



Kansas Foundation
for **AGRICULTURE**
IN THE CLASSROOM

6-8

Teacher Toolkit



Welcome

KFAC is a statewide, self-funded 501(c)3 nonprofit agricultural literacy program providing educational resources, training, and support for schools, educators, and volunteers to spark meaningful connections between classrooms and Kansas agriculture.

Why use agriculture to teach core learning?

Using agriculture to teach core subjects enhances student learning by making lessons more engaging, practical, and relevant. By connecting academic concepts to real-world applications, students gain hands-on experiences that reinforce key skills. Agriculture naturally integrates multiple disciplines—improving literacy through writing about food systems, enriching social studies through global food security discussions, and deepening science and math understanding through environmental data and problem-solving. This interdisciplinary approach fosters critical thinking, collaboration, and creativity.

Agriculture is also a cornerstone of our economy and community—especially in Kansas, where one in every eight jobs is tied to the agricultural industry. Farming and ranching contribute billions of dollars to the state's economy and are vital to sustaining rural communities. From the food we eat and the clothes we wear to the fuel that powers our lives, agriculture plays a role in nearly every aspect of daily life. That makes it not only a powerful teaching tool, but also a gateway to understanding essential systems and exploring meaningful career paths.



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Where Do I Start?

Get connected with Kansas Foundation for Agriculture in the Classroom!



Follow us on Facebook to get information on our resources, scholarships, grants and events.

<https://www.facebook.com/ksagclassroom>

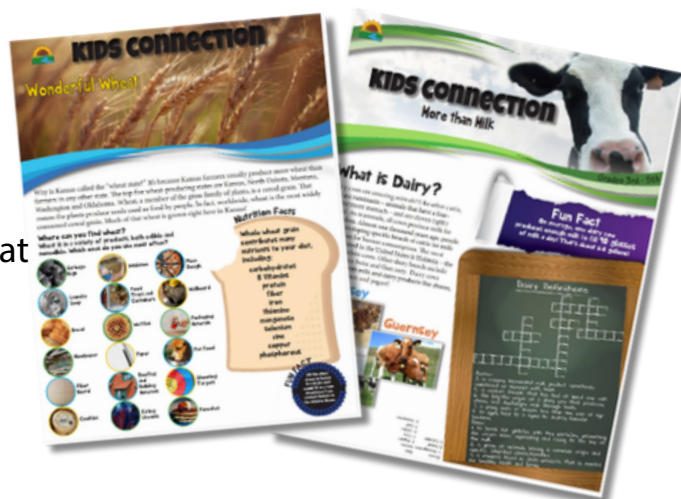
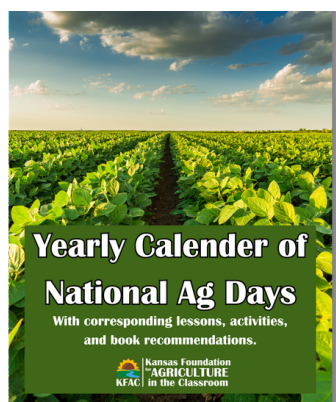


Get Connected

Subscribe to the monthly Kansas Foundation for Ag in the Classroom newsletter to receive program updates, classroom grant opportunities, lesson ideas and so much more!

Kansas Kids Connection Magazines

Kansas Kids Connection magazines are free resources that supplement KFAC's Educator's Guides with additional activities and information about Kansas agriculture.

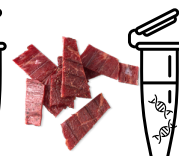
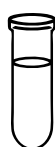
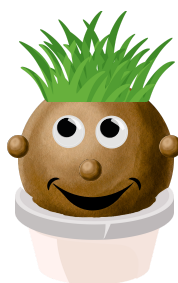


Ag Days Calendar

There is a national day for almost everything agriculture related, from popcorn to pizza to pollinators. Our calendar pairs these days with K-12 lessons and activities, making it easy to bring agriculture into your classroom in a fun and meaningful way.

Lesson Plan Kits

Our classroom kits are hands-on, grade-specific, and connected to state standards, linking core classroom topics to agriculture in a meaningful way. Follow us on Facebook to order a complete kit during our March or August release windows. Prefer to get started sooner? All of our kit lessons and supply lists are available to download for free on our website so you can do the activity any time of year.



I'm Warming Up

Continue building your KFAC involvement by growing your toolkit with these opportunities.



Resource Posters

Kansas Foundation for Agriculture in the Classroom provides a wide range of resources, including lesson plans, activities, and multimedia materials, to help educators incorporate agriculture into their teaching. These resources support hands-on learning, enhance student engagement, and connect agricultural concepts to various academic subjects.



Lesson Plans

Kansas Foundation for Agriculture in the Classroom offers a variety of standards-aligned lesson plans that integrate agricultural concepts into core subjects. These lessons are designed to be engaging and hands-on, helping students connect real-world agricultural topics to their learning while promoting critical thinking and problem-solving skills.



Scholarships

Thanks to the support of our generous partners, we are excited to be able to offer scholarships for K-12 educators to attend the National Agriculture in the Classroom Summer Conference. This conference is an experience like no other, and we want as many Kansas educators as possible to have the opportunity to attend! Apply today for a chance to experience agriculture in another state, attend educational sessions, and network with other teachers across the nation incorporating agriculture into their classrooms.



Mini Grants

Start off your next school year right with a mini-grant from Kansas Foundation for Agriculture in the Classroom. Use this grant to purchase the resources necessary to execute agriculture-based lesson plans in your classroom. Winning classrooms will be featured on the Kansas Foundation for Agriculture in the Classroom website and on social media.

Getting Started

Check out these free resources for 6th - 8th grade!

Create Investigating Milk!

Materials needed:

- 30 test tubes
- 12oz UHT Milk
- 12oz 2% milk
- 30ml Methylene blue dilute solution
- Markers
- Pipettes
- Test tube rack or holder





Instructions

1. Share background information with students.
2. Conduct engagement exercises.
3. Complete preparation activities: dairy careers, food safety, and types of milk.
4. Follow procedures to conduct lab experiments.
5. Observe and record findings (3-4 days).
6. Finish observations and make conclusions.

Find the full lesson at ksagclassroom.org

 Kansas Foundation for AGRICULTURE in the CLASSROOM

Free Lesson Plans and Kits!

Follow us on Facebook to order a complete kit during our March or August release windows! Prefer to get started right away? You can also create your own using our easy-to-follow Make Your Own Kit—fun, flexible, and perfect for any time of year!

Investigating Milk

Discover the science behind dairy with "Investigating Milk"—a hands-on lesson that explores milk safety, bacteria, and careers in food science while highlighting the importance of Kansas dairy farms and agriculture in everyday life. Click the link above to order the kit for free!



For more free resources visit ksagclassroom.org

Investigating Milk and Bacteria Growth

Suggested Grade Level: 6-8 grades

Time: Three, 45-minute class periods, plus observation time of a few days or a week

Subject: agriculture, science, social studies, ELA, counseling, FACS, library/information, and technology

Overview: This lesson uses pasteurized and ultra-high-temperature (UHT) milk to help students learn how different temperatures affect the growth of spoilage bacteria. Students compare refrigerated milk and shelf-stable milk, review the Kansas dairy industry, explore dairy-related careers, experiment on living food, and investigate technological advances that improve food safety.



Ultra-high temperature milk and storage

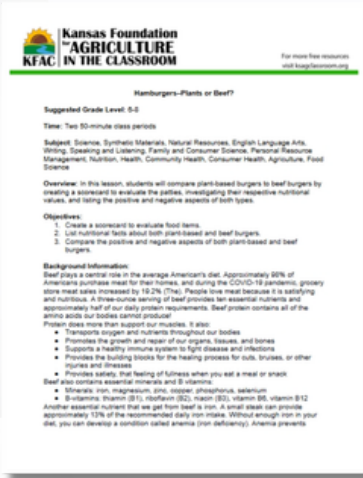
from an investigation

The grocery store aims to prevent the growth of bacteria (single-celled organisms) that multiply quickly, causing food to spoil.

To prevent the growth of bacteria for too long can put the health of the consumer at risk. Bacteria affects the growth of food and store food at

Diving Deeper

Check out these free resources for
K - 2nd grade!

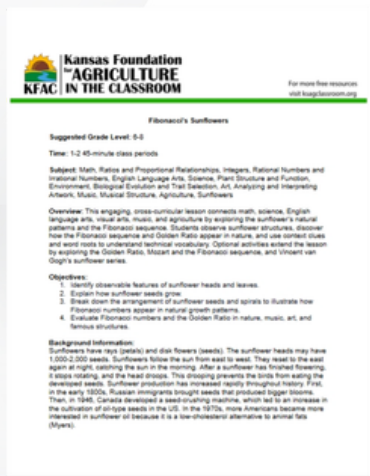


Hamburgers - Plants or Beef?

In this lab lesson, students compare beef and plant-based burgers to explore what it means to be an informed consumer. The hands-on tasting and evaluation activity gets students thinking critically about flavor, appearance, and nutrition, and they wrap up by weighing the pros and cons of each option.

Flamin' Hot Biofuel

This 6th - 8th grade lesson blends science and math to teach learners about the energy that can be generated by soybean oil. Students complete a lab where they burn a Cheeto and other materials to determine the energy they produce by calculating calories.



Fibonacci's Sunflowers

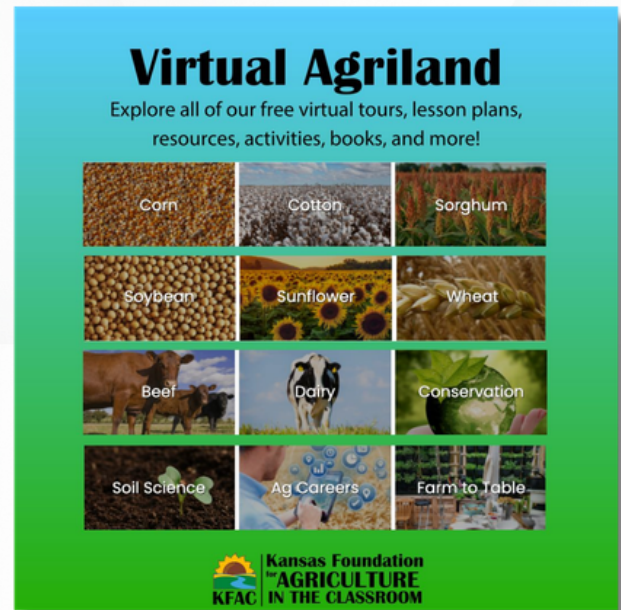
Introduce K-2 students to the importance of bees as pollinators. Through quick, engaging games and discussions, students learn how bees help our environment and what people can do to protect them. This lesson connects ELA, science, and social studies.

Keep Exploring

Check out these free resources for
K - 2nd grade!

Explore Virtual Agriland!

KFAC's Virtual Agriland is an engaging online resource that introduces students to agriculture through interactive lessons, virtual tours, and hands-on activities. Find resources for K - 2nd grade by clicking the link above!



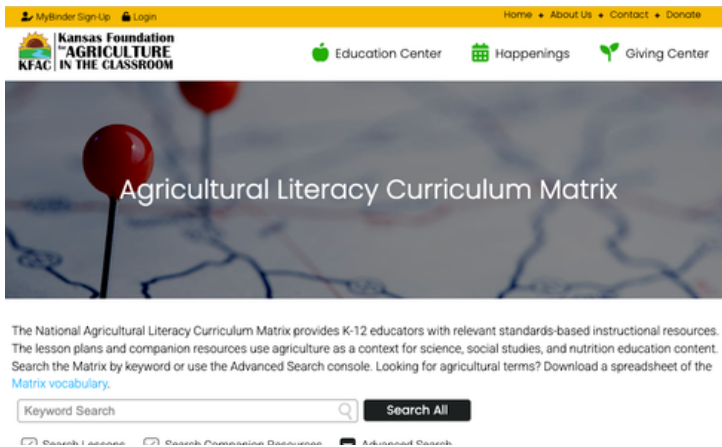
Check Out Our Interactive Map!

The Interactive Map provides county-level access to local statistics, educational resources, and directories of agricultural businesses. Each county is clickable, allowing users to explore local data and connect directly with their community. To view the map, visit the link above.



I'm All In

Bring agriculture into your classroom with exciting materials, training opportunities, and events!



Instructional Materials

Engage students in activities that align to standards and explore teaching themes such as inquiry-based learning, and three-dimensional learning. Use the Curriculum Matrix to find lessons on specific topics and themes for your classroom.



Professional Development

Kansas Foundation for Agriculture in the Classroom (KFAC) provides professional development for educators through workshops, training, and resources that integrate agriculture into the curriculum. KFAC helps teachers create engaging, real-world learning experiences, fostering a deeper understanding of agriculture's role in society.



National Agriculture in the Classroom Conference

Join educators from across the nation to learn how to use agricultural concepts to teach reading, writing, math, science, social studies and more at the annual national convention. Explore agriculture across the country as the conference has a new location each year.

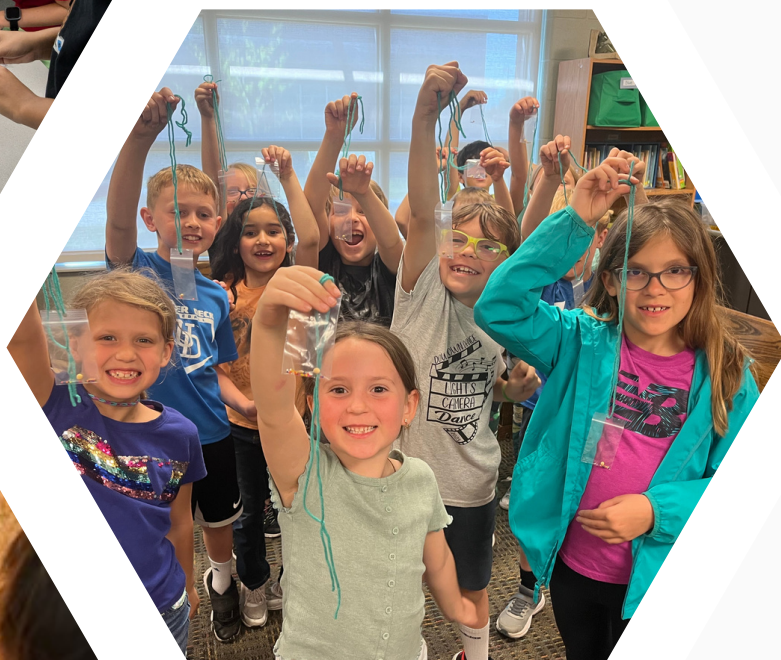




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National Agriculture in the Classroom (NAITC) aims to improve agricultural literacy by providing educators with resources, lesson plans, and professional development opportunities to incorporate agriculture into their classrooms. Our mission is to connect students to agriculture, helping them understand its impact on their lives and the world. Find more resources at <https://agclassroom.org/>.

Kansas Foundation for Agriculture in the Classroom (KFAC) is the state-level affiliate of NAITC. KFAC provides tailored resources, lesson plans, and professional development opportunities to help teachers integrate agricultural topics into their curriculum. By fostering a deeper understanding of agriculture's role in society, KFAC aims to engage students in hands-on learning and promote agricultural literacy across Kansas.





Kansas Foundation for **AGRICULTURE** in the Classroom

About Us

KFAC is a statewide, self-funded 501(c)3 nonprofit agricultural literacy program providing educational resources, training, and support for schools, educators, and volunteers to spark meaningful connections between classrooms and Kansas agriculture.

Kansas Foundation for Agriculture in the Classroom...

- Provides educators with agricultural lesson plans and resources.
- Offers professional development opportunities for teachers.
- Promotes agricultural literacy through hands-on learning experiences for students.

Every year, KFAC reaches...

160,000+
Students



5,500+
Teachers



Connect with us:

Phone: 785-320-4350

Email: info@ksagclassroom.org

Website: <https://www.ksagclassroom.org/>



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