

# KidCitizen Teacher's Guide

## A Bird's Eye View: Wondering with Maps

Explore a map from long ago and begin wondering about the places where people live. There is so much to see and learn from maps. They are more than just a way to represent a place on paper; maps also are sources that can be analyzed for how they are constructed and what they communicate.



*Bird's eye view of Jefferson City, the capitol of Missouri* <https://www.loc.gov/item/73693479/>

### Essential Questions

How do we use maps to investigate our communities? What stories do maps tell us about places and spaces?

### TPS Connections

All maps tell stories that reflect certain perspectives about places and spaces. Panoramic maps, also known as bird's-eye views or perspective maps, portray a city as if viewed from above. Today, to see places, spaces, and people on the ground from above we can fly in a plane, take a trip in a hot air balloon, fly a drone, or ride an elevator to the top floor of a tall building. Albert Ruger, an artist who drew many panoramic maps, lived long ago and did not have these options available to him. If he wanted to view the land below, he might climb a mountain or elevated area but that was limited based on location. His maps capture his perspective of the streets, buildings, and major features of an area.

*A Bird's Eye View: Wondering with Maps* explores one of Ruger's maps from long ago. In this interactive episode, we use an historic panoramic map as an object for active inquiry to engage children in wondering about this representation of a place where people live. Students closely observe the geographic features -- rivers, shorelines, and farmland -- of the place, along with its plant and animal life and manmade structures. Students collect clues in the researcher journal and use

them throughout the adventure. There are a number of pathways for inquiry. Students may apply their geographic and historical thinking strategies to wonder about movement of people or reflect on the unique qualities of the area that define it as a place.

## Curricular Connections

### NCSS Standards

- I. Time, Continuity, and Change
- II. People, Places, and Environments

### C3 Framework

D2.Geo.2.K-2. Use maps, graphs, photographs, and other representations to describe places and the relationships and interactions that shape them.

D2.Geo.3.K-2. Use maps, globes, and other simple geographic models to identify cultural and environmental characteristics of places.

D2.Geo.7.K-2. Explain why and how people, goods, and ideas move from place to place.

D2.His.2.K-2. Compare life in the past to life today.

D2.His.9.K-2. Identify different kinds of historical sources.

D2.His.11.K-2. Identify the maker, date, and place of origin for a historical source from information within the source itself.

## Background

According to National Geographic, spatial thinking is arguably one of the most important ways of thinking for a child to develop as he or she grows. Spatial thinking is what allows us to solve problems by manipulating, constructing, and navigating the paths of objects (Newcombe & Shipley, 2015). The National Research Council (2006) asserts that “in terms of its power and pervasiveness, spatial thinking is on par with... mathematical or verbal thinking” (p. 25); however, researchers in geography education have debated about how, and at what level of instruction, to introduce students to these spatial thinking skills.

The experiences of children are influenced by spatial as well as temporal constructs. During the early years, talking about spatial concepts, such as spatial features, relations, and orientations, is useful for children's acquisition of spatial ideas. In addition to hearing spatial language, engaging in spatial activities also facilitates spatial learning and performance on spatial tasks in young children

(Newcombe, 2013). A summary of research on spatial thinking by young children demonstrates that children are well equipped to perform and practice a variety of age-appropriate spatial-thinking tasks as early as two or three years of age (Gersmehl & Gersmehl, 2007). An implication of their work is that not only are young children able to practice these skills, but that educators should intentionally engage children in activities that support this learning.

Spatial thinking is what allows us to mentally “picture the locations of objects, their shapes, their relations to each other and the paths they take as they move” (Newcombe, 2013). The understanding that space exists independent of our direct experience of a place comes about as a result of exposure to maps. In daily life, we use spatial reasoning to read maps, find our way home from the store, interpret diagrams and charts, and understand how objects relate to each other. Maps are inherent in children’s lives, implicitly and formally. When children construct a miniature city in the block corner, they have essentially created a three dimensional map. Their experiences in their immediate and local places from their earliest years enable children to actively construct their personal geographies, drawing on their everyday observations, journeys, explorations, and activities. However, these experiences are context specific. For example, a child growing up on a farm provides a different landscape to play, work, and grow as opposed to a child growing up in a large urban area. As children explore their local places, their early spatial awareness enables their mental mapping of their known places, but these skills can be scaffolded to extend their awareness and knowledge of places from the immediate and local to national and global, using a variety of maps.

A critical tool for building children’s spatial reasoning skills is map reading. A map is a graphic display of spatial relationships. Making a map of children’s surroundings and incorporating landmarks around the room help them to apply their understanding from a two-dimensional map onto an area in the real world (Geist, 2016). Maps support spatial thinking by helping children visualize where objects, places, cities, and countries are in relation to one another. In other words, maps help children make sense out their place in the world.

Cartography, i.e. mapmaking, comprises a powerful, widely used, intricate, and little understood form of communication that is at least as old as language. Maps have been around for 11,000 years or more (e.g. on stone and bone in Asia Minor and the Near East). People learned to draw before they learned to write and likely documented pictorial depictions of their surroundings before written language emerged. Nonetheless, no one group has been credited with the origins of

cartography. Maps appeared simultaneously as needed in different parts of the world (Smith, 1987).

Maps are important primary sources that lend themselves to interpretation. Research suggests that spaces and places influence perceptions and experiences of everyday life, critically exploring how our identities are socially constructed and shaped by our day to day environments. Therefore, maps should be taught as stories. To help students think more deeply, maps must be made problematic. Once we reveal maps to be manufactured items, they become open to discussion and debate (Segall, 2003). Each map represents a point of view. To begin to analyze a map and its messages, we need to ask:

- Who was it for?
- For what purpose(s) was it created?
- By whom was it made?

When planning a primary source analysis focused on geographic thinking, we draw on an appreciation that geography can be imaginative and creative. Geography is not just focused on learning the names and locations of places. Geographers think about space and focus on themes of location, place, human/environment interaction, movement, and regions. Our daily lives provide us with many rich geographical experiences.

Many maps show what a place looks like from above. This is kind of like what a bird in the sky might see and is called a bird's eye view. The panoramic map was a popular way to represent U.S. and Canadian cities and towns during the late nineteenth and early twentieth centuries. Known also as bird's-eye views, perspective maps, and aero views, panoramic maps are nonphotographic representations of cities portrayed as if viewed from above at an oblique angle. Today to see places, spaces, and people on the ground from above we can fly in a plane, take a trip in a hot air balloon, fly a drone, or ride an elevator to the top floor of a tall building. The artists who drew the panoramic maps long ago and did not have these options available to them. If they wanted to view the land below, they might climb a mountain or elevated area but that was limited based on location. So, these maps are not drawn to scale, but rather tell stories that reflect certain perspectives about places and spaces. The birds-eye views show street patterns, individual buildings, and major landscape features in perspective.

The Library of Congress has over 1,500 panoramic maps, and five artists, Albert Ruger, Thaddeus Mortimer Fowler, Lucien R. Burleigh, Henry Wellge, and Oakley H.

Bailey, drew more than half of the panoramic maps in the Library of Congress archives. The collection can be searched by state to identify resources most relevant for a class inquiry. By digitally accessing the birds-eye view maps, students can engage in a map flyover and then zoom into specific areas to closely observe details, documenting evidence to support their ideas. From way up high they can see different things than if they looked at the same place on the ground, and a comparison of what can be observed from above and on the ground can yield important insights about the features of a place. As the geographer David Greenwood (1964) has said, "As maps become less strange to us, they grow more wonderful. So we take them into our homes to make ourselves more at home in the universe."

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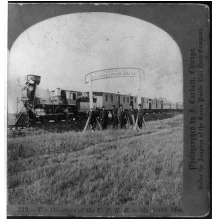
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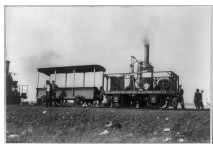
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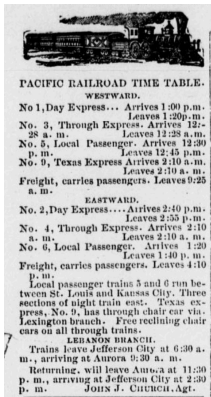
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## Suggestions for Teachers

### Lesson Plans and Resource Guides

*National Geographic Lesson Plans*

<https://www.nationalgeographic.org/education/map-skills-elementary-students/>

*Maps and Globes Inquiry Lesson*

<http://www.c3teachers.org/inquiries/maps-and-globes/>

*All Aboard the Train*

<https://amhistory.si.edu/ourstory/activities/train/>

[https://amhistory.si.edu/ourstory/pdf/train/train\\_reading.pdf](https://amhistory.si.edu/ourstory/pdf/train/train_reading.pdf)

*Riding and Working on the Railroad*

<https://americanhistory.si.edu/america-on-the-move/lives-railroad>

*What Do Trains Do? Exploring Local History Through Maps*

<http://emergingamerica.org/teaching-resources/what-do-trains-do-exploring-local-history-through-maps>

*K-2 Lesson Plan: Railroads Across the Country*

[https://publications.newberry.org/k12maps/module\\_11/k-2.html](https://publications.newberry.org/k12maps/module_11/k-2.html)

*Ride the Rails on a Button Train*

<https://www.uen.org/transcontinentalrailroad/downloads/K-2RideRailsButtonTrain.pdf>

*Transcontinental Telegraph and Railroad, Grades K-5 Lesson Plans*

<http://www.nea.org/tools/lessons/transcontinental-telegraph-and-railroad-grades-k-5.html>

*Moving the Mail*

<https://about.usps.com/who-we-are/postal-history/moving-mail.htm>

*The City as a Primary Source*

[https://www.uarts.edu/sites/default/files/2019-08/UARTS19001\\_TPS\\_CityAsPrimarySource\\_FNL.pdf](https://www.uarts.edu/sites/default/files/2019-08/UARTS19001_TPS_CityAsPrimarySource_FNL.pdf)

*America on the Move: Foods on the Move*

<https://americanhistory.si.edu/sites/default/files/food.pdf>

*Land Acknowledgements and Indigenous land*

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## Related Articles and Books

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## Additional Resources

### Children's Literature

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*Panoramic Mapping* <https://www.loc.gov/collections/panoramic-maps/articles-and-essays/panoramic-mapping/>

*Browse Maps by State* <https://www.loc.gov/collections/panoramic-maps/articles-and-essays/browse-maps-by-state/>

*Pictures to Go: Build Your Own Train*

<https://blogs.loc.gov/picturethis/2015/08/pictures-to-go-build-your-own-train/>

*Pictures to Go: Sleeping Car Quarters and Sleeping Car Porters*

<https://blogs.loc.gov/picturethis/2015/02/pictures-to-go-sleeping-car-quarters-and-sleeping-car-porters/?loclr=blogpic>

*Railroad Locomotives*

<https://www.loc.gov/pictures/search/?va=exact&sp=1&st=gallery&q=Railroad+locomotives&fa=displayed%3Aanywhere&fi=subject&op=PHRASE&loclr=blogpic>

*Railroad Travel*

<https://www.loc.gov/pictures/search/?va=exact&sp=1&st=gallery&q=Railroad+travel&fa=displayed%3Aanywhere&fi=subject&op=PHRASE&loclr=blogpic>

*Construction of a Locomotive (1904)*

<https://www.loc.gov/pictures/search/?q=LOT%204481&fi=number&op=PHRASE&va=exact&co!=coll&sg=true&st=gallery&loclr=blogpic>

## Other Primary Resources

*Interpreting Primary Sources with a Geographic Lens*

<https://geoalliance.asu.edu/geolens>

*Constant Motion: The Job of Railway Post Office Clerks*

<https://www.eiu.edu/eiutps/clerks/index.php>

*USPS Photo Gallery: Railroads* <https://about.usps.com/who-we-are/postal-history/railroads-gallery.htm>

*Railroads Change Florida*

<https://www.floridamemory.com/onlineclassroom/railroads/lessonplans/>

*Primary Sources at the Transportation Library*

<https://libguides.northwestern.edu/transportationprimarysources>

*Full Steam Ahead* <https://dp.la/primary-source-sets/full-steam-ahead-the-steam-engine-and-transportation-in-the-nineteenth-century>

*Building the First Transcontinental Railroad*

<https://dp.la/exhibitions/transcontinental-railroad>

*River Towns, River Networks*

[https://americanhistory.si.edu/onthewater/exhibition/4\\_4.html](https://americanhistory.si.edu/onthewater/exhibition/4_4.html)

*Mapping a World of Cities* <https://www.leventhalmap.org/projects/mapping-a-world-of-cities/>

*The Hidden History of America's 19th-Century Mania for Panoramic Prints*

<https://www.atlasobscura.com/articles/the-hidden-history-of-americas-19th-century-mania-for-panoramic-prints>

*Texas Bird's Eye Views* [http://www.birdseyeviews.org/teaching\\_resources.php](http://www.birdseyeviews.org/teaching_resources.php)

*Joseph LaBarge, Steamboat Captain*

<https://historicmissourians.shsmo.org/historicmissourians/name/l/labarge/>

*USPS Steamboat*

<https://about.usps.com/who-we-are/postal-history/steamboats.pdf>

*Early Civil Rights Protest and the Steamer Sue Case (1884)*

<https://rediscovering-black-history.blogs.archives.gov/2018/12/18/early-civil-rights-protest-and-the-steamer-sue-case/>

*River Tales: Mountain Boats on the Missouri River (Esri Storymap)*

<https://arcg.is/1yS9Km>

## Author Credits

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