



Photos from JoEllen Schuleman and Amber Carlin-Mishkin

Green Conversations in the Elementary Classroom

Blending sustainability education with the UN SDGs to promote high-level discourse

By **JoEllen Schuleman** and **Amber Carlin-Mishkin**

IN A WORLD THAT BEGS FOR INFORMED and engaged citizens, sustainability education answers that call. This topic requires students to take responsibility for their own lives and their own learning. It centers on the idea that we must individually make conscious choices, raise awareness in others, and meaningfully influence the future. As educators, we know that we must teach sustainability so children learn how to affect and enhance — rather than diminish — the quality of life for future generations. Sustainability education has the power to do all that since it links knowledge with action.

Many educators already, and quite naturally, bring sustainability or “green” conversations into the classroom. All too often, though, schools relegate this learning to the subject of science. But its reach is so much greater. With a little ingenuity and thoughtful planning, it is possible to

add green conversations to almost any subject in the K–6 classroom. We believe it is the missing link in our quest to protect the planet, address inequalities, and confront climate change. Sustainability education invites children to invent solutions, become leaders, take action, and persuade others — all very important skills, and all potentially learned in unique ways across a variety of content areas.

We would argue that the richness and promise of sustainability education lies in how it naturally leads to high-level discourse. Some teachers might underestimate a younger student’s ability to engage in those conversations. In fact, it is more easily attainable without a substantial mindset and application shift than one would think. It is merely a matter of remembering what the goal of education is, which is to ask children to synthesize diverse categories/realities in order to become self-sufficient/independent thinkers and contributing members of society. In short, making room for sustainability is an essential and easily walked path in education when reframed a bit.

The SDGs



Quality	Description
<p style="text-align: center;">Facts to follow</p>	<p>1. When selecting a realistic-fiction or fiction book, it is essential to have an authentic character involved in genuine/relatable experiences.</p> <p>2. Nonfiction books should have content that connects with the issues of either a particular topic (drought, famine, poverty, inequity, etc.) or a particular person/group of people.</p> <p>The main idea in this quality review is that while a book’s central theme can seem small or singular, when connected to the SDGs, it has the power to connect global dots so long as there are factual experiences as well as realistic content underlying it.</p>
<p style="text-align: center;">Issues that drive</p>	<p>When selecting a book here, it is important to reflect on how literature can shed light. If an issue (like access to clean water) is affecting one person, a closer look might reveal that larger groups are also affected — like the larger population in the Flint, Michigan water crisis, for example.</p> <p>The UN SDGs span a tremendously large range of issues. Essentially, they represent a global-scale roadmap with social/economic/climate issues that illuminate and intentionally push everyone to stop, evaluate, and mobilize. The idea is to find stories that illuminate an SDG, while allowing readers to find personal and relevant connections.</p>
<p style="text-align: center;">Problems that are complex yet accessible</p>	<p>When selecting a book for this quality, it is important to find complex, real problems that are visible and accessible to students.</p> <p>1. A realistic-fiction book with a relatable problem is better suited to helping learners form a meaningful connection with the resolution of issues displayed in the book.</p> <p>2. A nonfiction book that provides age-appropriate vocabulary or divides a big topic into relatable chunks can help a child build knowledge in steps so that they can more effectively make lasting associations.</p>

In 2016, the UN developed a sustainability framework that outlined and adopted 17 goals for the sustainable development of our planet. These Sustainable Development Goals (SDGs) seamlessly integrate environmental, social justice, and other “green” topics across all curricular subjects. By design, these goals encourage students to connect large, multinational issues and, in turn, engage in agency and action for the survival of our planet. When applied to the classroom, they have the power to transform students into global thinkers — an essential skill in an increasingly connected world.

The SDGs in the classroom

Using the SDG themes gives educators and students a framework or blueprint for organizing.

Students will be most familiar with 13) Climate Action, 14) Life Below Water, and 15) Life on Land. Those tend to get the most teaching time and usually fall under the science umbrella. But what about bringing up sustainability themes during Math or Social Studies through the use of a beloved book? Where could that lead? Through literacy-based activities, a teacher can further unlock a child’s potential to transform our world. Using a carefully chosen book could not only aid in fostering lifelong and empathetic learners, but may also bring a child closer to other people in an integrated

and seamless manner. Children might see familiar reflections or become immersed in an entirely new culture.

How does this look in real-time and in an actual classroom? Teachers should purposefully select books in order to have green conversations. Based on our experience, we have identified three key qualities such books should have.

Examples of literature links

One example of a social responsibility-based book that promotes a broad awareness of the world is *The Boy Who Harnessed the Wind* by William Kamkwamba and Bryan Mealer. This book could fit into Social Studies, Science, or an English Language Arts (ELA) unit and is full of compelling green conversations. In it, there are opportunities to talk about food insecurity, the absence of basic access to running water, lack of electricity, deforestation, poverty, access to quality education, gender inequality, and so much more. Let’s dissect one of these topics to illustrate the complexity. William’s family has no electricity and cooks food over an open flame in their home. What are the repercussions of this? 1) Health – breathing in smoke leads to health issues; 2) habitat destruction – the wood or coal must come from somewhere, and cutting down forests can lead to droughts; 3) educational disparities – he cannot read or study at night due to a lack of light; 4) carbon release – burning organic

Subject	Growth Options
Math	Students can identify energy sources in their area and make comparisons to energy availability in another location. Students can also compute the percentage of each energy source used by their local municipality. They can graph their personal energy usage throughout the year and compare it to that of a family in another country.
Reading	Students can evaluate the author’s informative purpose and connect/compare it to a realistic-fiction book they have read independently (like, for example, <i>The Boy Who Harnessed the Wind</i> , or another book from our SDG Book List).
Writing	Students can write opinion pieces on how energy inequalities affect education, industry, and so much more. Additionally, they can write persuasive letters to decision-makers or elected officials.
Science	Students can evaluate energy-using technologies in their classroom, engineer solutions for greater access, and detail action plans.
Independent Research Project	Students can research an issue of their choosing and evaluate its math and international features in order to create their own page in the style of this book.
Social Studies	Students can research the history of energy sources like coal and oil. Students can discuss the ways in which green energy like solar, wind, etc. might change the course of development in an area.
Social-Emotional	Students can engage in sensitive conversations grounded in respect for cultural variety, while learning to identify language that may imply prejudice.
Community Action	Students can discuss why/how communities have chosen energy sources, develop a fundraising campaign for a specific community, and organize a demonstration.

materials releases carbon into the atmosphere and contributes to climate change. But then you must also ask hard questions. What are the choices available to this family? Are there any alternatives? William's family and their village are not trying to harm the planet. They are trying to survive. This then ignites a purposeful discussion about both the needs of people and the greater needs of the planet. This conversation could lead students to engaging in academic debate, inspire a call to action, or jumpstart an opinion-writing piece.

Another example is *If... A Mind-Bending New Way of Looking at Big Ideas and Numbers* by David J. Smith. This book easily links with many math units and can be used as a hook for lessons on measurement, comparative size, scale, number lines, fractions and percentages, exponents, and more, all while introducing topics that span freshwater, life expectancy, energy, food production, and distribution of the world's wealth. All of the topics in this book are worthy of deeper examination and discussion by students. Teachers might give students a menu of culminating projects that will continue the conversation. Or, better yet, they could organize an entire day built around green conversations and growth options related to the book. See a few examples on page 13.

Discourse to action

The bottom line is that while saving our planet might sometimes feel like tackling a one-dimensional list of small, ineffective actions, in truth, it is precisely those small pieces that provide a multi-layered complexity to this mission. Sustainability education draws upon a wide range of skills. On an individual level, students can take an active role and contribute real, even if small, change for a sustainable future. On a broader level, students develop knowledge, tools, and motivations for actions that contribute to our increasingly interconnected world. Kids need and deserve that potential. Weaving green conversations into the daily routines of a classroom and across many content areas is exactly what we need in this moment in time. We all must push boundaries in our curricula in order to see and properly discuss the intricacies of our climate crisis. Our future depends on teachers remaining inquisitive, focused, and engaged in cross-curricular sustainability education within the classroom so that children can weave those lessons into their lives.

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**Rootprint NY is an educational consultancy focused on designing innovative hydroponics and sustainability programs, customized project support, and professional development in both formal and informal educational settings.*

Sources:

- Kamkwamba, William, and Bryan Mealer. *The Boy Who Harnessed the Wind (Movie Tie-In Edition)*. Penguin, 2019.
- Smith, David J. *If... A Mind-Bending New Way of Looking at Big Ideas and Numbers*. Kids Can Press Ltd, 2014.
- "Sustainable Development Goals | Unfoundation.Org." *Unfoundation.Org*, <https://www.unfoundation.org/what-we-do/issues/sustainable-development-goals>.

Note: To learn more from JoEllen and Amber, register for their free webinar on April 28th, [Green Conversations: Weaving Sustainability into Your Teaching](#).

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