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6	1	2	7	9	3	5	4	8
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How to Prevent Legionella in Low-Occupancy Buildings

2

Researcher Brené Brown Helps Leaders Find Their Vulnerability — and Succeed

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The Keys to Adequate Classroom Ventilation

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Which Smartphones Take the Best Pictures?

# THE BATTLE OF THE SMARTPHONE CAMERAS THE BEST MOBILE CAMERAS OF 2020

Year after year, smartphone technology improves. Devices get faster, screens get sharper, and cameras get better — for the most part. It can be a challenge to find your ideal smartphone that's also paired with a great set of lenses. Many smartphone manufacturers are inconsistent when it comes to cameras because they pair great phones with not-so-great cameras to cut costs. So, if you want to take exceptional pictures, which current smartphone has the features you're looking for?

### GOOGLE PIXEL 5 (ANDROID)

Google's Pixel line has long been associated with exceptional photos, but not because of the camera hardware. It is average at best, but that doesn't matter because Google knows how to make exceptional image processing

software. When you take one picture with the Pixel, the camera actually takes several. The processing software then "stitches" the images together to create one superior image. Other phones do this, too, particularly the Apple iPhone, but the Pixel 5 does it best.

### APPLE IPHONE 12 (IOS)

Much like the Pixel line, Apple's iPhones are known for taking great pictures. But there's a big difference! Apple incorporates great camera hardware into their higher-end products. The end result produces great photos and videos. (The Pixel 5 struggles in the video category.) Many photography enthusiasts choose the iPhone over the



competition simply because it's so reliable. But is it really better than the Pixel 5 at taking pictures? At a glance, you'd be hard-pressed to tell the difference. It all comes down to personal preference.

### BONUS: GOOGLE PIXEL 4A (ANDROID)

Both the Pixel 5 and iPhone 12 are higher-end products with prices to match (both over \$700). If you're interested in taking great pictures but don't want to drop a lot of dough on a high-end device, the Pixel 4a can't be beat. At about \$350, it produces top-notch photos and is an all-around great device. Plus, it has a headphone jack, something both the Pixel 5 and iPhone 12 are lacking!



# An Invisible Threat

## How to Battle Legionella in Low-Occupancy Buildings

This fall, I've spent a lot of my working hours inside of lonely buildings. In the last week, I visited six different buildings in South Texas with startling low occupancy rates. One of them normally had 1,500 people on site but was down to just 25 occupants because of the pandemic. At another building, the security staff were keeping tabs on just 30 people scattered across almost as many floors.

Of course, after months of dealing with the fallout of this virus that trend doesn't surprise me, but the magnitude of it was really driven home when I stopped by a group of four high-rises to do water testing. A year ago, the security guards told me those buildings would be crawling with 8,000 people. On the day I was there, less than 200 people were present.



On one hand, it's sad to see that these beautiful buildings aren't being utilized the way their designers imagined. On the other, it's understandable that companies are keeping their workers away because of the COVID-19 pandemic. What concerns me the most, though, isn't that the buildings are currently unoccupied — it's that their water systems might become breeding grounds for Legionella bacteria while the occupants are away.

In last month's newsletter, we filled you in on the history of Legionella bacteria and the qPCR method for testing it, which allows us to get lightning fast lab results. In the past, it took 10-14 days to find out if there was Legionella in your building, whereas today we can find out in 45 minutes. These advances are impressive, but they don't mean much if

we let concerns about Legionella fall by the wayside. COVID-19 is at the front of all our minds right now. But Legionella should be there, too.

Most building engineers and facility managers understand that when cooling towers are left untreated, they can grow bacteria, including Legionella. When this happens and Legionella becomes airborne, people who breathe it can develop infections causing serious health effects, like Pontiac fever or Legionnaires' disease. What some building managers don't recognize is that even hot water systems that supply bathrooms, tenant kitchen area, and janitors' closets can develop the same problems. And right now, the threat of that happening is greater than ever.

Continued on Page 2 ...

"If no one is in your building to run the hot water regularly in every system, then when tenants return and start using the hot water in the restrooms or their kitchens again, they could end up breathing hot water laced with Legionella bacteria."

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... continued from Cover

Building use is reduced right now, and that means hot water use within those same buildings is reduced as well. This is concerning because Legionella bacteria tends to develop when water isn't cycled on a regular basis. If no one is in your building to run the hot water regularly in every system, then when tenants return and start using the hot water in the restrooms or their kitchens again, they could end up breathing hot water laced with Legionella bacteria.

The sooner building managers recognize this possibility, the sooner they can put processes in place to manage it. One strategy that can help prevent Legionella is assigning staff the task of running hot water through faucets and pipes in the building for 15–20 minutes each week. This should be enough time to drain water heaters, causing them to refill. Some larger water heaters will take longer, but 15–20 minutes is a good ballpark figure. While this might seem like a waste of water, it's actually one of the best ways to reduce the potential for bacteria to occur, which is well worth it in the long run.

As I mentioned, though, this strategy needs to be used in every system to be successful. That includes the systems inside tenant spaces! If tenants have been absent for five or six months and haven't used the hot water in their break room kitchen, for example, there's a high potential for bacteria to grow there. And if a tenant returns and ends up coming down with an illness, odds are they won't wonder if it's their fault for failing to run their water heater — they'll just blame the building for making them sick. Building managers occasionally forget to send staff into tenant spaces to run the hot water systems, but that attention to detail can be the key to keeping a building Legionella-free and protecting you against liability and exposure.

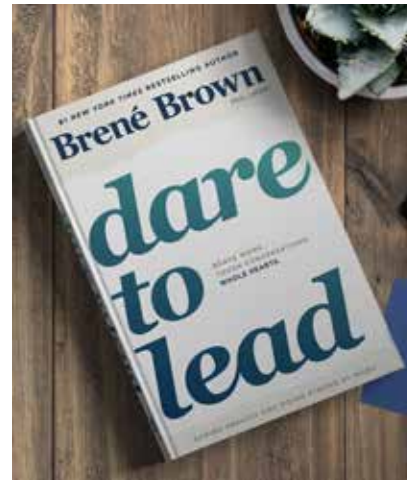
If you've done everything you can as a building manager to drain your building's hot water tanks on a regular basis and you feel comfortable that you're Legionella-free, that's fantastic. But if you have any doubts after reading this, my team and I will be happy to come out and test all of your cooling towers, building hot water heaters, and tenant hot water heaters to make sure you're in the clear. Thanks to the advances in testing, you'll get your results almost immediately. Then, once your building has been cleared or you've taken steps necessary to address the Legionella problem, you'll be able to rest easy knowing that when your tenants do return, it will be to an environment that's just as healthy and safe as it was when they left.

*Travis West*

# 'DARE TO LEAD'

With Brené Brown's Bestselling Book

How many leaders do you know who will admit to their mistakes openly and honestly to their team? How many leaders have you heard ask their team for direction? How many leaders are willing to step aside so someone else can shine?



Chances are if you know that leader — or if you are that leader — then you understand the future of leadership, according to author, researcher, and teacher Brené Brown, Ph.D., author of "Dare to Lead: Brave Work. Tough Conversations. Whole Hearts." In this book, Brown details her seven years researching and gaining a better understanding of leadership. She interviewed business leaders at both small and large companies, asking questions that revealed what great leadership looks like. Together with her research team, she learned why certain workspaces thrive and grow while others, with seemingly just as powerful of ideas, wither and die. And it all boiled down to one thing, Brown says: courage.

In "Dare to Lead," Brown examines the four pillars of courageous leadership and how business leaders today can practice and perfect it. Brown teaches the four pillars through her consulting work and has seen radical changes in organizations that practice courageous leadership. Brown offers examples — from well-known CEOs and within her own business — to walk readers through real-life applications of courage and how to create stronger teams through vulnerability.

Brown exposes how business cultures that don't practice vulnerability are ineffective as a result. She theorizes that often, these workspaces are filled with fear, uncertainty, and scarcity. To remove these negative traits, Brown offers leaders a road map to build their courage while practicing vulnerability and creating happier work environments.

Brown has spent the past two decades researching and breaking down emotional concepts into tangible goals for her readers and followers. She is the owner of The Daring Way, a consulting firm that helps businesses develop vulnerability in leadership and the workplace. She is also the host of the podcast "Unlocking Us" and has one of the most-watched videos of all time, "The Power of Vulnerability." You can learn more about Brown's work and find "Dare to Lead" at [BreneBrown.com](http://BreneBrown.com).

# IS YOUR SCHOOL SAFE?



With the threat of COVID-19 hanging over our children and teachers, indoor air quality in schools is more critical now than ever before. In response to these mounting concerns, experts at the Harvard T.H. Chan School of Public Health have put together an easy-to-follow guide for checking ventilation rates in classrooms. Here are the five steps they laid out:

- 1. Measure the classroom dimensions.** To calculate the volume of the room in cubic feet, measure and then multiply its length, width, and height, making sure to account for oddities like tapered ceilings or rounded walls. You can turn to the architectural plans for help if necessary. During this step, also count and measure the room's windows.
- 2. Perform preliminary audio and visual checks.** To figure out whether the system is on and how the air is flowing, listen closely to see if you can hear the ventilator units and any supply or exhaust fans running. You can also test this visually by holding a tissue near the fan grille and watching how it moves to deduce whether air is being pushed away or sucked into the fan.

## 5 Steps to Measuring Ventilation Rates in Your Classrooms

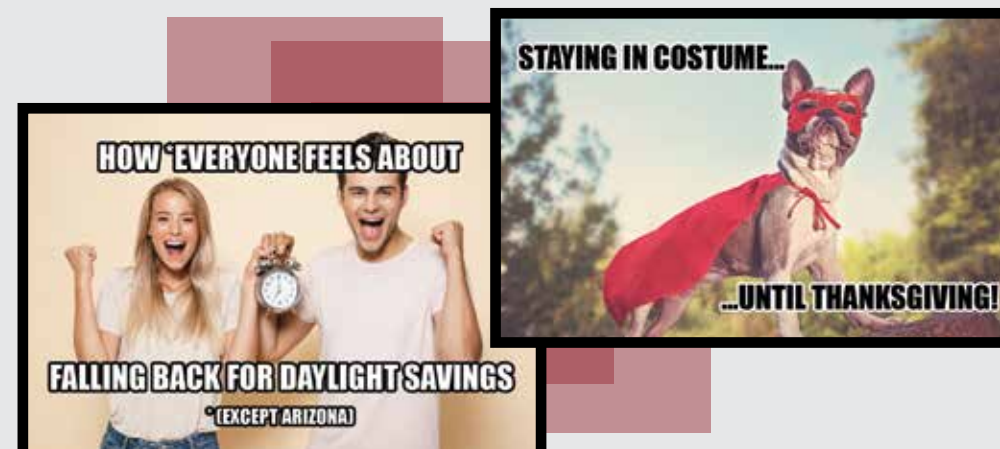
- 3. Measure or estimate the outdoor air ventilation rate.** Based on whether the classroom is occupied and what type of ventilation system is in place, use a balometer or a carbon dioxide monitor to measure the incoming outdoor air flow (OA) and air change rate per hour (ACH) in the classroom.
- 4. Compare your results to the targets.** Check whether your ACH meets the target of at least five air changes per hour, or, better yet, the "ideal" or six per hour.
- 5. If needed, consider supplemental air cleaning strategies.** If your ACH is too low, you can consider additional air cleaning strategies. [Spot filters can be used to remove particles, chemicals, and some forms of bacteria from a classroom's indoor air.] This will help to protect the students and teachers in individual classrooms or in your building.

Of course, COVID-19 isn't the only thing that a district's Director of Maintenance should be concerned about when it comes to indoor air quality. These steps can also protect students and teachers against a host of other airborne contaminants, like carbon monoxide, particulates, and chemical emissions from carpet, furniture, construction products, or classroom supplies.

To download the full step-by-step guide from the Harvard T.H. Chan School of Public Health, visit [Schools.ForHealth.org/Ventilation-Guide](http://Schools.ForHealth.org/Ventilation-Guide). It's packed with formulas, examples, and resources that are very helpful.

## SUDOKU

### HAVE A LAUGH WITH TRAVIS



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