



WATERSHED 360°

EPISODE 8 | "SPRING-FED" (4:03)

Nebraska Social Studies and/or Science Standards Addressed

Geography-Location and Place

SS 4.3.1 Explore where (spatial) and why people, places, and environments are organized in the state and around the world.

SS 4.3.1.a Use local and state maps and atlases to locate physical and human features in Nebraska.

SS 5.3.1 Explore where (spatial) and why people, places and environments are organized in the United States.

SS 5.3.1.a Use maps and atlases to locate major human and physical features in the United States.

Geography-Human-Environment Interaction

SS 4.3.3 Explain how human and natural forces have modified different environments in Nebraska and how humans have adapted.

SS 4.3.3.b Identify examples of ecosystems in Nebraska and describe related environmental issues.

SS 4.3.3.d Describe how humans have adapted to Nebraska's physical environment and use available natural resources

Geography-Geospatial Skills and Geo-literacy

SS 4.3.5 Use geographic skills to make connections to issues and events.

SS 4.3.5.b Explain the interrelationships of human or physical geographic characteristics of places in Nebraska.

(continues next page)

Each episode of Watershed 360° begins with the same two questions. "Who cares about a watershed? And why?"

Each episode ends with the question, "Do you know your watershed?"

Tell students that they should be able to answer these questions after viewing most or all of the episodes. However, the first two questions have many different answers.

[Watershed_questionsposters.pdf](#)



OBJECTIVE(S)

Students will explain the relationship between surface water and groundwater.

Student will identify several ways that Nebraska's land and water sustain life for humans and other animals.

VOCABULARY

ecotourism: act and industry of traveling for pleasure with concern for minimal environmental impact

<https://www.nationalgeographic.org/glossary/education.nationalgeographic.com/innovation-lab//?term=ecotourism>

livestock: animals raised for sale and profit

<https://www.nationalgeographic.org/glossary/?term=livestock>

outfitters: a business providing equipment, supplies, and often trained guides (as for hunting trips)

<https://www.merriam-webster.com/dictionary/outfitter>

diverse (diversify/diversification): a variety of different things

CAPTIONS

Ecotourism supports habitat conservation and biodiversity. (0:45)

Over 700 prairie plant species depend on groundwater from the Ogallala Aquifer. 1:05

Windmills pump groundwater into stock tanks for use by livestock. 1:36

LOCATION

Loup County on the bank of the Calamus River in the Sandhills



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GRADES 4-8

Economics- Exchange and Markets

SS 4.2.3 Investigate how resources are used to make other goods and produce services.

SS 4.2.3.a Give examples of human, natural, capital, and entrepreneurial resources used in making goods and services in Nebraska and the United States.

SC.5.13 Earth's Systems

SC.5.13.4 Gather and analyze data to communicate understanding of Earth's systems.

SC.5.13.4.C Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

QUESTIONS

1. "Who cares about a watershed? And why?"

People need to make choices that support both the land and the people.

- Sarah Sortum Switzer Ranch/Calamus Outfitters

ACTIVITIES:

1. Go to <http://nebraskastudies.org/1850-1874/the-challenges-of-the-plains/searching-for-water-wells-windmills/>.

Read about the history of windmills in Nebraska and watch a model of a working windmill.

Student might also research the purpose of modern windmills as producers of energy <https://wind-energy-wildlife.unl.edu/windenergydevelopment.asp>

as well as the controversy over their impact on wildlife.

<https://wind-energy-wildlife.unl.edu/potential-impacts.asp>

2. "Groundwater and Surface Water's Connection" found in the Watershed 360° Resources Document | 5-8, is a simple activity that complements Episode 7 "Keeping Current" or Episode 8 "Spring-Fed."

[[AA-GW-SW-Connection.pdf](#)]

3. Lesson 2 in *The Educator's Guide to Water1der "Aquifer (Concept)"* introduces vocabulary (*unconfined aquifer, porosity, permeability, confined aquifer*) and gives basic facts about aquifers. The related activity "Earth Parfaits" asks students to create an edible model of an aquifer to demonstrate how an aquifer functions. It would complement either Episode 6 Groundwater Rising or Episode 8 Spring-Fed. Download the activity directly from the Watershed 360° Resources Document | 5-8.

[[Water1der User's Guide.pdf](#)]

SOURCES

National Geographic Society. "Vocabulary." Vocabulary | National Geographic Society, <https://www.nationalgeographic.org/glossary/>

Outfitter. (OAD). Retrieved from <https://www.merriam-webster.com/dictionary/outfitter>

Nebraska Studies/Water/Wells/Windmills: <http://nebraskastudies.org/1850-1874/the-challenges-of-the-plains/searching-for-water-wells-windmills/>

Nebraska Wind Energy and Wildlife Project. (OAD).

Retrieved from <https://wind-energy-wildlife.unl.edu/>

Groundwater and Surface Water's Connection. (OAD).

Retrieved from https://groundwater.org.presencehost.net/file_download/inline/5cdfa2c8-0cda-40e4-b927-4c42466b0696

The Educator's Guide to Water1der "Aquifer (Concept)". (OAD).

Retrieved from https://www.groundwater.org/file_download/inline/30bd996f-06a0-4911-aa02-fc1b2bb4950e