



Montana Outdoors Magazine Literacy Evaluation Program

“The True Utmost Reaches of the Missouri”

name: _____



Southwest Montana

Before starting: Use colored pencils to highlight the following rivers shown on the map above: blue for the Missouri, green for the Gallatin, red for the Madison, orange for the Jefferson and its tributaries, and yellow for the Yellowstone River. Put a small arrow beside every river on the map to indicate which direction the water is flowing.

1. According to the article, on what date did the expedition reach the location on the map labelled “Trail Creek Spring”?

2. What were the two important questions that the expedition thought they could finally answer upon reaching the Trail Creek Spring area?



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3. What did Lewis think was the significance of the spring discovered at the head of Trail Creek? (NOTE: He was wrong.)

4. Read the section titled “Not Three Forks”. Where did the captains (and modern maps) suggest was the location where the Missouri River starts?

5. The area near Three Forks called “The Missouri Headwaters” is actually NOT the true headwaters. What is the correct way to determine the source of a river?

6. What three things does the article tell you about Jacob V. Brower?

7. What did Brower find in 1888 and in which state did he find it?

8. Where did Brower find that the true source of the Missouri River was located, and which river delivers this water to the Jefferson River?

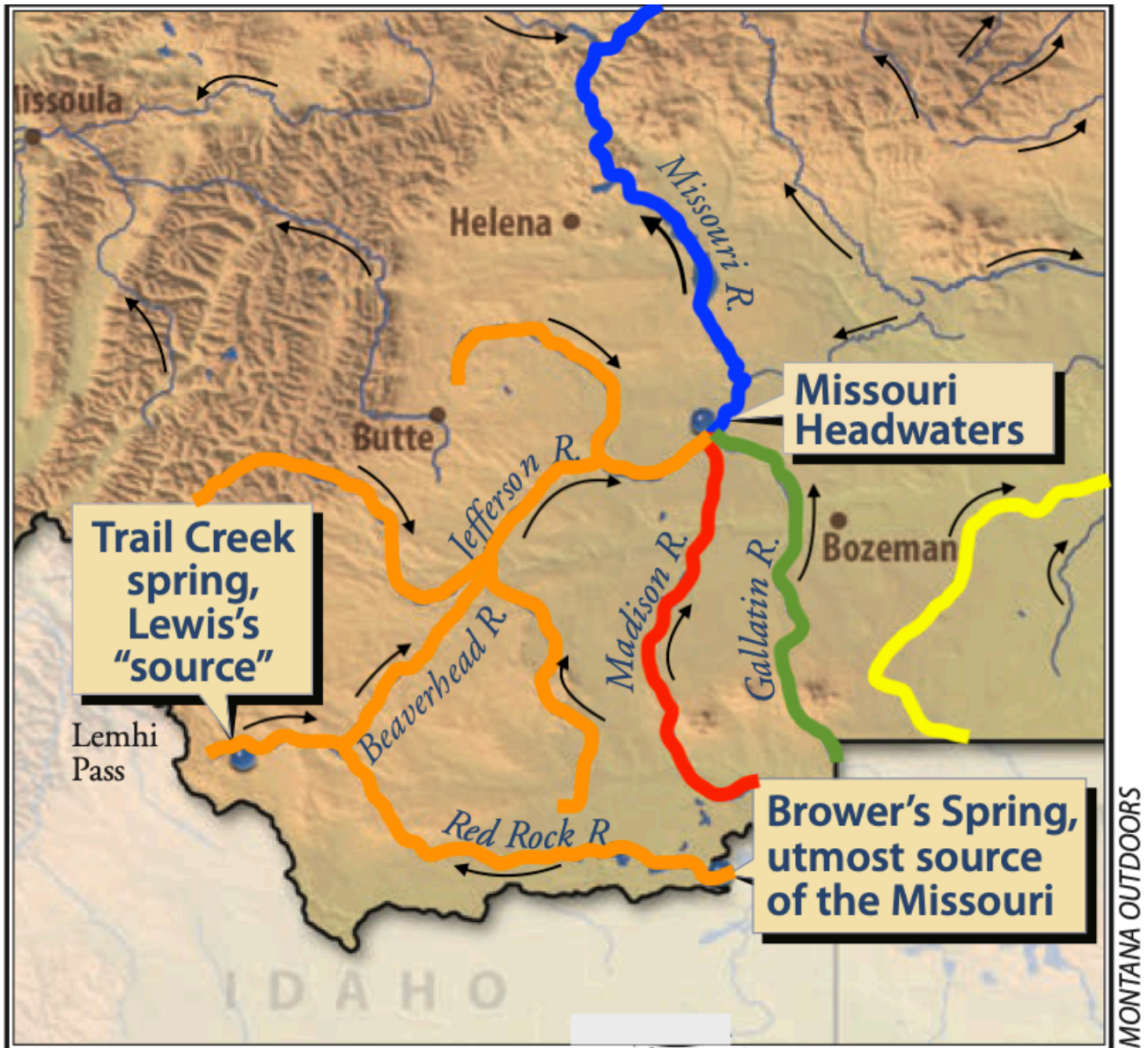
9. Brewer published his discovery in 1896 but it didn’t get much attention, and many people still regarded the spring on Trail Creek as the source of the Missouri River. What is the name of the organization that was involved with the two trips to Brower’s Spring in 1995?

10. How did the LCTHF confirm that Brower’s Spring was the true (utmost) source of the Missouri River?

11. If you followed a drop of water from Brower’s Spring, list all the rivers it would flow through on its way to the Gulf of Mexico (in order).



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KEY

Teachers:

1. Here are some possible bell-ringers:
 - a. Ask students if they know the meaning of the following terms: headwaters, confluence, tributary, spring, runoff. Explain these terms to them.
 - b. Precipitation that falls on the land will either evaporate, soak in, or run off. Ask students to list (in order) all the streams that a drop of runoff will follow as it drains from your location to the ocean. If you have a projector connected to the internet, go to <https://river-runner.samlearner.com/>, enter your location in the box in upper right, and play. You can pause to discuss at any time.



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2. Give students a copy of the evaluation (handout with questions) and colored pencils (blue, green, red, orange, yellow) and then do the “**Before Starting**” tasks together, before students read the article. See map on previous page for help.
3. Give students a copy of the article. Have them read it silently, read it as a class, or read it to them.
4. If the assignment seems to be too much for the grade level you teach, consider assigning a certain number of questions (you decide how many, and each student gets to pick which ones they answer). Any questions they answer correctly beyond the required number can count as extra credit.

Answer Key

1. August 12, 1805
2. Was there a practical navigable route across the mountainous country of North America via the Missouri River? Where exactly were the headwaters of the Missouri River?
3. He thought it was the source (headwaters) of the Missouri River.
4. Where the Madison, Gallatin, and Jefferson Rivers join, near the modern-day town of Three Forks.
5. The true source of a river is the tributary spring bubbling up from the ground in a location that is the farthest, along water miles, from where that river ends.
6. He was a Civil War veteran, a surveyor, and a historian.
7. He found the true source of the Mississippi River in Minnesota.
8. He found the source on a hillside in the Centennial Mountain Range above the eastern end of Red Rock River. It was in Montana, just below the Continental Divide (MT-Idaho border).
9. The Lewis & Clark Trail Heritage Foundation
10. They checked measurements from state agencies to determine that water coming from Brower’s Spring travelled the longest distance of any of the possible sources to reach the confluence of the Jefferson, Madison, and Gallatin rivers.
11. Hellroaring Creek, Red Rock River, Beaverhead River, Big Hole River, Jefferson River, Missouri River, Mississippi River.