

**M**Y HUSBAND and I are teachers—my subject is music, his is math and physics—which means we both have witnessed how even a single lesson, song, or story can inspire young people. Many students now understand that they and the other inhabitants of the Earth—because of its shifting climate—are in trouble.

As teachers, we want to offer accurate information and doable solutions so that students can organize around this crisis, both to lessen its severity and prepare for coming storms. How might teachers help students of various ages meaningfully confront one of the greatest challenges humankind ever has faced? How do we discuss the reality and causes of—as well as the solutions to—global warming?

I recommend that, first and foremost, teachers make their lessons age appropriate. For younger children, that means going easy on climate science, which can be frightening. Instead, focus on gardening, nature immersion, and care of animals and our communities, all of which engage their compassion for other beings and meet their need for fresh air and movement.

With older kids, we can start teaching both science and civics, while sharing stories about young people who use their creativity and determination to solve local problems created by global warming. In *The Boy Who Harnessed the Wind* by William Kamkwamba and Bryan Mealer, for instance, we meet William as a teenager living in Malawi, Africa, during a prolonged drought. William builds a windmill out of scrap metal, and not only is able to bring light to his home, but water to his village.

For teens, I recommend familiarizing them with the most authoritative global warming science, as well as more civic opportunities. One helpful resource is *Draw-down: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming*, edited by Paul Hawken. This beautifully photographed, well-researched, and accessible book is a catalog of 100 doable climate solutions. Knowledge is power, and now, more than ever, educators are key to empowering young people to protect the natural systems that support their lives.

When it comes to climate change, it is important to make clear why there still is hope to turn things around. “A lot of my colleagues have now said it’s too late. We’ve passed too many tipping points to go back. My answer is thank you for the message of urgency,” says environmental activist David Suzuki.

I never will forget the moment my optimism returned. It was 2013, yet another year of record-crushing heat waves, droughts, and forest infernos. The concentration of atmospheric carbon had sailed past the safe limit—350 parts per million—to an unprecedented 400 ppm. Alarmed scientists begged leaders to cut carbon pollution. In response, many leaders chanted, “Drill, baby, drill!”

We citizens kept losing campaigns to protect ecosystems. How could we possibly slow, much less stop, the death march for polar bears, honeybees, apple trees, kittens, and even our own children? I lived with a near-constant lump in my throat.

Then my daughter invited me to a film about Kelsey Cascadia Rose Juliana, who was suing the government for violating her right to a livable planet. The short documentary, produced by Our Children’s Trust, ended with a “prescription” for balancing the climate by 2100: cut global emissions by six percent yearly (the target now is 9.9%, as it rises until we start making those cuts); begin massive reforestation; and improve farming practices to sequester carbon.

The lights came up. People clapped. I scribbled the prescription, wondering if this really is a fix-it plan to avoid wholesale catastrophe? At home, I researched and found that, indeed, an international team of 18 climate scientists, led by James Hansen, then director of NASA’s Goddard Space Institute, had determined that, if we accomplish those three things, climate stability is achievable—not cheap or easy, but possible. We can get the nasty gases down again to the safe level of 350 ppm.

I had not understood that. I thought that when scientists raised their voices and said, “We’re at 400 ppm,” they meant we always would be there—or higher; that we could not subtract carbon. It turns out we can. We can draw carbon down from Earth’s atmosphere and lock it into soil and trees—by planting new trees and refraining from cutting more down. If we do that while cutting emissions, we can restore climate stability by the end of this century. The climate will keep heating up, but how much and for how long depends on what we do next.

Whether the climate heats by 1.5°C, or by three or four times that, depends on the decisions that governments, corporations, societies, and individuals make right now. Do those three things, and every year we can make life a little better. Do not do them or wait too long, and those same scientists say humanity will lose its opportunity for climate stability.

This prescription—with its clear targets and the reassurance that things still can be turned around—has fired people up to demand science-based climate action. That gives me tremendous optimism, and compels me to help.

So, what percentage of science instructors teach our kids that global warming is real and largely caused by humans consuming fossil fuels? According to a 2016 study, it is just over 50%, while 30% emphasize the idea that planetary heating is due to natural—not human—causes.

Most teachers want up-to-date information, support, and effective materials. The bad news is that the Heartland Institute—a well-funded conservative think tank—produces and sends glossy brochures to teachers that explain how to teach our kids that global warming may not really be occurring or, if it is, that “many areas of the world would benefit.”

However, many educators, parents, and school boards are waking up to this manipulation. In 2016, the school board of Portland, Ore., unanimously passed a resolution to implement a climate justice curriculum and reject textbooks downplaying humanity’s planet-cooking role. Other cities are seeking to replicate Portland’s model.

It is deeply unethical to misinform young people about the greatest crisis they face as a generation. Moreover, climate education focused on solutions proposed by the world’s top climate scientists—keeping fossil fuels in the ground, cutting emissions, switching to clean energy, planting trees, and doing it now—energizes and empowers our children.

The Climate Justice class at Portland’s Lincoln High, for example, teaches the science as well as how to write speeches, testify at public hearings, and engage public officials. Students in this class helped pass a municipal climate-recovery resolution that blocks new fossil-fuel infrastructure. One 17-year-old student told *Yes!* magazine that the class has given him “much more confidence, a sense of agency, and a sense of purpose that I absolutely didn’t have before.”

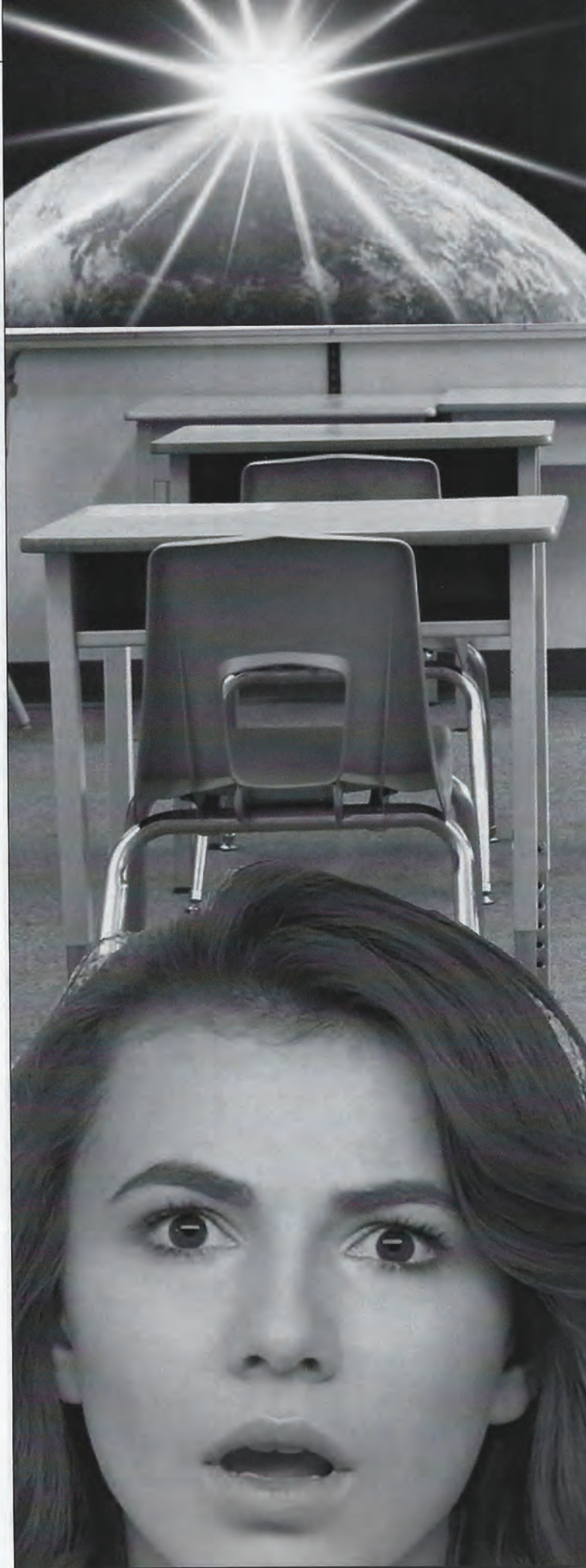
I asked my son’s former fifth-grade teachers, Susan Dwoskin and Carrie Ann Naumoff, how they handle climate literacy in elementary school. They said they study the Bill of Rights and environmental sciences, and every day, year-round, they weave in the climate justice

# The Heat Is On

BY MARY DEMOCKER

*“How do we discuss the reality and causes of—as well as the solutions to—global warming?”*





concept that “everything is connected to everything else.”

Explains Dwoskin: “Many people say, ‘We can’t put that fear into children. It’s too much.’ We’re saying there are appropriate ways to approach climate justice. Children really want to know what the real issues are.” The key, Swoskin indicates, is not to teach students what to think, but how to think critically.

Adds Naumoff: “We read information and learn how to get the best source materials possible. We ask, ‘What’s the author’s perspective here? What do you get out of it? How does it compare to other authors’ thoughts on this issue?’ The kids make the connections.

“In the first two weeks of school, we ask, ‘What do you care about?’ We open up the floor to the kids, and pretty soon there are [students] who want to save sea turtles or whales or an uncle’s job as a logger. They choose, not us.”

Then, civic engagement kicks in. Past fifth-graders have presented their climate research to visiting high school science teachers, to the entire school, and to public officials.

Now, more than ever, engaging children about climate justice is critical. If you want to push for climate literacy in your school, Dwoskin and Naumoff offer this plan for parents:

- Talk to other parents. Have allies first. An individual parent or teacher might not effect change, but parents as a group have a strong voice if they go together to parent councils, PTAs, site councils, principals, and school boards. It has to be a ground-up movement.
- Bring kids. Students presenting at school boards is profound—and it impacts the children, who suddenly want to have more of a voice.
- Find out who decides curricula for your school and go to those meetings. The site council at our school meets several times a year and functions like a board; everyone helps decide what is taught.
- Fight to keep local decisionmaking power over classroom curriculum. Our district administration is trying to take away our site council. Many do not want teachers and parents to have this kind of power, but we are fighting for it. Be ready to keep fighting.
- Supervise what your children are learning. Look at your kids’ science textbooks. Ask to see science teachers’ curricula. Talk to your child’s teacher and school if either of these important educational resources cast any doubt about the reality and causes of global warming.
- At parent-teacher conferences, ask how climate change is included in the daily curriculum and request that it be expanded. Write this in a letter to the school, and request that any “info packets” from the Heartland Institute be rejected. As Dwoskin stresses, “Support teachers teaching good climate science, and don’t ask, ‘Did you meet the standards?’ We actually stretch the standards to fit our curriculum.”
- Attend school board meetings when important district-wide decisions are being made about climate education. Watch parent newsletters for announcements.
- Discuss issues at home. Dwoskin believes that climate literacy starts at the dinner table. “Put your phone down and talk to your kids. Teachers send home what students are working on. Look at it; talk about it; critique it together.”

No matter what is taught in school, you can raise climate literacy at home just by keeping in mind Dwoskin and Naumoff’s basic framework: everything is connected to everything else. ★

*Mary DeMocker is cofounder and creative director of 350.org’s Eugene, Ore., chapter and the author of The Parents’ Guide to Climate Revolution: 100 Ways to Build a Fossil-Free Future, Raise Empowered Kids, and Still Get a Good Night’s Sleep, from which this article is adapted.*