

River vs. Glacial Landscape Comparison – Classroom Activity

Teacher Activity Sheet

For use before or after visiting any Ice Age Trail segment

Learning Goal

Students will compare river-carved and glacially shaped landscapes using photographs and structured analysis. They will identify key differences in valley shape, slope, landforms, and erosion patterns, and explain how each process leaves clues in the landscape.

Materials

- Printed comparison sheets
- Pencils or colored pencils
- Scissors and glue (optional)
- Projector or large display for images
- Student notebooks

LEFT IMAGE: A river-carved gorge



RIGHT IMAGE: A glacially shaped landscape



Teacher Instructions

1. Introduce the two processes (3–4 minutes)

Explain that rivers carve narrow, steep landscapes by cutting downward through rock, while glaciers reshape the land by pushing, dragging, and depositing sediment. Emphasize how each creates different landform patterns.

2. Show Image 1: River Landscape (2 minutes)

Guide students to notice narrow V-shaped valleys, steep rock walls, waterfalls or rapids, plunge pools, and straight channel segments following fractures.

3. Show Image 2: Glacial Landscape (2 minutes)

Have students look for U-shaped valleys, rolling hills, kettles, hummocky terrain, and wide, smooth basins left by large ice sheets.

4. Students complete the comparison table (5–8 minutes)

Students record differences and similarities between the two landscapes using the table in the worksheet.

5. Sorting Extension (optional)

Students cut apart small photo cards and sort them into 'river features,' 'glacial features,' or 'both'.

6. Class discussion (3–5 minutes)

Discuss why river landscapes appear sharp and angular, while glacial landscapes appear rounded and rolling. Connect observations to the processes that formed them.

Student Worksheet – Landscape Comparison

Name: _____ Date: _____

Look carefully at the two images your teacher provides. Use the table below to describe what you see in each landscape.

Observation Category	River Landscape	Glacial Landscape
Valley or landform shape		
Slope and steepness		
Surface texture (smooth, jagged, rolling)		
Evidence of erosion or deposition		

Reflection Questions

1. Which landscape shows more evidence of fast-moving water? What clues do you see?
2. Which landscape has smoother, rounder hills? What might have created them?
3. Which landscape likely took more time to form? Explain your reasoning.
4. What signs of erosion or deposition can you identify in each image?
5. How might each landscape change over the next 100 years?

Optional Extensions

- Create a Venn diagram comparing river and glacial features.
- Write a paragraph predicting how the Dells or a glacial landscape might change in the future.
- Watch short videos to reinforce concepts:
 - How glaciers shape landscapes: <https://www.youtube.com/watch?v=loI5840FVpE>
 - What glaciers are: <https://www.youtube.com/watch?v=mkt-0ZuTKXU>
 - River downcutting: https://www.youtube.com/watch?v=IS92_lxYt1s