

Learning about Colorado Agriculture



Photo by
Christine Beblow

LEARNING for a Sustainable Future

Ag in the Classroom works to develop an understanding of how societies have met basic needs through research, invention, and other achievements in technology and science. Each state Agriculture in the Classroom program provides resources and professional development opportunities to address agriculture literacy—the understanding of how our basic needs (food, clothing, and shelter) are met every day.

Ag in the Classroom programs provide training and resources that promote critical thinking and problem solving using project-based learning to contextualize how productive, sustainable agriculture affects everyone's quality of life and our environment. Colorado's Ag in the Classroom program is led by the Colorado Foundation for Agriculture (CFA).

According to a recent study, a majority of consumers—youth and adults—do not have a fundamental understanding of agriculture or how agriculture impacts their lives.¹ In order to meet the challenges of the future, it is imperative that youth and adults are informed consumers, advocates, and policy makers. Agricultural Literacy is defined as having the ability to understand and communicate the source and value of agriculture as it affects our quality of life.

Colorado has established academic standards for students to achieve through our educational system. Agricultural Literacy can be achieved simultaneously while achieving these academic standards. Colorado Foundation for Agriculture develops and distributes agriculture and natural resource educational resources to teachers and students. These resources align with Colorado's academic standards and include real-life stories, examples and lessons that provide skill development in the areas of science, math, social studies, reading, writing, communication and health. CFA provides most of these resources free of charge to elementary and middle schools in the state.

We have big challenges ahead of us. With the world population approaching 9 billion by 2050, our society will need to feed, clothe, educate and provide jobs to another 3 billion people. It will take wise use of our agriculture and natural resources to provide for this increasing population while ensuring quality of life. Supporting and enhancing Agricultural Literacy can help provide the knowledge base to address these challenges.

¹ Doerfert, D. L. (2011). National research agenda: American Association for Agricultural Education's research priority areas for 2011-2015. Lubbock, TX: Texas Tech University, Department of Agricultural Education and Communications.



STUDENT CENTER RESOURCES

Teens and young children can learn more about how science enhances food production and how agriculture affects their quality of life and the environment. The [Teen Scene](#) provides edutainment and exciting online resources to challenge older students to examine their food's background, scientific research, sustainability, natural resources and their own career opportunities.

The [Kids' Zone](#) provides quizzes, virtual tours, state profile geography facts, and science fair project ideas for informal and at-home learning.



The above pictures were taken by teachers attending the 2016 Food, Fiber & More Summer Institutes.

Helping Educators Learn about Agriculture

The Food, Fiber & More! AgriCULTURE in the Classroom Summer Institutes are a five day course designed for teachers who have little or no agriculture background. They learn innovative ways to incorporate agriculture and natural resource topics into academic subjects.

- DAY 1 features background and history of Colorado agriculture, food safety, environmental concerns, wildlife, biotechnology, resource materials and more.
- DAY 2 & 3 tours farms, ranches and food production facilities to see the diversity of Colorado agriculture. Learn issues and realities of agriculture production from the trenches. Natural resources, including water and the environment are among the topics covered.
- DAY 4 is spent walking in another person's boots. What, irrigation boots? You can be a farmer or rancher for one day; hands-on...really, hands on. This is an opportunity for teachers to interact one-on-one and learn by experience. Institute participants say this is the best day.
- DAY 5 highlights resources available to use with students.

Year after year, attendees say nice things about the Food, Fiber & More Agriculture in the Classroom Summer Institute...

This has been by far one of the best experiences of my life. I can't stop talking about it! Loved the beginning of the week with resources and ARDEC to all of the field trips and hands-on, visual experiences. I have met so many amazing people and have taken on so much information. Loved the day on the farm—amazing! Thank you for all of your hard work, organization, and dedication to this program! Will definitely recommend this to colleagues. Roxanne Visconti

The entire week has been incredibly informative. I will strongly encourage the other teachers at my school to get involved. The people, the resources, the hands on active learning has been an awesome experience. Sally Kilton

This entire week has been wonderful! As one of the FFA students said, agriculture should be a mandatory part of education for our kids. I feel like I am always better at teaching things that I've experienced myself, and because of the hands-on nature of this institute, I now feel confident infusing agriculture into my curriculum. Thank you for setting up opportunities for us to meet various people in different industries— beef, dairy, crops, etc. Everything I wanted to learn I learned...and so much more!! I can't wait to share this amazing learning with my coworkers and students next year. Thank you for everything! Maragret Cieply

I was completely surprised to learn how many different occupations are connected to farming and the level of technology integration as well. Especially cool? Drones to help farmers find areas that aren't producing. I was certainly interested in everyone's opinion around GMO's, organic, conventional, antibiotics, types of feed—the old opinions I had were from the media—Food INC—and I was challenged this week with accurate information. The farmers were respectful toward one another's choices in how they earned a living. I'm sure my 4th graders think of farmers as old guys in overalls. My plan is to start with what they do know and surprise them in similar ways that I was this week. I teach in Greeley, 4th grade. My students live at the edges of farms, yet throw away pounds of food each day. Our district is 60% farm to table. I want them to make those food connections, not only to what is on the food trays, but the many opportunities open to them in their community. Thank you again for this amazing week with highly educated, thought provoking people. Please continue to sponsor teachers, so we can keep the conversations going. Anita Kim Venegas

In 2017 Institutes will be held in:
RIFLE June 12-16
FORT COLLINS June 19-23
DENVER June 26-30

Learn More About Agriculture and Food

Colorado Reader
 AG in the Classroom
 Helping the Next Generation Understand Their Connection to Agriculture
 Colorado Foundation for Agriculture - www.growingyourfuture.com

Food, Fiber and Natural Resource Literacy

- Egg Farm to Table**: Six Colorado egg farms provide jobs for more than 2800 families and produce over \$100 million annually to the state's economy. *Learn more on page 4.*
- Egg Production**: Over 4 billion birds in Colorado produce more than one billion eggs each year. *Learn more on pages 2 & 7.*
- Egg Farming History**: Egg farmers have led in using technology to improve egg production and farm health. *Learn more on page 2.*
- Biosecurity**: Protecting hens from disease, severe weather and predators is a priority for egg farmers. *Learn more on page 8.*
- Eggert's Corner**: Eggbert is the new mascot for the Colorado Egg Producers. Look for him at events around the state. Find out how you can be a "Good Egg." *Learn more on page 6.*
- Egg Safety**: The nutrition label does not show the high-quality proteins found in eggs. Nor does it mention all the 14 vitamins and minerals found in eggs. Eggs are also one of the few food sources of vitamin D. *Learn more on page 5.*
- Egg Types/Labels**: All commercially produced eggs in Colorado meet USDA grading guidelines. Eggs are produced based on what consumers choose to buy. *Learn more on page 3.*

www.growingyourfuture.com

Click on these pictures of the Colorado Readers and they will take you to an interactive version. You can find more interactive readers at www.growingyourfuture.com

Colorado Reader
 AG in the Classroom
 Helping the Next Generation Understand Their Connection to Agriculture
 Colorado Foundation for Agriculture - www.growingyourfuture.com

FOOD, FIBER & NATURAL RESOURCE LITERACY

Building Blocks of Nutrition

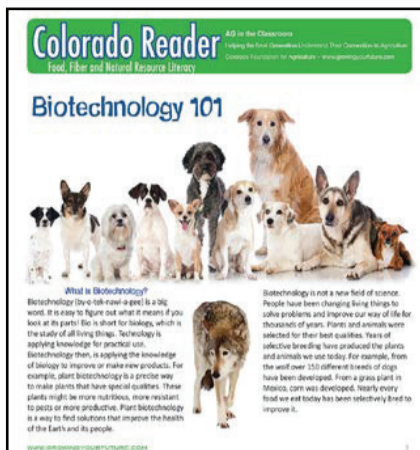
Did you know that all foods are made up of basic nutrients? These are building blocks of nutrition and they each fulfill a different need in your body. Some foods have more of one type of nutrient and less of others. That's why it is important to eat a variety of foods every day. Then you are able to get some of each building block or nutrient every day. The main building blocks are shown below. Turn the page and let's learn more about each block.

Proteins
Carbohydrates
Fats
Fiber
Water
Vitamins & Minerals

www.growingyourfuture.com

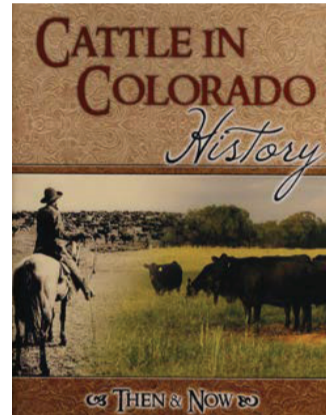
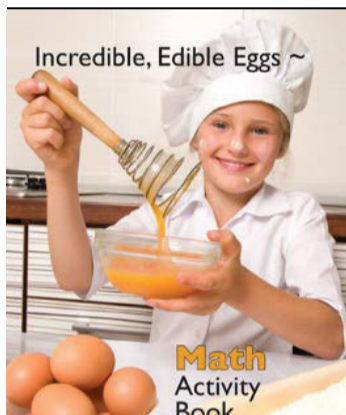
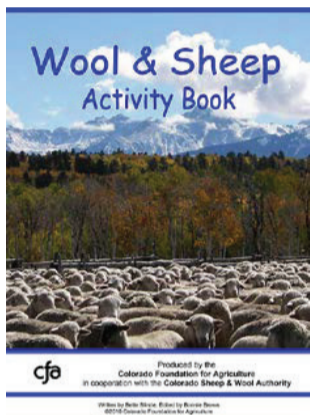
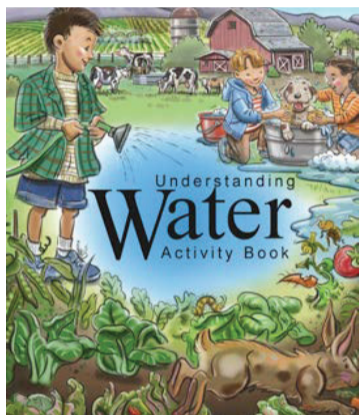
Colorado Agriculture in the Classroom

Resources

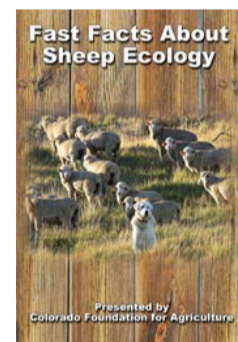
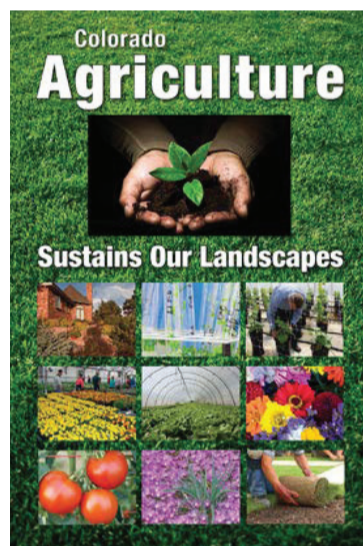
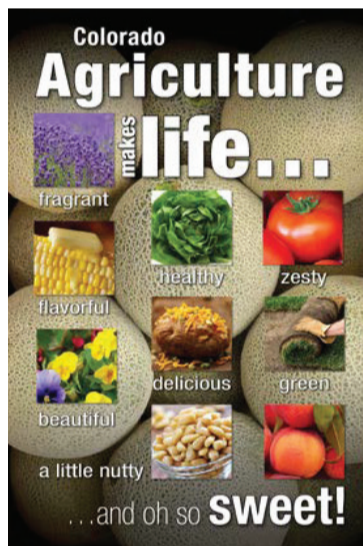


Colorado Readers are:

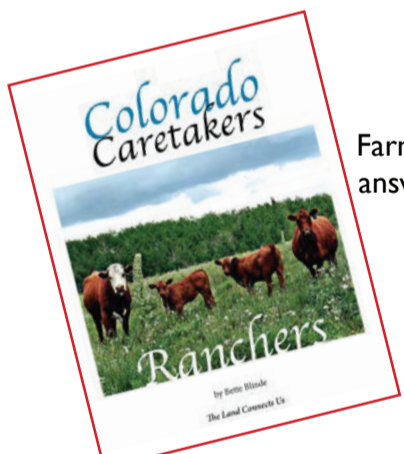
- Student magazines targeted at 4th through 6th grades
- Provided in classroom sets of 30 readers, teacher's guide and evaluation form
- Provided free to any educator that requests them ~ home schoolers included
- Teachers must request them
- Over 1,600 packets are distributed six times during the school year
- Good tool for teaching nonfiction and technical reading skills
- Often includes math, science, geography, language, social studies and health activities



32 or 72 page Activity Books for 1st through 6th grades

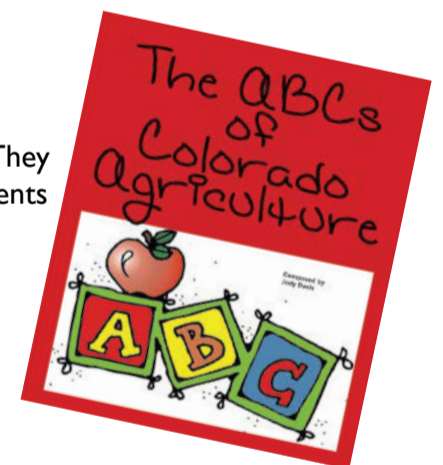


Posters and DVDs

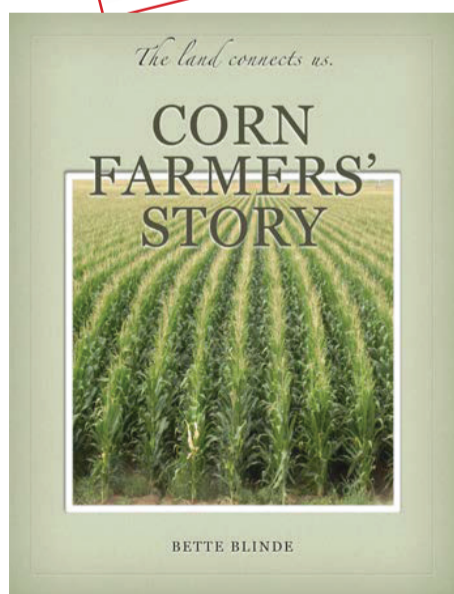


Working with students Colorado Literacy Project

Farmers and ranchers visit classrooms and read a book about Colorado agriculture. They answer questions and talk about their farm or ranch and do an activity with the students about Colorado agriculture. The class keeps the book.



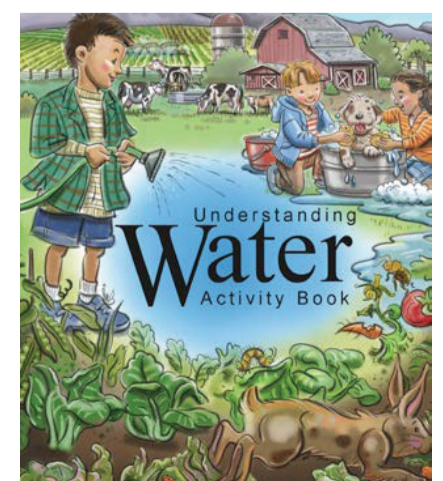
E-Pubs for the I-pad



Corn Grower's Story I-Book is a fun, educational farm visit in which a farmer shares what is required to successfully raise corn and other crops. We see that being proficient in academic subjects like math and science is essential when growing crops. Users will learn about the history of corn, the parts of the plant, the nutritional aspects and where a corn kernel stores its energy. This I-Book contains video clips that show a corn crop growing (this is a time-lapse video that shows a season of growth in just 90 seconds!). The user will ride in a tractor as corn is being planted and meet Colorado State University students using ethanol. Interactive reviews and quizzes reinforce student comprehension. Math, science, geography, vocabulary, writing, visual arts and economic activities are provided throughout the visually appealing pages. This resource, like other Colorado Foundation for Agriculture materials, is presented as an activity book rather than a game. This book will engage students or anyone looking for a comprehensive introduction to corn and corn farming. Students will be able to apply what they learn about corn to other crops. Users will also see that farmers, like others successful in their respective occupations, continue their education to learn new technologies and techniques. [Give it a try.](#)

The **Understanding Water I-Book** is now on I-Tunes for use on I-Pads. The I-Book contains expanded information and activities. It takes advantage of interactive features of E-pubs with reviews and quizzes to help reinforce comprehension. [Give it a try.](#)

Understanding Water I-Book is a fun, educational voyage to explore water and water use. Users will learn about water, the water cycle, water treatment, pollution, conservation, wastewater treatment and importance of water to agriculture. Interactive reviews reinforce student comprehension. Math, science, geography, vocabulary, writing, visual arts and economics activities are provided throughout the visually appealing pages. This resource is presented as an activity book rather than a game. Engage elementary grade level students or anyone looking for a comprehensive introduction to water. Understanding Water I-book provides a solid base users will want to grasp in order to pursue more technical aspects of this important natural resource.



Upper Middle School and High School Student Game

Journey 2050



HOW WILL WE SUSTAINABLY FEED 9 BILLION PEOPLE BY THE YEAR 2050?

Journey 2050 takes students on a virtual simulation that explores world food sustainability. Using an inquiry based approach the program encourages students to make decisions and adjust them as they see their impact on society, the environment and the economy at a local and global scale.



Curriculum & Inquiry Based

Journey 2050 encourages students to make decisions and adjust them as they see their **impact on social, economic and environmental factors at a local and global scale.**

It complements curriculum and provides the critical thinking skills needed to address sustainability issues. The strongest ties are with **science and social studies standards aimed at Grades 7-12+**. Specific curriculum links are available online in the Teacher Section.

The program focuses on agriculture, sustainability, plant health, water conservation, economies, land-use, geography and careers.



Sustainable Agriculture Game

By the year 2050 there will be an estimated 9 billion people and **food production needs are expected to rise by over 60%.**

Agricultural experts and farm families guide students through a virtual farm simulation, avatar game and interactive lessons. Each game uses different tactics to engage users while showcasing such things as best management practices, innovations, limiting factors and the ripple effect of choices.

The discussions and learner retention that is generated from these games is incredible.

Educational gaming is a powerful way to teach!



Online Experience

Journey 2050 is available as an Online Experience written by teachers for teachers. Animated videos, interactive games and detailed lesson plans ensure this program is Monday-morning ready. You do not need an agricultural background to teach Journey 2050.

The basic program can be **completed in five hours** and requires students have a device such as **iPad/Tablet/Chromebook/Computer with internet.**

The challenge of sustainably feeding the world is complex and ongoing. Follow-up activities are provided for those who wish to continue the journey. **Register online to access the free resources.**



Get Involved

Classrooms may be eligible for a **\$100 coupon** to donate to preselected charities that contribute to sustainability! This is a unique opportunity for students to think as global citizens and give back to communities.

Journey 2050 is cutting edge and the program is constantly evolving to ensure it stays relevant, factual and fun!

It is imperative that everyone understands how our present-day decisions impact world food sustainability and to showcase the importance of agriculture.

Food is life. Sustainable food is our future.

Journey 2050 is a collaboration of educators and agriculture experts. It is an opportunity for students to experience agriculture like it's never been taught before. Our Journey to feeding the world has started. Join us.

FREE App



Journey2050.com journey2050@agrium.com

GET IT ON Google Play

Play on Journey2050.com

Download on the App Store

Get it from Microsoft

Save Time Hunting for Lessons

The Agricultural Literacy Curriculum Matrix is an online, searchable, and standards-based curriculum map for K-12 teachers.

The Agricultural Literacy Curriculum Matrix is an innovative approach to grow agricultural literacy among K-12 students. Specifically, the Matrix is an online collection of educational resources that are relevant, engaging, and designed to meet the educational requirements and agricultural literacy outcomes for formal educators. The Matrix is essentially a three-dimensional curriculum map that includes standards and objectives, lesson plans, supportive or companion resources, and assessments that help teachers get students from point A to point B in terms of learning.

Teachers at all grade levels can access the Matrix materials through an easy-to-use search engine found at agclassroom.org/colorado/matrix. For example, instead of sifting through

hundreds of thousands of results from a Google search of "dairy lessons for elementary students," a search of "dairy" reveals two lesson plans that are already connected with agriculture literacy outcomes, content standards, and Common Core standards. More so, the two lessons are broken into grades K-2 and 3-5 along with a companion activity (making butter in a baby food jar), three booklets (one downloadable), a companion resource (making cottage cheese in the classroom), and a companion resource website that features a cleverly-produced science fiction tale of an alien race finding much-needed calcium in Earthly cows.

The lessons that make up the Matrix come from collaborative efforts by agriculture literacy professionals who submit resources for inclusion to the database. Those materials are reviewed and evaluated based on how well they connect with agriculture literacy outcomes, content standards, and

Common Core standards.

Agricultural literacy outcomes are based on research and previous work which helped determine what an agriculturally literate person should be able to understand and communicate about agriculture by a specified age (grade). The National Agricultural Literacy Outcomes (NALOs) include five themes: 1) Agriculture and the Environment; 2) Plants and Animals for Food, Fiber & Energy; 3) Food, Health & Lifestyle; 4) Science, Technology, Engineering & Mathematics; and 5) Culture, Society, Economy & Geography.

Visit agclassroom.org/colorado/matrix to access the Matrix which utilizes lessons that connect with agriculture literacy outcomes, content standards, and Common Core standards or click the link below:

[Colorado Curriculum Matrix](http://agclassroom.org/colorado/matrix)

LEARN MORE: WWW.GROWINGYOURFUTURE.COM

This issue of Colorado Kids was produced by the Colorado Foundation for Agriculture in cooperation with the Denver Post Educational Services.

ColoradoKids

is produced by
Denver Post Educational Services
Executive Editor: Dana Plewka
dplewka@denverpost.com
CK Editor: Mike Peterson
coloradokidseditor@gmail.com
We welcome your comments.

For tools to extend the learning in this feature, look under "Youth Content" at: www.ColoradoNIE.com

eEditions of the Post are free of charge for classroom use. Contact us for information on all our programs.

Denver Post Educational Services
101 W. Colfax Ave.
Denver CO 80202
(303) 954-3974
(800) 336-7678

Stories without bylines were written by the editor.



ColoradoNIE.com