

# What's Growing On IN VIRGINIA



AGRICULTURE IN THE CLASSROOM • FALL 2021 / VOLUME NO. 2



Virginia Agriculture in the Classroom has connected over 3.5 million children with agriculture since the program's inception in 1993.

## VIRGINIA AITC: Connecting Children to Agriculture

Children are more disconnected from farming than they've ever been.

With farm and ranch families comprising only 2% of the U.S. population—and the average person at least three generations removed from the farm—many children grow up without any farming experiences.

Virginia Agriculture in the Classroom is working to change that.

Through community outreach and educational programming, AITC has been teaching children about the importance of farming and agriculture for nearly 30 years. The program reaches over 400,000 children each year, and since its inception, AITC has helped provide

agricultural experiences to over 3.5 million children and supplied resources to 350,000 educators.

The program's curriculum encourages local schools and communities to instill an appreciation for agriculture among children—both inside and outside the classroom. AITC provides free teaching resources, training opportunities, educational activities and a wealth of agricultural knowledge to educators and partner organizations so they may bring agriculture into the lives of children.

Using a creative and innovative approach, AITC reaches youth, family and educators through:

- Classroom grants that award funding for school gardens and provide hands-on agricultural

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experiences for students through activities such as farm days, incubators and other STEM projects.

- Volunteer initiatives that support community and statewide events that connect children to agriculture, including the annual observance of Agriculture Literacy Week and maintaining a robust lending library of educational materials.
- Virtual programming that offers a rich variety of digital resources for at-home or in-school learning, such as virtual field trips, Farm Life 360 videos and other immersive materials.

AITC establishes goals each year to create an increasingly agriculture-literate Virginia through new initiatives that are geared toward children and educators. To fulfill this mission, the organization will continue to equip teachers with tools to incorporate agriculture in their classrooms and partner them with volunteer and agricultural organizations.

“Connecting Children to Agriculture” is more than a slogan—it's a promise AITC continues to uphold to ensure Virginia youth are given the opportunity to explore the wonders of agriculture.

# School Grant Spotlight

**E**ducating youth about the role agriculture plays in their daily lives is an important part of Virginia Agriculture in the Classroom's educational mission.

To assist educators' efforts to teach students about the sources of their food and fiber, AITC offers grants each year to K-12 educators who incorporate agricultural elements into their classroom curriculums.

Teachers and organizations like 4-H clubs and FFA chapters that work with schools and parent-teacher associations can apply for grants of up to \$500 for agriculture-related projects. AITC typically offers up to \$30,000 in grant funding each year, and the organization awarded \$29,000 for the 2020-21 school year for projects that served over 22,000 students.

AITC grants are designed to help fund creative projects—both inside and outside traditional classrooms—to increase students' understanding of farming. Projects may occur



Educator grants bring hands-on agricultural activities to classrooms throughout Virginia.

at school or virtually. They can address topics such as gardening and horticulture, nutrition and health, embryology and STEM themes that provide agricultural experiences to students.

Through activities funded by AITC's grant program, children are given hands-on learning experiences and an opportunity to learn more about the source of their

food. Additionally, children learn about career opportunities that are available in a variety of agricultural fields.

The deadline for 2021-22 school year grants has passed, but educators are encouraged to be on the lookout for future grant opportunities. To learn more about AITC's grant program, visit [va.agclassroom.org/teachers/grants](http://va.agclassroom.org/teachers/grants).

## Teacher Testimonials

**Deborra Horowitz**  
Southampton Middle School

Horowitz has received two AITC grants, with each funding the construction of raised garden beds and the instillation of an irrigation

system and cold frames at Southampton Middle School.

Students built raised beds, and filled each with topsoil and compost mix before planting a variety of herbs and vegetables. They also assembled the irrigation system and cold frames, which allowed students to grow off-season produce.

The crops produced by

Horowitz's students were used in culinary classes at nearby Southampton High School, and excess produce was donated to a local food bank.

"Students learned about square foot gardening and were amazed to see what could be produced," Horowitz said. "This year, they learned to grow garlic, which none of the students had ever done.

Students loved braiding the garlic and hanging it in the chicken coop to cure."



Meet Heather Russell, a STEM teacher at Ecoff Elementary School in Chesterfield County, and learn how she used AITC grant funding to teach students about soil conservation.

# AITC's Online Offerings



Video tours presented through Virginia AITC's YouTube channel give students a visual reference of how agriculture works.



Kyle Sturgis, a Virginia produce farmer, uses hydroponics to grow vegetables.

Over the past year, Virginia Agriculture in the Classroom has expanded its online offerings to include multimedia educational units, as well

as virtual field trips and behind-the-scenes tours.

These multimedia units can be found online at [va.agclassroom.org/teachers/multi](http://va.agclassroom.org/teachers/multi), and include videos

and corresponding lesson plans for elementary and middle school students.

The *Virginia Agriculture in the Classroom* YouTube channel also has been expanded to include a wide variety of educational content, including activity demonstrations, farm tours and history lessons. Viewers can tour a robotic dairy farm, learn about greenhouses and hydroponics, and more.

## TRY THIS!



Making butter from heavy cream will help students sharpen their science skills.

**Learn all about dairy cows** by scanning the turquoise QR code and watching AITC's field trip to Marshall Dairy Farm in Orange County, and learn how to make your own butter!



All you need for this activity is heavy cream and a small jar or plastic cup with a lid.

Fill each container with 1 ounce of heavy whipping cream, and ensure the lid is tightly secured. Then, start shaking! The cream will go through three stages inside the cup—beginning as a liquid, then becoming a solid as the fat and milk combine, and finally, separating into a liquid and a solid.

After about 15 minutes of shaking, you will see a solid mass of butter form, with buttermilk floating at the top. Teachers, have students take turns shaking the containers.

To learn more about this activity and the science behind this lesson, scan the orange QR code and review page 31 of AITC's Sprouting Success lesson unit.



# Lesson Plan 1

This lesson is part of AITC's Agriculture and Forestry multimedia unit. For corresponding classroom videos and more resources, visit [va.agclassroom.org/teachers/multi\\_forestry](http://va.agclassroom.org/teachers/multi_forestry) or scan the QR code.



## CONTENT AREA

**SOL:** Science: K.6, 1.5, 3.5

**Social Studies:** 2.7

**Objective:** For students to:

Sort and classify plants and animals found on the farm and surrounding land.

## Materials

- Shower curtain with farm scene drawn on it, including natural forests around the farm
- Pictures of plants and animals found on the farm and surrounding area, mounted on laminated construction paper or cardstock

## On the Farm Habitat: Classification

### Background Knowledge

It's very common to find forested areas or strips of trees and shrubs around farms. Called riparian buffer strips, this conservation technique uses trees, shrubs and grasses to separate the farmland from nearby streams. Farmers plant riparian buffers to reduce soil erosion, improve water quality by filtering out chemicals and nutrients from surface water runoff, and provide wildlife habitat.

In this lesson, students will utilize the farm and surrounding forest habitats to practice classification, sorting and classifying agricultural subjects. Possible pictures and classifications include:

- For pre-K and kindergarten: Living versus nonliving, and plant versus animal.
- For first grade: Body coverings; animal movement; and wild animals versus domesticated animals.
- For second grade: Natural, human and capital resources.
- For third grade: Producers, consumers and decomposers; predators versus prey; and carnivores, herbivores and omnivores.

### Procedure

1. Lay farm scene shower curtain on the floor, and add the pictures of the animals and plants your class will be using. Refer to the background knowledge section for guidance on classifications to use.
2. Working in teams or pairs, have students observe the pictures on the shower curtain and have each team collect a picture until the shower curtain is empty.

3. Tell students they will now classify the pictures they have. You may choose to have the class brainstorm their own classifications or give them the predefined classifications above.

4. Draw columns and headings on a whiteboard or chalkboard for the classification groups. Have students take turns taping their pictures into the correct columns. You also may have students determine other ways

to sort the pictures, or create a large Venn diagram to show how the categories may overlap.

### Extension

In addition to sorting the pictures, you also may use them to create a food web to have students understand food chains in natural environments.

## Lesson Plan 2

Want to see a video demonstration of this lesson? Tune in to AITC's YouTube channel, *Virginia Agriculture in the Classroom*, or scan the QR code.



### CONTENT AREA

**SOL:** Science: 3.6, 3.9, 3.10, 4.5, 4.9, 6.5, 6.7, LS.12

**Objective:** For students to:

Define "watershed" and the effect of runoff on watersheds, and identify ways to prevent pollution.

### Materials

- Plain computer paper
- Washable markers
- Spray bottles filled with water

water. Explain that this is similar to what happens when rain washes away soil, chemicals and trash.

10. Divide students into small groups, and assign each a different topic, such as farms, factories and homes. Have each group research ways that their segment of the population can reduce water pollution. Have the groups present their findings in the form of a public service announcement.

### Reference

Lesson adapted from Illinois Agriculture in the Classroom

## Watershed Investigation

### Background Knowledge

Sometimes the ground is too wet to soak up more water, so when it rains or snow melts, excess water moves until it meets creeks, streams or rivers. The area of land where water collects and drains into these bodies of water is called a watershed. The Chesapeake Bay watershed covers approximately half of Virginia's land area.

Watershed pollution is caused by point source and non-point source pollution. Point source pollution can be pinpointed to an exact cause, like motor oil washing down a storm drain or smokestacks discharging chemicals into the air. Non-point source pollution occurs when pollutants enter the water system over a large area. An example is when heavy rain washes fertilizer, soil and trash into a river.

Farmers work diligently to reduce water pollution because proper management of natural resources increases the value and productivity of their land. Conservation tillage allows farmers to dramatically reduce soil erosion and limit the amount of pesticide they use. Additionally, farmers may leave buffer zones around their fields and use cover crops to reduce the movement of pollutants. Farmers also avoid spraying their crops before rainstorms.

### Procedure

1. Ask students to describe what happens when we receive a lot of rain. Explain that the water must go somewhere, and when the ground has absorbed as much as it can, the excess water runs into drains or nearby streams.
2. Define the term "watershed." Point out that just because a person might not live alongside a river or stream, it doesn't mean that person isn't part of a watershed.
3. Take a piece of computer paper and draw several medium-sized dots using a marker. Tell students the dots represent pollution.
4. Have students brainstorm and give examples of pollution and the sources of that pollution. Define point source and non-point source pollution, and ask students to provide examples of each.
5. Tightly crumple the paper into a ball
6. Unfold the paper and lay it on a desk or table. Point out that the paper now resembles Earth's terrain with hills, ridges and valleys.
7. Use a spray bottle to spray the paper to simulate rain.
8. Ask students to describe their observations.
9. Discuss how watersheds were created where the water ran together and eventually pooled. Additionally, discuss how the ink bled into the

# Classroom and Student Challenges

Virginia Agriculture in the Classroom launched several challenges in 2020 for students across the state to take part in and display their affinity for agriculture.

Starting with the Thank a Farmer Art Contest in November, students were challenged to showcase their artistic skills to thank local farmers for their contributions. Students also displayed their culinary skills during AITC's Young Chef Showdown, a competition that invited children to submit videos of them preparing their favorite beef recipes. From spicy

burgers to beef barbecue cups, these chefs had our mouths watering with their tasty creations.

Classrooms also were invited to take part in the Virginia Pizza Challenge to win a pizza party for their class. For this competition, students researched products grown in Virginia and then crafted advertisements for their original pizza creations featuring Virginia-grown ingredients.

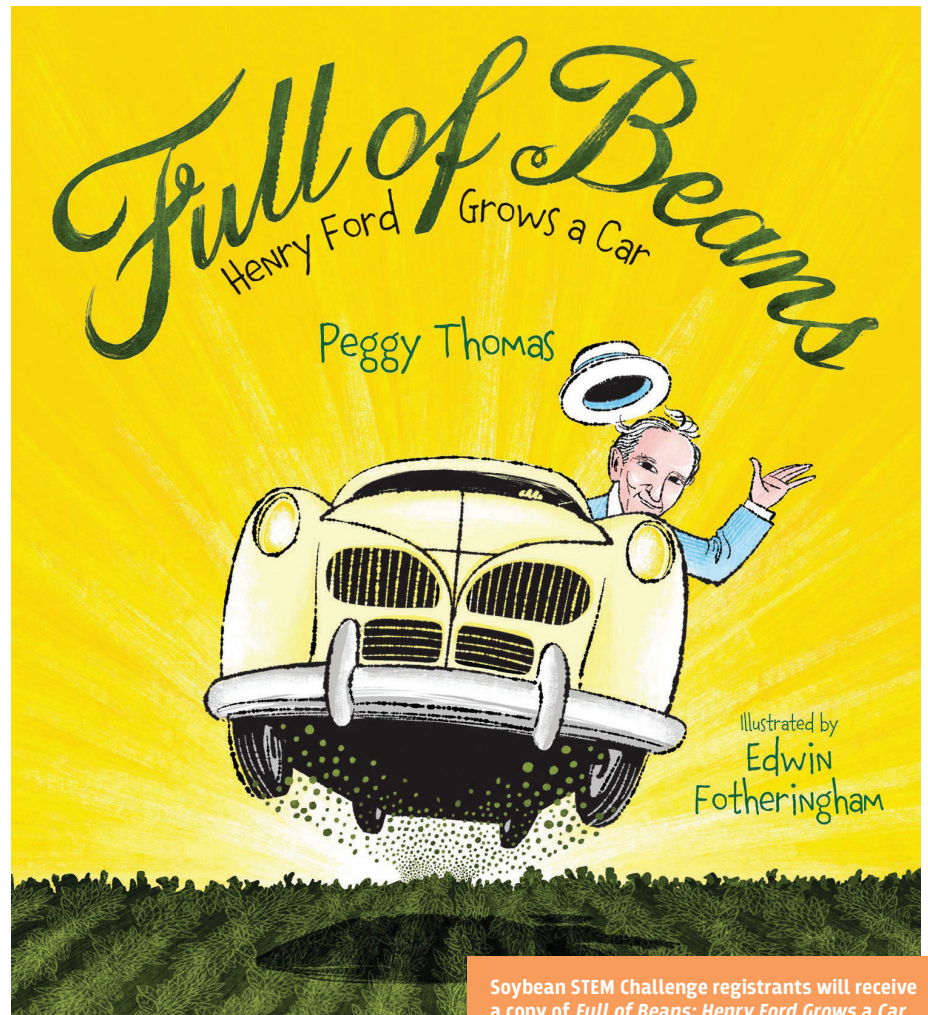
For the 2021-22 school year, AITC will be debuting the Soybean STEM Challenge, which will ask students to explore the many different products

derived from soybeans. Registrants for the challenge will receive the Peggy Thomas book *Full of Beans: Henry Ford Grows a Car*, which follows Ford's efforts to utilize soybeans in his cars. Students will even learn how to make their own bioplastic through associated activities.

AITC also will be hosting the Thank a Farmer Art Contest again this fall, and the program has several other cooking challenges in the works. Be sure to follow AITC on Facebook at [facebook.com/VirginiaAgintheClassroom](https://www.facebook.com/VirginiaAgintheClassroom) to take part in this year's challenges.



Activities like the Thank a Farmer Art Contest allow students to showcase their artistic abilities and show their appreciation to local farmers.



Soybean STEM Challenge registrants will receive a copy of *Full of Beans: Henry Ford Grows a Car* by Peggy Thomas.

# Professional Development



Teachers can learn more about Virginia AITC's professional development resources by scheduling workshops for their schools or divisions.



## Online training courses

**V**irginia Agriculture in the Classroom is excited to offer an online course as our latest professional developmental resource for teachers. The online course allows you to take part in AITC training sessions anytime, anywhere.

The course is comprised of five one-hour modules that cover Virginia's natural resources, environmental stewardship, plant life cycles, STEM and getting the most out of AITC materials. Participants may choose to complete as many modules as they wish, and will receive a completion certificate for each.

To access the online training courses, simply visit Google Classroom and enter the class code **aw2tm7r**. Each training module and accompanying materials will be listed under "Classwork" located at the top of the page.

For more information about professional development resources offered by Virginia AITC, visit [va.agclassroom.org/teachers/dev](http://va.agclassroom.org/teachers/dev).

## Stay tuned for more Zoom events

This summer AITC offered two online professional development workshops through Zoom. We plan to offer more throughout the school year, so stay tuned to Virginia AITC's Facebook page.

## YouTube professional development series

Another option for on-demand development tools is AITC's professional development playlist on YouTube. Here, you'll find a comprehensive overview of AITC resources as well as lesson demonstrations and discussions.

Tune in at [bit.ly/AITCProDevelopment](http://bit.ly/AITCProDevelopment).

## Call to schedule a development session

In-person development sessions are back!

AITC's professional development sessions are designed for pre-K through fifth-grade elementary educators and use Virginia agriculture to bring standard-based learning to life. Teachers receive access to workshops and a teacher resource kit free of charge.

For more information and to schedule a workshop for your school or division, please contact us at [aitc@vafb.com](mailto:aitc@vafb.com) or 804-290-1143.



## What's Growing On In Virginia

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Connecting children with agriculture is *What's Growing On in Virginia!*

### About the Newsletter

*What's Growing On in Virginia?* is a semiannual publication for Virginia educators and those who want to connect children with agriculture through education.

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For additional information and activities, visit our website at [AgInTheClass.org](http://AgInTheClass.org) or call 804-290-1143

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