



Exploring and connecting to Iowa’s Agriculture: Teacher Professional Development

<p>GRADE LEVELS: 2-8</p> <p>Educational Setting: Both in school and out of school.</p> <p>Award Provides:</p> <ul style="list-style-type: none"> ● 2-day in-person professional development ● \$290 stipend to support travel and workshop attendance. ● Materials for 25 youth <ul style="list-style-type: none"> a) Iowa Ag Today b) My Family Farm book series c) Bushel of Stories d) Career posters ● Links to lesson plans and electronic copies of the above <p>Additional Cost(s) to Awardee in 2024-2025:</p> <ul style="list-style-type: none"> ● None <p>Approximate Sustainability Cost After Award Period:</p> <ul style="list-style-type: none"> ● \$0.50 shipping fee per Iowa Ag Today replacement pack. ● The hard copy materials are developed to be used over multiple years. If replacement is needed due to wear and tear, the Iowa Ag Literacy Foundation will replace hard copy materials at no cost. 	<p>2024-2025 STEM Scale-Up Program Summary:</p> <p>The Iowa Agriculture Literacy Foundation (IALF) was established in 2014 with a goal to serve as a resource to increase the knowledge and awareness of agriculture (ag) and its importance among students. Early on, the IALF recognized that increasing student ag literacy began with the teacher; however, many educators lack a background in agriculture.</p> <p>IALF has developed a two-day professional development workshop that engages educators with ag professionals and classroom curriculum. The IALF advocates have observed that when teachers have materials, are trained in and become interested in agriculture, they see the value of using it to teach STEM. Ag can set context for learning about high-demand STEM careers.</p> <p>The curriculum encourages students to explore the science of food, fuel, and fiber. Students can see technology applied through drones, robotic dairies, and much more. Tractors are just one example of engineering principles applied in agriculture. Mathematics behind ag business, building design, or application rates show students the importance of applying those concepts.</p> <p>Each workshop will be two days and provides direct connection to the local host community, while following the same general format.</p> <ul style="list-style-type: none"> ● The first day has tours to farms, agribusinesses, research centers, biorefineries, processing plants, cooperatives, grocery stores, and a variety of other locations that can help teachers understand the farm to fork story and see STEM applied. ● The second day of the workshop is spent in the classroom focusing on applying what educators saw and learned on the tours into integration plans that they can use in their classroom. <p>The IALF takes a hands-on approach where teachers are actively seeing lesson plans demonstrated as they engage in facilitated inquiry-based learning.</p> <p>These workshops qualify for license renewal credit and/or graduate level credit. The IALF works with AEA PD Online to offer this through hybrid instruction – in person and online. Participants can earn credit through the AEA PD Online partners including Drake University, Morningside College, or Grandview University.</p> <p>The online portion of the workshop provides extended support for educators through a Moodle platform. Through this platform the IALF can extend STEM connections to the classroom by providing educators with digital copies of lessons and resources. It makes space for teachers to share and collaborate on developed resources. The online platform also provides space for educators to network past the initial workshop through discussion forums, development of integration plans and classroom resources.</p> <p>Requirements to Implement the Program:</p> <ol style="list-style-type: none"> 1.) Educator(s) must attend both days of the professional development. 2.) Educator(s) must participate in the STEM Council Scale-Up Educator Survey.
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Website:
<https://www.iowaagliteracy.org/>

Videos:
● YouTube:
@IowaAgLiteracyFoundation

Social Media:
● FB:
<https://www.facebook.com/iowaagliteracy>
● IG:
@IowaAgLiteracyFoundation
● X:
@IowaAgLiteracy

Informational Webinar(s)
● January 25, 2024, at 3:30-4:00pm CST via [Zoom](#)

Iowa Standards Alignment:
Our program integrates lessons aligned to Iowa Core Standards and National Agriculture Literacy Outcomes (NALOs). We have developed crosswalk documents that align over 90 Iowa Core science and social studies (SS) standards to NALOs.

We carried that process further and developed phenomena examples in agriculture that can be used to connect to science/social studies. The phenomena are written as questions that students can explore through teacher guided inquiry. Throughout, math, technology, and engineering principles are integrated.

Our materials align with 21st Century Skills where appropriate and Social Studies Standards, which integrate 21st Century Skills. We have 15 math lessons on our website and an additional 30 on the National Agriculture in the Classroom website. We are currently working with educators to develop a math crosswalk document.

Our program provides educators with multiple lessons that can be used within a longer unit. These lessons often include the following standards as examples:

- 3-5-ETS1-1: identify simple design problems in the engineering of livestock facilities or food production to determine solutions to a problem and test prototypes. Often, this standard is paired with measurement, tool use, and graphing (e.g., 2.MD.A.1, 5.G.A.2, 7.G.A.1)
- 21.6-8.HL.4: resources that focus on the nutrition and marketing of food such as turkey, beef, and grapes.
- SS.4.26: participants engage in discussion and activities that align with the change in Iowa's agriculture overtime.

Professional Development:
Duration: 2 in-person consecutive eight-hour days (more online for educators electing to earn credit)
Date(s): TBD - Occurring between July 15, 2024, and October 31, 2024. (Note: Workshops are a full day and run from 8:00am-4:00pm).
Location: TBD - One will be held in each of the six regions

Photos:



STEM Scale-Up Program Application Link: www.iowaSTEM.org/Scale-Up-Application