

SCIENCE & AGRICULTURE

Lessons and resources for grades 3-5



Iowa Agriculture
Literacy Foundation



Agriculture is a topic that students can easily connect to because they encounter it often. Nearly everything we eat, wear, use -- even the fuel that powers the cars and buses we ride in -- comes from plants and animals grown on farms. Agriculture provides perfect real-world connections and makes learning relevant to students.

Agriculture connections in science are abundant! Agriculture relates to **physical science** (What does gravity have to do with roots and shoot growth?), **life science** (How do plants reproduce?), and **earth science** (How does weather affect soil erosion?), and **engineering design** (How can science and technology improve food production?).

FEATURED 3-5 LESSONS

Energy & Matter

- [Get Popping!](#) (popcorn science, states of matter)
- [Feed Sacks Pork Lesson](#) (energy from food)
- [Turning Wind into Electricity](#)

Plants: Structures, Processes & Needs

- [Inherited Traits in the Living Corn Necklace](#) (inherited traits)
- [The Diversity of Corn](#) (inherited traits)
- [Plant Parts Matching](#) (soybean/dicot plant structures)
- [Collaborative Cornstalk](#)

Animals: Structures, Processes

- [Beef Science](#)
- [Build a Calf](#) (inherited traits)
- [Turkey Turmoil](#) (variations of traits)

Weather & Natural Resources

- [Caring for the Land](#) (soil erosion and conservation practices)
- [How much is dirt worth?](#) (soil erosion and conservation practices)
- [Conservation Nation](#)
- [Let's Mix up some Soil](#)
- [Wad-a-Watershed](#) (water sheds & human impact)

FEATURED RESOURCE

Iowa Ag Today
elementary series



Written at a fourth-grade reading level, these non-fiction magazines are aligned to Iowa Core Standards. Each pack of 25 comes with a teacher guide. Order or view online at iowaagliteracy.org.

WHERE DOES AGRICULTURE FIT INTO THE IOWA CORE STANDARDS?

3rd Grade:

- 3-LS1-1. Develop models to describe that organisms have unique and diverse life cycles, but all have in common birth, growth, reproduction, and death.
- 3-LS3-1. Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.
- 3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment.
- 3-LS4-2. Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.
- 3-LS4-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.
- 3-ESS2-1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.
- 3-ESS3-1. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

4th Grade:

- 4-PS3-2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.
- 4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.
- 4-ESS2-1. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.
- 4-ESS3-1. Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

5th Grade:

- 5-PS1-2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.
- 5-PS2-1. Support an argument that the gravitational force exerted by Earth on objects is directed down.
- 5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.
- 5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.
- 5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

The Iowa Agriculture Literacy Foundation serves as a central resource for educators and volunteers who want to teach Iowa's students about agriculture. Information about additional resources, including grants, professional development, and outreach opportunities is available at: www.iowaagliteracy.org.