Get the Lead Out

Grading the states on protecting kids' drinking water at school

ENVIRONMENT AMERICA
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Education Fund

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Executive Summary

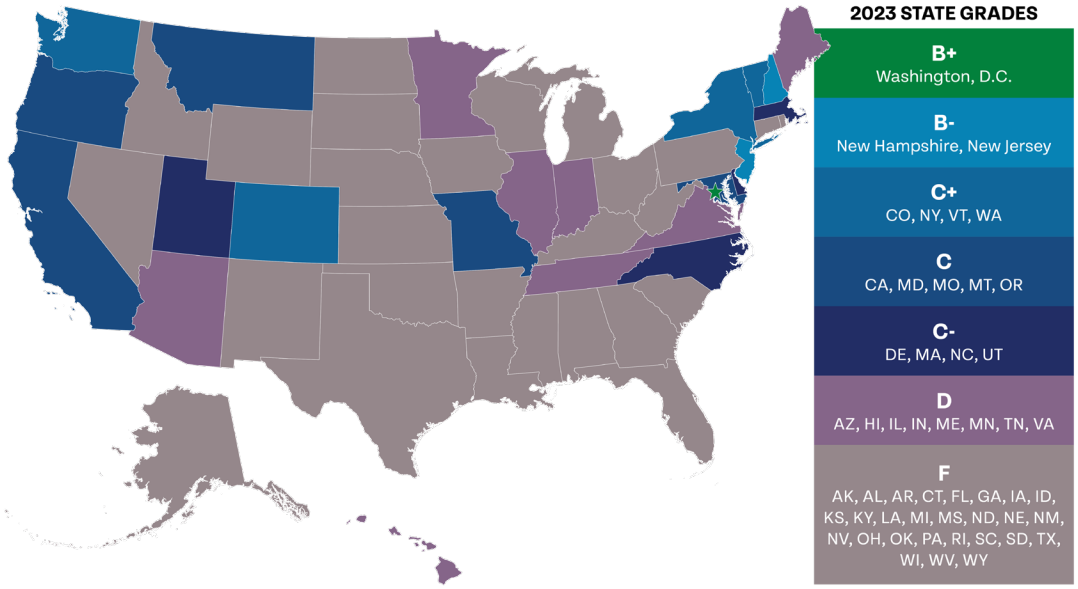
IN THE YEARS SINCE THE TRAGEDY OF FLINT, Michigan first stunned the nation, we have become increasingly aware that lead contamination threatens the drinking water of millions of Americans across the country.

In fact, extensive data now show that lead is even leaching into the water our kids drink every day at school and preschool. While shocking, this widespread threat to childrens' health should come as no surprise. Most schools have at least some lead in their pipes, plumbing, or fixtures. And where there is lead, there is risk of contamination.[1]

The health threat of lead in schools' water deserves immediate attention from policymakers for two reasons. First, lead is highly toxic and especially damaging to children — impairing how they learn, grow, and behave. Second, current policies on lead in water at school are still too weak to protect our children's health.

In this report, we offer our latest assessment of laws and regulations pertaining to lead contamination of schools' drinking water — including a review of policies (or lack thereof) in all 50 states and the District of Columbia. Since our last report in 2019, several states have gone from utter failure to taking at least some incremental steps toward safer drinking water for children at school.

Yet in nearly every case, even these new policies only require remediation of taps where testing confirms lead concentrations in water above a certain threshold. Unfortunately, lead concentrations in water are highly variable, and so even proper sampling can miss lead contamination or fail to capture its full extent. Consequently, these "test and fix" policies leave lead risks in place at many faucets or fountains where our kids drink water every day.



This is particularly true where the lead level that triggers remediation is high. The current federal Lead & Copper Rule (LCR), which applies to the roughly ten percent of schools and pre-schools that provide their own water,[2] has an "action level" of 15 parts per billion (ppb) — even though medical and public health experts agree that there is no safe level of lead for children.[3] While many recent state policies require remediation at a lower lead level of 5 ppb, the significant number of taps detecting lead below that level — or failing to detect any lead in one or two samples — will remain untouched. Requiring several samples per tap and remediation at lead levels close to zero can drastically reduce (but not eliminate) this inherent flaw in "test and fix" policies.

A much better way to safeguard our drinking water and children's health is to proactively get the lead out. Our nation banned lead in gasoline and then in paint sold for residential use. And regarding drinking water, officials are finally embracing the need to fully replace all lead service lines. Policymakers should also take a preventative approach to water delivery systems at schools and child care centers.

Perhaps the most powerful step in this approach is for schools to replace fountains with water stations that have filters certified to remove lead. Replacing fountains eliminates a common source of lead while the filters capture contamination coming from plumbing or pipes. Schools should also install lead filters on all taps used for cooking and drinking — as Washington, D.C. now requires[4] — and ensure that all filters are properly tested, maintained, and replaced over time. And ultimately, we'll need to ensure that our schools are no longer using plumbing and fixtures that leach lead into the water in the first place.

Such protective solutions are urgently needed to ensure safe drinking water for our kids. And they are more achievable than ever. For example, it would take a small fraction of the unprecedented federal funding states and school districts are now receiving to install filtered water stations at every school in America.

Recommendations

The science now makes clear that there is no safe level of lead exposure for our children. So, to ensure safe drinking water for our children, we need policies that are strong enough to "get the lead out" at school and pre-school.

States and school districts should do the following:

- Replace fountains with water stations that have filters certified to remove lead;
- Install, test, and maintain filters certified to remove lead on all taps used for drinking or cooking;
- Set policies to ensure that schools are no longer using plumbing and fixtures that leach lead into water;
- Adopt a 1 ppb limit for lead in schools' drinking water, as recommended by the American Academy of Pediatrics;
- Fully replace all lead service lines, which are relatively rare at larger schools but more common at child care centers;
- Require testing at all water outlets used for drinking or cooking at all schools. with frequency and protocols most likely to detect lead;
- Immediate shut off of taps where tests confirm lead in the water;
- Disclose lead in water infrastructure, unfiltered taps, all test results, and remediation plans/progress both onsite and online;
- Allocate funding to implement these solutions.

The federal government should:

- The EPA should update the Lead & Copper Rule to require replacement of fountains with water stations and filters at all drinking water and cooking taps at schools and child care centers that are federally regulated as public water systems;
- The EPA should also update the Lead & Copper Rule with a 10-year deadline for water utilities to fully replace all lead service lines
- Provide additional funding needed to help states and communities remove lead in water infrastructure — including lead service lines and plumbing/fixtures in schools
- Marshal the authority of all relevant federal agencies to protect public health from contamination of drinking water

And of course, we should fully protect all sources of drinking water from pollution.

Introduction

AS OUR NATION RUSHED THROUGH MORE THAN a century of unprecedented economic growth, we allowed several toxic health threats to become embedded into the fabric of our lives. One of the more enduring and pervasive of these threats has been the use of lead. While the toxic nature of lead has been known for centuries, we allowed manufacturers to put it in our paint, plumbing, gasoline, and many other products.

For the past few decades, public health officials have been working to undo the damage. Banning lead in gasoline immediately removed a major source of toxic air pollution.[5] Barring the sale of lead paint for residential use stopped a major threat to children's health from becoming even worse, but we are still cleaning up the damage from millions of homes with lead paint, as well as related lead in dust and soil.[6]

Yet until recently, few Americans paid as much attention to another pervasive pathway for this potent toxicant: the delivery systems that bring drinking water right to our faucets.

That began to change as many Americans watched the water crisis unfold in Flint, Michigan. A combination of appalling decisions and denials laid bare the risks inherent in using lead pipes to deliver drinking water to our homes. Lead levels in Flint water were so high that a local pediatrician — Dr. Mona Hannah Attisha — was able to correlate the contamination with elevated blood lead levels in children.[7] Tens of thousands of children were exposed to lead during the crisis in Flint.[8] In addition to acute symptoms and other illnesses, by one estimate, the Flint children who ingested lead-contaminated water will lose 18,000 future healthy years combined.[9]

While Flint is an extreme case, evidence of a much wider problem soon gained prominence. In 2016, for example, reporters at USA Today wrote a high-profile investigation showing that nearly 2,000 water systems across the country had exceeded federal lead limits for water over four years.[10] Given faulty testing, reporting gaps, and the inherent variability of lead, the contamination of communities' drinking water — especially at lower levels — is almost certainly more widespread.

In fact, we now know that lead is even leaching into the water at schools and pre-schools — the places our children go each day to learn and play.

Lead in Schools' Water: A Threat to Children's Health

Lead is Harmful to Children — Even at Low Levels

As a potent neurotoxicant, lead damages how kids learn, grow, and behave.

"We see learning difficulties, hyperactivity, developmental delays," said Marcie Billings, a pediatrician with Mayo Clinic in Rochester, Minn, in reference to children exposed to lead.[12]

Lead is particularly dangerous for kids. Children absorb 4-5 times as much ingested lead as adults.[13] That is because their bodies are immature and so more vulnerable than adults'; young children also have an incomplete blood-brain barrier.[14] Once absorbed, lead flows from the blood to the brain, kidneys, and bones.[15]

We have known for some time that high levels of lead can cause severe health impacts — including anemia, kidney disease, abnormal brain function and even death. (See Figure 1)

We now know that even tiny amounts of this toxic substance can harm our children. According to the EPA, "[i]n children, *low levels* of [lead] exposure have been linked to damage to the central and peripheral nervous system, learning disabilities, shorter stature, impaired hearing, and impaired formation and function of blood cells" (emphasis added).[17]

Of particular alarm for schools, several studies link low lead levels with learning loss in our children.[18] For example, a study done in Wisconsin found that 3,757 fourth-graders with relatively low lead levels in their

"Lead damages kids' brains, promotes ADHD and shaves off IQ points. There is no safe amount."[11]

—Ron Saff, MD, who coordinated lead tests at several Florida schools

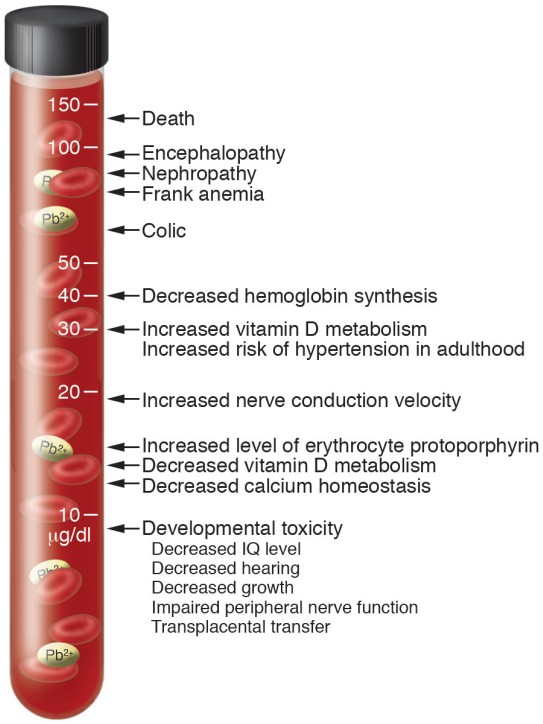


Figure 1: Adverse Effects of Lead at Low Levels[16]

blood "scored significantly lower on reading and math tests than those without elevated blood-lead levels." These children were exposed to lead before the age of three, yet the adverse effects of lead exposure persisted seven to eight years later.[19] Another study of 57,000 children in North Carolina showed a statistically significant relationship between 4th grade reading test scores and blood lead levels greater than 3 µg/dL (micrograms per deciliter).[20]

In 2016, the American Academy of Pediatrics concluded that "[e]xtensive and compelling evidence now indicates that lead-associated cognitive deficits and behavioral problems can occur at blood lead concentrations below 5 µg/dL."[21] While the Centers for Disease Control recognized there is no safe level of lead, the agency reduced its blood lead reference value — which defines children at the highest risk of lead poisoning — from 5 µg/dL to 3.5 µg/dL.[22]

One stunning fact underscores the danger at hand: more than 24 million children in America are at risk of losing IQ points due to *low levels* of lead. See Figure 2.

Moreover, because lead flows from blood into the organs and bones within several weeks, it does not always show up in blood tests. The half-life of lead in

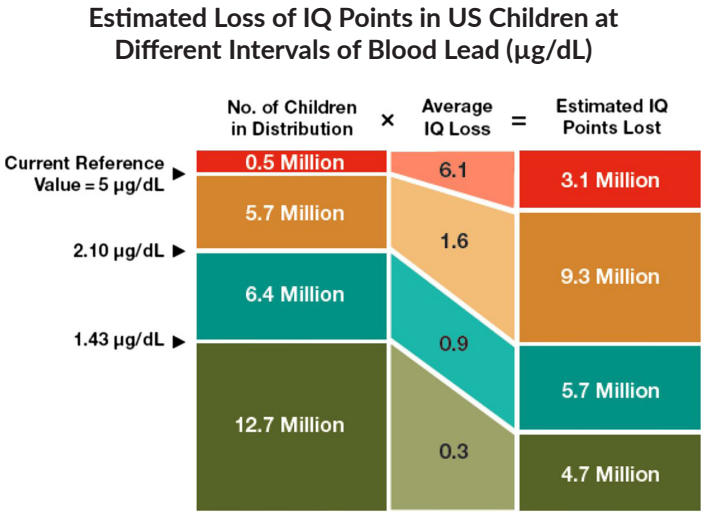


Figure 2: More Than 24 Million Children at Risk of Losing IQ Points Due to Low Levels of Lead[23]

blood ranges from 28 to 36 days.[24] However, lead is a persistent toxicant, and once absorbed, it can remain in the body.[25] Moreover, public health agencies have stated that at least some of the damage lead does to our children is irreversible."[26]

In light of these alarming facts, public health experts and agencies now agree: there is no safe level of lead for our children.[27]

Lead is Contaminating Water at Our Schools

"It's a scary thing. Nobody expects to have this in their schools. Who knows how big the problem actually is?"

– Nicole Rich, mother in Ithaca, N.Y.[28]

AS MORE SCHOOLS TEST THEIR WATER FOR LEAD, they are finding widespread contamination. In 2022, our researchers compiled available testing data onto the map at Figure 3.[29]

Tests have documented lead tainted water in all types of communities – rural towns, big cities, and affluent suburbs. Examples include schools in Cherry Hill, New Jersey[30]; Yarmouth, Maine[31]; several school districts in upstate New York[32;] and suburban communities in Illinois.[33]

Moreover, some tests have shown exceedingly high levels of lead. For example, one drinking water fountain at a Montessori school in Cleveland dispensed 1,560 parts per billion at the time of testing.[34] A school in the Chicago suburbs dispensed lead at 212 times the federal standard at the time of testing.[35] Leicester Memorial Elementary in Massachusetts had a tap that tested at 22,400 ppb.[36]

Most importantly, the available data establish that lead contamination of schools' water is widespread. In nearly every state with the most significant data, roughly half the schools tested found lead at one or more taps. In some states, lead was found at more than 70 percent of the schools tested. In other states, lead was even found at half of the faucets and fountains tested.

A More Pervasive Threat Than Confirmed by Testing

In all likelihood, these confirmed cases of lead in schools' water are just the tip of the iceberg. Lead concentrations in water are so highly variable that even proper testing can fail to detect it. In fact, top researchers in water chemistry and engineering have concluded that water from an outlet can be "highly hazardous" even after "several samples" indicate that it is safe to drink.[37] Other field studies have confirmed dramatic variations in lead test results.[38] Nationally recognized expert Dr. Marc Edwards of Virginia Tech has even compared lead testing to Russian roulette.

In addition to the inherent variability in testing, some sampling methods mask lead risks even further. Chief among these is pre-stagnation flushing, where taps are run for minutes or even hours the night before test samples are drawn. Flushing tends to lower lead levels in test results because samples no longer contain water that has been sitting stagnant in contact with lead-bearing pipes, plumbing or fixtures.[40]

"This is like Russian roulette."

Marc Edwards on testing for lead in drinking water.[39]

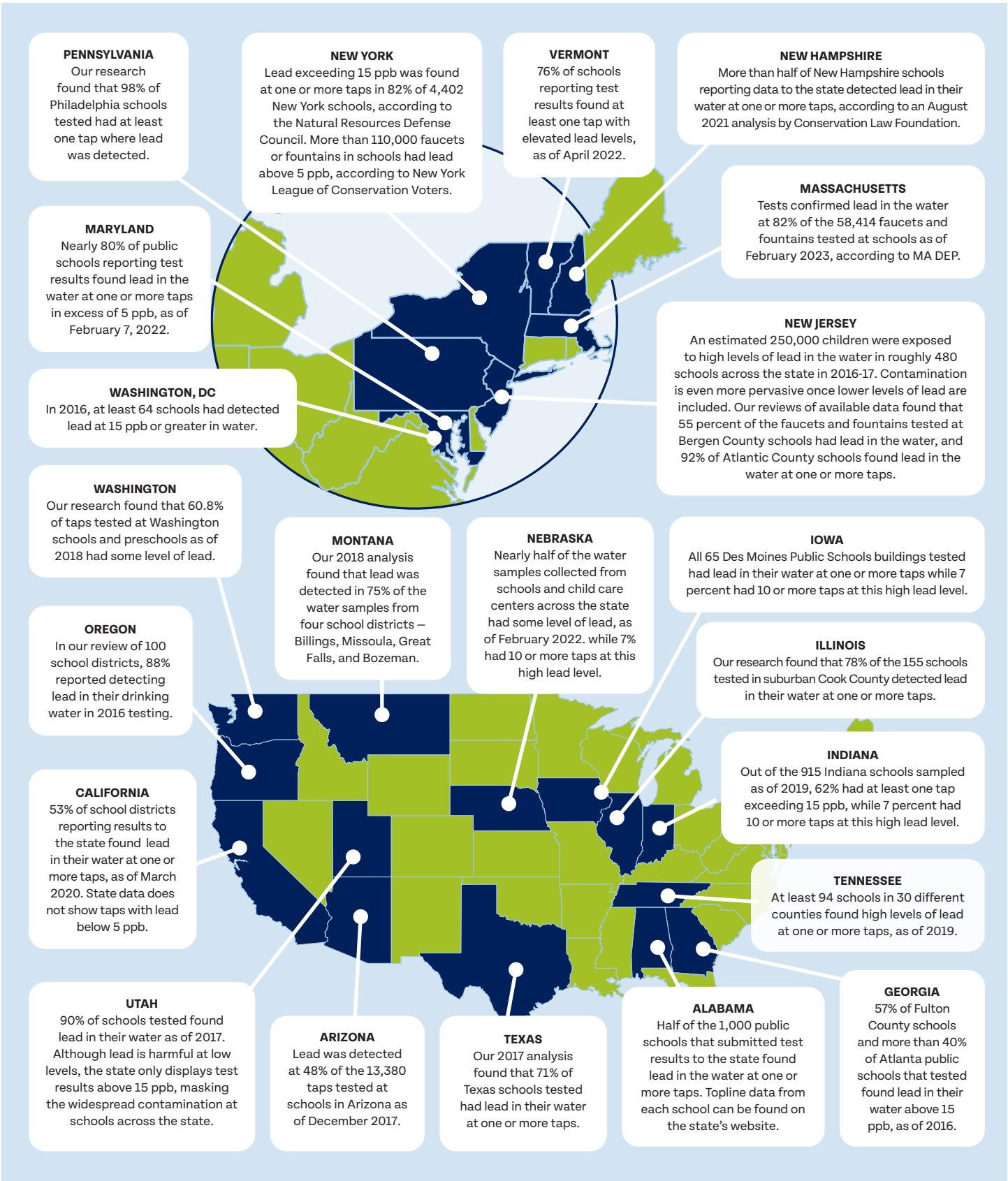


Figure 3: Available data confirms pervasive water contamination at school

The experience of New York City provides a dramatic example of how pre-stagnation flushing can cause failures in lead testing in schools' drinking water. In the summer of 2016, city officials declared the schools' water safe after less than 1 percent of 1,500 tests showed lead above the federal action level. As it turned out, the city had flushed the water in every school for two hours the night before sampling. Dr. Yanna Lambrinidou, who has done extensive research on leaded drinking water, decried the practice as "both unreliable and scientifically and morally indefensible." Dr. Edwards agreed, declaring that "[t]he results should be thrown into the garbage."[41] When the city re-tested, preliminary results showed high lead levels at *nine times as many taps* as with pre-stagnation flushing.[42] By the end, 83% of the school buildings tested had at least one tap with lead levels over 15 ppb.[43]

The EPA now recommends against pre-stagnation flushing in testing water for lead.[44] But other sampling methods can also have a significant impact on lead levels. Just drawing water more slowly from a tap can markedly reduce the likelihood that tiny bits of lead break off of plumbing and wind up in a testing sample.[45]

To be sure, the available test results from schools across the country are alarming enough, as they confirm the presence of a potent neurotoxicant in thousands of faucets and fountains in schools across the country. But in truth, the scope of this lead-laden threat to our children's health is even wider.

How Lead Gets into Schools' Drinking Water

Most schools have at least some lead in their pipes, plumbing, or fixtures. Until as recently as 2014, national codes allowed significant amounts of lead in new pipes, pipe fittings, plumbing fittings, and fixtures.[46] Even some faucets meeting the current "lead-free" standard — having an average of less than .25 percent lead in contact with wet surfaces — can leach significant lead into drinking water.[47] No doubt, older fixtures are even worse; for example, many pre-1988 drinking water fountains or bubblers were actually made with lead liners.[48]

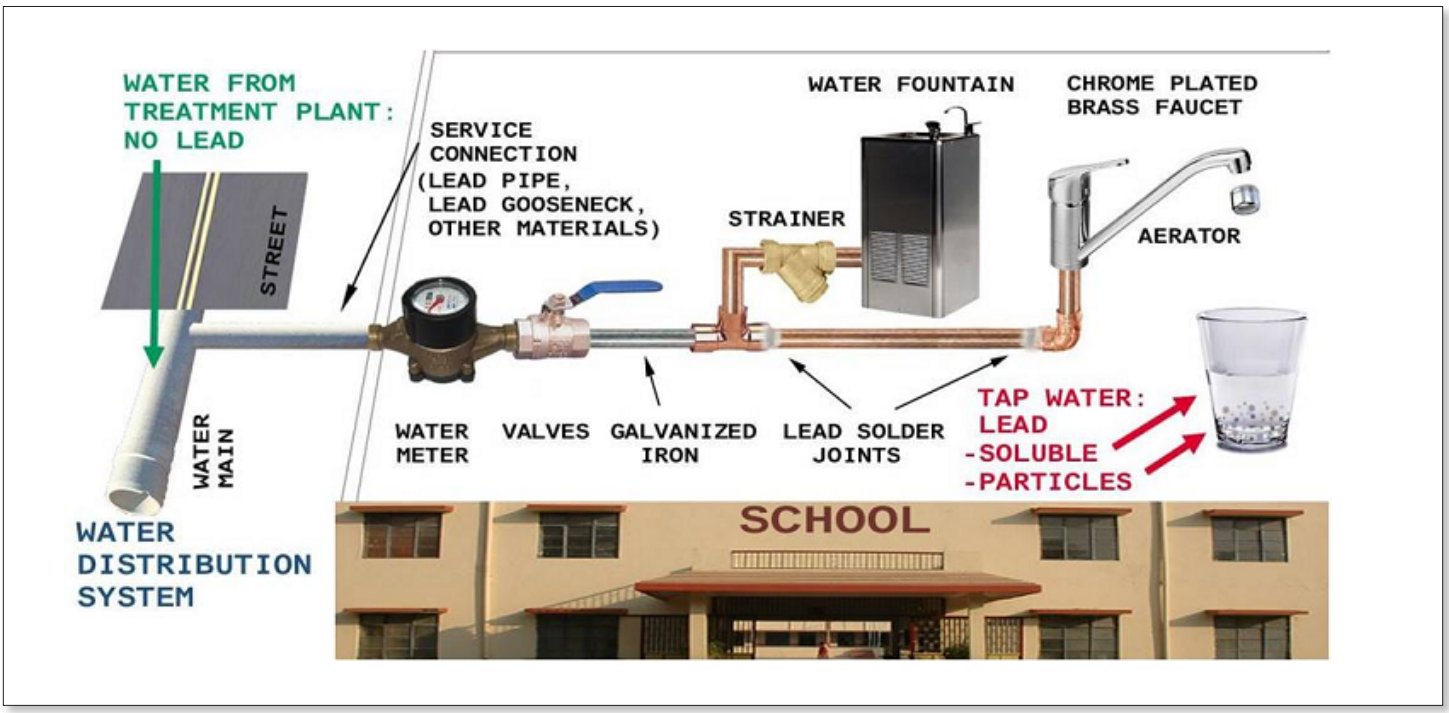


Figure 4: Sources of lead contamination of drinking water in schools

Reproduced with permission from Simoni Triantafyllidou, Lead (Pb) Contamination of Potable Water: Public Health Impacts, Galvanic Corrosion and Quantification Considerations (2011).

But even newer schools and early childhood centers are likely to have sufficient lead in their water delivery systems to put drinking water at risk.

For smaller school buildings and child care facilities, the problem can start with the pipe that brings water into a school or early childhood program — called the service line (or service connection). When service lines are made of lead, they are the most significant source of water contamination.[49] In part, this is a function of the unparalleled surface area inside the service line where water is in direct contact with lead. In addition, the service lines are in closer proximity to disturbances from construction — especially repair work on water mains — which can dislodge lead particles into the water.[50] The role of lead service lines in water contamination is so strong that the Center for Disease Control was actually able to correlate them with elevated blood lead levels in Washington, D.C.[51]

While installing new lead service lines was halted decades ago, their toxic legacy is pervasive.[52] The EPA estimates that there are roughly 9.3 million of these lead pipes in service,[53] and more recently, researchers at Natural Resources Defense Council put the likely range between 9.7 and 12.8 million of them.[54]

Yet even without these toxic pipes, lead hazards from schools' plumbing and fixtures remain. In Milwaukee, for example, *even after the school district stated that all lead service lines had been removed,* tests showed 183 samples with lead in drinking water at levels greater than 15 parts per billion.[56]

Current Federal Policies Do Not Protect Drinking Water at School

Every relevant federal agency agrees that there is no safe level of lead for children. The EPA has even established an official goal of having zero lead in our drinking water.[57] So why is lead contamination of water still so pervasive, especially at our schools?

Since 1974, the Safe Drinking Water Act (SDWA) has provided the framework for ensuring that the water public utilities send to their customers and communities is clean and safe. For the most part, rules under

Credit: EPA

A Lead Service Line[55]

SDWA have primarily related to measures taken at drinking water treatment plants. Unfortunately, this narrow regulatory focus can leave our drinking water vulnerable to toxic threats both before and after it is in water utilities' possession. On the front end, pollution in our waterways — including nitrates, cyanotoxins, and chemical spills — can wind up in our drinking water.[58] And on the back end, water is susceptible to contamination as it travels through plumbing in the streets, in our homes and schools, all the way to the faucet where we actually drink it.

It is on this "back end" that virtually all lead contamination of drinking water occurs — from service lines to plumbing and fixtures with sufficient lead to contaminate water.

In an effort to address this "back end" threat to drinking water, the EPA's 1991 Lead and Copper Rule (LCR) requires utilities to test water samples taken from end-user taps within their service areas. When lead from 10 percent of the tests exceeds a certain "action level," water utilities are then required to take some kind of

Photo by Mike Thomas via Flickr, CC BY NC ND 2.0

Corroded water main with lead fittings.

action, such as adjusting corrosion control at the treatment plant.[59] To some degree, the LCR has reduced lead concentrations in drinking water, at least when its requirements for large water systems to use corrosion control have been enforced.

Yet this "test and fix" LCR has six key shortcomings, especially as it relates to schools:

1. As discussed above, testing for lead can often result in false negatives due to high variability in corrosion and the "Russian Roulette" factor in sampling;
2. This limitation of lead testing is exacerbated by the LCR's high action level of 15 ppb, which means no remediation is required when water samples only contain lower levels of lead. As noted earlier, lead can damage children's health at very low levels;
3. Testing is only required at a limited number of taps, so the LCR does not even attempt to measure the safety of water at every fountain or faucet from which children are drinking;
4. The remedial actions regulators have typically required in the past — such as adjusting corrosion control — leave the root cause of the problem — lead in pipes, plumbing and fixtures — firmly in place;
5. A scheme that depends on thousands of utilities to properly test numerous taps year after year is inherently fraught with problems of accountability and enforcement; and finally,
6. The LCR only regulates water utilities.

This last deficiency means that only a tiny fraction of school districts — those that are their own water utility — are even required to follow the federal rule.[60]

Understandably, some other school districts have sought at least voluntary guidance from EPA on how to address lead in drinking water. In response, the agency published its "3Ts Manual for Reducing Lead in Drinking Water in Schools and Child Care Facilities," which was updated in 2018 to address at least some shortcomings of the LCR.[61] The manual now urges schools to test all taps used for cooking and drinking and avoid testing protocols that capture dramatically less lead in samples. And, rather than limiting remediation to taps where lead samples exceed 15 ppb, the 3Ts guidance now urges schools to "reduce their lead levels to the lowest possible concentrations."[62] Yet the manual remains firmly in the flawed "test and fix" paradigm. (Its second of "T" is "Testing.") And it is a voluntary guidance document: school districts are under no legal requirement to follow its recommendations.

In summary, federal requirements to protect our children from lead-laced water at schools and early childhood programs are weak to non-existent. State and local officials will need to take much stronger action to ensure safe drinking water for kids.

Solutions to Ensure Safe Drinking Water at School

ALL OF OUR CHILDREN DESERVE SAFE DRINKING water — especially at the places they go each day to learn and play. Yet the pipes, plumbing, faucets, and fountains at our schools all too often contain lead — creating an ever-present risk of water contamination.

To ensure safe drinking water at schools and child care centers, we will need solutions that avoid the flaws baked into the "test and fix" paradigm of the federal Lead and Copper Rule.

In most other contexts, our nation has adopted a more preventive approach to stop lead from harming kids' health. We banned lead in gasoline and then in paint sold for residential use. Even on drinking water, national policies have embraced prevention, at least with respect to new products. In 1986, new lead service lines were banned.[63] In 1988, Congress passed the Lead Contamination and Control Act, which dramatically reduced the lead content of new pipes and plumbing to 8 percent.[64] And then, as recently as 2014, the definition of "lead free" plumbing was ratcheted down to "not more than a weighted average of 0.25 percent lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures."[65]

But as the testing data show, the legacy materials — and even the newer ones — contain sufficient lead to contaminate schools' drinking water. Ultimately, we need to get the lead out.

After decades of denial and wishful thinking, officials are finally embracing the health-based demand of grassroots activists and experts alike to fully replace all lead service lines. President Biden has called for the rapid removal of all these toxic pipes,[66] and with the bipartisan infrastructure law, Congress allocated an unprecedented (though insufficient) $15 billion in funding toward that end.[67]

Now we need a similarly preventative approach to lead in water delivery systems at schools and child care centers. Instead of only reacting where tests confirm that our children have been drinking lead-tainted water, policies should require the following measures at all schools' taps used for drinking water or cooking:

1) Replace fountains with filtered water stations. This one powerful action eliminates a common source of lead (fountains) and captures lead coming from plumbing or pipes. Moreover, kids tend to drink more water when they have access to hydration stations[68] – an added benefit for children's health. These water stations must be equipped with filters that are certified by the Occupational Safety and Health Administration

Kim Archer/Examiner-Enterprise

(OSHA), which includes accreditations such as the National Sanitation Foundation (NSF) or the American National Standards Institute (ANSI) to remove lead from water (NSF/ANSI standards 53 for lead reduction and 42 for fine particulate). Even with the high levels of contamination in Flint, an EPA analysis documented that such filters proved effective at removing lead.[69] However, it is crucial that filters are regularly tested, maintained, and replaced as needed. These water stations should also have indicator lights so parents and teachers can see when the filters need to be replaced. As a general rule, these water stations should be installed at a ratio of 1 per 100 students and staff to ensure adequate water access. Additional water fountains not being replaced should simply be shut off.

2) Install point of use filters on other taps used for drinking and cooking. Filters with the same certifications for lead, maintenance/testing, and notification lights (or QR codes) should be installed on all other taps used for drinking and cooking. As Edwards explained, "If you're cooking pasta in the tap water, you're using a huge volume of water and a high flow rate. Then you pour the water away and the lead sticks to the food. The net result is almost the same as drinking that entire volume of water."[70] Where feasible, these filters should be the type mounted where water flows out for consumption, so they capture lead in faucets and sink plumbing as well. (Filters with this "point of use" placement are generally not available for fountains, which is another reason to replace them with water stations per above.)

3) Get the lead out. While filters are the most immediate, effective step we can take to prevent water contamination at schools, they are not necessarily a permanent panacea. Filters only function if they are properly installed, maintained and replaced. So just as filters do not obviate the need to replace lead service lines, we should also get the lead out of schools' plumbing, faucets, etc. where and when we can. However, as outlined earlier, even some fixtures that meet the current "lead-free" standard can leach significant lead. A new California law begins to address this challenge by requiring faucets and other endpoint devices to meet a much more stringent standard — where lead in water is less than or equal to 1 ppb (the Q≤1 standard).[71] At a minimum, states should require Q≤1 plumbing and fixtures in all new schools or major renovations. Existing schools should replace lead-bearing faucets and other parts with Q≤1 materials over time.

Photo by Jeff Turner via Flickr, CC BY 2.0

4) Require action at 1 part per billion. Especially where states are still operating under "test and fix" policies, the lead level triggering remediation should be as close to zero as possible. This reflects the public health consensus that there is no safe level of lead, and also (at least to some degree) compensates for the fact that even properly done tests will invariably fail to capture the full extent of lead in schools' water. Since 2016, the American Academy of Pediatrics (AAP) has called on public officials "to ensure that water fountains in schools do not exceed water lead concentrations of 1 ppb."[72] Outlets with water exceeding 1 ppb should immediately be removed from service until permanent remediation ensures safe drinking water on an ongoing basis.

5) Require remediation that is proven to work. Per above, we know that filters are effective and that replacing lead service lines, lead-bearing fountains and other parts remove sources of contamination. In contrast, flushing taps yields only temporary and incomplete reductions of lead in water.[73] Moreover, manual flushing requires a daily commitment of staff time at every single tap, for which accountability/enforcement is challenging at best. Automatic flushing systems might achieve safer water but only by wasting large amounts

of it. In short, while flushing on occasion might be necessary for other public health reasons, it is not a viable strategy for ensuring lead-free water at schools every day. Remediation policies should only allow filters and other methods proven to stop lead contamination.

6) Testing that maximizes chances of discovering lead contamination. To the extent that states or school districts are currently committed to a "test and fix" policy, then they should at least do everything they can to reduce the inherent probability that testing will fail to capture lead in schools' water. At a minimum, this means avoiding protocols known to mask lead — such as flushing or removing aerators — and only sending samples to labs that can detect lead at least down to 1 ppb. It would also require taking several water samples at every tap to at least somewhat account for the high variability of lead in water.

7) Provide full disclosure and accountability. Parents have a right to know whether their children's water at school is safe. Moreover, transparency and accountability are critical to ensure that prevention and remediation are implemented and effective. Schools and early childhood programs should provide the public with information about the presence of unfiltered taps, lead service lines, and other lead-bearing materials in their water infrastructure. Moreover, schools and states should publish *all test results*, not just those exceeding a non-health-based action level. And those results should be presented in an easy-to-understand format — for example, "parts per billion" rather than "ug/dL," which requires parents to do some math to understand lead levels detected. Families should also have ready access to remediation plans and their progress. In Washington DC, resident activists have urged local officials to require a barcode on each tap at school, so that parents can verify that filters are being maintained properly at all sources used for drinking and cooking.[74] Finally, all lead-in-drinking water information should be made accessible online — ideally both on each school district's website and also on a statewide searchable basis as Massachusetts has done.[75] This transparency provides the public with a clear picture of the scope of the lead-in-water problem, which facilitates informed statewide policy responses.

Communities Rising to the Head of the Class

WHILE MOST STATES ARE STILL STUCK IN THE "test and fix" paradigm, some school districts are moving ahead with recommended policies to *prevent* lead contamination *at every tap* where kids consume water at school. When it comes to safe water at school, here are some communities that are rising to the head of the class:

San Diego: In 2017, the San Diego Unified School District became one of the first in the nation to adopt a lead limit of 5 ppb.[77] But in light of the damage lead does to children at low levels, the district was determined to go further. Working with advocates at the California Public Interest Research Group (CALPIRG), local officials learned about the effectiveness and availability of filters certified to remove lead. In 2020, the school district adopted a new, cutting edge policy: fountains would be replaced with water stations (or taken out of service), all taps used for drinking would be fitted with filters, and the district set an explicit objective limiting lead concentrations to 1 ppb, per AAP recommendations.[78]

> **"Parents send their kids to school to be in a safe environment. You have to make sure the water the students are drinking in schools is safe."**
>
> **—Mike Thomas, Superintendent of Operations, Brockton, MA after replacing all old fountains with filtered bottle filling stations[76]**

Kids celebrate safer water at San Diego schools Jenn Engstrom

Detroit: Local school officials in Detroit didn't just shut off the water outlets where tests confirmed the presence of lead in 2018; they turned off all the taps and brought in bottled water until a comprehensive solution could be implemented. A year later, Detroit Public Schools had installed more than 500 new water stations with lead-removing filters.[79] And DPS didn't limit its actions to the 57 schools where initial testing found high lead levels; the district plans to install a total of 818 filtered water stations across 106 schools.[80]

Philadelphia: In 2016, the city ordered the Philadelphia school district to test its water with a fairly weak 10 ppb level for shut off and remediation.[81] But parents, teachers and local activists were deeply concerned about lower levels of lead. When they finally got their hands on the schools' full test results, a picture of widespread contamination emerged. A study by PennEnvironment Research & Policy Center, PennPIRG, and Black Church Center for Justice and Equality showed lead at 61 percent of school taps tested,[82] and earned major media attention. In response, the city did not just order remediation of specific taps. Rather, in 2022 Philadelphia passed an ordinance introduced by City Councilor Helen Gym requiring replacement of fountains with lead-filtering water stations throughout all public schools in the city.[83]

Portland (OR): Perhaps in light of longstanding drinking water contamination in the city,[84] officials at Portland Public Schools (PPS) resolved to go well beyond Oregon's weak "test and fix" law. After lead was found at schools in 2016, school officials shut off all taps and switched to bottled water until they had a more permanent solution. After a pilot program using filters reduced lead levels to an average of 1 ppb, PPS committed to installing water stations with lead-removing filters at all schools in the district. The district now has a goal of limiting lead to 1 ppb at all taps.[85]

Brockton (MA): Located in southeastern Massachusetts, Brockton is hardly an affluent community; 77 percent of its students receive free or reduced lunch.[86] Yet when testing showed lead in the water, school Superintendent of Operations Mike Thomas decided to draw on the district's emergency contingency budget to fix the problem. The school district replaced old water fountains with 80 filtered water bottle filling stations — one "on every floor in every school in the district."[87] When asked what compelled him to take action, Thomas said, "Parents send their kids to school to be in a safe environment. That includes the physical part of the building they're going to be in. You have to make sure the water the students are drinking in schools is safe."[88]

Austin (TX): Austin Independent School District (ISD) is taking proactive steps to ensure that schools' water remains below 1 ppb, as recommended by the American Academy of Pediatrics. In 2017, the district committed to installing filters certified to remove lead on outlet testing above this level.[89] In 2021, Austin went further — replacing fountains with water stations across the district.[90]

Unprecedented Funding Available for Schools to Safeguard Kids' Drinking Water

As the above examples show, school districts can implement the types of prevention measures needed to stop lead from leaching into the water our kids drink. And now, there is unprecedented federal funding that schools can use for this crucial public health purpose. The bipartisan infrastructure law included $200 million specifically for schools to halt lead contamination of water. State and local governments have received billions of dollars through the American Rescue Plan Act (ARPA), which can be used to invest in safe drinking water. And finally, school districts are now receiving nearly $110 billion in Elementary and Secondary School Emergency Relief (ESSER) funds, which can be used for a wide range of purposes — including to reduce "exposure to environmental health hazards," such as lead in drinking water.

Based on the experience of school districts in Michigan and Massachusetts, purchase and installation of water stations with lead-removing filters only cost roughly $3,000 apiece. It would take just a small fraction of the available resources to implement this crucial prevention step toward ending lead contamination of drinking water at every school in America. (And point of use filters for faucets cost far less.)

State Policies: Still Not Making the Grade

SO GIVEN THE OVERWHELMING EVIDENCE OF contamination, feasibility of filters and other preventive steps, and unprecedented resources available to implement them, are states seizing the opportunity to get the lead out?

For this report, we reviewed the laws and regulations pertaining to lead contamination of schools' drinking water (or lack thereof) in all 50 states and the District of Columbia. We then scored those policies based on five main criteria:

- **Solutions:** Do states require prevention at all taps, or just remediation of specific taps where tests detect lead above a certain level ("test and fix")?
- **Lead limit:** What level of lead in water triggers mandatory remedial action?
- **Testing methods:** Is testing of all taps required on a regular basis? How likely are required sampling and testing methods to detect lead in water?
- **Public disclosure:** What information is shared with the public?
- **Applicability:** Do requirements apply to all schools and child care facilities?

Based on the strength of these policies (or lack thereof), we graded the states as shown in Figure 5.

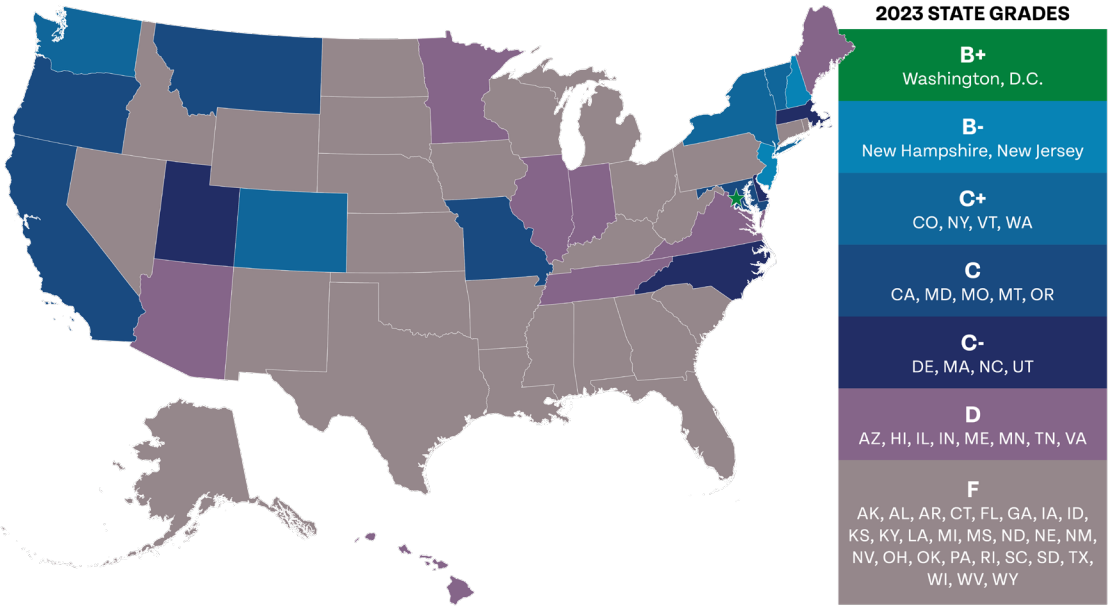


Figure 5: States' grades for policies to prevent lead contamination of schools' water

For a breakdown of how each state earned its grade, please see our Methodology section.

Since our last report in 2019, several states have gone from utter failure to taking at least some incremental steps toward ensuring safe drinking water for children at school. Yet in nearly every case, even these new policies only require remediation of taps where testing confirms lead concentrations in water above a certain threshold. As explained above, because lead concentrations in water are highly variable, such "test and fix" policies are likely to leave lead risks in place at many faucets or fountains where our kids drink water every day.

Four Noteworthy Policies:

Here are four jurisdictions with unique policies that capture key policy elements necessary to stop lead from contaminating drinking water where our children learn and play each day:

Washington, D.C.'s "filter first" ordinance: While not perfect, the District of Columbia has the most protective policy on the books to keep lead from contaminating school drinking water. The U.S. capital is still the only jurisdiction in the country to require installation of lead-removing filters at every drinking water tap in schools. The ordinance also requires annual testing (to ensure filters are working properly). Transparency measures include disclosure of all testing and remediation data online, and bar codes on fountains with access to filter maintenance data. Finally, DC's law applies not only to schools but also early childhood programs and even public parks.[91]

It is perhaps no accident that such a far-reaching measure should emerge in Washington, D.C., as the District has experienced a major crisis with lead in its drinking water back as far as 2003. Many of the policy ideas in the proposed ordinance — including the outlet

State	2017	2019	2023
AK			F
AL		F	F
AR			F
AZ		D	D
CA	F	C+	C
CO		F	C+
CT	F	F	F
DC	B	B+	B+
DE			C-
FL	F	F	F
GA	F	F	F
HI			D
IA			F
ID			F
IL	D	B-	D
IN		F	D
KS			F

State	2017	2019	2023
KY			F
LA		F	F
MA	D	D	C-
MD	F	C	C
ME	F	F	D
MI		F	F
MN		F	D
MO			C
MS			F
MT		F	C
NC		F	C-
ND			F
NE			F
NH		C	B-
NJ	C-	C	B-
NM		F	F
NV			F

State	2017	2019	2023
NY	C	C+	C+
OH	F	F	F
OK			F
OR	F	C+	C
PA	F	F	F
RI		F	F
SC			F
SD			F
TN		F	D
TX	F	F	F
UT			C-
VA		F	D
VT		F	C+
WA	F	F	C+
WI	F	F	F
WV			F
WY			F

Figure 6: State Grades: Then and Now

bar codes — came from parents and long-time lead-in-water activists, who spearheaded the push for this potentially precedent-setting measure.

The DC ordinance does have room for improvement. It does not require replacement of fountains with water stations. Because a filter can only be installed where piping connects a fountain to a schools' water supply, those filters are not capturing lead coming from the fountain itself. Moreover, although activists had pressed officials to adopt the AAP-recommended 1 ppb limit on lead, the city council chose to use a less-protective 5 ppb standard. Thus, while Washington, DC. still receives the highest grade in our report, it is only a B+. (There is no grading on a curve when it comes to safe drinking water for children.)

California pours it on with stringent faucet standards: While the Golden State's overall policy on schools' water "needs improvement," it has a new precedent-setting law that should help advance safer drinking water there and across the nation. As noted earlier, even some faucets meeting the current national "lead-free" standard have been shown to leach significant amounts of lead into drinking water. To solve this problem, the legislature passed AB100 in 2022, which will require new faucets (and other "endpoint devices") to release no more than 1 ppb of lead in water (known as Q≤1 certification, which is much more stringent than the current federal standard). This new law applies not just to schools but for all faucets sold in California — creating a major market for faucet manufacturers to get the lead out.

New Jersey sets 10-year deadline on lead pipes: Although New Jersey also has some homework to do on school-specific policy, the Garden State now has the strongest law in the nation when it comes to lead service lines (LSLs). To address serious and widespread water contamination in Newark, the city was ordered to fully replace all lead service lines — an action largely completed in just 2 years.[92] The rapid accomplishment swept aside excuses often made by water utilities to rationalize the slow pace of pipe replacement. In 2021, Governor Murphy signed a new law setting a 10-year deadline for fully replacing all LSLs in New Jersey.[93] Public health and community advocates have been pressing the EPA to include a 10-year LSL deadline in its update to the federal Lead and Copper Rule, which is expected later this year.

New Hampshire: the Granite State takes a hybrid approach: In 2022, Governor Sununu signed the Lead in Drinking Water in Schools and Licensed Child Care Facilities bill (HB 1421), under which schools and child care centers must *either* install water stations with filters to remove lead *or* test all their drinking water outlets and then remediate taps to ensure lead levels are below 5 ppb. Even when schools opt for new water stations, they must still test other outlets used for drinking water or cooking. Taps above 5 ppb must be shut off until remediated. Testing protocols include testing each tap 2-3 times by 2024, and recommend (but do not seem to require) stagnation overnight. Water stations must be maintained and and have filters replaced (and have indicator lights showing when filter replacement is needed). Test results above 5 ppb must be disclosed and posted online. While not nearly as strong as mandatory prevention at all drinking water taps, it will be interesting to see how many NH school districts choose to install water stations instead of "test and fix."

Extra credit projects

While many states are still not making the grade on protecting children from exposure to lead in school drinking water, there are a handful of states with *proposed* laws or rules that, if adopted, would increase their grade. These states include Michigan, Massachusetts, California, and Minnesota. Figure 7 shows how each of these states' grades would improve if they were to adopt the policy that is currently proposed:

Michigan: With proposed "filter first" legislation, Michigan would become the second jurisdiction in the nation to have a truly prevention-oriented policy for stopping lead contamination of schools' drinking water.[94] The bill for schools would require installing new water stations with filters certified to remove lead, indicator lights, and regular maintenance, testing and filter replacement. The legislation would also require filters at all other taps used for drinking water or cooking. Once water stations

and filters are installed, any tap exceeding 1 ppb would require at least some maintenance; taps exceeding 5 ppb would require automatic shutoff and filter replacement. All test results and remediation must be posted online. In the interim, any unfiltered taps must be marked as such. A similar bill covering child care centers still takes a prevention approach but allows flexibility in plans and types of outlets, and somewhat different testing requirements.[95] The bills were approved by the state senate in 2022 and legislators are expected to reintroduce them in 2023. If both bills become law, they would boost the Great Lakes State's grade from a F to an A.

Massachusetts: An Act Ensuring Safe Drinking Water in Schools (SD 696 and HD 3792) introduced by Sen. Joan Lovely and Rep. Kate Lipper-Garabedian would take a strong hybrid approach toward preventing drinking water contamination.[96] Significantly, this legislation would make Massachusetts the first state in the nation to adopt a 1 part per billion limit on lead. Moreover, if this health-based limit is exceeded at even one tap in a school, then fountains are replaced with filtered water stations and filters must be installed on all other taps used for drinking water or cooking. Taps above 1 ppb are shut off until water stations and filters are installed. Testing is required at all such taps annually using guidance from the state Department of Environmental Protection (which already uses the 3Ts guidance). All test results and remediation must be posted online. If subsequent testing of filtered taps still detects lead, then further remediation is required. The bills would apply to all schools and most child care facilities. While technically this legislation takes a "test and fix" approach, as a practical matter it would result in top-of-the-line prevention measures being taken at all taps in the vast majority of schools and child care centers. If this legislation becomes law, it will boost the Bay State's grade from a C- to an A.

State	Revised Grade w/ Proposed Policy
MI	F to A
MA	C- to A
CA	C to C+
MN	D to C

Figure 7: Adopting proposed policies could improve states' grades

California: While the Golden State is often a leader on environmental health, AB 249 introduced by Assembly Member Holden would at least catch California up to several other states with a 5 ppb "test and fix" policy.[97] The legislation would require testing of all taps used for drinking or cooking but only apply to schools built before 2010. It does not appear to modify existing law regarding frequency, methods, or types of remediation required. Accordingly, even with this new legislation, California's policy grade would marginally improve from a C to a C+.

Minnesota: A similar 5 ppb "test and fix" bill (HF 347) has recently been reintroduced in Minnesota. If we assume that the bill's reference to EPA's 3T's guidance includes a requirement for immediate shut off of taps with elevated lead levels (as well as permanent remediation), then passage of the measure would improve the state's overall policy grade from a D to a C.[98]

Methodology

IN GRADING STATES' POLICIES TO PREVENT LEAD in schools' drinking water, we first assigned points for specific measures based on our assessment of their relative importance in ensuring lead-free water at school:

Policy Requirements	Points
Solutions	**Max Points: 90**
Prevention – replace all fountains with lead-filtering water stations; indicator lights; test, maintain, and replace filters	35
Prevention – install filters at all drinking water/cooking taps; indicator lights; test, maintain, and replace filters	25
Prevention – fixtures/plumbing to meet standard (Q<1), esp. at new schools	15
Immediately shut off of taps exceeding lead limit in water	15
Remediation – install/maintain filters, replace fixtures/plumbing w/ Q≤1 parts	15
Remediation – some action required	10
Lead Limit in Water	**Max Points: 35**
1 ppb (or less)	35
5 ppb	15
greater than 5 ppb	5
Testing	**Max Points: 35**
Several samples per tap, and other testing protocols most likely to detect lead	15
Prohibit protocols known to hide lead (i.e., follow EPA 3Ts)	10
Test all drinking water/cooking taps at every school	15
Test at least some taps at every school	5
Tests every year	5
Test every 2-5 years	2
Only test taps once	1
Public Disclosure	**Max Points: 20**
System risks – unfiltered taps, lead-bearing fixtures/plumbing	5
All test results	5
Information posted online	5
Solutions – actions taken	5
Applicability – requirements apply to all schools and child care facilities	**Max Points: 20**
Base Score	**Max Points: 200**
Bonus Points – Full replacement of all LSLs within 10 years	**Max Bonus: 30 points**
Final Score	

After scoring each state's policies, we then assigned a grade for each state using the following rubric:

Point Range	Grade
0 - 39	F
40 - 64	D
65 - 79	C-
80 - 94	C
95 - 109	C+
110 - 125	B-
126 - 140	B
141 - 155	B+
156 - 170	A-
171 - 185	A
186 - 200	A+

A few notes on our grading methodology. First, while we mostly assessed enforceable laws and regulations, we also sought to award limited, partial credit to states for voluntary programs with demonstrated results. Massachusetts, for example, has tested taps at 72% of its schools, and those schools choosing to participate are required to remediate where lead levels exceed 1 ppb.[99] But voluntary efforts only go so far. Without any enforceable law or regulation to protect children's water at school, the Bay State only earned a C-.

Second, while our analysis graded policies applicable to schools, we gave additional credit to states with rules to stop lead contamination at early childhood programs. As per a previous study by the Environmental Law Institute, some states have requirements that apply solely to child care facilities.[100] We did not grade states on the strength of those separate child care policies in this report.

Third, in several instances, a state policy only partially met one of our criteria. In some cases, assigning points for these policies was relatively straightforward; for example, a state law that applies to all schools but no child care facilities earned 10 out of 20 potential points. But a law that only applies to public schools k-6, or only to publicly-run early childhood programs but not private daycares? We just had to use our best judgment and strive to be consistent with all states.

Fourth, while lead service lines are relatively uncommon at schools, they are the most significant source of lead-water contamination in other places where children live, learn, and play — including child care facilities. Accordingly, our scoring awarded bonus points to states making substantial efforts to replace these toxic pipes that go beyond using dedicated federal funding. Only New Jersey received the full 30 bonus points for the strongest policy, which requires full replacement of LSLs with a 10 year deadline.

Fifth, based on more data and enhanced information on effective solutions since 2019, we adjusted some of the point values we assigned for certain policies in our last report. As a consequence, a few states now have a slightly different grade even if they have made no change in policy since 2019. Conversely, a few states that have improved their policies did not see their point scores increase as much as they would have under our previous scoring. A few states have also issued new clarifications or guidance of existing policies since 2019, and we adjusted our point scores for those as well.

And lastly, to some degree, the successful implementation of lead prevention policies will depend on funding and enforcement. Yet funding comes from so many different sources — including the federal drinking water state revolving fund — that we could not establish a reliable way to assess sufficient funding for any given state's efforts. Similarly, absent uniform data, we had no meaningful way to compare the effectiveness of state enforcement or compliance efforts.

The following chart provides a breakdown of where each state earned (or did not earn) points on our grading structure. After the chart, we also provide narrative explanations and available sources for each state.

Policy Requirements	Points	AL	AK	AZ	AR	CA	CO	CT	DE	DC
Solutions	**Max Points: 90**									
Prevention – replace all fountains with lead-filtering water stations; indicator lights; test, maintain, and replace filters	35									
Prevention – install filters at all drinking water/cooking taps; indicator lights; test, maintain, and replace filters	25									25
Prevention – fixtures/plumbing to meet standard (Q<1), esp. at new schools	15					8				
Immediately shut off of taps exceeding lead limit in water	15			10		15	15		15	15
Remediation – install/maintain filters, replace fixtures/plumbing w/ Q≤1 parts	15									
Remediation – some action required	10			5		10	10		10	10
Lead Limit in Water	**Max Points: 35**									
1 ppb (or less)	35									
5 ppb	15						15			15
greater than 5 ppb	5	5		5	5	5			5	
Testing	**Max Points: 35**									
Several samples per tap, and other testing protocols most likely to detect lead	15									
Prohibit protocols known to hide lead (i.e., follow EPA 3Ts)	10	10		5	10	5	10		10	10
Test all drinking water/cooking taps at every school	15				2.5		15		15	15
Test at least some taps at every school	5	5		5		5				
Tests every year	5									5
Test every 2-5 years	2						2			
Only test taps once	1			1	1	1			1	
Public Disclosure	**Max Points: 20**									
System risks – unfiltered taps, lead-bearing fixtures/plumbing	5					2				3
All test results	5	5		5	5	3	5		5	5
Information posted online	5	5		5	5	5	5		5	5
Solutions – actions taken	5						5			5
Applicability – requirements apply to all schools and child care facilities	**Max Points: 20**					15	15			20
Base Score	**Max Points: 200**	30	0	41	29	74	97	0	66	133
Bonus Points – Full replacement of all LSLs within 10 years	**Max Bonus: 30 points**					15	5			15
Final Score		**30**	**0**	**40**	**29**	**89**	**102**	**0**	**66**	**148**
GRADE		**F**	**F**	**D**	**F**	**C**	**C+**	**F**	**C-**	**B+**

Policy Requirements	Points	FL	GA	HI	ID	IL	IN	IA	KS	KY
Solutions	**Max Points: 90**									
Prevention – replace all fountains with lead-filtering water stations; indicator lights; test, maintain, and replace filters	35									
Prevention – install filters at all drinking water/cooking taps; indicator lights; test, maintain, and replace filters	25									
Prevention – fixtures/plumbing to meet standard (Q<1), esp. at new schools	15									
Immediately shut off of taps exceeding lead limit in water	15									
Remediation – install/maintain filters, replace fixtures/plumbing w/ Q≤1 parts	15									
Remediation – some action required	10			3			10			
Lead Limit in Water	**Max Points: 35**									
1 ppb (or less)	35									
5 ppb	15			15						
greater than 5 ppb	5						5			
Testing	**Max Points: 35**									
Several samples per tap, and other testing protocols most likely to detect lead	15									
Prohibit protocols known to hide lead (i.e., follow EPA 3Ts)	10	10	10	10		10	10	10	10	10
Test all drinking water/cooking taps at every school	15			6		12			3	
Test at least some taps at every school	5						5	3		
Tests every year	5									
Test every 2-5 years	2						2			
Only test taps once	1			1		1		1	1	
Public Disclosure	**Max Points: 20**									
System risks – unfiltered taps, lead-bearing fixtures/plumbing	5									
All test results	5	2	5	5		3			5	5
Information posted online	5	5	5	5					5	5
Solutions – actions taken	5									
Applicability – requirements apply to all schools and child care facilities	**Max Points: 20**					20	10			
Base Score	**Max Points: 200**	17	20	45	0	46	42	14	24	20
Bonus Points – Full replacement of all LSLs within 10 years	**Max Bonus: 30 points**					15	5			
Final Score		**17**	**20**	**45**	**0**	**61**	**47**	**14**	**24**	**10**
GRADE		**F**	**F**	**D**	**F**	**D**	**D**	**F**	**F**	**F**

Policy Requirements	Points	LA	MD	MA	ME	MI	MO	MN	MS	MT
Solutions	**Max Points: 90**									
Prevention – replace all fountains with lead-filtering water stations; indicator lights; test, maintain, and replace filters	35			5						
Prevention – install filters at all drinking water/cooking taps; indicator lights; test, maintain, and replace filters	25									
Prevention – fixtures/plumbing to meet standard (Q<1), esp. at new schools	15									
Immediately shut off of taps exceeding lead limit in water	15		15							7
Remediation – install/maintain filters, replace fixtures/plumbing w/ Q≤1 parts	15						15			
Remediation – some action required	10		10	5						10
Lead Limit in Water	**Max Points: 35**									
1 ppb (or less)	35			10						
5 ppb	15		15				15			15
greater than 5 ppb	5									
Testing	**Max Points: 35**									
Several samples per tap, and other testing protocols most likely to detect lead	15									
Prohibit protocols known to hide lead (i.e., follow EPA 3Ts)	10		10	10	10		10	10		10
Test all drinking water/cooking taps at every school	15		15	5	15		15	15		15
Test at least some taps at every school	5									
Tests every year	5									
Test every 2-5 years	2		2				2	2		2
Only test taps once	1				1					
Public Disclosure	**Max Points: 20**									
System risks – unfiltered taps, lead-bearing fixtures/plumbing	5									3
All test results	5	5	2	5	5		5	5		5
Information posted online	5	5	5	5	5					5
Solutions – actions taken	5		5	5			5			5
Applicability – requirements apply to all schools and child care facilities	**Max Points: 20**		9	5	10		15	9		10
Base Score	**Max Points: 200**	10	88	55	46	0	82	41	0	87
Bonus Points – Full replacement of all LSLs within 10 years	**Max Bonus: 30 points**			10		20				
Final Score		**10**	**88**	**65**	**46**	**20**	**82**	**41**	**0**	**87**
GRADE		**F**	**C**	**C-**	**D**	**F**	**C**	**D**	**F**	**C**

Policy Requirements	Points	NE	NV	NH	NJ	NM	NY	NC	ND	OH
Solutions	**Max Points: 90**									
Prevention – replace all fountains with lead-filtering water stations; indicator lights; test, maintain, and replace filters	35			20						
Prevention – install filters at all drinking water/cooking taps; indicator lights; test, maintain, and replace filters	25									
Prevention – fixtures/plumbing to meet standard (Q<1), esp. at new schools	15									
Immediately shut off of taps exceeding lead limit in water	15			15	15		15	15		
Remediation – install/maintain filters, replace fixtures/plumbing w/ Q≤1 parts	15									
Remediation – some action required	10		5	10	10		10	10		3
Lead Limit in Water	**Max Points: 35**									
1 ppb (or less)	35									
5 ppb	15			15			15			
greater than 5 ppb	5		5		5			5		5
Testing	**Max Points: 35**									
Several samples per tap, and other testing protocols most likely to detect lead	15									
Prohibit protocols known to hide lead (i.e., follow EPA 3Ts)	10	10	10	7	10		10	10	10	10
Test all drinking water/cooking taps at every school	15		8	15	15		15	15		2
Test at least some taps at every school	5									
Tests every year	5									
Test every 2-5 years	2			2	1		2			
Only test taps once	1		2					1		1
Public Disclosure	**Max Points: 20**									
System risks – unfiltered taps, lead-bearing fixtures/plumbing	5				0					
All test results	5	5		3	5		5	2		
Information posted online	5	5		5	5		5			
Solutions – actions taken	5				5		5			
Applicability – requirements apply to all schools and child care facilities	**Max Points: 20**			20	20		15	19		
Base Score	**Max Points: 200**	20	30	112	91	0	97	77	10	21
Bonus Points – Full replacement of all LSLs within 10 years	**Max Bonus: 30 points**				30		5			
Final Score		**20**	**30**	**112**	**121**	**0**	**102**	**77**	**10**	**21**
GRADE		**F**	**F**	**B-**	**B-**	**F**	**C+**	**C-**	**F**	**F**

Policy Requirements	Points	OK	OR	PA	RI	SC	SD	TN	TX	UT
Solutions	**Max Points: 90**									
Prevention – replace all fountains with lead-filtering water stations; indicator lights; test, maintain, and replace filters	35									
Prevention – install filters at all drinking water/cooking taps; indicator lights; test, maintain, and replace filters	25									
Prevention – fixtures/plumbing to meet standard (Q<1), esp. at new schools	15									
Immediately shut off of taps exceeding lead limit in water	15		15					15		
Remediation – install/maintain filters, replace fixtures/plumbing w/ Q≤1 parts	15									
Remediation – some action required	10		10	10				10		10
Lead Limit in Water	**Max Points: 35**							5		
1 ppb (or less)	35									
5 ppb	15									15
greater than 5 ppb	5		5	5				5		
Testing	**Max Points: 35**									
Several samples per tap, and other testing protocols most likely to detect lead	15									
Prohibit protocols known to hide lead (i.e., follow EPA 3Ts)	10	10	10		8	10		8	5	10
Test all drinking water/cooking taps at every school	15		12							15
Test at least some taps at every school	5			1	5			5		
Tests every year	5			1						
Test every 2-5 years	2		1					2		
Only test taps once	1									1
Public Disclosure	**Max Points: 20**									
System risks – unfiltered taps, lead-bearing fixtures/plumbing	5									
All test results	5	5	5	2	5	5		2	5	5
Information posted online	5	5	5	5	5	5			5	5
Solutions – actions taken	5		3							
Applicability – requirements apply to all schools and child care facilities	**Max Points: 20**		19	10				9		10
Base Score	**Max Points: 200**	20	85	34	23	20	0	61	15	71
Bonus Points – Full replacement of all LSLs within 10 years	**Max Bonus: 30 points**		5	5						
Final Score		**20**	**90**	**39**	**23**	**20**	**0**	**61**	**15**	**71**
GRADE		**F**	**C+**	**F**	**F**	**F**	**F**	**D**	**F**	**C-**

Policy Requirements	Points	VT	VA	WA	WV	WI	WY
Solutions	**Max Points: 90**						
Prevention – replace all fountains with lead-filtering water stations; indicator lights; test, maintain, and replace filters	35						
Prevention – install filters at all drinking water/cooking taps; indicator lights; test, maintain, and replace filters	25						
Prevention – fixtures/plumbing to meet standard (Q<1), esp. at new schools	15						
Immediately shut off of taps exceeding lead limit in water	15	15		7			
Remediation – install/maintain filters, replace fixtures/plumbing w/ Q≤1 parts	15	15		15			
Remediation – some action required	10		10				
Lead Limit in Water	**Max Points: 35**						
1 ppb (or less)	35	20					
5 ppb	15			15			
greater than 5 ppb	5		5				
Testing	**Max Points: 35**						
Several samples per tap, and other testing protocols most likely to detect lead	15						
Prohibit protocols known to hide lead (i.e., follow EPA 3Ts)	10	10	10	10			10
Test all drinking water/cooking taps at every school	15	15	15	15			
Test at least some taps at every school	5						
Tests every year	5						
Test every 2-5 years	2	2		2			
Only test taps once	1		1				
Public Disclosure	**Max Points: 20**						
System risks – unfiltered taps, lead-bearing fixtures/plumbing	5						
All test results	5	5	2	4			
Information posted online	5			5			
Solutions – actions taken	5	5		5			
Applicability – requirements apply to all schools and child care facilities	**Max Points: 20**	20	10	20			
Base Score	**Max Points: 200**	107	53	98	0	0	10
Bonus Points – Full replacement of all LSLs within 10 years	**Max Bonus: 30 points**					10	
Final Score		**107**	**53**	**98**	**0**	**10**	**10**
GRADE		**C+**	**D**	**C+**	**F**	**F**	**F**

How the States Earned Their Grades: *Explanations and sources*

Alabama — Grade: F (30/200 points)

Alabama began a voluntary testing program in 2017, with a goal of testing water at all schools. As of February 2023, the state DEM reports that samples from 1,000 out of 1,500 public schools have been submitted so far and a second phase of testing is underway. Testing follows EPA's 3Ts guidelines. It is not clear that all taps used for cooking or drinking are tested at each school. No remediation or shut off is required.

Sources:

1. Alabama DEM, Lead Testing in Public Schools Program, accessed Feb 3, 2023 at https://adem.alabama.gov/programs/water/drinkingwater/schoolpb.cnt
2. Alabama DEM, Lead Testing in Schools Results, accessed Feb 3, 2023 at https://adem.alabama.gov/newsEvents/reports/Results.pdf

Alaska — Grade: F

Alaska has no state laws or regulatory requirements to address lead in schools' drinking water. See e.g., https://dec.alaska.gov/eh/dw/regulations/

Arizona — Grade: D (41/200 points)

Arizona has no state laws or regulatory requirements to address lead in schools' drinking water. The state did conduct a significant voluntary testing program — testing at least some taps in all public schools. Remediation taken is unclear. The Arizona Dept of Environmental Quality (ADEQ) webpage states that "immediate corrective action" was taken at fixtures above 15 ppb, and its powerpoint slides indicate some taps were shut off or signage posted. The agency's testing report also states that corrective action was *suggested* for those taps and that it is "actively working with" districts to replace those fixtures. Moreover, the program retested all taps initially above 15 ppb ("confirmation testing") and then told schools that remediation was only warranted for taps exceeding this level a second time. This is *the exact opposite* of how to account for high variability of lead in water in a way that protects children's health. ADEQ's report then misleadingly stated in its testing report that 96 percent of fixtures tested are safe. To their credit, the agency's report also includes a summary of all initial test results, which clearly shows that lead was detected at roughly half the taps tested. And test results online show all levels of lead detected.

Sources:

1. ADEQ, "Public School Drinking Water Lead Screening Program Corrective Action Guidance." Accessed March 6th 2019 at http://static.azdeq.gov/wqd/pb_schools/corrective_action_guide.pdf
2. Arizona Department of Environmental Quality, "Arizona Department of Environmental Quality Public School Lead Drinking Water Screening Program Sampling Plan & Collection Log for Experienced Sample Collectors." Accessed March 6th 2019 at http://static.azdeq.gov/wqd/pb_schools/sample_collection_short.pdf
3. ADEQ presentation on testing (showing some taps capped or signage posted), at https://prezi.com/view/naNja17IbrJ1Xu26ks44/
4. ADEQ Lead in Drinking Water Results. available at https://www.azdeq.gov/azdwlead_screening

Arkansas — Grade: F (29/200 points)

Arkansas has no state laws or regulatory requirements to address lead in schools' drinking water. The state does have a voluntary program which aims to test all outlets used for consumption at 15 percent of all school buildings (and 50% of child care facilities). The program includes voluntary remediation of taps exceeding 15 ppb. The testing program is federally funded and will adhere to EPA's 3Ts guidance. School districts will disclose all test results on their websites.

Sources :

1. Lead Testing in School and Child Care Program Drinking Water Grant – Work Plan for the State of Arkansas, accessed Feb 3, 2023 at https://dese.ade.arkansas.gov/Files/20201230123103_Lead_Testing_Work_Plan.pdf

California — Grade: C (89/200 points)

California has a weak "test and fix" law that only limits lead in schools' water at the federal action level (currently 15 ppb). Moreover, schools are only required to test some taps, on a one-time basis, and no remediation is required if subsequent tests do not find lead above the action level. Remediation refers to EPA's 3Ts guidance (as opposed to mandating filters, etc.), and schools only must disclose test results above 5 ppb, giving families an incomplete picture of lead contamination. The law only applies to schools and (child care/ECE centers on school grounds) built before 2010. On a more positive note, a precedent-setting 2022 law now requires at least some new fixtures (e.g., faucets) to release no more than 1 ppb of lead into water (the stringent Q<1 standard). California is requiring replacement of lead service lines; however, timelines are determined by the state water board, and goosenecks and galvanized pipes are not included. For these reasons, we only awarded 15 out of 30 bonus points for LSL policy.

Sources:

1. California Water Boards, "SAMPLING GUIDANCE: Collecting Drinking Water Samples for Lead Testing At K-12 Schools," December, 8 2017. at https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/leadsamplinginschools/sampling_guidance_final.pdf
2. Cal. Health & Safety Code § 116876, added by Stats.2021, c. 692 (A.B.100), s1, eff. Jan. 1, 2022 https://law.justia.com/codes/california/2021/code-hsc/division-104/part-12/chapter-5/article-4/section-116876/
3. Lead Service Lines: An act to add Section 116885 to the Health and Safety Code, relating to drinking water, SB 1398. September 27th 2016. Cal. Health & Safety Code § 116885 Available at http://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201520160SB1398
4. Health and Safety Code: Pure and Safe Drinking Water, *Article 1 added by Stats. 1995, Ch. 415, Sec. 6.* Cal. Health & Safety Code § D. 104, Pt. 12, Ch. 4, art. 1. https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=HSC&division=104.&title=&part=12.&chapter=4.&article=1.
5. California Water Board, "Lead Sampling of Drinking Water," February 15th, 2019. Available at https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/leadsamplinginschools.html
6. California Water Board, "Lead Service Line Inventory Requirement for Public Water Systems," February 14th, 2019. Available at https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/lead_service_line_inventory_pws.html

Colorado — Grade: C+ (102/200 points)

Colorado's new Clean Water In Schools And Child Care Centers law (2022) requires testing of all drinking water taps (frequency unspecified), sets a 5 ppb limit, requires shut off and some form of remediation (which "may include" filtration systems), and disclosure of all test results and remediation online. We assigned 12 out of 20 points for Applicability as the law's requirements only apply to K-5 schools (optional for grades 6-8) and child care facilities not covered by federal law (LCR) and allows "family child care homes" to opt out of its requirements. We awarded 5 out of 30 Bonus Points for Denver Water's plan to replace lead service lines in 15 years, although there is no statewide mandate. (In fact, funding established under the new 5 ppb law cannot be used to replace these toxic pipes at schools or child care facilities.)

Sources:

1. Colo. Rev. Stat. Ann. § 25-8-903
2. CDPHE, Test and Fix Water for Kids accessed Jan 27, 2023

Connecticut — Grade: F (00/200 points)

Connecticut has no state laws or regulatory requirements to address lead in schools' drinking water.

Delaware — Grade: C- (66/200 points)

Delaware currently has no enforceable law or regulation on lead in schools' water. After an initial round of flawed testing from an EPA grant beginning in 2020, the Delaware Dept. of Education has now committed to retest all taps used for consumption using state funds (but presumably following EPA's 3Ts guidance for testing protocols). The state says it will now test all drinking water taps at all schools. In a recent letter to families, the state Dept. of Education says that, at EPA's request, all taps where lead samples exceed 7.5 ppb are being shut off (or signage posted). A separate information sheet states that such taps will either be removed from service or remediated. All test results are being posted online as of February 2023. Notwithstanding these encouraging announcements, one could argue that Delaware still deserves a failing grade, as it so far has neither enforceable laws nor a voluntary program with substantial demonstrated results. For now, we choose to take state officials at their word, and award Delaware partial credit based on

recent communications. We reserve the right to retract this C- grade if actions do not follow.

On a more positive note: At a legislative hearing in January 2023, state Education Secretary Mark Holodick stated that he hopes to eventually implement a "filter first" policy and get to "non-detect" levels of lead at all taps. Should those aspirations become law in Delaware, the state would emerge as a leader on safe drinking water at school.

Sources:

1. Delaware Dept of Education, Drinking Water Sampling at Delaware Schools, at https://publichealthalerts.delaware.gov/wp-content/blogs.dir/203/files/sites/203/2023/01/Lead-Sampling-Info-Sheet-Parents-1.9.23.pdf and Letter to Parents, both accessed from the State of Delaware's Safe School Drinking Water webpage, at https://publichealthalerts.delaware.gov/safe-school-drinking-water/
2. State of Delaware, 2023 Lead in Drinking Water Sampling Dashboard, accessed at https://data.delaware.gov/stories/s/2023-Lead-in-Drinking-Water-Sampling-Results-Dashb/pc3b-a6j3
3. Cris Barrish, Momentum builds to install filtered water stations in all Delaware schools to 'get the lead out, WHYY, Feb 1, 2023 at https://whyy.org/articles/filtered-water-stations-delaware-schools-lead-problem/

District of Columbia Grade: B+ (148/200 points)

DC has the most protective policy on the books to keep lead from contaminating school drinking water. The U.S. capital is still the only jurisdiction in the country to require installation of lead-removing filters at every drinking water tap in schools. The ordinance also requires annual testing (to ensure filters are working properly). Transparency measures include disclosure of all testing and remediation data online, and bar codes on fountains with access to filter maintenance data. Finally, DC's law applies not only to schools but also early childhood programs and even public parks. In addition, DC Water has at least a goal of replacing all lead service lines by 2030 (though it has apparently allowed some partial replacements); we awarded 15 out of 30 bonus points for this LSL plan.

The DC ordinance does have room for improvement. It does not require replacement of fountains with water stations, and the lead limit is 5 ppb. Thus, while Washington, D.C. still receives the highest grade in our report, it is only a B+. (There is no grading on a curve when it comes to safe drinking water for children.)

Sources:

1. § 38–825.01a. Prevention of lead in drinking water in schools. Available at https://code.dccouncil.us/dc/council/code/sections/38-825.01a.html
2. DC Water, "New District Lead Service Line Replacement Program Offers Historic Opportunity To Replace Old Plumbing," December 6th 2018. Available at https://www.dcwater.com/whats-going-on/news/new-district-lead-service-line-replacement-program-offers-historic-opportunity
3. Department of General Services, "Water Filtration and Testing Protocol," September 28th 2017. Available at https://dgs.dc.gov/sites/default/files/dc/sites/dgs/publication/attachments/Water-Filtration-and-Testing-Protocol-9-28-17.pdf
4. DC Water, "DC Water Service Information" Available at https://geo.dcwater.com/Lead/
5. District of Columbia Public Schools, "Early Learning" Available at https://dcps.dc.gov/ece
6. DC Water, Lead Free DC by 2030, at https://www.dcwater.com/lead
7. DC Dept of Energy & Environment, Lead Pipe Replacement and Safer Drinking Water, accessed Feb. 10, 2023 at https://doee.dc.gov/service/lead-pipe-replacement-and-safer-drinking-water

Florida Grade: F (17/200 points)

Florida has no state laws or regulatory requirements to address lead in schools' drinking water. Florida does now have a federally funded voluntary testing program, which follows EPA's 3Ts guidance. Less than 10% of FL schools have participated as of early 2023. The test results shown online only include the highest lead concentration per school and number of taps where lead exceeded 15 ppb, which gives the public a very limited view of water contamination. Sources: Caroline Packenham, How States Are Handling Lead in School Drinking Water, NASBE, (Nov. 2021) at Table 1, accessed at https://www.nasbe.org/how-states-are-handling-lead-in-school-drinking-water/; and Florida DEP, Voluntary Lead Testing Program for Schools and Childcare Facilities, accessed Feb. 13, 2023 at https://floridadep.gov/water/source-drinking-water/content/voluntary-lead-testing-program-schools-and-childcare-facilities

Georgia — Grade: F (20/200 points)

Georgia has no state laws or regulatory requirements to address lead in schools' drinking water. Georgia does have a federally funded voluntary testing program, which we assume means it follows EPA's 3Ts guidance. All test results are available online. The program summary only shows 2,225 water samples from schools as of early 2023. Sources: Caroline Packenham, How States Are Handling Lead in School Drinking Water, NASBE, (Nov. 2021) at Table 1, accessed at https://www.nasbe.org/how-states-are-handling-lead-in-school-drinking-water/; and Clean Water for Georgia Kids (testing program), accessed on Feb. 13, 2023 at https://www.cleanwaterforuskids.org/georgia

Hawaii — Grade: D (45/200 points)

While Hawaii has no state laws or regulatory requirements to address lead in schools' drinking water, the state does have a robust voluntary program that has tested taps at 85% of elementary schools (178 out of 210). Funded by a $2 million EPA grant, the program follows 3Ts guidance for testing protocols. The state is planning to replace all fixtures in these schools where lead levels exceed 5 ppb. All test results are disclosed in reports available online.

Sources:

1. https://health.hawaii.gov/news/newsroom/lead-in-drinking-water-at-selected-hawaii-public-schools-and-child-care-facilities-linked-to-faucet-fixtures-no-longer-being-used-while-monitoring-continues/
2. https://health.hawaii.gov/heer/environmental-health/highlighted-projects/wiin/
3. https://health.hawaii.gov/heer/environmental-health/highlighted-projects/wiin/corrective-action/
4. Stage 2 final report: https://health.hawaii.gov/heer/files/2022/11/Stage-2-Final-Report.pdf
5. U.S. News Education (showing 210 elementary schools in Hawaii) at https://www.usnews.com/education/k12/hawaii/districts/hawaii-department-of-education-106677

Idaho — Grade: F

Idaho has no state laws or regulatory requirements to address lead in schools' drinking water. The state does have a voluntary testing program, but as of January 2023, the program's website gives no information about the number of schools or taps tested, disclosure of test results, or remediation completed. Source: Idaho DEQ, Lead in Drinking Water at Schools and Child Care Facilities, accessed Feb. 3, 2023 at https://www.deq.idaho.gov/water-quality/grants-and-loans/lead-in-drinking-water-at-schools-and-child-care-facilities/

Illinois — Grade: D (61/200 points)

Illinois requires most schools to test their water, but requires no remediation. We interpret Illinois law as now requiring schools constructed before 2014 to test all drinking water taps for lead. (The statute required testing for pre-2000 schools but also directed the Illinois Dept of Public Health (IDPH) to determine if testing at newer schools is necessary, which it did.) Schools must notify families of test results over 5 ppb, but the law does not require mitigation. The state has significantly stronger rules for child care facilities — including mandatory remediation of all taps where lead levels exceed 2 ppb. Illinois also now has a law requiring replacement of lead service lines, but larger communities are given timelines that extend for decades.

In 2019, we relied on language on the IDPH website that strongly suggested schools must remediate taps where any level of lead is detected. It is now our understanding that this language is only the agency's recommendation, and that there is no enforceable remediation requirement for schools. Accordingly, Illinois' grade has dropped substantially from our last report.

Sources:

1. 225 Ill. Comp. Stat. Ann. 320/35.5
2. Illinois Department of Public Health, Lead in Water Testing at Schools and Child Care Facilities (concluding pre-2014 schools should test), available at https://dph.illinois.gov/topics-services/environmental-health-protection/lead-in-water/testing-schools-child-care-facilities.html
3. DCFS, Lead Testing of Water (for child care facilities), accessed at https://sunshine.dcfs.illinois.gov/Content/Licensing/LeadTesting.aspx See also Lead Care Illinois, Illinois Lead in Water Testing Rules accessed at https://leadcareillinois.org/illinois-lead-in-water-testing-rules/
4. Lead Service Line Replacement and Notification Act, Public Law 102-0613, accessed at https://ilga.gov/legislation/BillStatus.asp?DocNum=3739&GAID=16&DocTypeID=HB&LegID=132788&SessionID=110&SpecSess=&Session=&GA=102 See also IEC, Ill. Gov. JB Pritzker signs bill to replace toxic lead service lines, Aug. 30, 2021 at https://ilenviro.org/illinois-gov-jb-pritzker-signs-bill-to-replace-toxic-lead-service-lines/

Indiana — Grade: D (47/200 points)

In 2020, the legislature passed HEA 1265, which requires schools to test their water, and some type of remediation is required if lead levels exceed 15 ppb. The number of taps to be tested is unclear. The law appears to only require one-time testing, except in Lake County, where testing is required every 2 years. While no public disclosure is specified in the law, the Indiana Finance Authority that provides funding to cover school testing does require disclosure of test results either in office or online. Separately, the Indiana subsidiary of American Water is moving forward with a plan to replace an estimated 25% of lead service lines in the state over 10-35 years.

Sources:

1. Ind. Code Ann. § 16-41-21.1-3 (same as bill HEA 1265) https://iga.in.gov/legislative/2020/bills/house/1265#document-cd7504d9
2. IFA Phase II of the Lead Sampling Program https://www.in.gov/ifa/lead-sampling-program/phase-ii-2019-current/
3. Tom Neltner, American Water lays out a plan for replacing lead pipes in its Indiana system, EDF, Feb. 24, 2018 at https://blogs.edf.org/health/2018/02/24/american-water-plan-replacing-lead-pipes-indiana/
4. Sara Jerome, $177 Million Job: Replacing Indiana's Lead Service Lines, Water Online, Aug. 7, 2018 at https://www.wateronline.com/doc/million-job-replacing-indiana-s-lead-service-lines-0001

Iowa — Grade: F (14/200 points)

Iowa has no state laws or regulatory requirements to address lead in schools' drinking water. The state has received funding from EPA for a voluntary testing program, with a goal of testing (at least some taps?) at 60% of "eligible" schools. However, testing was delayed until 2022, and we have not seen test results online as of early 2023. Moreover, the Iowa Dept. of Education says it will follow EPA's 3Ts guidance but also says its training for schools will use a 15 ppb lead level, and even at that level, there is no indication that remediation will be required. The EPA's 3Ts guidance urges schools to "reduce their lead levels to the lowest possible concentrations."

Sources:

1. Caroline Packenham, How States Are Handling Lead in School Drinking Water, NASBE, (Nov. 2021) at Table 1, accessed at https://www.nasbe.org/how-states-are-handling-lead-in-school-drinking-water/
2. IA Dept of Education, WIIN Lead Testing in Schools and Child Care Program Drinking Water Grants, March 9, 2022, accessed at https://educateiowa.gov/sites/default/files/documents/WIINPublicGuidance3-9-22.pdf
3. U.S. EPA, 3Ts for Reducing Lead in Drinking Water in Schools and Child Care Facilities, updated October 2018, at 36. Available at https://www.epa.gov/sites/production/files/2018-09/documents/final_revised_3ts_manual_508.pdf

Kansas — Grade: F (24/200 points)

Kansas has no state laws or regulatory requirements to address lead in schools' drinking water. It does have a voluntary testing program, which is funded by EPA, uses the 3Ts guidance, and has data from 239 out of 1,305 schools in the state.

Sources:

1. Caroline Packenham, How States Are Handling Lead in School Drinking Water, NASBE, (Nov. 2021) at Table 1, accessed at https://www.nasbe.org/how-states-are-handling-lead-in-school-drinking-water/
2. Kansas Dept of Health & Env., Lead Testing in Schools & Child Care Facilities, at https://www.kdhe.ks.gov/1993/Lead-Testing-in-Schools-Child-Care-Facil
3. Kansas Dept of Health & Env., Kansas Lead in Facilities Sampling Program, at https://kansas.120wateraudit.com/
4. Ballotpedia, Public Education in Kansas, at https://ballotpedia.org/Public_education_in_Kansas

Kentucky — Grade: F (20/200 points)

Kentucky has no state laws or regulatory requirements to address lead in schools' drinking water. It does have a voluntary testing program, which is funded by EPA and uses the 3Ts guidance. All test results will be posted online, but no remediation is required. Sources: Caroline Packenham, How States Are Handling Lead in School Drinking Water, NASBE, (Nov. 2021) at Table 1, accessed at https://www.nasbe.org/how-states-are-handling-lead-in-school-drinking-water/; and KY E&E Cabinet, Voluntary Lead Testing in Schools, at https://eec.ky.gov/Environmental-Protection/Water/Drinking/Pages/school-lead-testing.aspx

Louisiana — Grade: F

Louisiana has no laws or regulatory requirements to address lead in schools' drinking water. It did have a pilot voluntary testing program at 12 schools.

Sources:

1. Louisiana Department of Health, "School Water testing Pilot Program." Accessed March 6 2019 at http://ldh.la.gov/index.cfm/page/3275
2. "An Act to enact R.S. 40:5.6.1, relative to safe drinking water; to authorize a pilot program for 3 drinking water testing at schools; and to provide for related matters." *HB. 632.* 2018 Available at http://www.legis.la.gov/legis/ViewDocument.aspx?d=1103405

Maine — Grade: D (46/200 points)

In 2019, the Maine legislature passed LD 153 (An Act to Strengthen Testing for Lead in School Drinking Water), which requires all K-12 schools to test their taps for lead (frequency to be determined). While the statute would appear to require remediation — ("If the water is found to violate the water lead levels established by the department, the department shall issue an order to reduce exposure to lead according to procedures established by the department pursuant to subsection 2") — the department's website states only recommends remediation at 4 ppb but says that the law "does not require remediation." All test results are available online.

Sources

1. Me. Rev. Stat. tit. 22, § 2604-B; LD 153 https://mainelegislature.org/legis/bills/display_ps.asp?ld=153&PID=1456&snum=129 and https://www.maine.gov/dhhs/mecdc/environmental-health/dwp/cet/documents/ld153.pdf
2. A Guide to Lead Testing in Maine Schools, https://www.maine.gov/dhhs/mecdc/environmental-health/dwp/cet/documents/guideToLeadTestingMaineSchools.pdf
3. Lead Testing in Maine K-12 Schools, https://leadtestingmaineschools.com/

Maryland — Grade: C (88/200 points)

Maryland's Safe School Drinking Water Act (2021) requires testing of all drinking water taps every 3 years, sets a 5 ppb limit, and requires shut off and "appropriate remediation" (including filters and replacement but also flushing). Schools are only required to disclose test results exceeding 5 ppb, giving families an incomplete picture of lead contamination. Disclosure of remediation is also required. We assigned 9 out of 20 points for Applicability as the law applies to all schools not covered by federal law (LCR) but not child care facilities.

Sources:

1. Safe School Drinking Water Act (HB636), at https://mgaleg.maryland.gov/mgawebsite/Legislation/Details/HB0636?ys=2021RS
2. MDE, Testing for Lead in Drinking Water — Public and Nonpublic Schools: Testing Requirements and Related Documents, accessed Feb. 3, 2023 at https://mde.maryland.gov/programs/Water/water_supply/Documents/SLT_MDE_Testing_Requirements_and_Related_Documents.pdf

Massachusetts — Grade: C- (65/200 points)

While Massachusetts has no law requiring schools to prevent lead contamination of their water, it does have the most robust voluntary program in the nation. All participating schools are required to remediate any tap where lead levels exceed 1 ppb. As of February 2023, more than 72% of schools in Massachusetts had participated in the voluntary program, which also has full disclosure of all test results and remediation online. The Commonwealth has also allocated $5 million in funding for installing filtered water stations and other solutions. Water utilities have also dedicated more than $100 million towards replacing lead service lines (MRWA and BWSC, for example), earning the Bay State 10 out of 30 bonus points.

Sources:

1. MA DEP, Follow-Up Steps for Schools and EECF with Lead Detections Over 1 ppb or Copper Results Over the Action Level, at https://www.mass.gov/guides/follow-up-steps-for-schools-and-eecf-with-lead-detections-over-1-ppb-or-copper-results-over-the-action-level
2. Email correspondence with Yvette DiPeiza at MA DEP, Feb. 14, 2023 (confirming 1,272 schools participating in the voluntary program and required remediation)
3. MA EEA, Lead and Copper School Sampling Results, at https://www.mass.gov/service-details/lead-and-copper-in-school-drinking-water-sampling-results
4. Ballotpedia, Public Education in Mass. (1,751 schools in the state) accessed Feb. 14, 2023 at https://ballotpedia.org/Public_education_in_Massachusetts#:~:text=In%202022%2C%20Massachusetts%20had%20896%2C103,on%20average%20%2418%2C733%20per%20pupil.
5. Clean Water Trust's School Water Improvement Grant (SWIG) program at https://www.mass.gov/service-details/about-swig

Michigan Grade: F (20/200 points)

Nearly a decade after the advent of the Flint water crisis, Michigan still has no law or regulation to stop lead contamination of schools' drinking water. The state has set a 20 year deadline for replacement of all lead service lines, for which we assigned 20 out of 30 bonus points. Sources: Caroline Packenham, How States Are Handling Lead in School Drinking Water, NASBE, (Nov. 2021) at Table 1, accessed at https://www.nasbe.org/how-states-are-handling-lead-in-school-drinking-water/; and State Lead and Copper Rule, Mich. Admin. Code R. 325.10604f(6)

Minnesota Grade: D (41/200 points)

Minnesota law requires public schools to test taps used for drinking water and cooking, but it does not require remediation. Test results over an unspecified action level must be disclosed if no remediation is done.

Sources:

1. 2018 Minnesota Statutes, "121A.335 Lead in School Drinking Water, at https://www.revisor.mn.gov/statutes/cite/121A.335
2. MN DOH and DOE, Education and Communication Toolkit: Reducing Lead in Drinking Water, at https://www.health.state.mn.us/communities/environment/water/docs/toolkit.pdf
3. MN DOH and DOE, Reducing Lead in Water — A Technical Guidance and Model Plan for MN Public Schools, at https://www.health.state.mn.us/communities/environment/water/docs/pbschoolguide.pdf

Mississippi Grade: F

Mississippi has no state laws or regulatory requirements to address lead in schools' drinking water. While the state's SafeSip program is testing child care facilities on a voluntary basis, we could find no documentation of substantial school testing. Sources: Caroline Packenham, How States Are Handling Lead in School Drinking Water, NASBE, (Nov. 2021) at Table 1, accessed at https://www.nasbe.org/how-states-are-handling-lead-in-school-drinking-water/

Missouri Grade: C (82/200 points)

Missouri's Get the Lead Out of School Drinking Water Act requires testing of all drinking water taps (25% per year, frequency thereafter varies), sets a 5 ppb limit, requires filtration and some replacement (of lead-bearing fountains) for remediation, and disclosure of all test results and remediation to families (but not online). We assigned 15 out of 20 points for Applicability as the law applies to all schools and early childhood education centers but not other child care facilities. Source: Mo. Ann. Stat. § 160.077

Montana Grade: C (87/200 points)

Following a report by Environment Montana that showed lead was found in 75 percent of school water tests, the Montana Dept. of Environmental Quality adopted a rule requiring schools to test all taps used for drinking and cooking every 3 years. Outlets finding lead over 15 ppb must be immediately shut off, and those exceeding 5 ppb must be "fixed, replaced or removed from service." School districts must create an inventory of plumbing materials and fixtures, and submit all testing data and remediation status, which are available on DEQ's website.

Sources:

1. Mont. Admin. R. 37.111.832 Public Health Rule (see subsection 8)
2. Montana DEQ, Lead in Schools at https://deq.mt.gov/water/programs/dw-lead
3. Nicky Oullet, "Proposed Rule Would Require Lead Testing at All Montana Schools," October 30th, 2018 available at http://www.mtpr.org/post/proposed-rule-would-require-lead-testing-all-montana-schools

New Hampshire Grade: B- (112/200 points)

In 2022, Governor Sununu signed the Lead in Drinking Water in Schools and Licensed Child Care Facilities bill (HB 1421), which takes a unique hybrid approach to addressing lead contamination: schools and child care centers must *either* install water stations with filters to remove lead *or* test all their drinking water outlets and then remediate taps to ensure lead levels are below 5 ppb. Even when schools opt for new water stations, they must still test other outlets used for drinking water or cooking. Taps above 5 ppb must be shut off until remediated. Testing protocols include testing

each tap 2-3 times by 2024, and recommend (but do not seem to require) stagnation overnight. Water stations must be maintained and and have filters replaced (and have indicator lights showing when filter replacement is needed). Test results above 5 ppb must be disclosed and posted online.

Sources

1. N.H. Rev. Stat. § 485:17-a
2. NH DES, House Bill 1421 Reduces Allowable Lead in Drinking Water at Schools and Licensed Child Care Facilities at https://www.des.nh.gov/news-and-media/house-bill-1421-reduces-allowable-lead-drinking-water-schools-and-licensed-child
3. NH DES, Lead in Drinking Water Sampling Guidance, at https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/glo-dw-sampling.pdf

New Jersey — Grade: B- (112/200 points)

New Jersey has fairly weak "test and fix" rules on lead in water at schools and child care that only limit lead to the federal action level (currently 15 ppb). (Testing is every 3 years and online disclosure of test results and remediation is required.) In contrast, the state takes a preventative approach to lead service lines; its 2021 best-in-the-nation law mandates full replacement of these toxic pipes within 10 years, for which we added 30 out of 30 bonus points to the state's overall grade.

Sources:

1. New Jersey Education Code, N.J.A.C. 6A:26, EDUCATIONAL FACILITIES (schools)
2. N.J. Admin. Code § 3A:52-5.3 (i) 5 (child care)
3. Chapter 183, AN ACT concerning the replacement of lead service lines and supplementing Title 58 of the Revised Statutes N.J. Stat. Ann. § 58:12A-40.
4. NJ Dept of Health, Lead in Drinking Water at Schools and Child Care Centers (stating shut-off requirement).

New Mexico — Grade: F (0/200 points)

New Mexico has no state laws or regulatory requirements to address lead in schools' drinking water. Source: Caroline Packenham, How States Are Handling Lead in School Drinking Water, NASBE, (Nov. 2021) at Table 1, accessed at https://www.nasbe.org/how-states-are-handling-lead-in-school-drinking-water/

New York — Grade: C+ (102/200 points)

As its name indicates, New York's School Potable Water Testing and Standards law (2022) is a "test and fix" policy with a 5 ppb lead limit, which requires testing of all drinking water taps every 3 years, shut off, and some form of remediation. Pending clarifying rules, we interpret the law as requiring disclosure of test results showing any level of lead, and of remediation, online. As the law applies to all schools and pre-K programs in public buildings but lead testing is still voluntary for private child care centers, we assigned 15 out of 20 points for Applicability. Compared to scale, the state provided relatively minor funding ($20 million) for voluntary lead service line replacement as far back as 2017, for which we awarded 5 out of 30 bonus points this year.

Sources:

1. Law (schools) N.Y. Pub. Health Law § 1110
2. Lead FAQs for Child Care Facilities, Office of Children and Family Services accessed 1-27-23 at https://ocfs.ny.gov/programs/childcare/lead-FAQ.php
3. NY Assembly, "Assembly Secures $2.5 Billion in Water Quality Improvement Funding in 2017-2018 SFY Budget" available at https://nyassembly.gov/Press/20170407/ ($20 million for LSL replacement)

Nebraska — Grade: F (20/200 points)

Nebraska has no state laws or regulatory requirements to address lead in schools' drinking water. It does have a voluntary testing program, which is funded by EPA, and uses the 3Ts guidance. All test results are available online. Although there is no safe level of lead, the Neb. Dept. of Environment and Energy (NDEE) is saying that only levels above 15 ppb are of concern and that it has no power to require any remediation.

Sources:

1. NDEE, All Nebraska schools and child care facilities eligible for free lead testing of their drinking water, http://dee.ne.gov/ndeqprog.nsf/Page_1.xsp?databaseName=CN=DEQSER6/O=NDEQ!!Press.nsf&documentId=42B27752BF7A18FF86258730005FD9E2&action=openDocument
2. Ellis Wiltsey, NDEE reports on lead levels in Nebraska schools & childcare centers,
3. KOLN, Feb. 7, 2022 at https://www.1011now.com/2022/02/08/ndee-reports-lead-levels-nebraska-schools-childcare-centers/
4. NE Dept Health & Human Services, Lead Data and Reports, at https://dhhs.ne.gov/Pages/Lead-Data.aspx

Nevada — Grade: F (30/200 points)

Nevada has no state laws or regulatory requirements to address lead in schools' drinking water. It does have EPA-funded voluntary testing programs for schools and child care. As of May 2020, about half of the state's 668 schools had tested their water, with the EPA reporting that "339 elementary and 106 middle and high schools have been screened." For grading purposes, we assumed but could not confirm whether all taps used for drinking or cooking were tested at these schools; an earlier 2016-2018 program only tested 2 taps per school. Corrective actions were initiated where lead levels exceeded the (15 ppb) action level. We could only find test results from child care facilities posted online.

Sources:

1. Caroline Packenham, How States Are Handling Lead in School Drinking Water, NASBE, (Nov. 2021) at Table 1, accessed at https://www.nasbe.org/how-states-are-handling-lead-in-school-drinking-water/;
2. U.S. EPA Region 9, U.S. EPA awards Nevada $260,000 in funding to test for lead in school drinking water, May 12, 2020, at https://www.epa.gov/newsreleases/us-epa-awards-nevada-260000-funding-test-lead-school-drinking-water
3. Ballotpedia, Public Education in Nevada (showing 668 schools in 2022), at https://ballotpedia.org/Public_education_in_Nevada
4. Nev. DEP Lead Testing Program (child care results only) https://ndep.nv.gov/lead
5. Angie Cradock, Early Adopters: State approaches for testing school drinking water for lead in the U.S., Harvard School of Public Health, Oct. 6, 2022, at https://www.hsph.harvard.edu/prc/projects/early-adopters/#statereports showing 2 taps tested per school in NV summary of 2016-18 testing, at https://cdn1.sph.harvard.edu/wp-content/uploads/sites/84/2019/01/EA_Nevada-State-Profile_FINAL.pdf

North Carolina — Grade: C- (77/200 points)

North Carolina has relatively weak "test and fix" policies for both public schools and all child care centers, with a 10 ppb lead limit. Schools must only test their taps one time, with shut off and some type of remediation required, which "may include" replacing pipes and fixtures or installing filters. Schools must only disclose test results exceeding the lead limit, which gives the public an incomplete picture of contamination, and posting results online is optional. While grades in this report relate to school policies, it is worth noting that child care facilities in NC are required to test every 3 years and whenever renovations or repairs could impact their drinking water infrastructure.

Sources:

1. Law (schools): N.C. Session Law 2021-180, Section 9G.8.(a) (at 237)
2. Proposed Regulation (Schools): 10A N.C. Admin. Code § 41C.1005
3. Regulation (Child Care): 15A N.C. Admin. Code § 18A.2816
4. Lead Poisoning Hazard (10 ppb for water): G.S. 130A-131.7(7)(g)

North Dakota — Grade: F (10/200 points)

North Dakota has no state laws or regulatory requirements to address lead in schools' drinking water. It does have a voluntary EPA-funded testing program, which we assume will follow the 3Ts. Sources: Caroline Packenham, How States Are Handling Lead in School Drinking Water, NASBE, (Nov. 2021) at Table 1, accessed at https://www.nasbe.org/how-states-are-handling-lead-in-school-drinking-water/ ; and ND DEQ, Lead in Schools https://deq.nd.gov/leadinschools/default.aspx

Ohio — Grade: F (21/200 points)

Ohio has no state laws or regulatory requirements to address lead in schools' drinking water. Until 2018, the state did have a voluntary testing program which tested taps at 14 percent of schools (658 out of 4,652) in the state. Remediation was limited to outlets testing above 15 ppb. As of 2022, the state has a voluntary testing program for child care facilities.

Sources:

1. Caroline Packenham, How States Are Handling Lead in School Drinking Water, NASBE, (Nov. 2021) at Table 1, accessed at https://www.nasbe.org/how-states-are-handling-lead-in-school-drinking-water/
2. Ohio Facilities Construction Commission, "Lead plumbing fixture replacement assistance grants program," January 2019. Available at https://ofcc.ohio.gov/Portals/0/PbGP%20Program%20Results%20FINAL%20January%202019.pdf
3. Ohio Dept of Health, Lead in Drinking Water (child care) https://odh.ohio.gov/know-our-programs/childhood-lead-poisoning/lead-in-drinking-water

Oklahoma — Grade F (20/200 points)

Oklahoma has no state laws or regulatory requirements to address lead in schools' drinking water. It does have a voluntary EPA-funded testing program, which we assume will follow the 3Ts. All test results are posted online. Sources: Caroline Packenham, How States Are Handling Lead in School Drinking Water, NASBE, (Nov. 2021) at Table 1, accessed at https://www.nasbe.org/how-states-are-handling-lead-in-school-drinking-water/; and OK DEQ, LWSC Results, at https://www.deq.ok.gov/state-environmental-laboratory-services/environmental-public-health-information/lwsc/lwsc-results/

Oregon — Grade: C+ (90/200 points)

Oregon has relatively weak "test and fix" policies for both public schools and child care centers, with shut off and remediation ("in accordance with" EPA's 3Ts Module 6) only required at taps where lead concentrations exceed 15 ppb. Schools must test taps every 6 years, except those taps meeting post-2014 plumbing standards or if a prior test did not find lead over 1 ppb. Test results must be provided online. A summary of remediation must be disclosed in an annual statement. Portland continues to have lead contamination of drinking water, even though it has removed all its lead service lines, for which we assigned 5 out of 30 bonus points for the state.

Sources:

1. Oregon Administrative Rules, "Reducing Lead in School Drinking Water," available at https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/RULES/Documents/rulerevision/lead-testing-in-schools-FINAL-11-28-formatted.pdf
2. ORS, Ch. 332.334, accessed at https://www.oregonlegislature.gov/bills_laws/ors/ors332.html
3. Oregon Laws 2017, Chapter 700
4. Oregon Early Learning, "Preventing exposure to lead" available at https://oregonearlylearning.com/lead-poisoning-prevention/
5. Multnomah County, Lead in Plumbing, at https://www.multco.us/health/lead-poisoning-prevention/lead-plumbing
6. Rebecca Ellis, Portland plans faster action to reduce lead in drinking water, OPB, Jan 15, 2022, at https://www.opb.org/article/2022/01/15/portland-water-bureau-high-lead-levels-drinking-water-treatment-plant/

Pennsylvania — Grade: F (39 /200 points)

Pennsylvania law provides that schools must test at least some taps for lead annually, but a loophole allows school districts to avoid this requirement simply by discussing the issue at a public meeting. Officials have implemented the law as requiring remediation only for taps exceeding EPA's action level (15 ppb), and we have graded it accordingly. Only test results showing elevated levels of lead must be posted online. State laws have removed barriers for water utilities to fully replace lead service lines, and the state allocated funding to replace 2,800 of an estimated 160,000 LSLs in 2018. We awarded 5 out of 30 bonus points for these LSL actions. (Recently, the EPA has chosen Pennsylvania and 3 other states for an accelerated lead pipe replacement program, but we are not giving states additional credit for this federal initiative.)

Sources:

1. Pennsylvania Act 39, "An act relating to the public school system" available at https://www.legis.state.pa.us/cfdocs/legis/li/uconsCheck.cfm?yr=2018&sessInd=0&act=39
2. "Governor Wolf Announces Funding to Support PWSA Lead Line Replacement," October 17th 2018 available at https://www.media.pa.gov/pages/pennvest-details.aspx?newsid=46
3. Morgan Lewis, Pennsylvania Paves Way to Eliminate Major Risk of Lead in Drinking Water, JDSupra, Oct. 9, 2019, at https://www.jdsupra.com/legalnews/pennsylvania-paves-way-to-eliminate-76664/
4. Environmental Defense Fund, "Pennsylvania empowers municipalities to replace lead service lines," December 11, 2017. Available at http://blogs.edf.org/health/2017/12/11/pennsylvania-lead-service-lines/

Rhode Island — Grade: F (23/200 points)

In 2016, the Rhode Island legislature ordered one-time testing of (at least some) taps at public schools and child care facilities. Results are posted online. No remediation is required, and unfortunately, the state agency website still only recommends remediation for lead levels above 15 ppb. In 2022, the state senate passed a bill to all replace lead service lines within 10 years. The measure did not become law, but a similar bill has been introduced in 2023.

Sources:

1. Rhode Island Department of Health, "Lead in School and Daycare Facility Drinking Water" available at http://health.ri.gov/data/schools/water/

2. "An Act Relating to Water and Navigation — Lead and Copper Drinking Water Protection Act" H 8127. Enacted July 12 2016. Available at http://webserver.rilin.state.ri.us/PublicLaws/law16/law16439.htm
3. Steve Ahlquist, UpriseRI, Important lead pipe replacement bill may not pass the General Assembly this session, June 22, 2022 at https://upriseri.com/lead-pipe-replacement-bill/
4. Brent Addleman, New bill would work to eliminate lead pipes, The Center Square, Feb. 6, 2023 at https://www.thecentersquare.com/rhode_island/new-rhode-island-bill-would-work-to-eliminate-lead-pipes/article_44eb0d44-a657-11ed-a732-f77e8b337a72.html

South Carolina — Grade: F (20/200 points)

South Carolina has no state laws or regulatory requirements to address lead in schools' drinking water. It does have a voluntary EPA-funded testing program for schools and child care, which we assume will follow the 3Ts. All test results are posted online. Sources: Caroline Packenham, How States Are Handling Lead in School Drinking Water, NASBE, (Nov. 2021) at Table 1, accessed at https://www.nasbe.org/how-states-are-handling-lead-in-school-drinking-water/; and SC DHEC, Lead Testing in Schools and Child Care Programs https://scdhec.gov/bow/lead-testing-schools-child-care-programs

South Dakota — Grade: F (0/200 points)

South Dakota has no state laws or regulatory requirements to address lead in schools' drinking water. It plans to start a voluntary EPA-funded testing program for schools. Sources: Caroline Packenham, How States Are Handling Lead in School Drinking Water, NASBE, (Nov. 2021) at Table 1, accessed at https://www.nasbe.org/how-states-are-handling-lead-in-school-drinking-water/; and SD DANR, Lead in Schools, accessed Feb. 7, 2023 at https://danr.sd.gov/OfficeOfWater/DrinkingWater/leadschools.aspx

Tennessee — Grade: D (61/200 points)

Tennessee has a weak "test and fix" law, which requires public schools to test taps, and shut off those where lead levels exceed 20 ppb. "Corrective action" is required before taps are turned back on. Water must stagnate overnight but no other testing protocols are specified. Testing is required annually only if results exceed 15 ppb. Parents are only notified of test results over 20 ppb. Source: "AN ACT to amend Tennessee Code Annotated, Title 49; Title 68 and Title 69, relative to water quality in schools," Tennessee Public Chapter No. 977. Available at https://publications.tnsosfiles.com/acts/110/pub/pc0977.pdf

Texas — Grade: F (15/200 points)

Texas has no law or regulatory requirements to address lead in schools' drinking water. The state has a voluntary testing program, for which results are shown online. The voluntary testing program appears to have good sampling protocols, but they seem to be optional, as the data presentation has a label for "Unverified Sample Protocol." Sources: Caroline Packenham, How States Are Handling Lead in School Drinking Water, NASBE, (Nov. 2021) at Table 1, accessed at https://www.nasbe.org/how-states-are-handling-lead-in-school-drinking-water/; and TCEQ, Voluntary Lead Testing in School and Child Care Drinking Water, at https://www.tceq.texas.gov/drinkingwater/lead-testing-school-and-child-care-drinking-water/voluntary-lead-testing-program and Program Results at https://www.txleadtesting.org/public-results

Utah — Grade: C- (77/200 points)

Utah adopted a 5 ppb "test and fix" law for all schools and child care facilities in December 2022. One-time testing of taps is required for schools but optional for child care, and must follow state testing guidelines (which reference EPA's 3Ts). Some form of remediation or steps to stop use of taps testing above 5 ppb (but not necessarily immediate shut-off) is required. All test results are reported to the state and posted online. Only child care centers that choose to test their water must remediate, and so we assigned 10 out of 20 points for Applicability.

Sources:

1. Utah Code Ann. § 19-4-115
2. Schools and Childcare Facilities: Lead-free Learning Initiative, Utah DEQ (with links to EPA's 3Ts for testing and sampling)

Vermont Grade: C+ (107/200 points)

Vermont has a 4 ppb "test and fix" law for all schools and child care facilities. Testing of all drinking water taps is required every 3 years and whenever changes in plumbing or water chemistry are likely to affect lead concentrations, with sampling protocols generally following EPA's 3Ts guidance. For taps testing at or above 4 ppb, the law requires immediate shut off and remediation aimed at achieving "the lowest lead level possible in drinking water." All test results and remediation are reported to the state and parents but not necessarily posted online.

Sources:

1. Vt. Stat. Ann. tit. 18, § 1243 (see also, §§1244-48),
2. Rule Governing Testing and Remediation of Lead in the Drinking Water of Schools and Child Care Facilities 12-5 Vt. Code R. § 63

Virginia Grade: D (53/200 points)

Virginia has a relatively weak "test and fix" law for schools, with a 10 ppb limit for lead in water. Testing of school drinking water taps is to be done in accordance with EPA or Dept. of Health guidance, with frequency unstated in the law. Some unspecified form of remediation is required. The law only requires disclosure of test results above the lead limit, giving the public an incomplete picture of water contamination. The law only applies to local school boards, not private schools or child care facilities. While we awarded 5 bonus points for state funding of lead service line replacement in 2019, the state website now only indicates federal funding for this purpose (which all states are now receiving).

Sources:

1. Va. Code Ann. § 22.1-135.1
2. Drinking Water Funding Program Details, VA Dept of Health accessed 1-27-23.

Washington Grade: C+ (98/200 points)

Washington has separate "test and fix" policies for schools and child care centers. For schools, the legislature passed the Bruce Speight Act in 2021, which sets a 5 ppb limit on lead and requires testing of all drinking water/cooking taps every five years. While the state's technical guidance states that methods "must be designed to maximize detection of lead in water," the requirements include avoiding methods that mask lead but not taking several samples from each tap. The state's guidance requires strong remediation actions for taps exceeding 5 ppb — including filters and/or replacing lead fixtures or plumbing — but only requires immediate shutoff for taps testing above 15 ppb. The law requires disclosure of all test results (except where a school has no taps exceeding 5 ppb of lead) and remediation plans online. While our grade is based on these school policies, protections for child care drinking water are dramatically weaker. A separate law only requires child care to remediate taps at or above the federal action level (which is currently 15 ppb), and agency guidance states that permissible remediation includes "Advise staff to run the water for a few seconds before drinking or helping children drink." In 2019, we awarded some bonus points because Governor Inslee had directed the Dept. of Health to develop policy and budget with a goal of replacing all lead service lines (LSLs) within 15 years. We are removing these bonus points in 2023 because there is still no mandatory LSL replacement policy, just an inventory and use of federal funding now available to all states.

Sources:

1. The Bruce Speight Act, Wash. Rev. Code Ann. § 43.70.830, https://app.leg.wa.gov/rcw/default.aspx?cite=43.70
2. Schools—Lead In Drinking Water
3. Dept. of Health, School Requirements for Lead in Drinking Water
4. Dept. of Health, Technical Guidance for Lead in School Drinking Water
5. Safe Water Sources (in Child Care) rule WAC 110-300-0235
6. Dept. of Health, Testing for Lead in Drinking Water in Child Care Programs
7. Dept. of Health, Fact Sheet: Directive 16-06: Lead Service Lines and Lead Components (Jan 2022)

West Virginia Grade: F (00/200 points)

West Virginia has no state laws or regulatory requirements to address lead in schools' drinking water.

Source:

1. Caroline Packenham, How States Are Handling Lead in School Drinking Water, NASBE, (Nov. 2021) at Table 1, accessed at https://www.nasbe.org/how-states-are-handling-lead-in-school-drinking-water/

Wisconsin Grade: F (10/200 points)

Wisconsin has no state laws or regulatory requirements to address lead in schools' drinking water. In 2017, the state committed nearly $14 million to help communities replace lead service lines, and a state law allows water utilities to use at least some ratepayer funds to fully replace these toxic pipes. We awarded 10 out of 30 bonus points to WI for its LSL efforts.

Sources:

1. Urban Milwaukee, Gov. Walker announces 35 municipalities to receive $13.8 million to remove lead service lines, June 28, 2017, at https://urbanmilwaukee.com/pressrelease/governor-walker-announces-35-municipalities-to-receive-a-total-of-13-8-million-to-remove-lead-service-lines/
2. "Community and utility efforts to replace lead service lines," Environmental Defense Fund, available at https://www.edf.org/health/recognizing-community-efforts-replace-lsl
3. Wisconsin statutes 196.37 (6) est. by SB 48 (2018), at https://docs.legis.wisconsin.gov/2017/proposals/sb48

Wyoming Grade: F (10/200 points)

Wyoming has no state laws or regulatory requirements to address lead in schools' drinking water. It does have a federally funded voluntary testing program, which adheres to EPA's 3Ts guidance but we could find no data on the number of taps tested or if any remediation occurred. Source: WDE, Grant Applications for Lead Testing in Schools, accessed Feb 3, 2023 at https://edu.wyoming.gov/downloads/communications/memos/2021/2021-023-WDEQ-Accepting-Grant-Applications-for-Lead-Testing-in-Schools-PDF.pdf

Appendix

History of Federal Policy on Lead in Drinking Water

National Policy/Guidance	What it does
Safe Drinking Water Act, 1974	Authorized EPA to establish Maximum Contaminant Levels for all substances known or suspected to be hazardous to humans. These requirements applied to every Public Water System in the U.S.
EPA Interim Drinking Water Regulations, 1975	Kept the standard maximum allowable concentration of lead at 50 parts per billion (ppb) where water enters the distribution system.
Lead Ban, 1986	Among other bans, pipes and pipe fittings with more than 8% lead were banned. Any pipe or fitting under 8% lead was considered "lead free".
Lead Contamination and Control Act, 1988	Banned the manufacture and sale of water fountains that did not meet the "lead free" definition. The LCCA defined "lead-free" as: "not more than 8 percent lead, except that no drinking water cooler which contains any solder, flux, or storage tank interior surface which may come in contact with drinking water shall be considered lead-free if the solder, flux, or storage tank interior surface contains more than 0.2 percent lead." In addition, the EPA was mandated to issue guidance to schools on how to identify and remediate lead-contaminated drinking water. States were required to distribute this guidance and required to help develop testing and remediation programs for schools. However, school testing was not mandatory.
EPA Guidance, 1989	The first federal guidance to schools on assessing and remediating leaded drinking water. EPA also recommended that "action be taken to limit exposure" whenever lead levels exceeded 20 ppb.
Lead and Copper Rule, 1991	Public Water Systems are required to provide corrosion control and routine water monitoring. If over 10% of samples collected from a water system exceeded lead levels of 15 ppb, the system was to intensify water quality monitoring, optimize corrosion control, issue public notification and other education materials, and in some cases, monitor and/or replace lead service lines.

National Policy/Guidance	What it does
ACORN v. Edwards, 81 F.3d 1387 (5th Cir. 1996)	The State of Louisiana was sued for failing to implement several provisions of the SDWA that required the establishment of water testing programs. The Court's decision held the Act's provisions were unconstitutional and compelled the state to enact federal programs which the state had no option to decline. The decision does not restrict states from creating their own school drinking water programs.
EPA 3Ts Guidance, 2006	EPA issued a guideline for monitoring lead in school drinking water, focused on three aspects: Training of school officials, Testing, and Telling communities about test results (the 3 Ts). Unfortunately, the guidance cited Lead and Copper Rule's 15 ppb action level, which was then interpreted by many state and local officials as an appropriate benchmark for water safety, which EPA never intended.
EPA Guidance, 2018	The EPA updates its 3Ts guidance on lead in school drinking water. This manual has stronger recommendations for proper sampling/testing and specifically urges schools to "reduce their lead levels to the lowest possible concentrations." While the guidance is not enforceable, at least its sampling/testing protocols and public communications steps are typically incorporated into EPA-funded testing programs.
EPA Federal Action Plan, 2018	The EPA issues its Federal Action Plan for addressing lead in schools' water, a product of the President's Task Force on Environmental Health Risks and Safety Risks to Children. The action plan establishes four goals – reduce children's exposure to lead; identify lead-exposed children and improve their health outcomes; communicate more effectively with stakeholders; and support and conduct critical research. However, the Action Plan fails to establish any clear goals or timelines for taking action to reduce kids exposure to lead.
Biden Goal and Plan on Lead Service Lines (2021)	President Biden announces a national goal of replacing all lead service lines. That goal is officially included in the administration's Lead Paint and Pipe Action Plan, which aims to accelerate pipe replacement over the next 10 years. But the plan alone cannot compel water utilities to meet its timetable.
Bipartisan Infrastructure Law (Nov. 2021)	Congress commits an unprecedented $15 billion to replace lead service lines and authorizes $200 million over five years for grants to schools for lead testing or remediation. Infrastructure Investment and Jobs Act https://www.congress.gov/bill/117th-congress/house-bill/3684/text
2023	U.S. EPA has still not revised the Lead & Copper Rule. A proposed update is expected by the end of the year.

Table updated and adapted from information in Yanna Lambrinidou, Simoni Triantafyllidou and Marc Edwards, "Failing Our Children: Lead in U.S. School Drinking Water," *New Solutions Vol, 20(1),* 2010, *pages 28-33.* Additional information sourced from the EPA website.

Endnotes

1 Emma Brown, "A legal loophole might be exposing children to lead in the nation's schools", Washington Post, March 18th 2016 available at https://www.washingtonpost.com/news/education/wp/2016/03/18/a-legal-loophole-might-be-exposing-children-to-lead-in-the-nations-schools/?noredirect=on&utm_term=.a83a918fa14d

2 Emma Brown, "A legal loophole might be exposing children to lead in the nation's schools", Washington Post, March 18th 2016 available at https://www.washingtonpost.com/news/education/wp/2016/03/18/a-legal-loophole-might-be-exposing-children-to-lead-in-the-nations-schools/?noredirect=on&utm_term=.a83a918fa14d

3 Lead and Copper Rule: A Quick Reference Guide, U.S. Environmental Protection Agency available at https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=60001N8P.txt

4 Code of the District of Columbia § 38–825.01a. Prevention of lead in drinking water in schools. Available at https://code.dccouncil.us/dc/council/code/sections/38-825.01a.html

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