



Exploring elevation with Lewis and Clark

Target audience – Social Studies, grade 4

Time required – 15 minutes

Activity

Explore the route that Lewis and Clark followed, and identify elevation levels throughout the regions of the United States.

Standards

C3: D2.Geo.2.3-5. Use maps to explain relationships between the locations of places and regions and their environmental characteristics.

CCSS: ELA-LITERACY.RI.4.7. Interpret information presented visually and explain how the information contributes to an understanding of the text in which it appears.

Learning Outcomes

- Students will describe the path taken by the Lewis and Clark Expedition.
- Students will identify the elevation changes along the route.

Map URL: <http://esriurl.com/fourgeoinquiry5>



Engage

How does elevation change as you move across regions?

- ? What is elevation? [*Elevation is how high a place is above sea level.*]
- Open the map URL link above.
- Click the button, Show Map Legend (upper right, beneath the word Details).
- ? What do the different colors represent? [*The colors represent differences in elevation.*]
- ? What regions have areas of high elevation? Low elevation? [*High elevations include the Northeast, Southwest, and West; low elevations include the Midwest and Southeast.*]
- ? How would you describe the pattern of elevation moving from the Midwest region to the West region? [*It gets higher in elevation.*]



Explore

What did the path of the Lewis and Clark Expedition look like?

- Click the two map markers to learn about the expedition's start point and midpoint. Note the arrow (playhead) button at the top of the popup windows. Click it to scroll through features around the map marker.
- ? Where did the Lewis and Clark Expedition begin? Where did it end? [*It began at Camp Wood in St. Louis, Missouri; it ended in Fort Clatsop in present-day Oregon.*]
- ? How did the Missouri River affect their journey? [*They traveled on and near the river from St. Louis to Three Forks in present-day Montana.*]
- ? What mountain range did the group pass through? [*The Rocky Mountains*]

Explain

What different elevations and landforms were encountered?

- ? At what elevation level did the expedition begin? *[Between zero and 249 meters.]*
- ? What level of elevation is the Rocky Mountain area? How do you know? *[It is over 3,000 meters based on the color-coding of the legend.]*
- ? What part of the journey was the most dangerous, based on elevation? *[The western part of the journey was the most dangerous.]*

Elaborate

How did elevation levels affect the expedition?

- ? What type of landforms are generally located at higher elevation levels? *[Mountains]*
- ? What are some possible dangers or obstacles of travel through higher elevations? *[Possible answers include difficult terrain, poor weather conditions, fewer settled areas, and difficulty getting provisions.]*
- ? What are some reasons that the expedition took almost two years to complete? *[Possible answers include that they had to take into account the seasons and that travel was slower through higher elevations.]*

TURN A LAYER ON AND OFF

- Make sure that the Details pane is turned on.
- Click the button, Show Contents of Map.
- Show individual map layers, by clicking the check boxes next to the layer names.
- Hint: If a map layer name is light gray, zoom in or out on the map until the layer name is black.

IDENTIFY A MAP FEATURE

- Click a feature on the map, and a pop-up window will open with information.
- Links and images in the pop-up are often clickable.
- An arrow icon in the upper-right of the window indicates that multiple features have been selected. Click the button to scroll through the features.

Next Steps

DID YOU KNOW? ArcGIS Online is a mapping platform freely available to U.S. public, private, and home schools as a part of the White House ConnectED Initiative. A school subscription provides additional security, privacy, and content features. Learn more about ArcGIS Online and how to get a school subscription at <http://connected.esri.com>.

THEN TRY THIS...

- Explore the animal discoveries of the Lewis and Clark Expedition with the story map from the National Park Service at <http://esriurl.com/Geo471>.
- Explore the plant discoveries of the Lewis and Clark Expedition with the story map from the National Park Service at <http://esriurl.com/Geo472>.

TEXT REFERENCES

This GIS map has been cross-referenced to material in sections of chapters from these texts

- *States and Regions by Harcourt Brace — Chapter 1*
- *Regions of the United States by TCI — Chapter 2*
- *Regions by Scott Foresmann — Chapter 6*