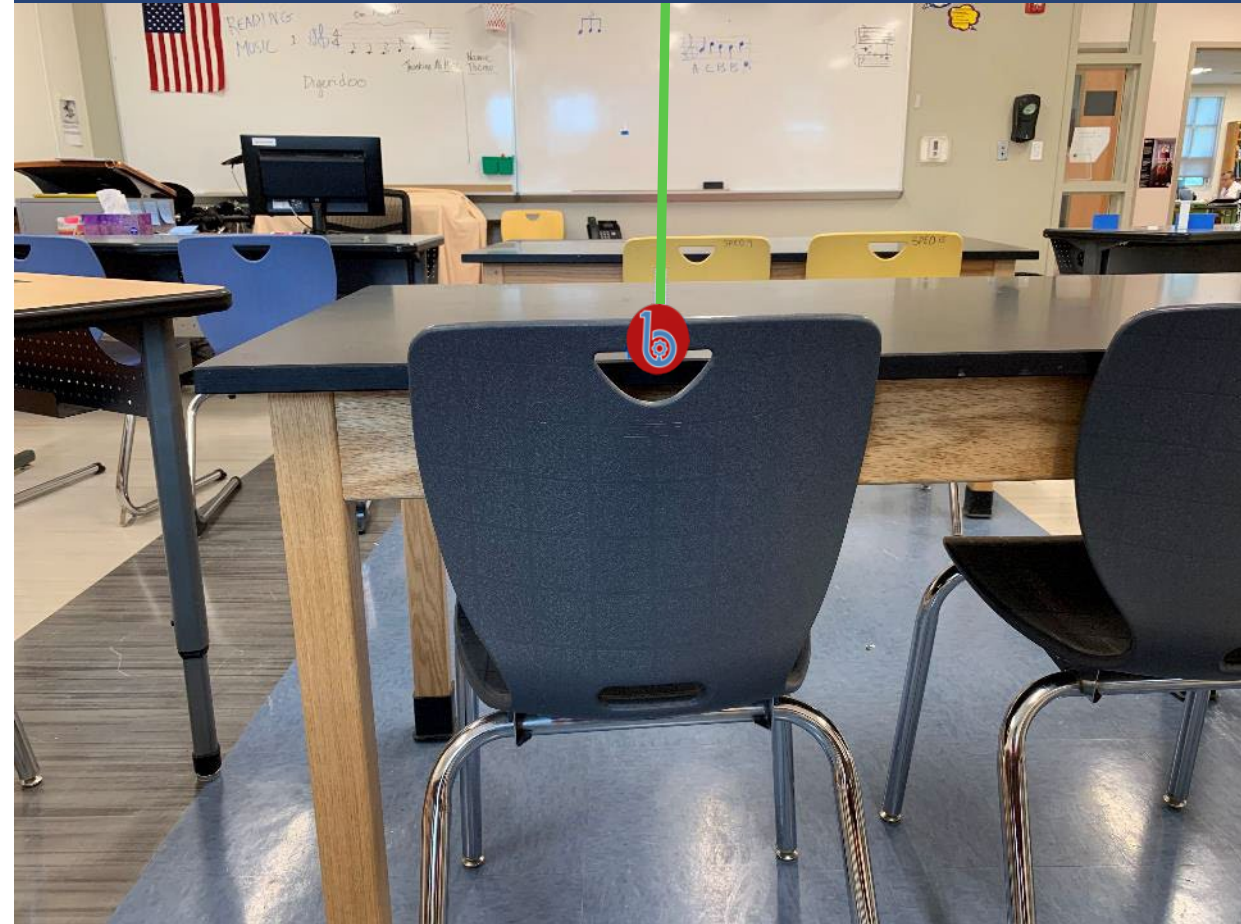
6. Desk
> 99.9 mg/L H₂O₂
99.9% Pathogen Elimination



7. Desk
> 99.9 mg/L H₂O₂
99.9% Pathogen Elimination



8. Chairback (middle row)
> 99.9 mg/L H₂O₂
99.9% Pathogen Elimination



9. Sink Handle
> 99.9 mg/L H₂O₂
99.9% Pathogen Elimination



10. HVAC Exhaust
> 99.9 mg/L H₂O₂
99.9% Pathogen Elimination



11. Control*
< 20 mg/L H₂O₂
H₂O₂ detection out of range



* A control test strip was used as a benchmark for the remaining test strips. It was placed outside of the classroom and fogging area at the same time as the test strips in the classroom being fogged. It is expected that the control strip should not show any presence of disinfectant.

Conclusions

The following is recommended to ensure 99.9% efficacy throughout a standard classroom of similar dimensions (Approx. 25.5' x 27' x 9'):

Place the fogger in a location in the classroom that will ensure the most uniform dispersal of disinfectant. Fog the classroom for 45 seconds and wait at least 15 minutes before entering and ventilating the classroom.





Laboratory Testing Summary

EPA Registration No. 90748-1

Breezy BioCare™ RTU can be found on EPA List N and List Q of disinfectants and is Green Clean Certified.*

Tested method: AOAC Germicidal Spray conducted in a Good Laboratory Practice (GLP) facility.
Recommended method: Fogging

PATHOGEN	SOIL / LOAD CONTACT TIME	CONCLUSION
Staphylococcus aureus (Blood infections, sepsis)	5% Soil Load / 2 minutes	✓ Successful Disinfection
Pseudomonas aeruginosa (Blood and lung infections)	5% Soil Load / 2 minutes	✓ Successful Disinfection
Salmonella enterica (Salmonella)	5% Soil Load / 2 minutes	✓ Successful Disinfection
Trichophyton mentagrophytes (Fungi causing ringworm)	5% Soil Load / 2 minutes	✓ Successful Disinfection
Listeria monocytis (Infection to bloodstream, sepsis)	5% Soil Load / 2 minutes	✓ Successful Disinfection
Methicillin-resistant Staphylococcus aureus (MRSA)	5% Soil Load / 5 minutes	✓ Successful Disinfection
Respiratory Syncytial Virus (RSV)	5% Soil Load / 5 minutes	✓ Successful Disinfection
Escherichia coli (E. coli)	5% Soil Load / 5 minutes	✓ Successful Disinfection
H1N1 (Swine flu)	5% Soil Load / 5 minutes	✓ Successful Disinfection
Human Coronavirus (COVID-19)	5% Soil Load / 5 minutes	✓ Successful Disinfection
Rhinovirus (Common cold)	5% Soil Load / 10 minutes	✓ Successful Disinfection
Feline calicivirus/Human norovirus (Gastrointestinal bug)	5% Soil Load / 10 minutes	✓ Successful Disinfection

*Breezy BioCare™ RTU appears on these lists under its EPA registration number (#90748-1).

