



Workshop Descriptions

Wednesday, June 29, 2022

Workshop Name & Grade Band: Engineering Crops to Feed the World: Plant Biotechnology Activities (Middle School)

Time: 1:00 PM

Location: Saratoga Ballroom 1

Track: STEM

Presenter: Engineering Crops to Feed the World: Plant Biotechnology Activities (Middle School)

Description: Plants are the key to a healthy and sustainable food system. As the world population continues to expand, there is a critical need to address food supply concerns. Kalia (2018) explains that plant biotechnology “encompasses a multitude of scientific tools and techniques for screening and genetic manipulation of plants to develop beneficial or useful plant/plant products.” Plant breeding and biotechnology assist in the developing of new varieties and traits, leading to higher-yielding crops and food with improved nutrition, taste, and storage life. Additionally, plant biotechnology also allows for the modification of plant traits such as insect resistance, disease resistance, and herbicide tolerance.

Georgia 4-H received a grant from National 4-H Council and U.S. Department of Agriculture/Agriculture and Food Research Initiative to create 6 lesson plans about plant biotechnology for middle schoolers. Topics include plant classification and characteristics, Mendelian genetics, engineering greenhouses, and modern plant biotechnology activities. Aligned with the experiential learning process (Kolb, 1984), each learning experience includes a description of the activity, supplies & materials, activity steps, formative assessment, and reflection questions. Session will include background information about plant biotechnology, overview of each lesson, activity sampling, and discussion about using these free resources in agriculture education settings.

Workshop Name & Grade Band: A Little Sappy but a Lot of Sweet, Get Your Classroom into the Flow of STEAM by Tapping into Maple (All Grades)

Time: 1:00 PM

Location: Saratoga Ballroom 3

Track: Math;;STEM

Presenter: Adam Wild

Description: Have you ever concentrated on maple? Maple syrup production remains one of the oldest and few native agriculture crops harvested from vital North American intact forest ecosystems. These systems provide wildlife habitat, carbon sequestration, soil

stabilization, and water and air filtration. The production of this unique commodity has seen a constant drip of technological advancements from the primitive indigenous people's tree slash harvesting and stone boiling methods to reverse osmosis and vacuum tubing systems of today. Most educators might not know how to turn sap to syrup, but all educators should be familiar with many of the concepts found within the industry. From photosynthesis to conservation and water cycles to entrepreneurship and many educational concepts in between, participation with the maple industry can create sweet inquiry-based cross curricular STEAM learning opportunities in any classroom. In this one-hour workshop, educators will tap into the maple industry through an introduction to the art, science, and history of maple syrup production and flow into the role of industry producer as they participate with multiple hands-on maple stations. As the workshop reaches a boil, educators will understand how they can teach core content standards through the lens of maple.

Workshop Name & Grade Band: "Legen-Dairy Collaboration" Workshop (Elementary)

Time: 1:00 PM

Location: Travers/Alabama

Track: Language Arts;;Math;;Nutrition;;Social Studies;;STEM

Presenter: Rachel Chastain

Description: This dairy workshop is a collaboration between a 5th/6th-grade regular education classroom at Eva School (Kathy) and a special needs high school Transition class (Rachel) at the Alabama Institute for the Deaf and Blind (AIDB), Helen Keller Campus (HKS). Our goal is to provide accurate agricultural content at the elementary academic level, but also provide the content in an engaging way that is also suitable for a wide range of special needs high school students. This collaboration will allow both sets of students to share a skill. For example, Deaf students at the Helen Keller School will teach common dairy-related words in American Sign Language. HKS students with visual impairments will share strategies for completing cooking activities and using braille to read recipes. Eva School will share their history lesson "then and now" PowerPoint detailing agricultural technological advances.

Workshop Name & Grade Band: Hydroponics Made Easy (All Grades)

Time: 1:00 PM

Location: Saratoga Ballroom 2

Track: Math;;STEM

Presenter: Melvin Phelps

Description: Does the thought of using hydroponics scare you or do you find it intimidating? In this hands-on workshop you will assemble a hydroponics grow tower, learn how to get it running and the simple steps to maintaining a system. At Lowville Academy high school students use our 15 towers to place them in elementary and middle school classrooms and teach students how to grow their own food. We will also share how

to incorporate hydroponics in grades K-12 with your students being the teachers. We will also cover some ideas of how to find money to purchase grow towers as well.

Workshop Name & Grade Band: State of the Planet: Deep Dive into Critical Issues Thinking (Middle & High School)

Time: 1:00 PM

Location: Broadway 1-2

Track: Social Studies

Presenter: Denise Stewardson

Description: As our world population has grown to nearly 8 billion people—with a projected population in 2050 of nearly 10 billion—can our planet sustainably provide food, clothing, and shelter to its inhabitants? In this cross-disciplinary, hands-on session, participants will look at critical issues worldwide including hunger, climate change, land and water use, consumer food preferences, and population demographics to focus on helping students be critical thinkers and problem-solvers. Attendees will actively participate in creating future wheels to identify ESPeN (economic, social, political, environmental) impacts of specific issues, assess risks, and determine plans of actions for maximizing positive impacts and minimizing negative impacts. Discover engaging, educational (free) resources from World Food Programme, National Agricultural Literacy Curriculum Matrix, and Population Education that explore the history and impacts of our growing population. All lessons and companion resources are tied to state and national standards in social studies and science.

Workshop Name & Grade Band: Harvest of the Month: Growing Ag Literacy through Local Food! (All Grades)

Time: 1:00 PM

Location: Sen. Joseph Bruno Meeting Room

Track: Language Arts;;Math;;Nutrition;;Social Studies;;STEM

Presenter: Sue Knott

Description: Connecting classrooms, cafeterias and communities is the goal for Minnesota Agriculture in the Classroom's (MNAITC) Harvest of the Month program. Discover how MNAITC and the Minnesota Departments of Agriculture and Education are using funds from a USDA Farm to School Grant to grow excitement for locally grown food and the farmers who produce it. Workshop attendees will engage in hands-on activities featuring the Minnesota Harvest of the Month videos, taste tests, recipes, marketing materials and K-12 curricular resources that focus on standards-based connections in science, social studies, and health. These activities will serve as a starting point for participants to brainstorm strategies for utilizing food systems education, as well as locally grown fruits, vegetables, grains, proteins and more for contextualizing learning.

Workshop Name & Grade Band: Soil, Plants, and Animals, Oh, My! (All Grades)

Time: 1:00 PM

Location: Broadway 3-4

Track: Language Arts;;Math;;Nutrition;;STEM

Presenter: Annie Davis

Description: Do you need a quick, engaging activity to introduce your students to an agricultural concept? Come explore the offerings in Oklahoma AITC's newest teacher resource, Soil, Plants, & Animals, Oh, My! and find the perfect way to engage your students. This resource is packed full of ideas for all grade levels, PreK-12th grade and includes five different sections: Crafts; Recipes; Science; Games; and Art. In this mini-session attendees will rotate through different stations to complete one activity from each section of the book. Learn about your personality as you draw a pig, explore the differences in Oklahoma and New York soil, create a wheat painting with a fork, and more! Leave with this valuable new resource that will teach your students about agriculture in a fun, interactive way!

Workshop Name & Grade Band: Root Your Future – Student Career Exploration (All Grades)

Time: 1:00 PM

Location: Meeting Room 2B

Track: STEM

Presenter: Tiffany Ballow

Description: Did you know there are 100s of careers in the fertilizer industry that can fuel a student's desire to be a steward of our air, soil, and water? The workshop will provide a teacher guide and students resources to jumpstart the career exploration for the classroom. The activity frameworks available in the guide are aligned with National Career Development Association (NCDA) Standards. Very similar to the plant growth process, a path to a career requires many resources! Just like a plant needs soil, water, sun, and nutrients, students too need to make sure they have all the resources and room to grow into the career that best fits them! To help explore we will do a Breakout Box lesson that is not only fun but educational.

Workshop Name & Grade Band: Food to Energy: Transforming Food Waste into a Valuable Product via Poopy Power (Middle School)

Time: 1:00 PM

Location: Meeting Room 2A

Track: Math;;Nutrition;;STEM

Presenter: Jim Burdick

Description: Americans discarded over 55 million tons of food waste (FW) in landfills in 2018, creating greenhouse gas emissions, generating leachate, and using valuable landfill capacity. Instead of throwing it away, our food waste can be processed to recover

important resources. Participants will learn about resource recovery using anaerobic digestion to produce energy and fertilizer from food and other organic waste. We will share a range of curricular materials and demonstrate a multi-day experiment that uses small bottle reactors to simulate anaerobic manure digesters that also incorporate different types of food waste, allowing students to investigate the factors that affect biogas (and energy) production, while learning the benefits of a manure digester on a farm. This experiment has been performed successfully in Biology, Earth Science, and Chemistry classes while integrating NALO Theme 1 (Agriculture and the Environment), Theme 4 (Science, Technology, Engineering & Mathematics), and Theme 5 (Culture, Society, Economy & Geography). Participants will experience setting up the experiment, collecting data, and engage in a discussion of the various ways the data can be used to meet different course learning objectives at the middle and high school levels. We will also share how our school-wide food waste program is going.

Workshop Name & Grade Band: Journey 2050: Engaging Students in World Food Sustainability (Middle & High School)

Time: 2:15 PM

Location: Broadway 1-2

Track: Language Arts;;Social Studies;;STEM

Presenter: Tessa Matuszak

Description: Can we sustainably feed nearly 10 billion people? Journey 2050 is a free, curriculum-based program that engages students in grades 7-12 in discussions about sustainably feeding the world's growing population. This free, seven-level program, which includes a virtual simulation game, meets educational standards for science, geography, social studies, STEM, career and technical education, and agriculture classes. Lesson topics include sustainability, soil, water, economics, geography, culture, careers, and agriculture technology. Up to seven hours of programming, everything is provided. The program is accessible through teacher lesson plans, student-led options, and virtual guest speaker presentations (available in select US locations). Download Journey 2050 from the AppStore, Windows Store or Google Play before the workshop on your own device and bring if possible. Learn more at www.Journey2050.com.

Workshop Name & Grade Band: Let's Talk Trash - Organics Recycling & Beyond (All Grades)

Time: 2:15 PM

Location: Meeting Room 2B

Track: STEM

Presenter: Samantha Brown

Description: Disposing of waste is something we do every day, almost without thinking. In nature, there is no "waste" - everything is somehow recycled, re-absorbed or re-used. The best solid waste management systems aim to reduce actual "waste" as much as possible.

The Oneida-Herkimer Solid Waste Authority operates a green waste composting program, a recycling center, an organics processing facility that prepares food waste for anaerobic digestion & biogas recovery, and a landfill for anything that is left over. Green waste, Recyclables and Food Waste are valuable, energy rich feedstocks that can be processed in order to recover nutrients, save energy and preserve resources. Our recycling outreach & education program gives us the opportunity to help local residents/businesses/school aged children think more creatively about reducing and reusing "waste". This session will cover the processes of windrow composting and anaerobic digestion, briefly describe our recycling program and outreach efforts, and will demonstrate the impact that these programs have on the two county region the Authority serves.

Workshop Name & Grade Band: Hydroponics Made Easy (All Grades)

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Track: Math;;STEM

Presenter: Melvin Phelps

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Workshop Name & Grade Band: Mooving From the Classroom to the Barn (Elementary & Middle School)

Time: 2:15 PM

Location: Meeting Room 2A

Track: Language Arts;;Social Studies;;STEM

Presenter: Angela Bright-White

Description: Mooving From the Classroom to the Barn will highlight how Philadelphia Elementary School tapped into community resources to begin an Agriculture Program at a rural PK-8th school. The workshop will discuss how Philadelphia is using a modified CTE program in middle school to teach Agriculture, Ag Science, Carpentry, and cultivate a school garden. Land by the Creek Farm, is the central part of the program and we will show how our farm animals have brought excitement and many learning opportunities to our campus and students. Ag Literacy will be shown through our programs that we use in RTI, the classroom, and LAUNCH, an afterschool program. The workshop will talk through concepts of the importance of students who may not be involved in Agriculture develop an understanding where their food and fiber originate. Mooving from the

Classroom to the Barn offers rural students with high interest in agriculture opportunities to find the value in math, science, and technology in Agriculture.

Workshop Name & Grade Band: Agriculture, Science and Society: What's the Issue? (All Grades)

Time: 2:15 PM

Location: Broadway 3-4

Track: Language Arts;;Social Studies;;STEM

Presenter: Michelle Burrows

Description: Agriculture is directly connected to many issues guided by science and impacting society; think climate change, food insecurity, GMOs, sustainability, livestock interaction with natural resources, and more. These issues are known as socioscientific issues (SSI). How can we introduce students to these issues in a way that promotes interest, engages thoughtful decision making, and inspires action? In this workshop, participants will explore how they can integrate global, regional, and local SSI into their classes to engage students in critical thinking, scientific data analysis, discussions, and problem solving. Resources from the National Agricultural Literacy Curriculum Matrix along with other resources will be shared for grades 3-12.

Workshop Name & Grade Band: Cheese is WHEY Cool! (All Grades)

Time: 2:15 PM

Location: Saratoga Ballroom 1

Track: Nutrition;;STEM

Presenter: Andrea Gardener

Description: Cheese makes the concepts of proteins, amino acids, enzymes, and pH very tasty! In this workshop, participants will learn how to make a 30-minute mozzarella cheese recipe and use the cheesemaking process to explain complex science concepts and chemical interactions. Instructional resources from the Agricultural Literacy Curriculum Matrix for grades 3-12 will be shared.

Workshop Name & Grade Band: We Can't Help Pollen in Love: Helping Students Cultivate a Passion for Pollinators (All Grades)

Time: 2:15 PM

Location: Saratoga Ballroom 3

Track: Language Arts;;Math;;STEM

Presenter: Kevin Daugherty

Description: "Save our pollinators" has been the buzz word for years, but what can schools do to help students truly learn more about pollinators and inspire lasting change? Join Chris Wyant, Education Manager for Illinois Agriculture in the Classroom, as he shares information about honey bees, native bees, and other types of pollinators. Lessons,

activities, and additional resources will be shared in this interactive presentation. Information on making bee hotels, creating pollinator habitat at schools, teaching students about pollinator anatomy, expanding students' knowledge of the different types of pollinators, and better understanding the process and evolution of pollination will be included, along with a hive full of book recommendations!

Workshop Name & Grade Band: The Sunlight-Food Connection (Middle & High School)

Time: 2:15 PM

Location: Sen. Joseph Bruno Meeting Room

Track: STEM

Presenter: Heather Bryan

Description: What do plants need to grow? What role does photosynthesis play in plant growth? What role does photosynthesis play in the cycling of matter and the flow of energy in an ecosystem? This hands-on, inquiry based investigation allows participants to explore how light, water and carbon dioxide change matter into different forms (oxygen, glucose) to demonstrate the cycling of matter and the flow of energy among living things. This workshop will focus on the NGSS Performance Expectation MS-LS1-6.

Workshop Name & Grade Band: Mealworm Mania (All Grades)

Time: 2:15 PM

Location: Travers/Alabama

Track: Nutrition;;STEM

Presenter: Catlin Goodwin

Description: Are you looking for a unique way to teach life cycles, entomology, sustainability, or even food science? Join as we discuss the trials and joys of raising mealworms and explore the abundance of opportunities they can bring to your classroom. In this workshop, you will observe an operational classroom mealworm farm, learn basic mealworm care and nutrition, and gain ideas for how to use the insects throughout your whole school. Whether you want to use the mealworms to enhance your science curriculum, feed your reptiles and birds, or even feed your students - this workshop will have you covered. After the workshop, you will leave with resources including age-adaptable lessons, a mealworm farm starter-guide, recipes, and more! Don't squirm at this opportunity to learn more about raising mealworms in your classroom!

Workshop Name & Grade Band: Ag in the Classroom Everywhere (All Grades)

Time: 4:00 PM

Location: Sen. Joseph Bruno Meeting Room

Track: Language Arts;;Math;;Nutrition;;Social Studies;;STEM

Presenter: Heather Conrow

Description: Just like in the movie Apollo 13, non-formal educators “invent a way to put a square peg in a round hole,” all the time. Non-formal educators morph rigid, structured content into experiential, hands-on learning using various instructional approaches. In afterschool programs, county fairs, or for in-school enrichment, non-formal education allows youth to do-reflect-apply their newly acquired knowledge. How is this done with National Ag in the Classroom curriculum? The session aims to bring successful usage of the national curriculum into more states while streamlining communication for those already engaging in this field. All are welcome, regardless of non-formal education background. Participants will be added to a non-formal Ag in the Classroom team that can be used as a motivational springboard for future sharing. This network will offer a platform to further share funding avenues, help develop connections with school systems, and build collaborations with other non-formal education groups.

Workshop Name & Grade Band: Drone Technology: The Wave of the Future (All Grades)

Time: 4:00 PM

Location: Travers/Alabama

Track: STEM

Presenter: Craig Wilson

Description: This workshop will give science educators the opportunity to engage with science-based agricultural research regarding plant pests and the emerging use of drones. Participants will gain an increased understanding of how modern agricultural practices utilize enhanced technology and research to further the production of a safe and bountiful food supply.

Examples will be shared of how drones:

- 1) are used by one USDA/Agricultural Research Service (ARS) Engineer to spot spray an invasive weed species that invades golf fairways and disrupts the roll of the ball. He will also share other research projects such as locating and attempting to eradicate weeds in rice fields otherwise inaccessible by land but that can be overflown by drones.
- 2) are used by a science teacher to help his students study the watershed surrounding their school, identify points of pollution and design possible solutions.

Dr. Wilson will fly a mini-drone to show how versatile and relatively inexpensive drone technology is becoming.

Participants will walk away with knowledge of how to incorporate the information learned into the classroom and be provided links to USDA/ARS scientists in their state.

Workshop Name & Grade Band: Cheese is WHEY Cool! (All Grades)

Time: 4:00 PM

Location: Saratoga Ballroom 1

Track: Nutrition;;STEM

Presenter: Andrea Gardener

Description: Cheese makes the concepts of proteins, amino acids, enzymes, and pH very tasty! In this workshop, participants will learn how to make a 30-minute mozzarella cheese recipe and use the cheesemaking process to explain complex science concepts and chemical interactions. Instructional resources from the Agricultural Literacy Curriculum Matrix for grades 3-12 will be shared.

Workshop Name & Grade Band: Soybeans: The other green bean! (Elementary)

Time: 4:00 PM

Location: Meeting Room 2B

Track: Language Arts;;Math;;Nutrition;;Social Studies;;STEM

Presenter: Teresa Brunnemar

Description: Educators attending this workshop will make connections with Accurate Agriculture books, their curriculum, and agriculture to engage students throughout the year. The unfamous soybean will be the focus of this engaging workshop. Utilizing Accurate Agriculture books, including Full of Beans: Henry Ford Grows A Car, Soybeans A to Z, Soybeans in the story of Agriculture and Auntie Yang's Great Soybean Picnic, participants will be able to trace the soybean from the ground to its global marketplace. Each book will be connected to National Agriculture Literacy Standards, have a variety of hands-on activities, and include several STEM projects. The workshop activities can be integrated across all curriculum areas for early childhood and elementary students. We will also share our journey to have the soybean adopted as our state legume. We kicked off our endeavor by having our congressmen come in during Read an Accurate Ag Book Week and followed the process through the proclamation.

Workshop Name & Grade Band: Red Dirt Chemistry (High School)

Time: 4:00 PM

Location: Broadway 3-4

Track: STEM

Presenter: Tammy Will

Description: This workshop provides opportunities to teach participants the importance of understanding soil aggregates and the balance of soil composition which affects the ability for water retention and runoff, porosity and oxygen diffusion in the soil which leads to better yield in farming. The workshop describes basic soil properties along with proper techniques of pulling a soil sample. Conducting a Soil Smoothie Technique will help participants to understand the importance of knowing your soil properties, will give

them the understanding of the "behind the scenes" work and analysis by a farmer. Using the Soil Textural Triangle which allows the farmer to adjust management decisions based on the ability of a farm to drain, as well as, the ability of a farm to retain nutrients. The use of a surfactant in our experiment will introduce participants to the chemistry application in soil. In addition, participants will conduct a soil pH test and discuss how it relates to a farmer growing crops.

Workshop Name & Grade Band: Flower Power (All Grades)

Time: 4:00 PM

Location: Saratoga Ballroom 2

Track: STEM

Presenter: Mandi Millen

Description: Flower structure and function is important concept for plant science, botany, and floriculture. Flowers are important to humans and to agriculture. They are the reproducers of plants, a food source for humans and animals, and a natural decoration. Understanding the structure of the flower is essential for crop production and management as well as helping to understand how our food is produced. This workshop introduces two fun hands-on activities to help introduce and reinforce the structure and function of flowers. Participants will construct a complete paper flower using simple craft supplies, and then dissect a real flower. The activities will include multiple scaffolds for a variety of ability levels.

Workshop Name & Grade Band: Accurate Ag Picture Book Writing 101 (Elementary)

Time: 4:00 PM

Location: Saratoga Ballroom 3

Track: Language Arts

Presenter: Julia Recko

Description: Ever wanted to write a picture book about food and farming? In this workshop you will learn the basics of writing picture books with real examples, writing prompts, and a list of additional resources to help you on your writing journey. You are sure to walk away inspired!

Workshop Name & Grade Band: Building Bridges and Navigating Racial Diversity in Agriculture Education: A Native American Perspective

Time: 4:00 PM

Location: Broadway 1-2

Track:

Presenter: Dr. Anton Treuer

Description:

Workshop Name & Grade Band: The Beef Brief (Elementary & Middle School)

Time: 4:00 PM

Location: Meeting Room 2A

Track: Language Arts;;Math

Presenter: Jennifer Morgenthal

Description: My workshop will be used to teach the basics of the beef industry. I will set up four stations with fun activities to use to bring beef into the classroom. "The Right Recipe" - Students will learn about feed ratios and the different nutrient needs of cattle. They will create their own trail mix from ingredients that represent the ingredients eaten by cows. They will complete a multiplication handout that asks them to measure the ingredients needed for a larger batch of trail mix, much like cattle ranchers mix feed for their herd. "Built From Beef Bin" - Students will learn about byproducts from the beef industry by picking as many, out of a large plastic bin, as they can in one minute. "Make Your Mark" - Students will learn about branding, why cattle ranchers use it, and how to read brands properly. Then they will create their own brand. "Cattle Herding Hoorah" - Students will learn how to safely move cattle and some tips and tricks used when herding cattle. They will complete a worksheet and then play the cattle-herding game. I will present these stations so teachers are comfortable educating students about the beef cattle industry.

Thursday, June 30, 2022

Workshop Name & Grade Band: Want to bring charcoal and biochar into your curriculum? Well urine luck! (Middle & High School)

Time: 9:00 AM

Location: Travers/Alabama

Track: STEM

Presenter: Chad DeVoe

Description: Charcoal is one of those agriculture products that is hard to find locally-produced. However, you and your students can make it fairly easily! We will discuss production techniques for charcoal and biochar and how this activity ties into curriculum and cross-subject collaborations like: carbon/nitrogen cycle, climate change, forestry, soils, scientific inquiry, experimental design, welding, culinary, and entrepreneurship. We'll cover all-things charcoal and then get into inoculating biochar for fertilizer and finish with a discussion about implementation.

Workshop Name & Grade Band: Sweet Science (All Grades)

Time: 9:00 AM

Location: Sen. Joseph Bruno Meeting Room

Track: Math;;Nutrition;;STEM

Presenter: Mary Coolbaugh

Description: Sweet Science will walk you through the process of maple production from tree to table. Attendees will learn how to identify a maple tree, tap a tree, collect sap and boil it to create maple syrup. We will explore how to incorporate science concepts throughout the maple process from phase changes to density to the chemistry of maple syrup. Presenters will discuss value added products and ways that they have incorporated these activities into their curriculum. The Schoolyard Sugaring contest through New York Agriculture in the Classroom will be discussed and ways you can get your students involved in the maple industry.

Workshop Name & Grade Band: The Climate Change Conundrum (Middle & High School)

Time: 9:00 AM

Location: Saratoga Ballroom 1

Track: Social Studies;;STEM

Presenter: Andrea Gardener

Description: What are the impacts of agriculture on climate change? How does climate change impact agriculture? In this workshop participants will be introduced to a collection of instructional resources addressing the complexity of climate science. Discover tools to engage in critical thinking activities regarding food production, human impact on the environment, and global change. If the climate continues to change, could we see bananas grown in America's "Breadbasket?"

Workshop Name & Grade Band: The USDA Farm to School Grant Program: Connecting to School Culture (All Grades)

Time: 9:00 AM

Location: Broadway 3-4

Track: Nutrition;;STEM

Presenter: Julie Brewer

Description: In this one-hour, interactive workshop, participants will discover the USDA Farm to School Grant Program and discuss strategies for full-school integration of agriculture concepts.

The term "farm to school" encompasses efforts that bring locally produced foods into school cafeterias, offer hands-on learning activities in the classroom, and incorporate food-related education into classroom curricula. Join Julie Brewer to discuss the ways in which farm to school programming connects students to the food they eat, from teaching

kindergarteners to sprout seeds in the classroom to exposing high school students to careers in agriculture at local farms.

Workshop Name & Grade Band: Getting Hands-on with Plant-Based Education (All Grades)

Time: 9:00 AM

Location: Broadway 1-2

Track: Language Arts;;Math;;Nutrition;;Social Studies;;STEM

Presenter: Shelley Mitchell

Description: Did you know that you can use plants inside and/or outside as a theme for teaching different subjects and concepts? Whether it is science, math, language arts, social studies, nutrition, music or even physical education, you can use plants to teach it, while incorporating ag literacy into your classroom! Come dance, sing, hydrate, create and solve your way through this hands-on session. We will do some kid-approved activities that make learning fun.

Workshop Name & Grade Band: Heroes: A Game Based Investigation of Farming Practices and Issues (All Grades)

Time: 9:00 AM

Location: Meeting Room 2B

Track: STEM

Presenter: Cathryn Carney

Description: Games in the classroom have been on the rise to increase student engagement. Through game models students are provided the opportunity to discover and make connections to core concepts, and gain cooperation and problem solving skills. During this session participants will engage in the board game model, Water Savers! Through game play participants will discover farming and environmental issues, sustainable farming practices, and actions that can be taken to solve issues. As participants play through the cooperative game model, they discover actions taken to protect the environment and that everyone has a role. The use of this model in the classroom can help students discover what environmental and farming issues are affecting their area, and the actions farmers and citizens may take to combat these issues. Participants will have the opportunity to elaborate on the Water Savers! game as they discuss the Soil and Farm Expansion. In studying real world issues, students can relate to interests and life experiences in their local communities and connect to societal problems. This activity and the surrounding topic can take place from preschool through twelfth grade.

Workshop Name & Grade Band: Edible Ag at the Elementary Level (Elementary)

Time: 9:00 AM

Location: Saratoga Ballroom 3

Track: Language Arts;;Math;;Nutrition;;STEM

Presenter: Megan & Clayton Kappauf

Description: Teach cross curricular subjects through hands-on learning and food! Does it get better than that? We don't think so. Come join us as we talk about all of the things we do in our own home, and why we decided to bring them into our classrooms. Learn how to bring agriculture to life in your class! All you need is a dehydrator, a food processor, a hot plate and a willingness to try new things. We will show you how easy it is, using common household appliances, to bring a variety of agricultural experiences to your students. We will make apple sauce, fruit leather, yogurt, cheese, butter, pesto, sauerkraut, and turn them into edible lessons. You will make these yummy healthy treats and you will bring the knowledge with you to use in your school and home.

Workshop Name & Grade Band: STEAMing Through Agriculture (Elementary)

Time: 9:00 AM

Location: Meeting Room 2A

Track: STEM

Presenter: Sarah Glenn

Description: This workshop will provide educators with multiple ways to incorporate agricultural literacy into core curriculum. Participants will learn how to use Agri-based children's books to address ELA concepts such as text features and comparing fiction and non-fiction texts. Educators will participate in STEAM activities using agricultural products and will have ready to use lessons at their disposal once they return to the classroom. The teachers who attend will learn how to teach core curriculum using agricultural themes. Why re-invent the wheel? Just adjust the themes and the products used in experiments, STEAM activities and reading material. We will also show how to use a school garden to teach Science, Math and ELA in fun, engaging ways that will promote life-long learning. Hands on activities promote the most influential learning and Teachers will leave with multiple options to use in their classrooms.

Workshop Name & Grade Band: Leaving Little House Behind: Exploring Agriculture through Young Adult Literature (Middle & High School)

Time: 9:00 AM

Location: Saratoga Ballroom 2

Track: Language Arts

Presenter: Kevin Daugherty

Description: Google "Young Adult Literature and Agriculture" and the classic Little House on the Prairie series will be featured. There is so much more to agriculture for our upper elementary, junior high and high school readers. Join this session to extend your

agriculture-related library with topics ranging from insects and pollinators to nutrition and row crops into the ELA classroom. We'll highlight a number of recent publications with unique connections to agriculture and share some tips on Literature Circles and more.

Workshop Name & Grade Band: Riverology 101! Using a local approach to protect water quality (All Grades)

Time: 10:45 AM

Location: Meeting Room 2A

Track: STEM

Presenter: Jacklyn Jaggars

Description: Land use changes such as urbanization and agricultural practices can affect water quality. To help reduce impacts, the Grand River Dam Authority, in partnership with the Oklahoma Blue Thumb program, Oklahoma Department of Agriculture, Food and Forestry Ag in the Classroom Program and Oklahoma Cooperative Extension Services 4-H Program have developed a three-day teachers workshop called Riverology 101.

The purpose of the workshop is to provide teachers resources they can take back to their classroom to help their students better understand the importance of protecting water quality and how they might impact it at home. As a part of the program, GRDA worked with a professor at the University of Oklahoma to develop a science curriculum that meets state science standards for 4th grade students on erosion and soil health. While the curriculum is geared more towards 4th graders, it can be easily adapted to all grade levels with minor modifications. Each teacher that attends Riverology 101 receives a copy of the curriculum which includes 7 days worth of lesson plans that build on each other.

GRDA and Oklahoma Ag in the Classroom want to share these lesson plans with you along with an interactive experiment during our session.

Workshop Name & Grade Band: AG STEM Career Fair Day (Middle & High School)

Time: 10:45 AM

Location: Saratoga Ballroom 3

Track: Language Arts;;Math;;Nutrition;;Social Studies;;STEM

Presenter: Cheryl Butterfield

Description: Are you disheartened by all the missed opportunities with the way career fairs are traditionally set up? Are you tired of watching students mainly visit with a booth based on their giveaway items? Do your presenters leave the event wondering if their time was well spent because they didn't have much time to show their passion for the important work they do? Do you have difficulty getting presenters to attend? Then let New Mexico State University Cooperative Extension and NM Ag in the Classroom help you take your career fair to the next level and provide a place where everyone feels valued, and eyes are opened to new careers that otherwise would have never been explored. Learn how to host an impressive STEM Ag Career Fair Day in which students,

teachers, presenters, and sponsors alike clamor to participate in each year. Help assure the future of agriculture by providing a quality educational event that inspires students to get interested in careers in the agricultural and natural resource sciences. Imagine the impact you can have by providing a successful STEM Ag Career Fair Day!

Workshop Name & Grade Band: A Berry Good Way to Learn (Elementary)

Time: 10:45 AM

Location: Broadway 1-2

Track: Language Arts;;STEM

Presenter: Julia Recko

Description: Hear children's book author Shannon Anderson read her newest book, I LOVE STRAWBERRIES – participate in hands on learning activities that accompany the book and walk away ready to engage students in this delicious book!

Book Summary: Jolie LOVES strawberries! She loves them so much she's determined to grow her very own plants, but her parents aren't sure she's ready. How Jolie and her faithful rabbit, Munchy, find out just how fun--and complicated--it can be to grow your own food is the heart of this delicious story.

Workshop Name & Grade Band: What in Carnation (Middle & High School)

Time: 10:45 AM

Location: Travers/Alabama

Track: STEM

Presenter: Megan Friscia

Description: Are you looking to learn how to create various types of arrangements – floral and not floral? Are you interested in incorporating a floral unit into your classes? Look no further! In this workshop, you will learn the FUNDamentals for floral design while using flowers and other medium to create easy-to-make arrangements for middle and high school students.

Workshop Name & Grade Band: Beefing Up Project-based Learning (All Grades)

Time: 10:45 AM

Location: Meeting Room 2B

Track: Language Arts;;Math;;Nutrition

Presenter: Jean O'Toole

Description: New York Beef Council in partnership with New York Agriculture in the Classroom leads an interactive, hands-on, food experience known as the Top Cut Beef Contest. This cross-curricular, project-based learning competition is a way to engage students with, and understand, beef production and the related industries. During this workshop attendees will be exposed to the multitude of agriculture careers and skills it takes to develop and sell a product. Learn about the contest framework while engaging in

elements of the contest yourself! You will leave this workshop with knowledge on how to implement the Top Cut Beef Contest with instruction on recipe development, cost analysis, testing with a target audience, and creating marketing elements.

Workshop Name & Grade Band: Discover Dairy Beyond the Refrigerator (Elementary & Middle School)

Time: 10:45 AM

Location: Broadway 3-4

Track: Language Arts;;Math;;STEM

Presenter: Brittany Snyder

Description: Dive deep into dairy while we explore the FREE-to-use, interactive, cross-curricular program, Discover Dairy. Discover Dairy meets Common CORE standards in science, reading and math, while covering social studies concepts by showing students where milk comes from and how dairy farms contribute to our world. It offers full lesson plans geared for elementary and middle school students, farm field trip grants, online video resources, virtual farm tour opportunities as well as an Adopt-A-Cow program. We will explore the website, preview the curriculum and supporting materials as well as sample hands-on labs directly from the lessons.

Workshop Name & Grade Band: Seeds of Understanding: Creating a School Garden that Strengthens Diversity, Equity and Inclusion (All Grades)

Time: 10:45 AM

Location: Saratoga Ballroom 2

Track: Language Arts;;Math;;Nutrition;;Social Studies;;STEM

Presenter: Johnnie Keel

Description: There are many studies that support the positive impact of school gardens from increased success in academics, environmental attitudes, as well as social emotional behavior. But, these teachers have dug a little deeper and are using the traditional science of gardening as a catalyst for understanding diversity, the difference between equality and equity, and the value of inclusion. Plants can illustrate how different people need different things to be nourished. Come join this workshop of hands-on activities that build student knowledge, interest and engagement. Learn how a garden can highlight the cultures of your school from a salsa garden to indigenous planting. The cross-curricular activities will offer some surprising parallels between cultivating a garden and cultivating consciousness. Join this workshop and take away a garden of ideas. You'll never look at your garden in the same way again!

Workshop Name & Grade Band: Sweet Science (All Grades)

Time: 10:45 AM

Location: Sen. Joseph Bruno Meeting Room

Track: Math;;Nutrition;;STEM

Presenter: Mary Coolbaugh

Description: Sweet Science will walk you through the process of maple production from tree to table. Attendees will learn how to identify a maple tree, tap a tree, collect sap and boil it to create maple syrup. We will explore how to incorporate science concepts throughout the maple process from phase changes to density to the chemistry of maple syrup. Presenters will discuss value added products and ways that they have incorporated these activities into their curriculum. The Schoolyard Sugaring contest through New York Agriculture in the Classroom will be discussed and ways you can get your students involved in the maple industry.

Workshop Name & Grade Band: The Climate Change Conundrum (Middle & High School)

Time: 10:45 AM

Location: Saratoga Ballroom 1

Track: Social Studies;;STEM

Presenter: Andrea Gardener

Description: What are the impacts of agriculture on climate change? How does climate change impact agriculture? In this workshop participants will be introduced to a collection of instructional resources addressing the complexity of climate science. Discover tools to engage in critical thinking activities regarding food production, human impact on the environment, and global change. If the climate continues to change, could we see bananas grown in America's "Breadbasket?"

Workshop Name & Grade Band: Vermicomposting in the Classroom (All Grades)

Time: 1:15 PM

Location: Travers/Alabama

Track: Math;;STEM

Presenter: Bill Richmond

Description: The workshop offers a comprehensive overview of how composting worms offer a simple, indoor composting option, and provide a natural and renewable alternative to fertilizers for healthy plants and vegetables. Practical tips on how to set up and maintain a worm bin, including a review of types of bedding and food, will be provided. There will also be discussion about the benefits of composting to minimize the waste stream, including an overview of the 30% of household waste that can be composted, and the differences between traditional hot composting and vermicomposting (composting with worms). A brief review of commercial versus residential (or classroom-sized) worm bins, and the potential for incorporating math, science, engineering, animal husbandry

and responsibility for living creatures will all be discussed. The presentation includes time for Q&A and a hands-on demonstration of a worm bin.

Workshop Name & Grade Band: From Seed to Soil: Creating a School Composter (Middle & High School)

Time: 1:15 PM

Location: Sen. Joseph Bruno Meeting Room

Track: Math;;Social Studies;;STEM

Presenter: John Culpepper

Description: Is there educational value in the food scraps that your school currently puts in the garbage? In this presentation you will hear from a teacher and a school facilities director about how a community-scale in-vessel composter has created opportunities for a wide variety of educational interactions at a middle school in Upstate New York and a high school in New Jersey. The director of facilities and sustainability, and co-founder of Compost for Good will share aspects of his unique DIY composter design that can process up to 50,000 pounds of food scraps and other organic materials per year. The teacher will share curricula that she and other teachers at her school have developed around this composter. Both schools have farm programs, so integration of the composter with existing farm curriculum will also be discussed. They will also discuss additional examples of how schools are using this novel composting technology, as well as other composting models, within their educational communities.

Workshop Name & Grade Band: Building Blocks of Ag Literacy (Elementary)

Time: 1:15 PM

Location: Saratoga Ballroom 3

Track: Language Arts;;Social Studies

Presenter: Melody Auffer

Description: A is for Apple, B is for Barn, and C is for Cows. Most young children know these simple facts about agriculture, but all too often their understanding of agriculture stops there. This is the case for many teachers as well. Attend this session and leave with an understanding of how to build knowledge of the agricultural world through language development. Farm and Agriculture are two popular themes in many early childhood and elementary classrooms because young children are fascinated by everything that happens on and around the farm! Explore Oklahoma's new resources to build language in this session. Attendees will learn how to build on the popularity of the farming theme and children's connection to agriculture to not only teach foundational reading skills but to teach agricultural literacy. Agriculture and Literacy are a perfect pair. Leave with helpful resources to better understand and teach literacy through agricultural topics.

Workshop Name & Grade Band: Source Sleuth - Investigating Credible Sources About Beef (Middle & High School)

Time: 1:15 PM

Location: Broadway 3-4

Track: Language Arts;;Nutrition

Presenter: Judy Culbertson

Description: For many consumers, it's hard to determine whether an online source is credible. Since information on the internet can be created—or in some cases fabricated—by any user, it's easy to present false information as fact. So, how can we find credible sources, especially when it pertains to the food we eat? In this workshop, participants will get an in-depth look at new resources that help students learn strategies for identifying credible sources about food. Activities in this lesson will help students understand why it is important to use credible sources, learn strategies for identifying sources, identify primary sources of information, and practice citing sources, paraphrasing data, and interpreting conclusions.

CFAITC's Beef Boasts Poster will also be shared. Many public perceptions of the beef industry are being shaped by inaccurate data and this resource will help students and consumers identify six surprising cattle connections, present related facts, and share how to inform the consumer in a positive way.

The content covered will help students develop skills and provide them with information they will use throughout their lives while meeting many National Agricultural Literacy Outcomes under Agriculture and the Environment and Plants and Animals for Food Fiber and Energy.

Workshop Name & Grade Band: Ag Badging for Personalized Learning (Elementary)

Time: 1:15 PM

Location: Saratoga Ballroom 1

Track: Nutrition;;Social Studies;;STEM

Presenter: Lynn Wallin

Description: Badging is a way for students to personalize their learning and validate their understanding. The National Center for Agricultural Literacy's AgBadging program has been designed for students ages 8-11 (grades 3-5). Students select activities to earn badges within the themes of Agriculture and the Environment, Plants and Animals, Food and Health, STEM, and Geography and Culture. The AgBadge Field Guide has been designed for nonformal (e.g., farm field days) and formal classroom use. Badges provide recognition for learning and serve as a way to positively motivate learning about agriculture. Session participants will discover where to access AgBadging resources and explore badging activities.

Workshop Name & Grade Band: Growing a Reader: Connecting Ag Literacy across Curriculum and Communities with Good Reads (Elementary & Middle School)

Time: 1:15 PM

Location: Meeting Room 2A

Track: Language Arts;;Nutrition;;Social Studies;;STEM

Presenter: Philip Lee

Description: This is a panel featuring speakers on creative use of books to promote agricultural literacy with stories about food and farming, curriculum ideas and community partnerships. Panelists will share good reads that expand understanding of farming and gardening, food science, and ways to address diversity among new generation of young farmers. Speakers include Cathryn Carney, Iowa Agricultural Literacy Foundation's Education Program Manager, on "Read Across Iowa;" Katie Carpenter, Director at New York Agriculture in the Classroom, on Agricultural Literacy Week; Julia Recko, Director of Education Outreach at American Farm Bureau Foundation on education programs; and Philip Lee, Publisher and Co-Founder of READERS to EATERS, which has a focus on promoting food literacy with stories about our diverse food cultures.

Workshop Name & Grade Band: Farm to School Full Circle (All Grades)

Time: 1:15 PM

Location: Meeting Room 2B

Track: Language Arts;;Math;;Nutrition;;Social Studies

Presenter: George Edwards

Description: Farm to School Full Circle demonstrates different ways to entice students towards fresh food eating habits. It is never easy to get a young person (or adult) to try new fruits and vegetables, but not as tricky as you first think through a variety of options. Learn in our workshop that there are as many ways to lure, tempt and cajole students past their new food phobias as there are foods. Some ways we use are growing vegetables, to hands-on preparation, lunchtime tastings, or finding the "leader" of the group to persuade their classmates into trying something new.

No two methods will work the same, so your goal is not to get discouraged. A positive frame of mind, along with a sense of humor, will help both adults and students get past the challenge of food "phobias" and encourage everyone to think outside the box. Not every child will like what they try at the start, but who does? The point is to get them to try something new without guilt trips and threats, not judging, keeping an open mind, giving lots of encouragement, and just having fun.

Workshop Name & Grade Band: From Cow to Carton: Milk's Journey to the Consumer (Middle & High School)

Time: 1:15 PM

Location: Saratoga Ballroom 2

Track: Nutrition;;STEM

Presenter: Bekka Israelsen

Description: Come discover milk's journey from cow to carton! This workshop will spotlight a new dairy lesson on the National Agricultural Literacy Curriculum Matrix. Workshop attendees will explore milk production in the United States and explain the benefits of homogenization, pasteurization, and fortification. Participants will diagram milk's processing journey with a hands-on timeline and "decode" terminology on dairy labels. The first 50 attendees will receive one of Utah's favorite cartonized treats—flavored ultra-high temperature (UHT) milk!

Workshop Name & Grade Band: Gardening and Kids—An opportunity to Grow (All Grades)

Time: 1:15 PM

Location: Broadway 1-2

Track: STEM

Presenter: Susan Schipull

Description: Want to explore gardening but struggle with large class sizes, little money, rough urban neighborhoods, and a changing climate? Join us to hear about our thriving school garden program, now in its eleventh year in Albuquerque, NM.

Our garden was built from an abandoned dirt lot, driven by the students' goals to produce food for our community and create an exceptional outdoor learning environment. Whether you have a half-acre of land or a windowsill, you and your students can be gardeners.

Learn about our multi-layered program consisting of garden elective classes, after-school and summer internships, a hydroponics system and indoor growing space, and most importantly- our community connections.

Community is essential to our program-whether it is a master gardener, a local chef or an excavator sharing their knowledge. Students are exposed to a variety of careers and job opportunities connected to agriculture. You might be surprised to learn where we dig up these excellent resources.

We will share hands-on activities, lessons, and ideas that offer students real-world problem-solving experiences. You will leave this workshop having made your own tasty seasoning mix and with plenty of ideas to "spice" up student engagement and learning.

Workshop Name & Grade Band: Curbing Our Carbon Appetite! Addressing Climate Change through Agriculture and Related Sectors (All Grades)

Time: 3:00 PM

Location: Saratoga Ballroom 3

Track: STEM

Presenter: Thomas Hutson

Description: Curbing Our Carbon Appetite is the 2021 National 4-H Ag Innovators Experience hands-on curriculum that focuses on youth climate change education. The primary program goal is to help students discover and apply strategies related to agriculture, food systems, and personal behaviors that can help to reduce atmospheric carbon and combat climate change.

The curriculum was developed by a University of Maryland Extension team of 4-H Youth Development educators with support from National 4-H Council and Bayer. Students in grades 3 through 12 learn about the causes and effects of climate change and explore strategies that agriculture, businesses, and individuals can adopt to reduce atmospheric carbon. To better visualize the greenhouse effect and climate change, students construct and collect temperature data for three atmospheric models representing reduced carbon, current carbon, and increased carbon. Next, they complete a carbon-friendly lunch challenge by analyzing the carbon footprints of their food choices and planning carbon-friendly meals. Finally, they complete a carbon actions line-up activity that investigates more than a hundred carbon reduction strategies. Each student also receives three take-home activities designed to extend their learning at home: a carbon-friendly strategies family inventory, a carbon actions board game, and a carbon-friendly community service challenge.

Workshop Name & Grade Band: A Bushel of Stories: Connecting Literacy and Agriculture (Elementary & Middle School)

Time: 3:00 PM

Location: Sen. Joseph Bruno Meeting Room

Track: Language Arts;;Social Studies

Presenter: Chrissy Rhodes

Description: The use of children's literature is one of the ways that classroom guests can connect students with agriculture. In this breakout session engage in literary analysis and learn how to take a children's story book from reading the pages to making the pages. Gain new techniques to help encourage students to write about agriculture, and to recognize agriculture inaccuracies that are portrayed in children's literature. Participants will also learn how to run a writing competition that can be used to encourage student publications about agriculture.

Workshop Name & Grade Band: From Cow to Carton: Milk's Journey to the Consumer (Middle & High School)

Time: 3:00 PM

Location: Saratoga Ballroom 2

Track: Nutrition;;STEM

Presenter: Bekka Israelsen

Description: Come discover milk's journey from cow to carton! This workshop will spotlight a new dairy lesson on the National Agricultural Literacy Curriculum Matrix. Workshop attendees will explore milk production in the United States and explain the benefits of homogenization, pasteurization, and fortification. Participants will diagram milk's processing journey with a hands-on timeline and "decode" terminology on dairy labels. The first 50 attendees will receive one of Utah's favorite cartoned treats—flavored ultra-high temperature (UHT) milk!

Workshop Name & Grade Band: Aquaponics, Container Gardening, or Hydroponics, What Fits Your School? (All Grades)

Time: 3:00 PM

Location: Saratoga Ballroom 1

Track: Language Arts;;Math;;Nutrition;;Social Studies;;STEM

Presenter: Anna Wolford

Description: I will begin by explaining all three types of growing systems that are available for teachers. I will also share different videos and pictures of my students using all three types of systems this current school year. Once we understand, I will share other ways, such as grants and school funding, to possibly assist in funding these projects. Then we will begin to learn what works with your school system.

Workshop Name & Grade Band: Global Food Security: Interdisciplinary Global Learning with UN SDGs (Middle & High School)

Time: 3:00 PM

Location: Broadway 1-2

Track: Language Arts;;Math;;Nutrition;;Social Studies;;STEM

Presenter: Daniel Foster

Description: Global Food Security. Three words that can have many different meaning and most certainly are not the purview of any singular subject areas. This workshop will spend time introducing the concept of global food security and collaborating in small groups to identify cross-curricular opportunities for collaboration. In addition, existing resources and communities of educators that currently exist will be highlighted.

Objectives that will guide the 60-minute session will include :

- 1) Identifying the four pillars of food security.
- 2) Discussing the 17 UN Sustainable Development Goals

- 3) Developing a list of possible cross-curricular collaborations in global agriculture.
- 4) Listing current resources and professional learning opportunities in global agriculture for educators.

Workshop Name & Grade Band: Being Greater than Normal Through Entrepreneurship in Middle School (Middle School)

Time: 3:00 PM

Location: Meeting Room 2A

Track: Language Arts;;Math;;Nutrition;;Social Studies;;STEM

Presenter: Jessica DeVries

Description: Our team will engage you in the world of entrepreneurship through a collaborative project that addresses the entrepreneurial spirit and grabs young students interest in the food they eat. Through the development of a cookie and a cupcake business in a collaborative, cooperative project between agriculture, business, home and careers, and technology classes in grades 7 and 8 students engage in multiple areas of study that address standards across curriculums. Through these two projects students have the opportunity to engage in the following agricultural concepts: to demonstrate safe methods for food handling, preparation, and storage; the culture, convenience, access, and marketing affect food choices locally and regionally; the role of ethics in the production and management of food, identify agricultural products (foods) that provide valuable nutrients; identify sources of agricultural products that provide food products for their community; accurately read labels on processed food to determine nutrition content; evaluate the cost of food; explain food labeling terminology related to marketing and how it affects consumer choices; and discuss the relationship between geography (climate and land), politics, and global economies in the distribution of food.

Workshop Name & Grade Band: Critter Culture: The Diversity of Animal Agriculture Around the World (Elementary & Middle School)

Time: 3:00 PM

Location: Broadway 3-4

Track: Language Arts;;Math;;Nutrition;;Social Studies;;STEM

Presenter: Stephanie Hospelhorn

Description: The uses of animals in agriculture are just as diverse as where the animals are located in the world. Throughout history, cultures around the world have used animals for food, fiber, and power on the farm. Today's global economy allows for extensive imports and exports from all over the globe to create a rich, diverse, and interconnected system of food production and consumption. Take a deeper look into the nutrition of dairy from various animals, learn about the process of rumination in a fun, hands-on activity, and explore the wild side of critter cuisine around the world! This interactive presentation will cover everything from goats in Africa to silkworms in China

to dog sleds in Greenland! Join Stephanie Hospelhorn, Education Specialist for Illinois Agriculture in the Classroom, for an interactive look into the impact animals have had and continue to have in the world of agriculture.

Workshop Name & Grade Band: Animal Reproduction Baby Shower! (All Grades)

Time: 3:00 PM

Location: Meeting Room 2B

Track: STEM

Presenter: Tara Berescik-Burke

Description: Oh Baby, Oh Baby! In agricultural education we are Wild About Baby (Animals)! Come and celebrate as we learn about animal reproduction in a party-like atmosphere in this creative and fun workshop. Animal science relies on animal reproduction to keep going and in this workshop; participants will get hands-on experience in different aspects of animal reproduction. Experience artificial insemination by trying to impregnate a homemade reproductive tract. Roll the dice to learn about freemartinism in cattle to see what gender offspring might be in a set of twins. Experience the act of birth and witness potential dystocia as you try to pull a calf through a birth canal using your hands or a set of chains. Finally, play the matching game to learn gestation lengths of various animals and terminology connecting offspring to parent. It's all fun and games until something goes into labor! Who will win the fabulous prizes in this animal reproduction baby shower! Come, play, and find out!

Workshop Name & Grade Band: Vermicomposting in the Classroom (All Grades)

Time: 3:00 PM

Location: Travers/Alabama

Track: Math;;STEM

Presenter: Bill Richmond

Description: The workshop offers a comprehensive overview of how composting worms offer a simple, indoor composting option, and provide a natural and renewable alternative to fertilizers for healthy plants and vegetables. Practical tips on how to set up and maintain a worm bin, including a review of types of bedding and food, will be provided. There will also be discussion about the benefits of composting to minimize the waste stream, including an overview of the 30% of household waste that can be composted, and the differences between traditional hot composting and vermicomposting (composting with worms). A brief review of commercial versus residential (or classroom-sized) worm bins, and the potential for incorporating math, science, engineering, animal husbandry and responsibility for living creatures will all be discussed. The presentation includes time for Q&A and a hands-on demonstration of a worm bin.

Friday, July 1, 2022

Workshop Name & Grade Band: A Baker's Dozen: New books for your AITC library (Elementary)

Time: 9:00 AM

Location: Saratoga Ballroom 1

Track: STEM

Presenter: Kevin Daugherty

Description: A down and dirty highlight of a baker's dozen (or more!) off new books perfect for your AITC library! Join us for a discussion of these new books, a list of books and sample activities to go with each ag related book.

Workshop Name & Grade Band: Let's Take a Storywalk® (All Grades)

Time: 9:00 AM

Location: Meeting Room 2A

Track: Language Arts;;Nutrition

Presenter: Catherine Carr

Description: Interested in a unique way to promote agricultural literacy? How about combining a story with some healthy outside activity? The Storywalk® Project was created by Anne Ferguson of Montpelier, VT and developed in collaboration with the Vermont Bicycle & Pedestrian Coalition and the Kellogg Hubbard Library. In this workshop, you'll learn what a Storywalk® is along with some ways schools, libraries, and communities can use them to promote literacy. We'll share examples, with pros and cons, of various construction methods and some follow-up activities to promote agricultural concepts. You'll also come away with a dynamite booklist of books that promote agricultural literacy, many which make a perfect Storywalk® book.

Workshop Name & Grade Band: K-12 Agriculture Collaboration (All Grades)

Time: 9:00 AM

Location: Broadway 3-4

Track: STEM

Presenter: Alexis Davis

Description: Are you interested in growing your agriculture program? Want to make an impact through agriculture at the elementary level? Join Alexis Davis and Maureen Zorn to learn more about their collaboration on creating a K-12 Agriculture program. At their school district, students K-5 are exposed to Art and Ag and that experience continues to Ag skills at the middle school level and elective agriculture courses for high school students. Maureen and Alexis work together to expose all levels of students through school gardening, elementary visits and lessons from FFA members and the creation of

their Harvest Fest for all elementary students in collaboration with high school FFA members and NY Thursday's to support New York's Farm to School meal programing.

Workshop Name & Grade Band: Square Foot Gardening in your Classroom (Elementary)

Time: 9:00 AM

Location: Saratoga Ballroom 3

Track: Math;;Social Studies;;STEM

Presenter: Casey Blake

Description: Spend this mini workshop diving into a ready-to-use lesson which introduces plant needs and the basic principles of garden design. The workshop will introduce the Square-Foot garden method of food production which allows gardeners to grow a large amount of food in a small space. Students are challenged to use their math and measurement skills to design a garden that fits the uniquely sized beds at their school. Come ready to explore with this engaging lesson!

Workshop Name & Grade Band: Elementary Aeroponics (Elementary)

Time: 9:00 AM

Location: Broadway 1-2

Track: STEM

Presenter: Megan & Clayton Kappauf

Description: Attendees of this workshop will learn how to build a simple aeroponic system from a 5 gallon bucket. Learn how to bring this fascinating way to grow plants back to your classroom to show your students the possibility of growing plants without dirt. Through the implementation of aeroponics in your classroom students can now be present from germination right through the harvesting and eating of the produce. Learn how to teach your students to monitor the pH levels and mix the nutrient solution necessary to help their plants flourish.

Workshop Name & Grade Band: Tracking the History of Agriculture (All Grades)

Time: 9:00 AM

Location: Travers/Alabama

Track: Language Arts;;Social Studies

Presenter: Mindy DeRohan

Description: Did you know that camels were once used to carry goods from New Mexico to California? Or that 1.5 million women had farm jobs such as driving tractors and milking cows during World War II? How about the fact that the Transcontinental Railroad forever altered transportation of agricultural products? Want more? Take a ride with Agriculture in the Classroom's newly designed online resource "Tracking the History of California Agriculture!"

California leads the nation in agriculture production, but that wasn't always the case. This interactive timeline of the history of California agriculture transports users back in time and takes them right up to today! In this workshop, participants will study agricultural events in a historical context. How did the railroads influence farmers' lower transportation costs? How did the refrigerated railroad car benefit fruit growers? How did the railroad connect the continental U.S. and allow goods to be transported throughout the country? This timeline features many historical turning points that altered the direction of the agriculture industry.

The content covered meets many National Agricultural Literacy Outcomes under Science, Technology, Engineering, and Mathematics (STEM) Culture, Society, Economy and Geography.

Workshop Name & Grade Band: Move N Around – The Nitrogen Cycle Game (Middle & High School)

Time: 9:00 AM

Location: Saratoga Ballroom 2

Track: Math;;STEM

Presenter: Keira Havens

Description: The nitrogen cycle is arguably one of the most important biological processes on the planet, with significant impacts on agriculture and the environment. It's also one of the most complex, leaving many people confused about how it works and its effects on the climate.

We developed Move N Around – The Nitrogen Cycle Game to educate people about the nitrogen cycle and its impact on the climate.

By breaking down a complex topic into an easy-to-digest and interactive format, players can see how important nitrogen is as a building block of life and understand how to best optimize it as a critical component of biology.

Workshop Name & Grade Band: Uncover the Mystery of a Cow's Cuisine (Middle & High School)

Time: 9:00 AM

Location: Meeting Room 2B

Track: Math

Presenter: Brittany Capell

Description: Discover the delicious meal of dairy cows! Be the first to unlock each escape box to uncover common feedstuffs while calculating rations using the Pearson Square

method to provide a balanced meal for dairy cows to enjoy! This mini workshop will provide an engaging activity to practice secondary mathematics through real-life application.

Workshop Name & Grade Band: Apple Diversity Tastes Good (All Grades)

Time: 9:00 AM

Location: Sen. Joseph Bruno Meeting Room

Track: Nutrition;;STEM

Presenter: Jennifer Schwab

Description: New York is apple country! Let's look at the diversity of apples, how these varieties are created and get to taste some of them. This is a fun lesson to do with students to get them engaged with what they eat, explore apple varieties, and choose the few they like the most.

Workshop Name & Grade Band: Let's Take a Storywalk® (All Grades)

Time: 9:30 AM

Location: Meeting Room 2A

Track: Language Arts;;Nutrition

Presenter: Catherine Carr

Description: Interested in a unique way to promote agricultural literacy? How about combining a story with some healthy outside activity? The Storywalk® Project was created by Anne Ferguson of Montpelier, VT and developed in collaboration with the Vermont Bicycle & Pedestrian Coalition and the Kellogg Hubbard Library. In this workshop, you'll learn what a Storywalk® is along with some ways schools, libraries, and communities can use them to promote literacy. We'll share examples, with pros and cons, of various construction methods and some follow-up activities to promote agricultural concepts. You'll also come away with a dynamite booklist of books that promote agricultural literacy, many which make a perfect Storywalk® book.

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Location: Broadway 3-4

Track: STEM

Presenter: Alexis Davis

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Time: 9:30 AM

Location: Saratoga Ballroom 3

Track: Math;;Social Studies;;STEM

Presenter: Casey Blake

Description: Spend this mini workshop diving into a ready-to-use lesson which introduces plant needs and the basic principles of garden design. The workshop will introduce the Square-Foot garden method of food production which allows gardeners to grow a large amount of food in a small space. Students are challenged to use their math and measurement skills to design a garden that fits the uniquely sized beds at their school. Come ready to explore with this engaging lesson!

Workshop Name & Grade Band: Uncover the Mystery of a Cow's Cuisine (High School)

Time: 9:30 AM

Location: Meeting Room 2B

Track: Math;;Middle School

Presenter: Brittany Capell

Description: Discover the delicious meal of dairy cows! Be the first to unlock each escape box to uncover common feedstuffs while calculating rations using the Pearson Square method to provide a balanced meal for dairy cows to enjoy! This mini workshop will provide an engaging activity to practice secondary mathematics through real-life application.

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how to teach your students to monitor the pH levels and mix the nutrient solution necessary to help their plants flourish.

Workshop Name & Grade Band: A Baker's Dozen: New books for your AITC library (Elementary)

Time: 9:30 AM

Location: Saratoga Ballroom 1

Track: STEM

Presenter: Kevin Daugherty

Description: A down and dirty highlight of a baker's dozen (or more!) off new books perfect for your AITC library! Join us for a discussion of these new books, a list of books and sample activities to go with each ag related book.

Workshop Name & Grade Band: Apple Diversity Tastes Good (All Grades)

Time: 9:30 AM

Location: Sen. Joseph Bruno Meeting Room

Track: Nutrition;;STEM

Presenter: Jennifer Schwab

Description: New York is apple country! Let's look at the diversity of apples, how these varieties are created and get to taste some of them. This is a fun lesson to do with students to get them engaged with what they eat, explore apple varieties, and choose the few they like the most.

Workshop Name & Grade Band: Move N Around – The Nitrogen Cycle Game (Middle & High School)

Time: 9:30 AM

Location: Saratoga Ballroom 2

Track: Math;;STEM

Presenter: Keira Havens

Description: The nitrogen cycle is arguably one of the most important biological processes on the planet, with significant impacts on agriculture and the environment. It's also one of the most complex, leaving many people confused about how it works and its effects on the climate.

We developed Move N Around – The Nitrogen Cycle Game to educate people about the nitrogen cycle and its impact on the climate.

By breaking down a complex topic into an easy-to-digest and interactive format, players can see how important nitrogen is as a building block of life and understand how to best optimize it as a critical component of biology.

Workshop Name & Grade Band: Tracking the History of Agriculture (All Grades)

Time: 9:30 AM

Location: Travers/Alabama

Track: Language Arts;;Social Studies

Presenter: Mindy DeRohan

Description: Did you know that camels were once used to carry goods from New Mexico to California? Or that 1.5 million women had farm jobs such as driving tractors and milking cows during World War II? How about the fact that the Transcontinental Railroad forever altered transportation of agricultural products? Want more? Take a ride with Agriculture in the Classroom's newly designed online resource "Tracking the History of California Agriculture!"

California leads the nation in agriculture production, but that wasn't always the case. This interactive timeline of the history of California agriculture transports users back in time and takes them right up to today! In this workshop, participants will study agricultural events in a historical context. How did the railroads influence farmers' lower transportation costs? How did the refrigerated railroad car benefit fruit growers? How did the railroad connect the continental U.S. and allow goods to be transported throughout the country? This timeline features many historical turning points that altered the direction of the agriculture industry.

The content covered meets many National Agricultural Literacy Outcomes under Science, Technology, Engineering, and Mathematics (STEM) Culture, Society, Economy and Geography.

Workshop Name & Grade Band: Let's Take a Storywalk® (All Grades)

Time: 10:00 AM

Location: Meeting Room 2A

Track: Language Arts;;Nutrition

Presenter: Catherine Carr

Description: Interested in a unique way to promote agricultural literacy? How about combining a story with some healthy outside activity? The Storywalk® Project was created by Anne Ferguson of Montpelier, VT and developed in collaboration with the Vermont Bicycle & Pedestrian Coalition and the Kellogg Hubbard Library. In this workshop, you'll learn what a Storywalk® is along with some ways schools, libraries, and communities can use them to promote literacy. We'll share examples, with pros and cons,

of various construction methods and some follow-up activities to promote agricultural concepts. You'll also come away with a dynamite booklist of books that promote agricultural literacy, many which make a perfect Storywalk® book.

Workshop Name & Grade Band: K-12 Agriculture Collaboration (All Grades)

Time: 10:00 AM

Location: Broadway 3-4

Track: STEM

Presenter: Alexis Davis

Description: Are you interested in growing your agriculture program? Want to make an impact through agriculture at the elementary level? Join Alexis Davis and Maureen Zorn to learn more about their collaboration on creating a K-12 Agriculture program. At their school district, students K-5 are exposed to Art and Ag and that experience continues to Ag skills at the middle school level and elective agriculture courses for high school students. Maureen and Alexis work together to expose all levels of students through school gardening, elementary visits and lessons from FFA members and the creation of their Harvest Fest for all elementary students in collaboration with high school FFA members and NY Thursday's to support New York's Farm to School meal programing.

Workshop Name & Grade Band: Uncover the Mystery of a Cow's Cuisine (Middle & High School)

Time: 10:00 AM

Location: Meeting Room 2B

Track: Math

Presenter: Brittany Capell

Description: Discover the delicious meal of dairy cows! Be the first to unlock each escape box to uncover common feedstuffs while calculating rations using the Pearson Square method to provide a balanced meal for dairy cows to enjoy! This mini workshop will provide an engaging activity to practice secondary mathematics through real-life application.

Workshop Name & Grade Band: Square Foot Gardening in your Classroom (Elementary)

Time: 10:00 AM

Location: Saratoga Ballroom 3

Track: Math;;Social Studies;;STEM

Presenter: Casey Blake

Description: Spend this mini workshop diving into a ready-to-use lesson which introduces plant needs and the basic principles of garden design. The workshop will introduce the Square-Foot garden method of food production which allows gardeners to grow a large amount of food in a small space. Students are challenged to use their math

and measurement skills to design a garden that fits the uniquely sized beds at their school. Come ready to explore with this engaging lesson!

Workshop Name & Grade Band: Elementary Aeroponics (Elementary)

Time: 10:00 AM

Location: Broadway 1-2

Track: STEM

Presenter: Megan & Clayton Kappauf

Description: Attendees of this workshop will learn how to build a simple aeroponic system from a 5 gallon bucket. Learn how to bring this fascinating way to grow plants back to your classroom to show your students the possibility of growing plants without dirt. Through the implementation of aeroponics in your classroom students can now be present from germination right through the harvesting and eating of the produce. Learn how to teach your students to monitor the pH levels and mix the nutrient solution necessary to help their plants flourish.

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Track: Nutrition;;STEM

Presenter: Jennifer Schwab

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Workshop Name & Grade Band: Let's go to a virtual farm! Al-paca bag! (All Grades)

Time: 10:30 AM

Location: Broadway 3-4

Track: STEM

Presenter: Erik Wade

Description: During this workshop, I will be showing participants how to make a virtual reality farm unit. We will start by using a cell phone to create a virtual environment, and we will then add buttons, links, and videos to the virtual environment to learn and explore the virtual environment. Participants can add whatever lessons, activities, or resources they would like to the VR world. The final product does not require a virtual reality device to view or interact with.

Workshop Name & Grade Band: Reading, 'Rithmetic, & Racing - A Trifecta! (All Grades)

Time: 10:30 AM

Location: Broadway 1-2

Track: Language Arts;;Math;;Social Studies

Presenter: Ellen Taylor

Description: 2020 presented a silver lining since all of HHYF's hands-on programs were cancelled - there was time to develop new avenue of education related to harness racing! The workshop will highlight items created for HHYF Activity Boxes to bring awareness to content available from HHYF. In addition, correlated lesson plans for some of the activities of harness racing will be presented. As equine lovers know, horses are wonderful teachers and provide great opportunities to introduce routine subjects in novel ways as well as allowing new areas of exploration and interest to students.

Workshop Name & Grade Band: That's Nuts! Fun with Pecans in the Classroom
(Elementary & Middle School)

Time: 10:30 AM

Location: Meeting Room 2A

Track: Social Studies;;STEM

Presenter: Dusti McCartney

Description: Pecan is an important crop with a rich history and an increasing importance due to increased global demand. During this workshop, attendees will learn about the pecan, be exposed to lessons that are easily implemented and shared with a variety of grade levels, and work hands on to create a make and take that is easily transferred into their own educational setting.

Workshop Name & Grade Band: Make it real! (All Grades)

Time: 10:30 AM

Location: Saratoga Ballroom 1

Track: Nutrition;;Social Studies;;STEM

Presenter: Alisha Hill

Description: Explore new and popular hands-on resources available on agclassroomstore.com. These teacher tested kits are connected to lesson plans in the National Agricultural Literacy Curriculum Matrix. Join us to; make beeswax lip balm, plant seeds, build a wind turbine, test for GMOs, and more.

Workshop Name & Grade Band: What's bugging you? (All Grades)

Time: 10:30 AM

Location: Sen. Joseph Bruno Meeting Room

Track: Math;;STEM

Presenter: Ronda Hamm

Description: Come learn about some common insects in agriculture. We'll discover what insects are beneficial and which are pests. How do you know if the insects you have are a problem? How do you sample them? We will create some tools to look for insects in various crops, learn where to find resources to help, and learn about control strategies. Math and science will guide us through the decision-making process that helps us know when to do something and when we should do nothing. These are some of the challenges that our school gardens and farmers face every growing season.

Workshop Name & Grade Band: Get the Scoop on the Coop (All Grades)

Time: 10:30 AM

Location: Meeting Room 2B

Track: STEM

Presenter: Nichole Hirt

Description: By establishing a chicken coop on school grounds, many STEM concepts can be applied. Students will gain exposure to the scientific process of egg fertilization, hatching of eggs and the development of chicks into productive laying hens. Engineering and math concepts can be applied by students when constructing the facility and waste can be utilized for compost if desired. The biggest fear is where to start and how do you get the ball or egg rolling! We will cover all of the potential concerns that your district might have, so you are equipped to create a comprehensive pitch to your district that will leave them saying nothing more but let's get started!

Workshop Name & Grade Band: Tips & Tricks for Planning an Ag-stravaganza Day (Elementary)

Time: 10:30 AM

Location: Saratoga Ballroom 3

Track: Language Arts;;Math;;Social Studies;;STEM

Presenter: Lindsay Meyers

Description: Have you ever wanted to plan a day of agriculture-based fun for your district or community? Learn how to plan an Ag Day- where to start, ideas for stations, and how to have a smooth-running day! Attendees will leave with ideas and resources to start planning their own Ag Day!

Workshop Name & Grade Band: Many Hats the Farmer Wears (Elementary)

Time: 10:30 AM

Location: Travers/Alabama

Track: Language Arts;;Math;;Nutrition;;Social Studies;;STEM

Presenter: Caroline Etsch

Description: Farmers wear “many hats”, meaning they have many jobs. This interactive skit will allow your students to see what the farmer does from sun- up to sun-down. Seven student volunteers will hold or wear props indicating that they are a veterinarian, meteorologist, nutritionist, accountant, scientist, and mechanic. They will take turns placing a hat on the “farmer’s” head as the story is read aloud describing who the student is and what job they do. At the end of the story the students will realize a farmer wears “many hats” and that under all those hats on the farmer’s head is a mind filled with great knowledge which they have learned and proudly use everyday while working on their farm!

Workshop Name & Grade Band: Cotton is COOL! (Elementary)

Time: 10:30 AM

Location: Saratoga Ballroom 2

Track: Language Arts;;Social Studies;;STEM

Presenter: Amy Parrott

Description: Cotton is one of the most unique crops grown all around the world. Each region does it a little differently but it all comes together to create the fabric that's a staple in every home worldwide. While what they do with the byproduct is pretty incredible, we will be focusing on the creation of the fibers that are turned into Demin and other fabric created by this impressive plant. We will bring several props so participants can see and feel the tools, seeds, hulls, bowls and end products created by cotton farmers, We will have printed hand outs and resources that can be taken back to the classroom as well and a kit of supplies to take with the (and to know how to duplicate) and will spend a bulk of the time actually making something with the raw products.

Workshop Name & Grade Band: Make it real! (All Grades)

Time: 11:00 AM

Location: Saratoga Ballroom 1

Track: Nutrition;;Social Studies;;STEM

Presenter: Alisha Hill

Description: Explore new and popular hands-on resources available on agclassroomstore.com. These teacher tested kits are connected to lesson plans in the National Agricultural Literacy Curriculum Matrix. Join us to; make beeswax lip balm, plant seeds, build a wind turbine, test for GMOs, and more.

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(Elementary & Middle School)

Time: 11:00 AM

Location: Meeting Room 2A

Track: Social Studies;;STEM

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Description: Pecan is an important crop with a rich history and an increasing importance due to increased global demand. During this workshop, attendees will learn about the pecan, be exposed to lessons that are easily implemented and shared with a variety of grade levels, and work hands on to create a make and take that is easily transferred into their own educational setting.

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Time: 11:00 AM

Location: Meeting Room 2B

Track: STEM

Presenter: Nichole Hirt

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Workshop Name & Grade Band: Tips & Tricks for Planning an Ag-stravaganza Day (Elementary)

Time: 11:00 AM

Location: Saratoga Ballroom 3

Track: Language Arts;;Math;;Social Studies;;STEM

Presenter: Lindsay Meyers

Description: Have you ever wanted to plan a day of agriculture-based fun for your district or community? Learn how to plan an Ag Day- where to start, ideas for stations, and how to have a smooth-running day! Attendees will leave with ideas and resources to start planning their own Ag Day!

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Time: 11:00 AM

Location: Broadway 3-4

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