

SSSA K-12 Committee Accomplishments 2006-2024

Snapshot

Increasing interest and awareness of soil science as a scientific pursuit and career choice is fundamental to the future of soil science. And SSSA believes K-12 teachers and students are vitally important to our future. Therefore, the SSSA K-12 committee plays a valuable role in working to integrate more information on soil science into biology, chemistry, physics, and earth science areas taught at multiple grade levels.



During the many years the committee has been active, they have achieved an exceptional amount. In July 2008, Dig It! The Secrets of Soil exhibition opened at the Smithsonian Institution's National Museum of Natural History (of which SSSA was a Founding Sponsor). In preparation, the committee launched in 2006 and a group of SSSA members got to work. Read on to learn more.

Activities and accomplishments center around five areas:

- **Assessment and Standards** – connecting soil science to state and national standards.
- **Curriculum Development** – developing new curricula for K-12 instruction.
- **Website Development** – enhancing the K-12 website resources.
- **Books** – publish books relevant to the K-12 audience.
- **Develop and Disseminate Soils Information** – for all audiences.
- **Collaboration** – maximizing outreach through collaborations with other groups.



Accomplishments

PUBLICATIONS

Soil! Get the Inside Scoop

The first of the committee's publications was a children's book. Content was developed by committee members and designed with an illustrator and children's book ghost writer. The book was published in time for the opening of the exhibition. The book explores how soil is part of our life – the food we eat, the air we breathe, the water we drink, the houses we live in, and more. More than 7000 have been sold and the book is in its fourth printing.

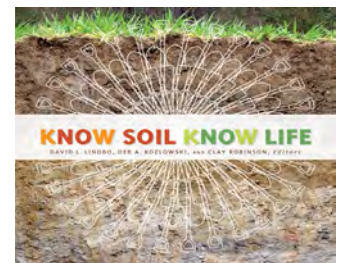


Soil! Get the Inside Scoop Teachers Guide

An online teachers guide to *Soil, Get the Inside Scoop* was developed for each chapter of the book—with accompanying PowerPoints, definitions, activities, quiz questions, and more. www.soils4teachers.org/lessons-and-activities/teachers-guide

Know Soil Know Life

This 200-page book is targeted at high-school students and college students in introductory courses and written by committee members. It begins with a chapter that challenges readers to view soil not as inert "dirt", but as living material that carries out critical functions for the environment and for people.



Know Soil Know Life then takes readers through a traditional sequence of soil science topics including physical properties, soil biology, soil chemistry/fertility/nutrient management, soil classification, conservation, and soils and biomes. It then draws a direct line between people and soils in history and modern life. It wraps-up with a chapter on career opportunities in soils with profiles of soil scientists. Over 5500 have been sold.

Know Soil Know Life Educators Guide

An extensive online educators guide is free for all educators to use, with overviews, Powerpoints, activities, standards integration, quizzes, and worksheets. www.soils4teachers.org/kskl

The books are available at: www.societystore.org

CURRICULUM DEVELOPMENT/LESSONS

Inservice Materials - English and Spanish

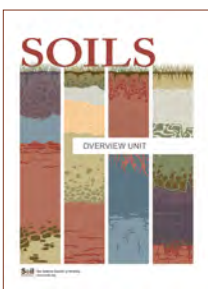


credit: Briana Wyatt

A number of inservice days teachers have been conducted by committee members. Content focuses on the pillars of soil science—physics, biology, and chemistry—and a module on soils and climate change. Materials include a topical overview, a PPT with classroom notes, and a video presentation (recorded during the in-person session in Chicago).

The materials are turnkey for anyone to use in their local K-12 classrooms at: www.soils4teachers.org/inservice (English) and www.soils4teachers.org/inservice-spanish (for the materials in Spanish)

Overview Unit



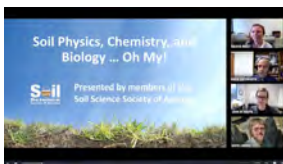
A Soils Overview unit has been developed for grades 6-8, providing students with a basic understanding of the fundamentals of soil science through the integration of disciplinary core ideas, science and engineering practices, and crosscutting concepts. Each part may be used individually or combined to create a unit.

Curated Collection of Resources



A collection of over 200 soils-related lessons, hands-on activities, labs, readings, and more has been developed in a searchable database. Some have been developed by SSSA and others we have reviewed and recommend. Searchable areas include grade level, topic area, resource type, and NGSS standard. The committee welcomes and reviews submissions for the addition of resources to the database. www.soils4teachers.org/lessons-and-activities

Webinars



The committee has produced two webinars for K-12 educators, focused on soil science at different grade levels. All recordings are freely available at www.soils4teachers.org/webinars

- Soils: Fundamental for Life - This webinar focused on basics, formation, characteristics, and fertility (the ability of a soil to sustain plant growth by providing plant nutrients and favorable habitats for plant growth).
- Soil Physics, Chemistry, and Biology ... Oh My! - Soil is so much more than what food is grown in, we walk on, or move out of the way to build houses or buildings on. It's complex, life-giving, and is critical for a balanced ecosystem. Attendees learned about each area, why each is important, and ideas for classroom activities. In addition, they heard about career opportunities in soil science!

STATE SOIL BOOKLETS

An in-depth yet easy to read booklet (4-8 pages each) with information on each state soil. The state soil booklets include a brief history of how the state soil came to be, an image of the state soil, where the state soil is found, importance and uses,



limitations, management, soil formation, ecoregions and land use, a glossary, and additional resources – including an activity to enhance learning.

www.soils4teachers.org/state-soils

WEBSITES

www.soils4teachers.org

Our teacher's website is rich in informational and educational resources. The site features sections on soil basics, soils by subject (formation, biology, chemistry, fertility, mineralogy, physics, and forensics), around the world, land and people, lessons/activities, and additional resources. All developed by the K-12 committee!

www.soils4kids.org

Our kid's website has some of the same feature as the teachers site and also includes more activities specific to younger grades - in a colorful and fun format. Sections include "all about soil," fun with soil (activities), soil experiments, soil games, career exploration, and soil in our community. In addition, sections are broken-out by grades K-4, 5-8, and 9-12.



DISSEMINATING SOILS INFORMATION

National Science Teachers Association (NSTA)

Annually, we participate in the NSTA national conference and exhibit and present a workshop on soils. One of the best opportunities for outreach and dissemination is through K-12 teachers. Annually, SSSA exhibits at the NSTA Annual Meeting, a gathering of 10,000+ teachers.



American Geological Institute (AGI)

AGI hosts Earth Science Week in cooperation with sponsors as a service to the geoscience community. As an AGI member we develop a soil science activity for the annual calendar and contribute to the Earth Science Week kits which are distributed to 10,000+ teachers. Earth Science Week is held annually in October with each year having a unique theme. www.soils4teachers.org/esw

National Earth Science Teachers Association

The SSSA K12 Committee has partnered with NESTA in developing and promoting one of our webinars, participated in their share-a-thon at the NSTA conference, and have published an article on our activities in the NESTA journal.

Careers in Soil Science Profile

To spread the word about the varied careers in soil science, the committee developed an online Career Profiles format for members to tell their career story and have them upload to the SSSA websites. All members are encouraged to provide a profile and photos!

- **View our Career Profiles:**
www.soils4teachers.org/career-tools/career-profiles
- **Submit a Career Profile:**
www.careerplacement.org/account/profile/career

www.soils4teachers.org



Ask a Soil Scientist

The "Ask a Soil Scientist" program is a place for students and teachers to ask questions about soils and soil science and get answers! In addition, teachers can request that a soil scientist to visit their classroom to talk about a specific topic. Approximately 135 members have volunteered with this program.



CURRENT AND FUTURE ACTIVITIES OF THE SSSA K-12 COMMITTEE

- Coordinating a Soil Science Materials grant for K-12 teachers, funded by the Agronomic Science Foundation.
- Updating the K-12 Soil Science Glossary.
- Enhancing communications and promotions to K-12 regarding our resources.

ADDITIONAL RESOURCES!



2015
International
Year of Soils

During IYS SSSA focused on raising awareness of and promoting the sustainability of our limited soil resources.

All of the resources on our site are available for you to use - in your community and classrooms to continue educating about our MOST important natural resource - Soil! Resources include activities, videos, an educational materials kit, and a coloring/activity book:

www.soils.org/iys

I ♥ Soil Items

I "heart" soil items are popular with kids, teachers, and anyone else who loves soil! Stickers in fifteen different languages and clothing items are available.

Visit: www.soils.org/iys/stickers



THE COMMITTEE

The activities of the SSSA K-12 Committee could only have happened through the commitment of time, energy, and enthusiasm of our dedicated committee members!

Current Chair

Melanie Szulczewski
(2023-2024)

Former Chairs

Briana Wyatt
(2019-2022)

Margaret Holzer
(2017-2018)

J. Adewale Adewunmi
(2015-2016)

Clay A. Robinson
(2012-2014)

David L. Lindbo
(2010-2011)

Thomas E. Loynachan
(2008-2009)

Monday O. Mbila
(2005-2007)

Staff Liaison

Susan Chapman

Current Members*

Adewale Adewunmi

Godfred Ankomah

Whitman Barrett

Jennifer DeBruyn

Emily Fuger

Alexis Gillmore

Margaret Holzer

Amanda Liesch

David Lindbo

Cy'Heim McRae

Ellen Phillips

Gordon Rees

Leonardo Rivera

Clay Robinson

Chase Straw

Maninder Walia

Briana Wyatt

*(as of May, 2024)



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