



World Soil Day: Students create children's books for soil ecology class

Since 2014, the United Nations has set aside the 5th of December to educate people about the importance of healthy soil.

In time for this year's international World Soil Day celebration, students in Dr. Bruce Snyder's soil ecology class finished their final project for the semester—children's books about dirt and critters of this unseen underworld that help nourish the Earth's soil, water, forests and air.

For the UN, it's a day to focus attention on the ground beneath our feet, while promoting sustainable management.

For Snyder's class—it's a way to help students break down complicated science and communicate what they've learned. They created books to educate kids as young as preschool or as old as 12, using appropriate and scientifically correct text and images.

Students could choose any topic, as long as it pertained to soil. Books could be fiction or nonfiction, simple or complex, online or bound. They were graded on appropriateness, story flow, technical precision, ease of reading, creativity and grammar.

"Just as you would for a term paper," Snyder said, "you still have to find the primary literature; you still have to write something that's scientifically accurate and flows. It has to have good grammar and all the same writing skills."

"You still have to make it clear to your audience," he said. "With kids, it can be more challenging, so it's the same amount of work. It's just a different format and audience. Plus, it's more fun."

Human activity can put "excessive pressure on our water resources," disrupting the natural balance of soil, causing erosion and reducing water infiltration for all life forms, according to the UN's World Soil Day website.

Grace Cote of Dahlonega, Georgia, notes this in her children's book, geared toward 7- to 10-year-olds. Cote is a biology major with minors in environmental science and Spanish. Her book centers around agriculture and a farmer who needs to learn sustainable practices. His soil is unhealthy, producing stunted corn.

Cote's main characters are twin sisters, Endo and Ectomycorrhiza. They're part of a family of fungi that is hard-to-pronounce, "arbuscular mycorrhiza." To make the name easier for children, she broke it into phonetical segments.

The fungus lays unseen beneath the ground, feeding on tree and plant roots. While it obtains nutrients from roots, however, it also provides vital minerals for the host plant.

Cote's book is about 80 pages and introduces other critters essential for soil healthy too, like termites and worms. She used clipart she found online to populate areas of her pictures. The book has a cartoon-like farmer, tractor, cornfield, bags of oats and diagrams of the fungi.

"The farmer has been doing a lot of unsustainable practices, like tillage, which compact the soil and lower bulk density," Cote said. "They were lacking nutrients and in water stress. Therefore, they introduced synthetic fertilizer."

"My characters come in and are able to form a symbiotic relationship and replenish all these missing nutrients and remove metals from the soil," she said. "This fungus is a little superhero, for sure."

First-year biology graduate student Tori Morgan of Carrollton, Georgia, used artificial intelligence to create fun characters and realistically surreal environments in her 20-page book, aimed at 10-year-olds.

The main character is a snail called "Tia," short for "helix pomatia."

During her journey through a forest, Tia learns about decomposition and how her body heat adds to the pace of that breakdown. She's joined by "Terre," an earthworm, who tells her about mushrooms and other helpful organisms.

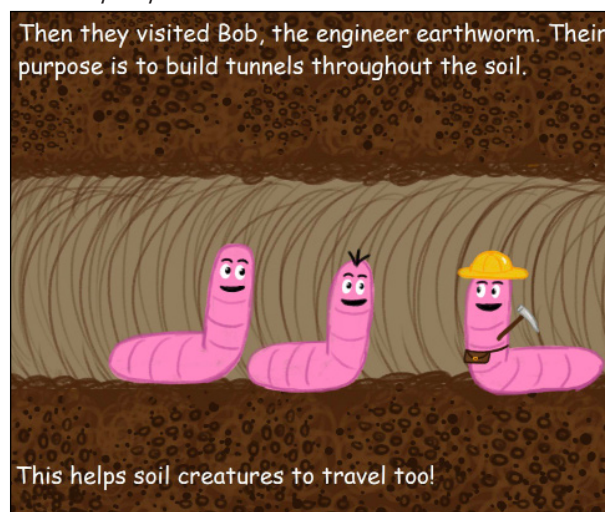
Senior environmental science major Laura Griffin of Washington County, Georgia, did her book about an earthworm who's "chilling" out, not doing much, until other worms start educating him about his role in soil. It's called, "An Earthworm's Purpose."

Elena Cruz, a first-year graduate student from Douglasville, Georgia, chose the ugly grub for her topic. Her grub is smaller than the others and doesn't quite fit in. He has a "coming-of-age journey."

"Basically, he becomes a cool little beetle," Cruz said. "There has to be a happy ending."



Senior Wiley Bundy works on her children's book about a mite.



Then they visited Bob, the engineer earthworm. Their purpose is to build tunnels throughout the soil.

This helps soil creatures to travel too!



The Nutcracker: Beloved holiday extravaganza returns for 27th year at GCSU

With all new costumes, Georgia College & State University celebrates its 27th annual production of Pyotr Ilyich Tchaikovsky's beloved 1892 two-act classical ballet "The Nutcracker."

Shows are Friday through Sunday, Dec. 8-10, in Russell Auditorium.

The Russian ballet has become a staple in many holiday celebrations. The fairytale follows the festivities of a family and their Christmas tree, and a young girl dreams of her handsome Nutcracker coming to life and waging battle with an evil Mouse King.

More than 200 community dancers, ages 3 to adult, are in the production. The youngest dancers, ages 3 and 4, play the Tiny Mice. There will also be high-kicking Poinsettias and tap-dancing Soldiers. The GCSU cheerleaders will play the tumbling, acrobatic Russian Dancers.

Audiences will marvel at special effects like falling snow, a 24-foot dancing dragon, magic tricks and more.

"When I first directed this classic ballet 27 years



Carter Hewitt and Kaylee Smith. ago on campus, we only had about 40 dancers," said Amelia Pelton, director of dance at Georgia College. "I look forward to this all year and plan it year-round! It is my joy."

"Dance of the Sugar Plum Fairy" is one of the most recognizable pieces in "The Nutcracker" and a demanding solo. This year, GCSU senior Nicole

Snyder of Marietta, Georgia, will play the Sugar Plum Fairy. She is majoring in chemistry with a minor in dance. Other dancers include:

- Kaylee Smith, an 11th grader at Georgia Military College's prep school, who will play Clara
• Katie Payne of Newnan, Georgia, a GCSU senior exercise major with a minor in dance, who will be the Snow Queen
• Addison Davis, an 11th grade student at Jones County High School, who will be the Dew Drop Fairy
• and Carter Hewitt of Toccoa, Georgia, a GCSU first-year student exercise science major with a minor in dance, who will be the Nutcracker.

Shows are at 7 p.m. Dec. 8-9 and 2 p.m. Dec. 10. Tickets are available online at gcsutickets.com and at the door. Cost is \$15 for general admission; \$10 for senior citizens, GCSU faculty, staff and non-GCSU students; and \$5 for GCSU students.

Did you know?

Georgia's Old Governor's Mansion offers its annual Christmas at the Mansion tours through Dec. 22. Tours are 10 a.m. to 4 p.m. Tuesday through Saturday and 2 to 4 p.m. Sundays.

There will be a Candlelight Tour Dec. 16 by reservation only. Tours take place at 6, 7 and 8 p.m. and visitors will be entertained by the Sweet Georgia Sound Ladies Acapella Choir, the First Baptist Church of Milledgeville hand bell choir and the Milledgeville Singers Guild.

Back by popular demand, a professional photographer will take family or group pictures by the big Christmas tree from 6 to 8 p.m. Dec. 8 by reservation only. There will also be crafts on site that night.

The focus of the tours is on the year 1851 as the mansion's period of interpretation during the administration of Howell Cobb.

To learn more, visit https://www.gcsu.edu/mansion or call 478-445-4545.

What's going on in Bobcat Territory?

Visit frontpage.gcsu.edu/calendar

Calendar table with columns for Tuesday, Wednesday, Thursday, Friday, and Saturday, listing events for Dec 5-9.