

WATERSHED HOPPING ACROSS THE UNITED STATES

Pre-Visit

Grade Level: Can be adapted for any grade level

Length of Time: 20 minutes

Essential Questions:

- What is a watershed?
- How do watersheds have a connection to each other and the world?
- What can humans do to help have a positive impact on the issues facing habitats within certain watersheds?

Standards:

- K-12 Iowa Core Standards in Social Studies
 - **SS.1.17.** Describe how environmental characteristics and cultural characteristics impact each other in different regions of the U.S.
 - **SS.6.17.** Analyze and explain the cultural, physical, and environmental characteristics of places and regions and how this affects the life of the people who live there.
 - **SS-Geo.9-12.18.** Evaluate the impact of human settlement activities on the environmental and cultural characteristics of specific places and regions.

Materials:

- United States map with watershed outlines (see map below pre-visit plans; a key is also provided)
- Colors (markers, colored pencils, and/or crayons)

Introduction:

- Have students discuss with a neighbor: How would you define the word watershed?
 - When you see students wrapping up their discussion, bring them back together and ask for volunteers to give their answer.
 - Reiterate the answer that a watershed is an area where all the water below or above ground drains to the same location.
 - Small watersheds are within larger watersheds. Water drains to rivers and eventually to the sea.

Activities:

- Hand out the provided uncolored United States map with watershed outlines.



- Have students color in and label each watershed they will visit at the National Mississippi River Museum & Aquarium.
- Have students label the Pacific Ocean, Atlantic Ocean, and Gulf of Mexico
- Additional information can be found at: <https://www.usgs.gov/media/images/watershed-map-north-america>
- Optional: Draw in and label the main river in each watershed. Label the Great Lakes.
- Once the students are done coloring, give them each a watershed to focus on during their visit (Mississippi River Watershed, Great Lakes–St. Lawrence River Basin, Columbia River Watershed, Colorado River Watershed). Multiple students will have the same one.
- Then, have the students turn the map over to the blank backside and provide what they think are the answers the following questions:
 - How do these watersheds have a connection to each other and the world?
 - What species do you think is in your given watershed?
 - What environmental impacts do you think are present in your given watershed?
 - What can humans do to help have a positive impact in your given watershed?

Wrap-Up:

- Have a class discussion about the answers the students wrote to the questions.
- Collect the maps so they can be returned after the trip to see how the students would change their answers to the questions.
- Tell the students: We will be taking a trip to the National Mississippi River Museum & Aquarium in Dubuque. At the Rivers to the Sea exhibit, you will take notes about the watershed just assigned to you. The more notes you take, the better the visual you create when we return will be.
 - Show notes document (found below pre-visit plans) and go over it.
 - If the teacher allows, students can take pictures while at the exhibit.

Possible Resources to Use:

- **NOAA:** What is a Watershed? <https://oceanservice.noaa.gov/facts/watershed.html>
- **Commission for Environmental Cooperation**
<http://www.cec.org/north-american-environmental-atlas/watersheds/>

Extension:

Have students identify their local watershed

Lesson Plan Development funded by the Resource Enhancement and Protection Conservation Education Program (REAP CEP)



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Student Worksheet



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1. Name of the watershed you are focusing on: _____
2. In the Rivers to the Sea exhibit, go to the watershed you listed above. List examples of species shown that live in the watershed.
3. What environmental impacts are present in your given watershed?
4. What can humans do to help have a positive impact in your given watershed?
5. Now, look around at the other watersheds in the exhibit. How do you think these watersheds have a connection to each other and world?

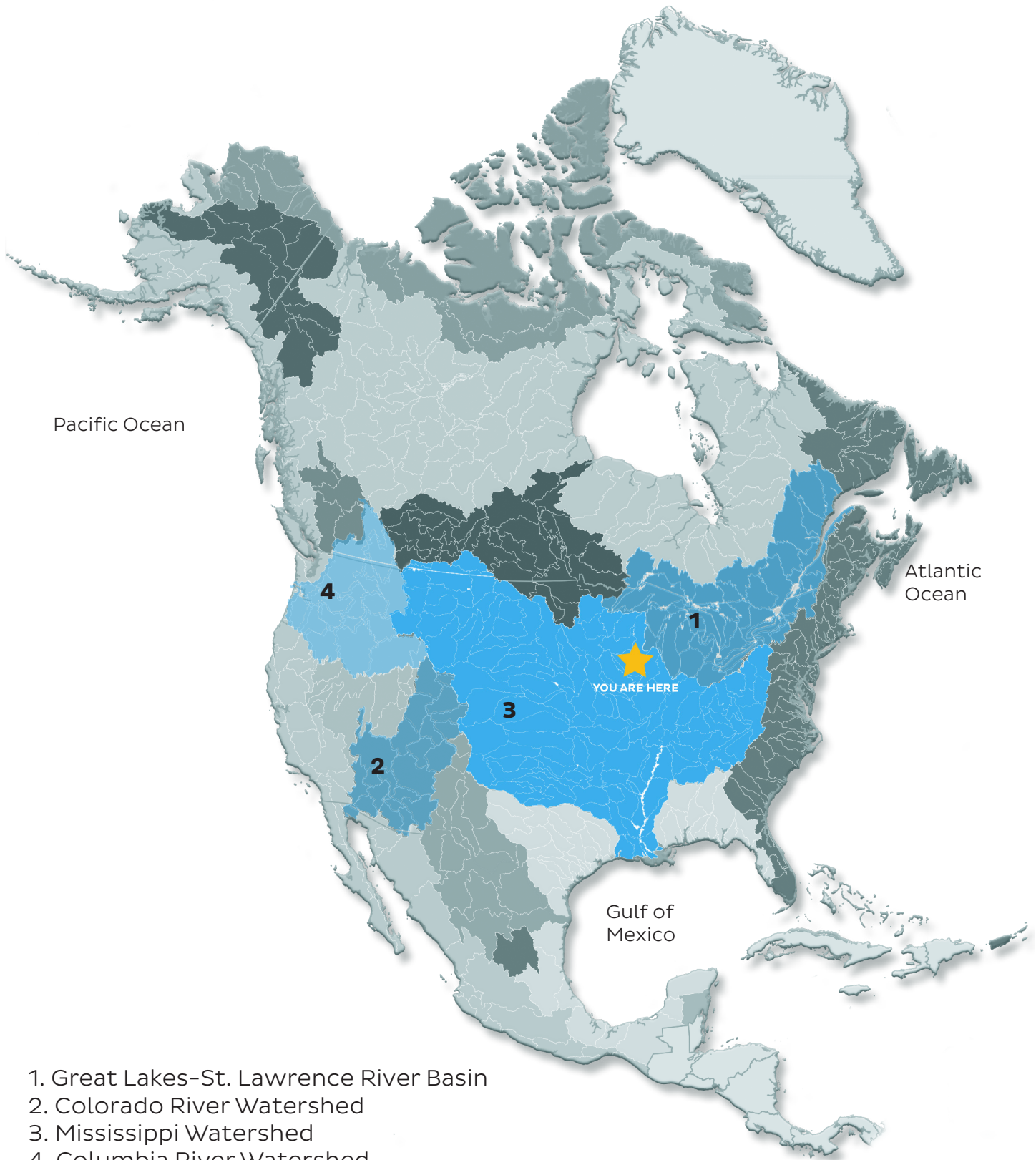
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Teacher Answer Key



1. Great Lakes-St. Lawrence River Basin
2. Colorado River Watershed
3. Mississippi Watershed
4. Columbia River Watershed



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Post-Visit

Grade Level: Can be adapted for any grade level

Length of Time: 45 minutes (per two class periods)

Essential Questions:

- What environmental impacts are present in particular watersheds and how does that effect species in those habitats?
- What can humans do to help have a positive impact on the issues facing habitats within certain watersheds?
- How do watersheds have a connection with each other and the world?

Standards:

- Next Generation Science Standards
 - **K-ESS3-3 Earth and Human Activity:** Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.
 - **HS-ESS3-6 Earth and Human Activity:** Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.
- K-12 Iowa Core Standards in Social Studies
 - **SS.2.18.** Describe how the choices people make impact local and distant environments.
 - **SS.6.17.** Analyze and explain the cultural, physical, and environmental characteristics of places and regions and how this affects the life of the people who live there.
 - **SS-Geo.9-12.18.** Evaluate the impact of human settlement activities on the environmental and cultural characteristics of specific places and regions.

Materials:

- Students' notes from the trip the National Mississippi River Museum & Aquarium (NMRMA)
- Paper and/or computer access



Introduction:

- As a review, ask the students to define the word watershed.
- Review what watersheds they saw in the Rivers to the Sea exhibit.

Activities:

- Students will use their notes page from the trip to the NMRMA to put together a visual to share with others in the class. The visual can be digital or on paper. Suggestions include a poster, brochure, or tour guide. Required information on the visual includes:
 - Examples of species within the watershed with a short description of the species
 - Explain environmental impacts
 - Describe positive actions humans can take to help the watershed
- Depending on class length, during the same class period or next class period, put students into groups where each watershed is represented (so at least four in the group). They will briefly share their visual to the group describing the watershed they focused on.

Wrap-Up:

- Bring the students back together. Ask them to write their answer to one final question to turn in: How do these watersheds have a connection to each other and world? The answer should be at least 4-5 sentences.
- Once everything is turned in, have a class discussion about the connections of the watersheds to each other and the world.

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