



WATERSHED 360°

CULMINATING ACTIVITIES [GRADES 4-8]

Nebraska Social Studies and/or Science Standards Addressed

Geography-Location and Place

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-Regions

SS 5.3.2 Compare the characteristics of places and regions and draw conclusions on their impact on human decisions.

SS 5.3.2.a Identify criteria used to define regions within the United States.

SS 5.3.2.b Identify and classify regions and places within the United States using physical and human features.

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.A Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

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

CULMINATING ACTIVITIES

1. Review the reasons for caring about a watershed from the perspectives of different individuals in the videos. Categorize similar reasons. Create a visual (poster, chart, web) to illustrate the reasons.

Possible categories include:

Recreation-skiing/snowboarding, fishing

Wildlife-endangered species (or list specific plants/animals)

Agriculture-irrigation for crops, water for livestock

Other businesses-brewery, outfitters, energy (electricity)

2. What do you think is the most important reason we should care about our watersheds? What is another important reason? Record your thoughts and find someone in the class who has a different opinion. Discuss your thoughts. Do you still hold the same opinion or has your thinking changed? Explain why or why not.

A related activity is to assign a persuasive essay for students to convince others why they should know and care about their watersheds. In this case, a simplified version of activity 1 above might be used as a pre-writing graphic organizer.

3. Calculate your water footprint at <https://www.watercalculator.org/> (It is available in both English and Spanish.) It takes about 10 minutes to complete your water profile for 1-2 people in your household. It will take another few minutes to respond for additional family members. The questions are somewhat personal (regarding diet, bathing habits, etc.) so plan to complete your profile before sharing it with students. You'll see your average water usage per day (in gallons) compared to the US average. A bar graph and table show specific responses and amounts. Tips for saving water are also provided. This activity is especially useful in helping students understand their use of "virtual water" (used in food production, creating energy, and manufacturing).

Download and post the Water Footprint Calculator Glossary to define words used such as "water footprint" and "virtual water" as you review your profile so students understand the terminology. Can be found in the Watershed 360° Resources Document | 5-8.

[\[WFC_Glossary.pdf\]](#)

The Water Footprint Calculator Poster can be printed and sent home for students who may be interested in completing the activity with their families. Can be found in the Watershed 360° Resources Document | 5-8.

[\[WFC-POSTER-11X17.pdf\]](#)



WATERSHED 360°

CULMINATING ACTIVITIES [GRADES 4-8]

GRADES 4-8

4. Each episode is titled much like chapters in a book. Read the titles and explain how each one provides a snapshot of the content. Titles may have more than one possible meaning.

Episode 1 The Drop

Possible response: This title may refer to a drop of water that eventually could end up in the Gulf of Mexico as it passes through watersheds. It could also refer to the descent of the athletes as they ski/snowboard down the mountain.

Episode 2 The Weight of Water

Possible Response: Weight can mean the value or importance of something like a problem that weighs heavily on your mind, or you can weigh options to see which is the best. The snowpack is valuable because it is a huge source of water for people. The hydrologists in this episode actually weighed the snow to see how much water it might provide in the spring when it melts.

Episode 3 Fishes' Brew

Possible Response: Baere Brewing has a product named for their endangered state fish. They work with other brewers to increase awareness of fish conservation.

Episode 4 Balancing Act

Possible Response: People need water for many different reasons so each reason has to be considered. It also means that the amount of water that is available from one year to the next changes, so how much to store and how much to use will change also.

Episode 5 Lifeblood

Possible Response: Lifeblood means something that is essential to sustain life. In this case, water is necessary for all living things to survive but also for farmers to make a living from the crops and livestock they raise.

Episode 6 Groundwater Rising

Possible Response: The underground water in the aquifer comes to the surface and gives life to plants and animals.

Episode 7 Keeping Current

Possible Response: When you "keep current," you are up-to-date and know what is happening at the present time. In the video, they kept track of the water flow (current) so people knew how much water to expect for recreation or possible flooding/drought.

Episode 8 Spring-Fed

Possible Response: Water rises from underground in the aquifer and "feeds" or fills ponds, lakes, and rivers.

5. The Water1der App is available for free download. The Water1der User's Guide can be downloaded from the Watershed 360° Resources Document | 5-8. [[Water1der User's Guide.pdf](#)]

The User's Guide is very clear and easy to follow. The app has a variety of selected-response questions arranged by topic. It is useful as a content review for grades 4+.

6. "You Be The Judge-Who should get the water?" can be found in the Watershed 360° Resources Document | 5-8. [[You-Be-The-Judge.pdf](#)]

The suggested grade levels are 6-12 but it could easily be adapted as a teacher-led class discussion for students in grades 4-5 after doing the simple introductory activity.

This lesson could be a culminating activity after viewing the Watershed 360 episodes or used when students question the issue of fairness of water rights, as they are likely to do. This activity is also included as a suggestion with Episode 2 "The Weight of Water."



WATERSHED 360°

CULMINATING ACTIVITIES [GRADES 4-8]

GRADES 4-8

7. Students might research one or more of the water compacts with bordering states such as:

- Republican River Compact with Kansas and Colorado
- South Platte River Compact with Colorado
- North Platte River Compact with Colorado and Wyoming
- Kansas-Nebraska Big Blue River Compact
- Wyoming-Nebraska Compact On Upper Niobrara River

[Rivers_and_Lakes.png] [Nebraskas-Watersheds-map.pdf] [NAmerica_watershed_map.png]

8. The proposal for the Keystone XL Pipeline generated a great deal of controversy over potential risk to the Ogallala Aquifer, among other issues. Students might research the concerns of Nebraskans regarding the issue.

9. Braided Journey - "Follow conservation photographer Michael Forsberg and field producer Pete Stegen as they begin a two-month, 1000 mile traverse of the Platte River Basin. Traveling by bike, foot and canoe through Wyoming, Colorado and Nebraska, they will explore this critical water source, and show you how it intersects with the lives of those that live in this 90,000 square mile watershed in the heart of North America."

<http://plattebasintimelapse.com/journey/>

This site shows the Platte River Basin in time-lapse photography. There are many stories you can view, but "Braided Journey" is most recommended. Begin with the introduction to see the map of the journey. These captioned slides are especially relevant:

Slide 30 - Reaching the land over the Ogallala Aquifer

Slides 33-41, 44, 52, and 55 (reaching the mouth of the Platte at the Missouri). Hover over the map to see the numbers.

REFERENCES

"GRACE's Water Footprint Calculator." Water Footprint Calculator, www.watercalculator.org/.

Water Footprint Calculator Glossary . (OAD). Retrieved from https://f051t1jvsl61nlcd3hu2s61a-wpengine.netdna-ssl.com/wp-content/uploads/2019/06/WFC_Glossary.pdf

Water Footprint Calculator Poster . (OAD). Retrieved from <https://f051t1jvsl61nlcd3hu2s61a-wpengine.netdna-ssl.com/wp-content/uploads/2018/04/WFC-POSTER-11X17.pdf>

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

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

You Be The Judge-Who should get the water? (OAD). Retrieved from https://groundwaterorg.presencehost.net/file_download/inline/a6584652-689d-43a9-b7d6-87f640d2f4a7

Braided Journey: PBT. (OAD). Retrieved from <http://plattebasintimelapse.com/journey/>

Nebraskas Watersheds image - outdoornebraska.gov. (OAD).

Retrieved from <https://outdoornebraska.gov/wp-content/uploads/2015/12/Nebraskas-Watersheds-map.pdf>