

Teacher's Guide

Ag in the Classroom - Helping the Next Generation Understand Their Connection to Agriculture

Rangelands

Additional Resources

Useful Websites

agclassroom.org

This is the national website for Agriculture in the Classroom programs from across the nation. A site search will bring up a variety of lessons, books, videos and links.

growingyourfuture.com - connects you to Colorado's Agriculture in the Classroom program. A variety of resources are available at this site including past Colorado Readers. Be sure to check out the new Matrix of agriculture and natural resource lessons.

Would you like additional lessons to use with your students?

Go to:

www.growingyourfuture.com

Click on:

Curriculum Matrix

There are several lessons under the topic of rangelands. Two we suggest you look at are:

At Home on the Range
Homes on the Range

More can be found using the topic of soils. One we suggest you look at is
Caring for the Land

Here is a link to variety of videos on soil:
<https://www.youtube.com/channel/UCcEbCxaahpQg7Cm-W849Rw>

Comments, questions, suggestions and feedback about the Colorado Reader are welcome.

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INTRODUCTION:

This reader introduces students to rangelands. Rangelands are a type of land on which the natural vegetation is dominated by grasses, forbs and shrubs and the land is managed as a natural ecosystem. Rangelands play an important role in all of our lives. Rangelands can be found all over the world, in all 50 states and make up about 60 percent of the land in Colorado. Rangelands are lands managed as a natural ecosystem. These lands provide us important benefits including: food, clean water, recreation and habitat for wildlife.

Grasses, Forbs, Shrubs

Rangelands grow grasses, forbs and shrubs that aren't readily digestible by humans. Livestock convert these plants to high-protein food for human consumption and fiber. Rangelands also benefit from the presence of properly managed livestock.

Healthy rangelands play a vital role in protecting clean water. They filter runoff from storms and prevent the erosion of soils into streams and lakes. Some lakes and ponds only have water during part of the year, but they are still important.

Open space is important. Hiking, horseback riding, photography, riding ATVs, hunting, camping and bird watching are a few examples of the recreational opportunities provided by rangelands.

Many species call the rangelands home. Large animals like deer and elk, migratory birds, small animals and insects are all dependent on and a part of rangeland ecosystems.

Colorado has nine different types of rangeland. While they share much in common, differences in altitude, terrain and soil alters which plants and animals will thrive in each area. Rangelands are not just a matter of geography. Rangeland areas that are converted to farms or urban use are no longer considered to be rangeland.

PAGE 1

Activity: Exploring your neighborhood. Find a place where you can explore plants. This could be a park, or open area where you can get permission for students to identify plants. Have students find grasses, forbs and shrubs.

What is the difference between public and private lands? Private lands are lands owned by individuals or businesses. Public lands are lands owned by government like the federal government or the state of Colorado.

PAGE 2

A good book to read to your students about interdependence is "If You Love Honey." We have some copies available if you would like one for your classroom, please contact us. Activities for this book can be found at www.growingyourfuture.com on the right side under Colorado Literacy Project.

PAGE 3

Soil is the thin brown line that sustains us. It is very important that students understand their connection to the soil under their feet. The Curriculum Matrix listed under Additional Resources has a variety of lessons on soils you can use with your students.

PAGE 4 & 5

Answers will vary depending upon your location. What types of plants would they see in their nearest rangeland? Grasses, forbs and shrubs.

PAGE 6 & 7

Answers will vary. Land managers have to make tough choices when it comes to managing these lands. This activity has the students think and make decisions about which management option they might choose. You might have them also think about the consequence of their choice. Will it be liked by everyone? Who might not like their choice? They might come up with a new solution. If they have questions you can't answer, email the questions to us. We will try and find a land manager to answer them.

PAGE 8

When we wrote this reader we had a big discussion on what was conservation. Originally we had it as using less of a resource, but decided that was not correct. Sometimes we may have to use more to benefit that resource. For example, conservation of rangelands doesn't have to mean less grazing - in some cases it can actually mean more (just better targeted to seasons/certain areas etc). So we decided to say conservation is the wise use of a resource. You might want to discuss the idea of why we might want to graze a rangeland more, at select times and for a certain length of time. Some reasons would be:

- To control invasive plants (weeds)
- To improve wildlife habitat
- To improve soil for water to soak in better.
- To put more nutrients on the ground (manure).

A good video to show how this works is:

<https://www.youtube.com/watch?v=vpTHi7O66pl>

Answers to the activity:

Deer ○		<i>Example</i>	
		<u>Page 2</u>	
Horse ○		<i>Page 8</i>	
		<u>Page 8</u>	
Eagle ○		<i>Page 4</i>	
		<u>Page 4</u>	
Human ○		<i>Page 4</i>	
		<u>Page 4</u>	
Duck ○		<i>Page 1</i>	
		<u>Page 1</u>	
Badger ○		<i>Page 3</i>	
		<u>Page 3</u>	

Content Standards:

Agricultural Literacy Outcomes
Agriculture and the Environment Outcomes
Upper Elementary (Grades 3-5)

- a. Describe similarities and differences between managed and natural systems (e.g., wild forest and tree plantation; natural lake/ocean and fish farm.)
 - d. Identify the major ecosystems and agro-ecosystems in their community or region (e.g., hardwood forests, conifers, grasslands, deserts) with agro-ecosystems (e.g., grazing areas and crop growing regions.)
 - e. Recognize the natural resources used in agricultural practices to produce food, feed, clothing, landscaping plants, and fuel (e.g., soil, water, air, plants, animals, and minerals.)
- Middle School (Grades 6
- c. Discover how natural resources are used and conserved in agriculture (e.g., soil conservation, water conservation.)
 - d. Discuss (from multiple perspectives) land and water use by various groups (i.e., ranchers, farmers, hunters, miners, recreational users, government, etc.), and how each use carries a specific set of benefits and consequences that affect people and the environment.

Common Core State Standards

- CCSS.ELA-Literacy.CCRA.L.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
- CCSS.ELA-Literacy.CCRA.R.1: Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
- CCSS.ELA-Literacy.CCRI.R.1: Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
- CCSS.ELA-Literacy.CCRI.R.3: Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.
- CCSS.ELA-Literacy.CCRF.R3a: 3. Know and apply grade-level phonics and word analysis skills in decoding words. a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.
- CCSS.ELA-Literacy.CCRF.R4: Read with sufficient accuracy and fluency to support comprehension.

Colorado Standards
Science:

- 3. There is interaction and interdependence between and among living and nonliving components of ecosystems

Reading, Writing and Communications

- 2. Reading for All Purposes.
 - 1. Comprehension and fluency matter when reading literary texts in a fluent way.
 - 2. Comprehension and fluency matter when reading informational and persuasive texts in a fluent way.
 - 3. Knowledge of complex orthography (spelling patterns), morphology (word meanings), and word relationships to decode (read) multisyllabic words contributes to better reading skills.

Mark your Calendars ~ Our next Food, Fiber & More Summer Agriculture Institutes will be held:

- June 12-16 Rifle/Glenwood Springs Area
- June 19-23 Fort Collins Area
- June 26-30 Denver Area

One teachers described this class: " It is like a summer camp for adults."