

**Mini-BoB: STEM, STEAM and Maker Space Support
TASL Road Trip East and West, June 13th and 15th, 2017**

Dr. Cindy Welch, cwelch11@utk.edu

CCYAL Associate Director/Clinical Associate Professor, School of Information Sciences, UTK

BoB East: Friday, July 21, 2017; register at <https://kcpl.wufoo.com/forms/best-of-the-best-workshop-2017/>

BoB West: Thursday, July 27, 2017; register at <https://bit.ly/bobwest>

STEM and STEAM

Blue Sky White Stars, written by Sarvinder Naberhaus and illustrated by Kadir Nelson. Dial Books for Young Readers, 2017. All ages.

Phrases that are used to describe the American flag can also be used to describe the country and her people. Some phrases are exact, some are homophones, but all are impactful. The book concludes with notes from both the author and illustrator.

Defy the Stars, written by Claudia Gray. Little Brown & Company, 2017. FICTION, YA
A trial run for a major offensive against Earth turns into a rescue operation for Genesis soldier Noemi Vidal, as she tries to save a friend from a surprise attack by Earth mechs (mechanized warriors) and ends up boarding a disabled Earth warship from an earlier battle. The ship isn't empty; for the last thirty years a one-of-a-kind mech, Abel, has waited for someone to release him from his tin prison. Noemi needs Abel to complete a deadly mission that will give her planet more time to prepare for the coming war, but Abel is more than he seems and that sacrifice may be off the agenda once they get to know each other.

Flashback Four: The Titanic Mission, written by Dan Gutman. HarperCollins, 2017. FICTION, Gr. 3-6.

Luke, Julia, David, and Isabell, millionaire/inventor Miss Zandergoth's "flashback four" want another chance to time travel, despite their failure to get a photo of Lincoln delivering the Gettysburg Address. Miss Z is reluctant, but the teens offer to photograph the sinking of the Titanic. The four are deposited on the ship's deck mere hours before the event, but last minute fumbles prevent their rescued. Will Miss Z be able to extract them from 1912 and return them to modern times?

Freedom Over Me: Eleven Slaves, Their Lives and Dreams Brought to Life, written and illustrated by Ashley Bryan. Atheneum Books for Young Readers, 2016. Grades 5 and up. Ashley Bryan found an old slave document that mentioned the sale of certain slaves – only the name and price are given, so he imagines them as they might have been in their lives on the plantation. A copy of the document, along with Bryan's author's note, concludes the book.

The Hidden Life of a Toad, written and photographed by Doug Wechsler. Charlesbridge Publishing, Inc., 2017. Ages 3-5.

Close-up photography takes readers from day 1 when a toad is born (as an embryo) through their lifecycle and back to the day a female toad gives birth to more embryos.

There's a glossary and additional information at the back, including books and web sites for more about toads.

The Legendary Miss Lena Horne, written by Carole Boston Weatherford and illustrated by Elizabeth Zunon. Atheneum Books for Young Readers, 2017. Gr. 3-5.

An honest yet age appropriate picturebook biography of the beautiful and talented Lena Horne. An author's note, bibliography and a few more resources are included.

Lesser Spotted Animals: The Coolest Creatures You've Never Heard Of, written and illustrated by Martin Brown. Scholastic, Inc., 2017. Gr. 2-5.

Sure, everyone knows about leopards and tigers and bears ... but what about dunnarts and sand cats and gaurs? Twenty-one animals are profiled in this humorous animal book, including food, size, habitat, fun facts and protected (or not) status.

Little Mouse's Big Book of Beasts, written and illustrated by Emily Gravett. Simon & Schuster Books for Young People, 2017. Gr. 1-3.

Little Mouse is a little timid of things that are big and pointy and scary, but with a bit of imagination and some art supplies, just about anything can be overcome.

Little Wolf's First Howling, written by Laura McGee Kvasnosky and illustrated by Kvasnosky and Kate Harvey McGee. Candlewick Press, 2017. Ages 3-5.

Big Wolf takes Little Wolf out for his first howl, but neither is prepared for what comes out of Little Wolf's mouth!

One Last Word: Wisdom from the Harlem Renaissance, compiled and written by Nikki Grimes; with artwork by various children's illustrators. Bloomsbury Children's Books, 2017. Gr. 6 and up.

New Nikki Grimes poetry alternates with great voices of poets from the Harlem Renaissance, Gwendolyn Brooks, Langston Hughes, Georgia Douglas Johnson. The poetry is followed by a "Resources" section that includes poet biographies, artist biographies, sources for the poetry and poet pictures, and an index.

Out of Wonder: Poems Celebrating Poets, written by Kwame Alexander, Chris Colderly, and Marjory Wentworth, and illustrated by Ekoa Holmes. Candlewick Press, 2017. Gr. 7 and up.

Twenty of the authors' favorite poets inspire them to write short celebration poems for a diverse group including Naomi Shihab Nye, Robert Frost, Walter Dean Myers, Judith Wright, and William Carlos Williams, among others. A Preface explains the connection between the authors and the poets celebrated, and the back matter includes brief profiles of the inspirations.

Pond, written and illustrated by Jim LaMarche. Simon & Schuster, 2016. Ages 3-7.

Matt and his friends turn a "pit" back into the pond it really is, and are rewarded by learning from it all year long. This speaks to conservation, habitats, seasons, and the beauty of nature.

Poop Detectives: Working Dogs in the Field, written by Ginger Wadsworth. 2016, Charlesbridge, 2016. Gr. 4-7.

You can learn a lot by looking at animal feces, but first you have to find it! These trained dogs help scientists on land and sea (!) as they track endangered species. A mix of narrative, sidebars, and photographs present this fascinating story of dogs on the job. An author's note, photo of the contents of a handler's pack, photo credits, glossary, sources, additional resources and an index round out this book.

The Poop Sleuth, written by Gina Shaw. Grossett & Dunlap, and the Smithsonian, 2017. PreK-2.

Sarah Putman is on the job at the Smithsonian National Zoo and Conservation Biology Institute, literally on the job. She studies poop, and this book – in full color – explores many of the samples and the animals that left them. A poop sleuth quiz page with stickers is available at the back (which may make this challenging for public libraries to maintain), and a glossary.

Makerspace Materials (broadly interpreted!)

The Book of What If ...?: Questions and Activities for Curious Minds, written by Matt Murrie and Andrew R. McHugh. Aladdin/Simon & Schuster, 2016. Gr. 4 and up.

Starting with a question, this book provides a bit of background and then suggests an activity to explore history, people, “stuff,” and nature. There's a “Curious Resources” list at the back, for further exploration.

A Hat for Mrs. Goldman, written by Michelle Edwards and illustrated by G. Brian Karas. Schwartz & Wade/Random House Children's Books, 2016. Ages 3-5.

Sophia's neighbor, Mrs. Goldman, teaches her how to make pom poms for the hats she knits, and when Mrs. Goldman finds herself without a hat, it is time for Sophia to fix her up! Instructions for knitting a cloche-type hat are included.

Anywhere Farm, written by Phyllis Root and illustrated by G. Brian Karas. Candlewick Press, 2017. Ages 4-8.

“For an anywhere farm, here's all that you need: soil, and sunshine, some water, a seed.” So starts a sweet book that challenges the idea that you need a lot of space – or a farm – to grow things.

Maker Lab: 28 Super Cool Projects: Build* Invent* Create* Discover, written by Jack Challoner and Jack Andraka. Smithsonian, 2016. Gr. 1-5.

Using household items, create a lemon battery, a balloon rocket car for racing, and many more projects. Difficulty rating (easy, medium, hard) is included for each activity.

Notable Notebooks: Scientists and Their Writings, written by Jessica Fries-Gaither. NSTAKids, 2016. Gr. 3-6.

A look at the role of scientists' notebooks, from Newton to Beatrix Potter to Kevlar inventor Stephanie Kwolek. Recording their observations allowed them to build on others' work, keep track of their inspirations, and make sense of data. End material includes ideas on how to start a science notebook and brief bios of the scientists mentioned in the text.

Skateboards, written by Patricia Lakin. Aladdin/Simon & Schuster, 2017. Gr. 3-6. Part of the “Made by Hand” series, *Skateboards* steps readers through the making of a skateboard, and then invites them to do their own. There is a skateboard timeline, and a glossary and further resources. Another in the series is *Bicycles*.

Super Cool Tech: Technology, Invention, Innovation, DK. Penguin Random House, 2016. Gr. 6 and up

With a book case that resembles a laptop, this exploration of technology considers six areas: play, move, construct, power, live, and future. Within each section inventions and innovations both current and possible are explored in vivid color and schematics. A References section includes a “What’s Next” piece, as well as a glossary and index.

Treecology: 30 Activities and Observations for Exploring the World of Trees and Forests, written by Monica Russ and photographs by Kevin Byron. Chicago Press Review, 2016. Gr. 4-7.

Eight main sections cover all aspects of trees, from families to wildlife to tree treks, and each section includes activities to complement the information. There is a tree glossary that includes common and scientific names, as well as additional resources, a teacher’s guide, bibliography, and index.

What Will Grow?, written by Jennifer Ward and illustrated by Susie Ghahremani. Bloomsbury, 2017. Ages 2-4.

A picturebook that explores different kinds of seeds and what soil they need to grow.

Just a thought ... some items you might NOT want near your makerspaces – or maybe you do!

- Movies:
 - Weird Science
 - Young Frankenstein
 - Little Shop of Horrors
- Books:
 - *Frankenstein*, by Mary Shelley

What other ones can you think of???