

engage — the — range

Experience the Range

**TEACHER/
RANCHER
GUIDE**



Acknowledgements

**Thank you to WWF, Pheasants Forever, Quail Forever,
and The Nature Conservancy for making the success
of Experience the Range possible!**



Outcomes and Objectives

Overall Program Outcome 1:

Create youth literacy and awareness around the decline of the Northern Great Plains ecosystem.

Overall Program Outcome 2:

Create a pathway of education and experience that strengthen the currently available educational experiences for the study of rangeland ecology.

Today's Objective:

Students will use their senses to identify common range issues while on the range.



Experience the Range

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Experience the Range

TEACHER CHECKLIST

Experience the Range is an exciting, hands-on learning opportunity for students! Please review and use the field experience checklist and planning calendar below. It is suggested that Experience the Range events take place in either September/October or April/May. If you don't have a connection to a local rancher start by connecting with the Sustainable Ranching Initiative team at WWF, the Nature Conservancy, your local NRCS office, your state's grazing lands coalition or land grant University.

60 Days before Experience the Range experience

- Choose a rancher/range manager to allow your students to visit for the Experience the Range experience.
- Gain approval from the school administration for field trip requests and travel.

30 Days before Experience the Range experience

- Gather all permission forms for students from the school system and liability forms for ranch if applicable.

2 weeks before Experience the Range experience

- Provide Range Experience Guide to Rancher

1 week before Experience the Range experience

- Speak with Rancher to confirm field trip date time and content to be covered
- Review Pages 1-5 with students before the Experience the Range experience
- Introduce the Design Thinking process with students. It is found on page 3 in this guide and on page (blank) in the student workbook

At the Experience the Range experience

- Bring extra copies of the Student Range Experience Guide
- Participate in all activities with students (suggestion: complete a Student Range Experience Guide for yourself to learn and observe)

After the Experience the Range experience

Experience the Range

RANCHER CHECKLIST

Thank you for providing your services to help educate students on range management. This exciting opportunity wouldn't be possible without your help! Please review and use the field experience checklist and planning calendar below.

60 Days before Experience the Range experience

- Agree on a date with the teacher to allow students to visit your rancher for the Experience the Range experience
- Provide the teacher with any liability forms your facility required
- Block out the calendar for requested dates/times

30 Days before Experience the Range experience

- Invite important stakeholders from the farm to participate in the experience (ex, partners, farm hands, etc.)

2 Weeks before Experience the Range experience

- Use the Range Experience guide to plan out activities/experiences for students

1 Week before Experience the Range experience

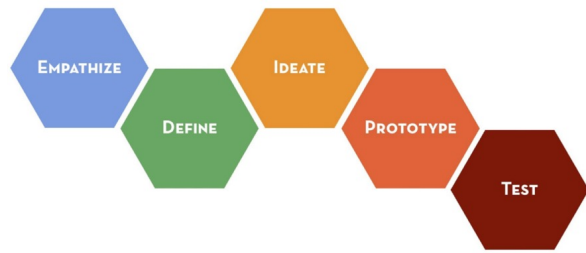
- Speak with cooperating teacher to confirm the field trip date and time
- Have cooperating teacher approve your planned content to be covered
- Review Pages 1-5 with students before the Experience the Range experience. Be willing to field questions from students on a wide variety of range topics.

During the Experience the Range experience

- Follow your timeline and lesson plans to maximize learning opportunities for students

After the Experience the Range experience

- Attend Change the Range presentations



DESIGN THINKING

In this section we will take a closer look at the **Design Thinking Model**. Before visiting the rangeland, introduce students to each step. Use this time to define the steps and discuss how students will apply this process during and after their visit. Students will have a matching pages in their student workbooks.

This lesson should be approximately 10 minutes for students to get acquainted with the design thinking. Use your expertise to present this material in a way that will be engaging for students.

1. Empathize – Seek to Understand

- a. Observe: View ranchers/range managers in their daily lives and pay attention to their attitude, behaviors, and communication.
- b. Engage: Interact with the ranchers/range manager through conversations and questions
- c. Immerse: Experience what the rancher/range manager experiences in “Experience the Range” experience

2. Define – Consider and combine your empathy findings to determine a meaningful solution.

- a. Develop a deep understanding of user
- b. Come up with an actionable problem statement

3. Ideate – Generate numerous ideas based on your problem statement

- a. Create a large quality of ideas
- b. Create diversity among your ideas

4. Prototype – Create physical representations of your ideas

- a. Create a prototype (a first preliminary model of something; other words: model, mock-up, sample, example)
- b. Fail quickly by learning as you build, getting feedback as you test, solving disagreements with your team, and exploring edits as you go

5. Test – Get feedback on your solution

- a. Present your prototype to the rancher/range manager in a presentation
- b. Gather feedback to refine your solution, learn more about the rancher/range manager’s thoughts on the solution, and rest your point of view on the problem/solution



Experience the Range

ACTIVITY GUIDE

The following pages include possible activities for the students. Consider the time you have set aside for the visit when selecting activities. When planning, please include activities with each of the following topics:

Reminder!

Complete the planning of activities 2 weeks before the experience and approve all activities with the teacher the week before the experience.

Livestock

Plants

Soil

Wildlife

Landscape

Range Issues

Human Issues

Experience the Range

ACTIVITY PLANNING GUIDE

When students arrive, be sure to welcome them and introduce yourself. Explain the characteristics of the land, what it is used for, and any relevant soil/plant information. Remind students that they will be using their five senses to look at seven topics more deeply: livestock, plants, soil, wildlife, landscape, range issues, and human issues.

The following pages include activity suggestions for you to choose from. The students will be using all five senses will be taking notes on the seven topics that are outlined. You may choose any combination of the activities. Consider your strengths, the opportunities available on the rangeland and activities you think students might find most engaging.

While you lead these activities, encourage students to participate by asking questions and facilitating discussion. Allow students time to take notes in their student workbooks. They will have a “Notice and Wonder” chart for each of the seven topics to write down what they’re seeing and thinking while participating in the activities.

NOTE: Experience the Range is not just about one element. Plan your experience so students get to see soil, water, grasslands, livestock, wildlife, etc. equally throughout the day.

Livestock

HEAR

SUGGESTED ACTIVITY:

Take a set amount of “silent” time for students to just listen. What can they hear? (Ex. Wildlife calls, human disturbances, windmills, traffic)

SEE

SUGGESTED ACTIVITY:

Watch the cattle graze and make observations (ex. What are they eating, are they full, where is their water source? Etc.)

SUGGESTED ACTIVITY:

Observe the cow pats for how flat/tall they are, how long the fibers are in the cow pat, what insects are present, and identify what grasses have they been eating.

TOUCH

NOT SUGGESTED

TASTE

NOT SUGGESTED

SMELL

SUGGESTED ACTIVITY:

Smell the soil under the cow pat, does it smell like alive or dead soil?

Plants

HEAR

SUGGESTED ACTIVITY:

Take a set amount of “silent” time for students to just listen. What can they hear? (Ex. Wildlife calls, human disturbances, windmills, traffic)

SEE

SUGGESTED ACTIVITY:

Types of plants, identification practice

Have ranchers find common range plants (ex. Keystone species and invasive/challenge plants) before experience for identification activity

SUGGESTED ACTIVITY:

Roots

Allow students to dig up certain plants to observe their root structure

TOUCH

SUGGESTED ACTIVITY:

Allow students to feel the difference between the different parts of a plant (leaves, stem, roots)

TASTE

SUGGESTED ACTIVITY:

Allow students to taste test some of the edible plants on the range (ex. Lamb’s quarters)

SMELL

SUGGESTED ACTIVITY:

With the plants used for the plant ID portion, can some be identified via smell?

Soil

HEAR

SUGGESTED ACTIVITY:

Take a set amount of “silent” time for students to just listen. What can they hear? (Ex. Wildlife calls, human disturbances, windmills, traffic)

SEE

SUGGESTED ACTIVITY:

Dig up the soil, observe the soil layers, look for insects

TOUCH

SUGGESTED ACTIVITY:

Allow students to make soil ribbons from different parts of the range to determine soil texture

TASTE

NOT SUGGESTED

SMELL

SUGGESTED ACTIVITY:

Have soil samples prepared that “smell” and give examples of what “good alive soil” smells like and what “bad dead” soil smells like.

Wildlife

HEAR

SUGGESTED ACTIVITY:

Take a set amount of "silent" time for students to just listen. What can they hear? (Ex. Wildlife calls, human disturbances, windmills, traffic)

SEE

SUGGESTED ACTIVITY:

Can the students see any evidence of wildlife (ex. Tracks, feathers, waste, nests, etc.)

TOUCH

NOT SUGGESTED

TASTE

NOT SUGGESTED

SMELL

NOT SUGGESTED

Landscape

HEAR

SUGGESTED ACTIVITY:

Take a set amount of “silent” time for students to just listen. What can they hear? (Ex. Wildlife calls, human disturbances, windmills, traffic)

SEE

SUGGESTED ACTIVITY:

Show the students multiple pastures that are being grazed and recovering pastures at different lengths of rest

SUGGESTED ACTIVITY:

Drive/walk around the range to see different types of elevation. Allow students to make observations of the plants present based on the elevation.

SUGGESTED ACTIVITY:

Water Sources

Allow students to locate water sources in pastures, and evaluate what type of water source they are. Look for evidence of erosion.

SUGGESTED ACTIVITY:

Have students draw out a map locating all the parts of a certain pasture including fences, water sources, buildings, etc

TOUCH

NOT SUGGESTED

TASTE

NOT SUGGESTED

SMELL

NOT SUGGESTED

Range Issues

HEAR

SUGGESTED ACTIVITY:

Take a set amount of “silent” time for students to just listen. What can they hear? (Ex. Wildlife calls, human disturbances, windmills, traffic)

SEE

SUGGESTED ACTIVITY:

Allow students to look for issues on the range.

TOUCH

SUGGESTED ACTIVITY:

Point out issues on the range (ex. Eastern Red Cedar, erosion)

TASTE

NOT SUGGESTED

SMELL

NOT SUGGESTED

Human Issues

HEAR

SUGGESTED ACTIVITY:

Ranchers take time to share at least 3 challenges that exist outside of “hands-on” range management (ex. Succession planning, labor, stress, economics of conservation, marketing, public perception)

SEE

SUGGESTED ACTIVITY:

Allow students to look for encroachment of “humans” or modernization on the range

TOUCH

NOT SUGGESTED

TASTE

NOT SUGGESTED

SMELL

NOT SUGGESTED

***NOTE:** There are a lot of human issues that can’t be easily observed through the five senses. Consider discussing the human issues you experience on the ranch with students. Some of these issues might include:

- Workforce issues
- Stress
- Mental Health
- Generational Transition
- Working with neighbors
- Government Regulations
- Marketing
- Cost of Production

While these aren’t all direct issues to the rangeland, they are issues that have direct impacts on decisions that are made for the land.

LESSON PLANNING

Use this page to write notes for yourself and create your activity plan for the day. Fill in the lesson plan template below with what you have planned for the time students are on the rangeland.

Livestock	
Plants	
Soil	
Wildlife	
Landscape	
Range Issues	
Human Issues	
Additional Notes	

ACTIVITY SCHEDULE

	15 min. rotation	15 min. rotation	15 min. rotation	15 min. rotation
8:00-9:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00
9:00-10:00	9:00-9:15	9:15-9:30	9:30-9:45	9:45-10:00
10:00-11:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00
11:00-12:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00
12:00-1:00	12:00-12:15	12:15-12:30	12:30-12:45	12:45-1:00
1:00-2:00	1:00-1:15	1:15-1:30	1:30-1:45	1:45-2:00
2:00-3:00	2:00-2:15	2:15-2:30	2:30-2:45	2:45-3:00
3:00-4:00	3:00-3:15	3:15-3:30	3:30-3:45	3:45-4:00

CONTACTS

Use the table below to record contact information for stakeholder, colleagues and others who would be willing to attend the design thinking solution presentation.

	Name	Phone	Email
University Professor			
Local Ranchers			
Local Non-Profit for Range Management			
Local Extension Agent			