Chapter
4

Geographic Thinking With Primary Sources: How Does the Geography of Where We Live Influence How We Live?

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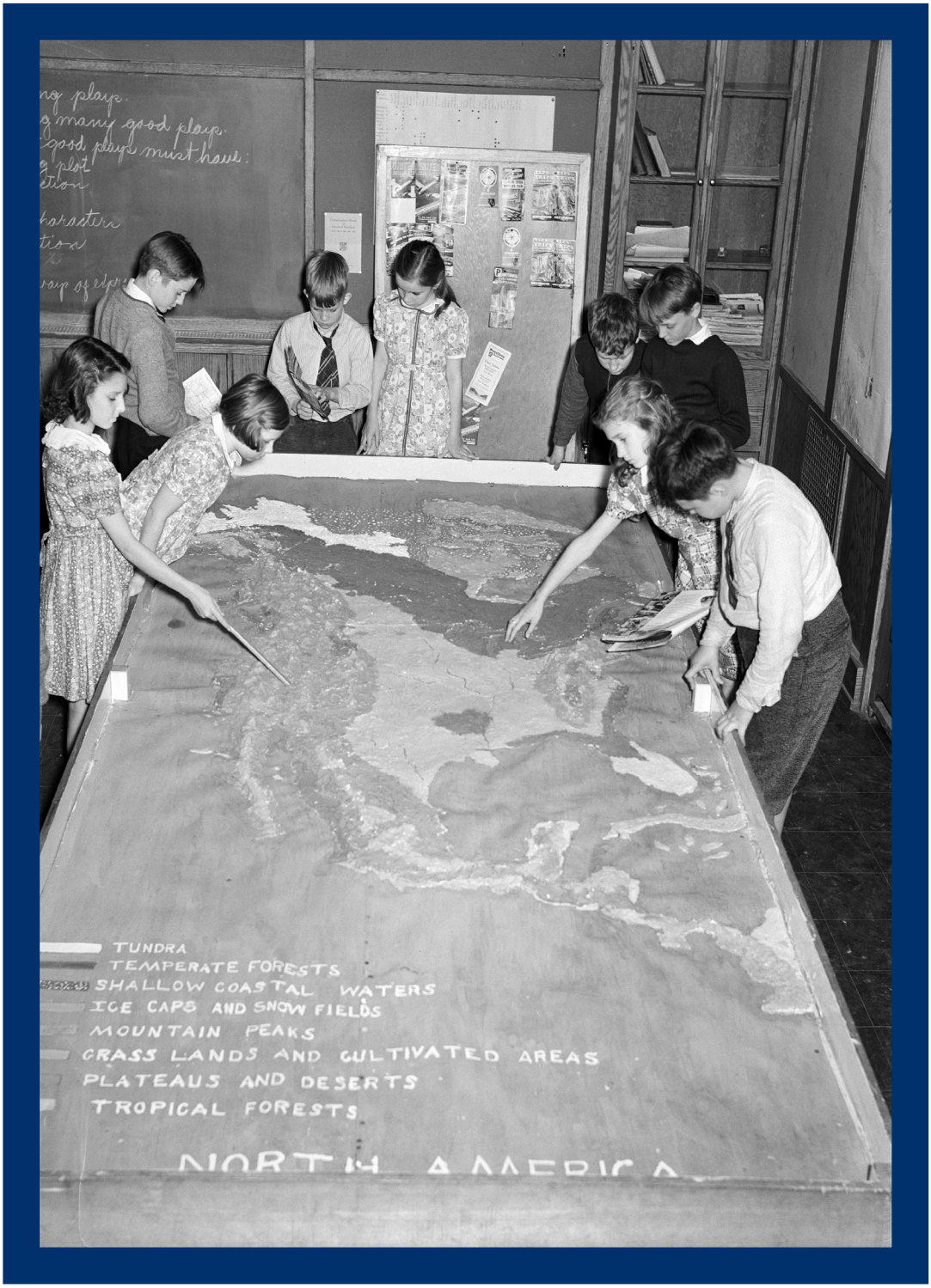
Figure 1. ***Greenbelt Schoolchildren Studying Map***



Note. Rothstein, A. (1939). *Greenbelt schoolchildren studying map* [Photograph]. Library of Congress. www.loc.gov/item/2017777354/

How Does the Geography of Where We Live Influence How We Live?		
C3 Disciplinary Focus History & Geography	**C3 Inquiry Focus** Gathering information from sources, using evidence, and taking informed action	**Content Topic** Spatial thinking with primary sources
C3 Focus Indicators **D1.1.K–2:** Explain why the compelling question is important to the student. **D1.2.K–2:** Identify disciplinary ideas associated with a compelling question. **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.11.K–2:** Identify the maker, date, and place of origin for a historical source from information within the source itself. **D3.1.K–2:** Gather relevant information from one or two sources while using the origin and structure to guide the selection. **D4.3.K–2:** Present a summary of an argument using print, oral, and digital technologies. **D4.6.K–2:** Identify and explain a range of local, regional, and global problems, and some ways in which people are trying to address these problems.		
Suggested Grade Levels K–2	**Required Time** Variable	

Understanding our place in the world is both exciting and challenging for young learners. In the past, elementary school teachers have relied on maps and globes to help teach abstract concepts about space and place. Today, teachers have a vast array of digital tools and resources to help children learn about our communities and world and approach the study of geography from a more critical perspective. For example, in an article and video on *Vox*, Johnny Harris (2016) demonstrates how map representations are inaccurate and misleading by cutting open a globe in an attempt to turn it into a flat map.

According to Christina Riska (2014) from *National Geographic*, "spatial thinking is arguably one of the most important ways of thinking for a child to develop as he or she grows" (para. 2). 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, experience 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). Gersmehl and Gersmehl's (2007) 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. An implication of the authors' work is that not only are young children able to practice these skills but that educators should also 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, p. 28). 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 younger 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 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.

Another critical tool for building children's spatial reasoning skills is map reading. 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 of their place in the world. The understanding that space exists independent of our experience of it comes about because of exposure to maps.

To use, understand, or create maps, children employ spatial orientation and location. Even preschool children have demonstrated initial mapping abilities and can develop their spatial orientation and visualization abilities through active engagement with maps, models, and computer representations (Cohrssen et al., 2017).

In addition, maps affect how we think about spatial information; maps may lead people to think about space in more abstract and relational ways than they would otherwise. For these reasons, maps can be construed as tools for thought in the domain of spatial cognition. Maps provide a cognitive tool to help children extend their reasoning about space in a new way. Over time, children can internalize the tool and think about space in map-like ways, even if they are not looking at a map at the time.

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).

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. The National Council for the Social Studies (NCSS, 2013) C3 Framework emphasizes the interconnectedness of these themes, identifying the following four categories:

- Geographic Representations: Spatial Views of the World
- Human-Environment Interaction: Place, Regions, and Culture
- Human Population: Spatial Patterns and Movements
- Global Interconnections: Changing Spatial Patterns

Rationale for Classroom Practice

Our daily lives provide us with many rich geographical experiences. We often think and act geographically without realizing it. As we navigate our way around our home, school, and neighborhood; when we use the weather forecast to decide what to wear; and when our family packs for a holiday vacation and plans what transportation is best to get there, we apply our geographic thinking. Drawing on these funds of knowledge and experiences, we can prompt children's thinking with questions and design lessons that promote primary source inquiry with a geographic lens.

Each field has distinct disciplinary approaches to the study of primary sources that offer unique perspectives. Geographers have different ways of looking at the world, and primary sources offer important insights into places and the ways that people have used and organized space. A geographical perspective prompts questions that are aligned to each of the geographic themes, such as:

- **Location:** Where is it located? Why is it there? What is located near there?
- **Place:** What is it like there? Is this place flat or hilly? What might the weather be like in this place? Is it hot or cold, wet or dry?
- **Human/Environment Interaction:** What materials do people use to build their homes? How do people use the land (i.e., farms, businesses, industries)? How have people changed or affected the environment? How does the weather influence clothing? What cultural traditions have emerged?
- **Movement:** How and why are places connected with one another? How do people move from one place to another? Why might the road have been built where it is?
- **Region:** How and why is one area similar to another?

One of the ways we can learn about new places is by looking at maps, just like the group of students in Figure 1. A common way that children interact with maps today is through applications like Google Maps, but maps from long ago provide an important resource for facilitating children's exploration of how map creators decide how maps should look and what information should be included. This process of inquiry helps students become critical consumers of maps as they investigate the spatial history of an area. Engaging in the inquiry process enables students to think critically about different spaces that they are studying.

The Library of Congress has a vast collection of maps in its holdings with over 38,000 digitized online, which can support an inquiry on what can be learned about spaces and places from maps. To help teachers refine their search, the Library's Classroom Materials include sets of primary sources curated for each state. These resources can be used for a variety of activities that focus on developing spatial thinking abilities while drawing on local and regional connections. Library of Congress staff have also curated other map resources and teaching ideas into blogs:

- Engaging Students With Primary Source Maps
- Maps: More Than Just a Tool for Navigation
- Free to Use and Reuse: Maps of Discovery and Exploration

Many maps show what a place looks like from above. This is similar to 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 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 bird's-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 bird's-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. For example, using one of Ruger's panoramic maps of

Jefferson City, the capital of Missouri, the KidCitizen episode *A Bird's Eye View: Wondering with Maps* engages children in wondering about Ruger's representation of the area. The State capitol, railroad station, and major roads can be located on the map and also explored up-close in photographs. How does this change the perspective of the place? The teacher may use a think-aloud to reflect on what it is like to walk around the school communities and see the fronts and backs of buildings rather than the roofs. This modelling of how to describe a place using both maps and photographs can provide an initial introduction to corroboration.

Students also can focus on exploring how the place has changed over time by comparing the historical map to a Google map of the same location. Using a puzzle strategy, a teacher may break up both maps into pieces. The pieces are enlarged, printed out, and provided to small groups of students. Each group receives a matching portion of a small section of the historical and contemporary maps to focus their attention on a specific area and attend to the details. The whole class then comes together to put the pieces of each map together and view the whole map. Putting the puzzle together lets students practice their spatial thinking. Guiding questions to prompt comparisons and see how communities have changed over time include the following:

- Which buildings, streets, parks, or other features have changed or stayed the same? What roads have been added?
- What words or geographic features have changed?
- Where do you think people lived, and why?

Other geographic analyses can focus on issues of belonging and identity within neighborhoods. For example, if we revisit the community of Jefferson City, Missouri, the *Illustrated Sketch Book and Directory of Jefferson City and Cole County* provides details on the names, addresses, and occupations of residents in 1900. The socioeconomic and racial divides within a community can be explored based on how the place is organized. Compelling questions focused on critical geography may include the following:

- How does the geography of where we live influence how we live? How do communities differ based on their location?
- Whose story is told through maps? What do maps reveal about dominant and marginalized voices in our society?

Teaching Multiple Disciplines

The traditional teaching of geography in schools emphasizes recall of states, capitals, and countries with an emphasis on spaces and places as fixed physical categories. However, geography is a much more complex area of study that considers how a space becomes a specific place. The goal is to engage students in critical inquiry as they apply geographic concepts and tools.

Applying geographic thinking strategies, students can explore questions about location by

comparing maps and other spatial representations, but in addition to maps, other primary sources can be explored from the point of view of geographers. The Alliances of Colorado, Arizona, Oregon, and Nevada have developed forms to guide geographic analysis of a variety of primary sources. Each tool includes numerous questions to facilitate inquiry, and the questions are organized under the columns of *Observe*, *Reflect*, and *Question*. Teachers are recommended to select a few questions from each column. The *Observe* column focuses on details that can be seen. The *Reflect* column relies on background knowledge to make educated guesses about what is observed. The *Question* column focuses on generating questions to prompt further investigation and inquiry. The Library of Congress has teacher's guides for analyzing audiovisual materials, documents, images, and maps.

When applying geographic thinking to the analysis of primary sources, students can observe the geographic characteristics of a place. Their observations may include a focus on the following:

- Weather, including temperature (deducible from clothing)
- Activities depicted
- Clothing
- Natural surroundings (e.g., tree, clouds, water, etc.)
- Human-made surroundings (e.g., stores, schools, roads, buses, cars)

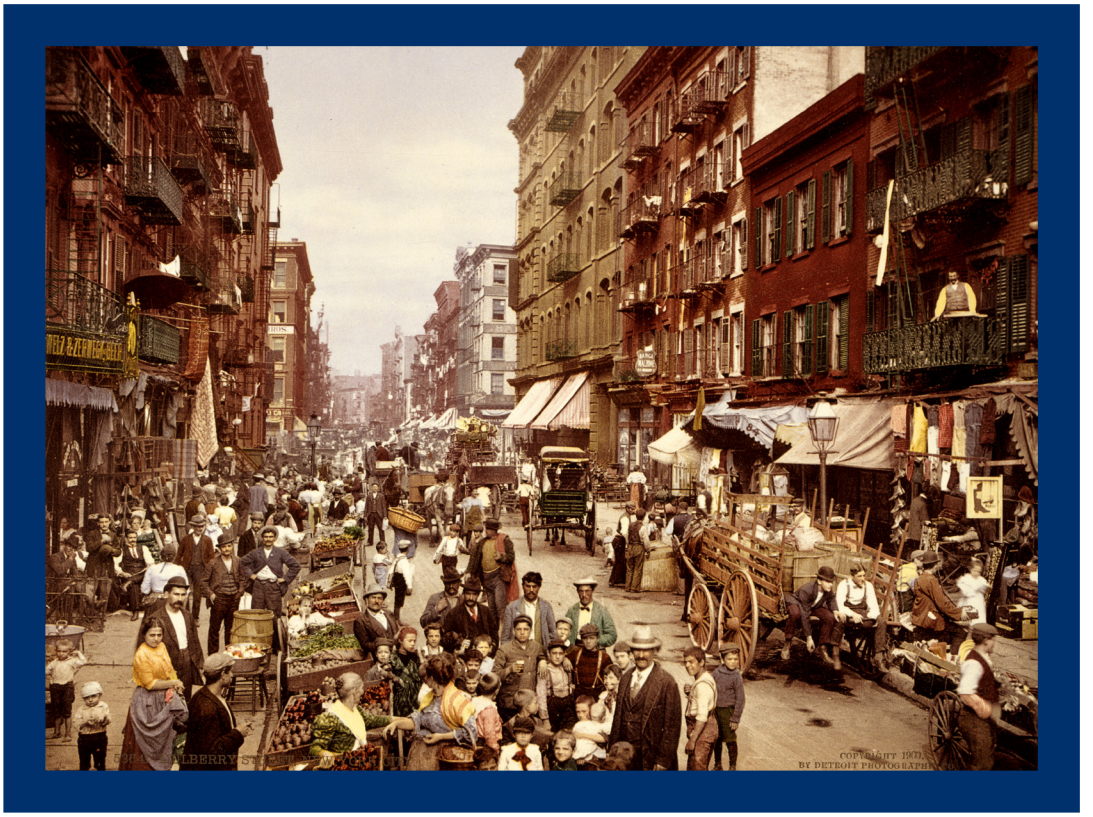
Exploring details within a primary source can enhance close-looking skills that focus on geographic concepts; however, strategies that provide scaffolded support are important to help elementary learners refine their analysis. For example, examining the iconic photograph from 1900 of Mulberry Street in New York City (Figure 2) can be overwhelming for young students due to the large amount of detail presenting urban life in one of the country's largest cities.

Teachers and students can use the built-in Zoom function on the photograph page to look for details. Another approach could be to engage students in a game of hide-and-seek on Mulberry Street. There are two variations:

- One student in each pair should choose a hiding place and imagine hiding there. The student gives a series of sensory clues to help the other student "find" him. *I feel warm pavement under my body. It's dark, but I see some shadows. I see men's shoes. Where am I?*
- One student identifies a particular person in the image, and then gives a series of sensory clues that will zero the partner in to identify the selected person: *I feel the weight of a baby as big as me. I hear my friends goofing off. I put my face in a serious expression for the photographer. Who am I?* (Lederle, 2013)

By imagining themselves "jumping" into the image of a place, students also can participate in an analysis that activates all their senses, using prompts for sight, sound, taste, touch, and smell (see Figure 3). These activities guide students in practicing skills, including use of spatial vocabulary, attending to visual details, practicing listening, determining point of view, and making inferences.

Figure 2. ***Mulberry Street, New York City***



Note. *Mulberry Street, New York City*. (ca. 1900). [Photograph]. Library of Congress. www.loc.gov/item/2016794146/

Figure 3. *Put Yourself in the Picture Photo Analysis*

PUT YOURSELF IN THE PICTURE PHOTO ANALYSIS

Imagine yourself in the image provided and list three to five phrases describing what you see, hear, taste, touch and smell.

Sight What do you see? People? Words? Buildings? Animals? Interesting Items? Do these things give you clues about this time and place?

1.
2.
3.
4.
5.

Sound What do you hear? People? Animals? Nature? Sounds from inside or outside of buildings? Sounds can indicate something good, bad or sad.

1.
2.
3.
4.
5.

Taste What do you taste? Are things edible or is there "something in the air"?

1.
2.
3.
4.
5.

Smell What smells are around you? City or rural scents? People? Animals? Businesses? Do they make you think of something good or bad?

1.
2.
3.
4.
5.

Touch How and what do you feel? What is the environment like? Hot? Cold? Wet? Are there "things" that you can touch? What do they feel like?

1.
2.
3.
4.
5.

Note. From Learning with Lincoln Institute, sponsored by Teaching with Primary Sources at Eastern Illinois University and Southern Illinois University Edwardsville.

Subsequently examining Mulberry Street from different perspectives through a variety of primary source formats enhances students' understanding of urban life. Consider the question "How do two different primary sources of Mulberry Street relate to one another?" (See *Italian bread peddlers, Mulberry Street, New York*.) Elementary students can also compare the geographic features of different regions by analyzing the markets in other cities, such as Boston.

Diverse types of primary sources provide a view of New York City in motion, using primary source film to examine urban life and explore how people have changed the environment over time.

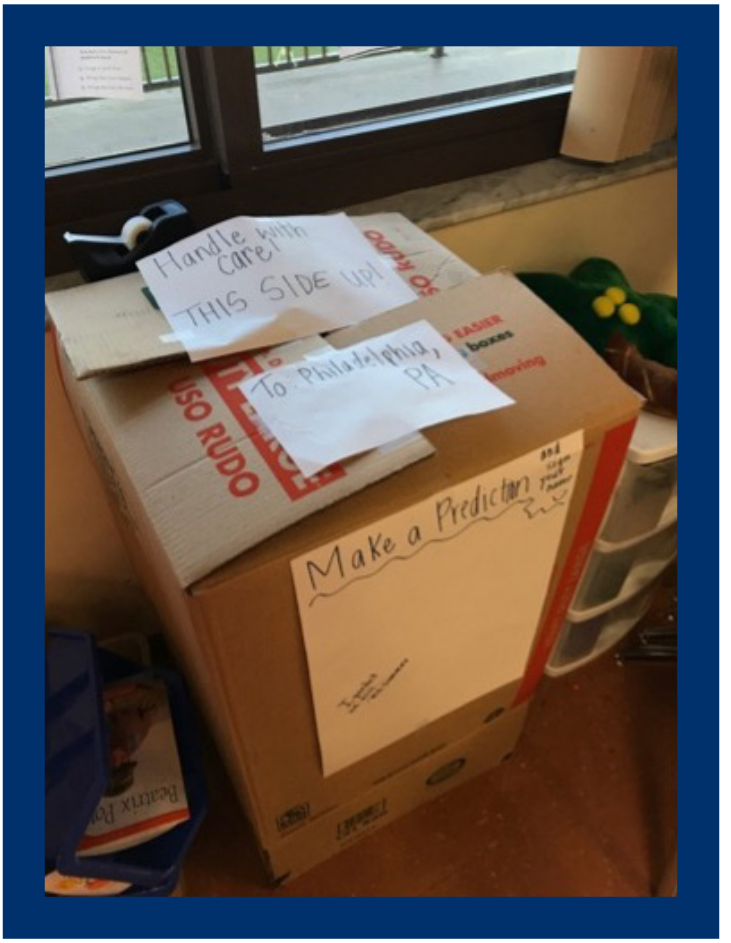
- *Automobile parade* (1900)
- *Move on* (1903)
- *Sky scrapers of New York City, from the North River* (1903)d
- *White Wings on Review* (1911)

Children's literature with a focus on living in an urban environment also provides background knowledge on city life. For example, students can read *The Rocket Book* (1912) to discover a different perspective of apartment living in an urban setting at the turn of the century. Whether we are examining news stories, photographs, film, or children's books, what ties all of these resources together is geography.

Instructional Strategies: A Classroom Example

Let's consider what these strategies look like when integrated into a classroom lesson. In a second-grade classroom, the teacher began the implementation of a lesson by activating the students' background knowledge and spatial understanding with a box she placed in the middle of the morning meeting carpet (Figure 4). This box represented the box that Henry "Box" Brown shipped himself in—it was only a few inches smaller than the dimensions described in the 1850 print portraying the emergence of Brown from the box when he arrived at the office of the Pennsylvania Anti-Slavery Society (see Figure 5). The teacher added a sign to the front of the box that read "Make a Prediction." She wanted students to become curious about the box and predict what they thought it was for. Most students made connections to other recent activities in the class. For example, they had been using robotics in math, and some students thought that the box contained coding tools. Several other children suggested that the box was for the collection of food to help support the people of Puerto Rico after severe weather hit the island. One child guessed that the box had something to do with Pennsylvania after she observed the name of the state written on the box. The next day in class, the children began exploring primary sources associated with the topic of inquiry.

Figure 4. *Box Representing the Box That Henry "Box" Brown Shipped Himself in*

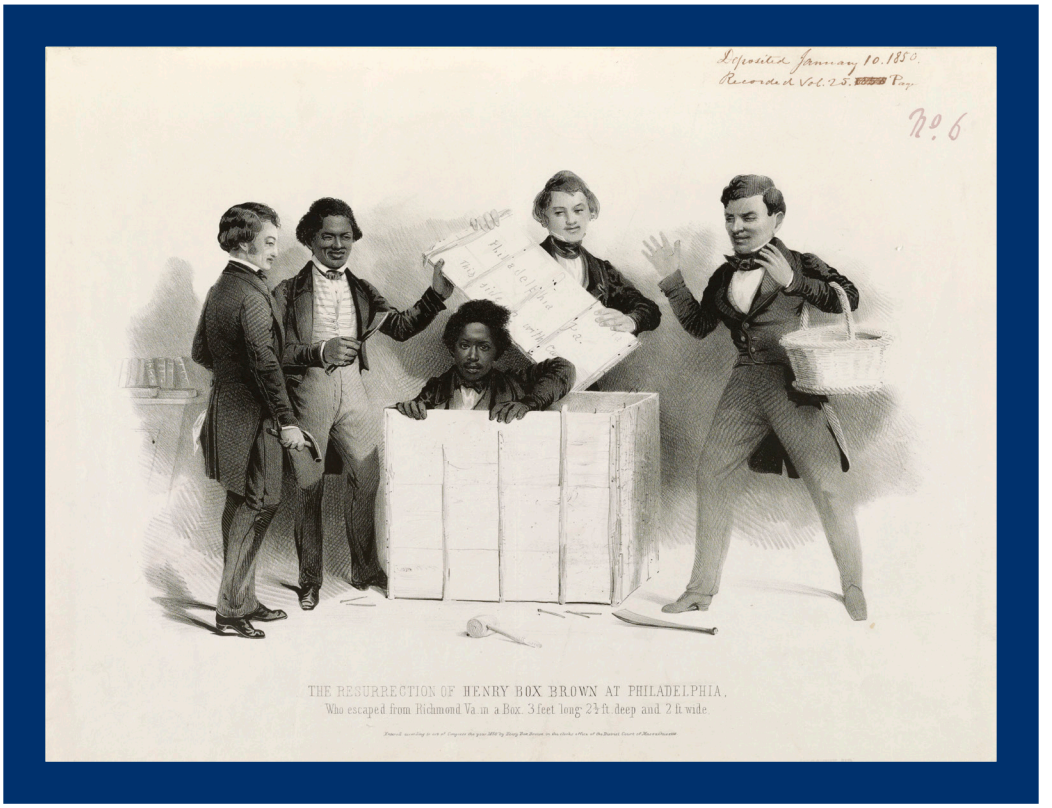


Note. Photograph by Ilene Berson

The first primary source that the children explored was a drawing, *The Resurrection of Henry Box Brown at Philadelphia* (Figure 5). The whole image was projected onto the interactive whiteboard, and each child also had their own hard copy as well as a magnifying glass to aid in their close observation of the details of the print. They were given time to study the image carefully. They recorded their observations and then engaged in a whole class discussion, reflecting on the following prompts as the teacher recorded their responses:

- Describe the people in the picture.
- What are they doing?
- What's going on in this picture?
- What do you see that makes you say that?

Figure 5. ***The Resurrection of Henry "Box" Brown***



Note. *The resurrection of Henry Box Brown at Philadelphia, who escaped from Richmond Va. in a bx 3 feet long 2 1/2 ft. deep and 2 ft wide*. (ca. 1850). [Lithograph]. Library of Congress. www.loc.gov/item/2004665363/

The children used a crop-it tool to highlight the details in the image that supported their ideas. The teacher prompted, "What else can you find?" After they observed the people and objects in the image, the teacher guided them to look at the text, inquiring, "What do the words say?" The students considered what they could learn from the image as well as what questions it raised. The teacher asked, "What additional information would you like to know about it?"

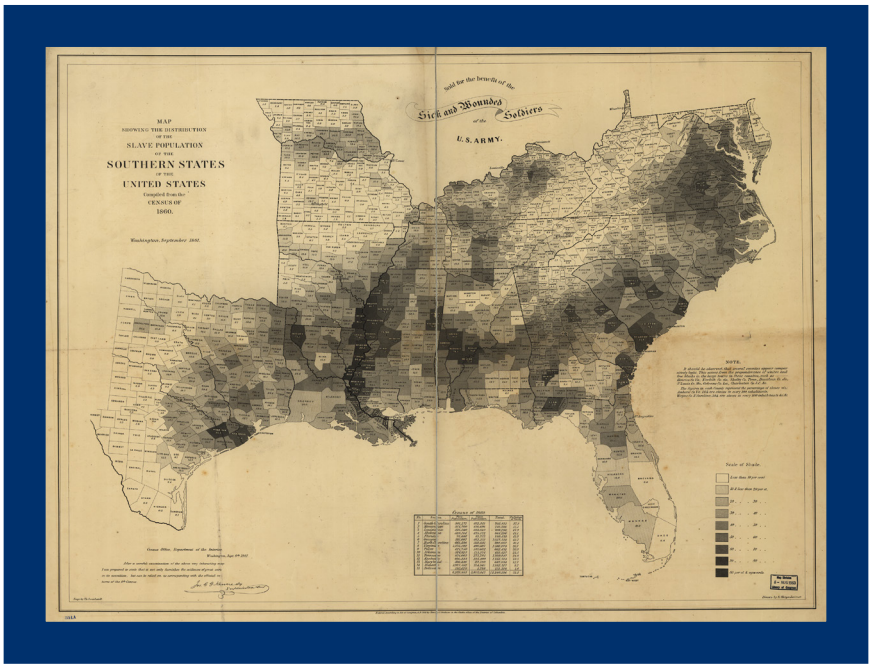
To help develop the students' background knowledge, the class read *Henry's Freedom Box*, a true story of Henry's self-emancipation by mailing himself to freedom, as retold by Ellen Levine (2007). The picture book provided context for the geographically focused inquiry on regional differences in responding to slavery. The reading began by looking at the cover and predicting what "Henry's Freedom Box" could have meant or represented. Students had all types of answers and shared many ideas. One boy said it may be a place for Henry to sit and let his mind go free. Throughout the reading, the class discussed who the story was about, what was happening, why it was happening, how it happened, where it happened, where Henry was going, and when this all occurred. During the story, they read what was written on the box ("This Side Up and Handle with Care"), and immediately students realized that it

was the same wording on their box in the classroom. They discussed the size of the box and how scary it would have been to be in a box for 27 hours. On the last page of the book, there is a drawing of Henry coming out of the box, and a few students noticed right away that it was similar to the primary source print that they had initially observed. Once the story finished, the class listened to the author's note, which provides more details about Henry's experience and what he did after he was free. With this background information on Henry "Box" Brown, the class revisited the print and reflected on the emotions experienced by each person depicted in the image, using visual clues to support their ideas.

To further develop students' understanding of the risks encountered by Henry as he self-emancipated, the teacher described the Fugitive Slave Act of 1850, which required that enslaved people be returned to their enslavers, even if they were in a free state. The Act also made the federal government responsible for finding, returning, and trying fugitives from slavery.

Exploring a map from long ago enabled students to reflect on spatial relationships in new and productive ways. For example, the students analyzed this 1861 map showing the distribution of the population of enslaved people in the United States to consider how space and place shaped Henry's decision to mail himself to Pennsylvania. They used the map to explore how slavery differed from one state to another.

Figure 6. ***Distribution of the Population of Enslaved People in the Southern States in 1860***

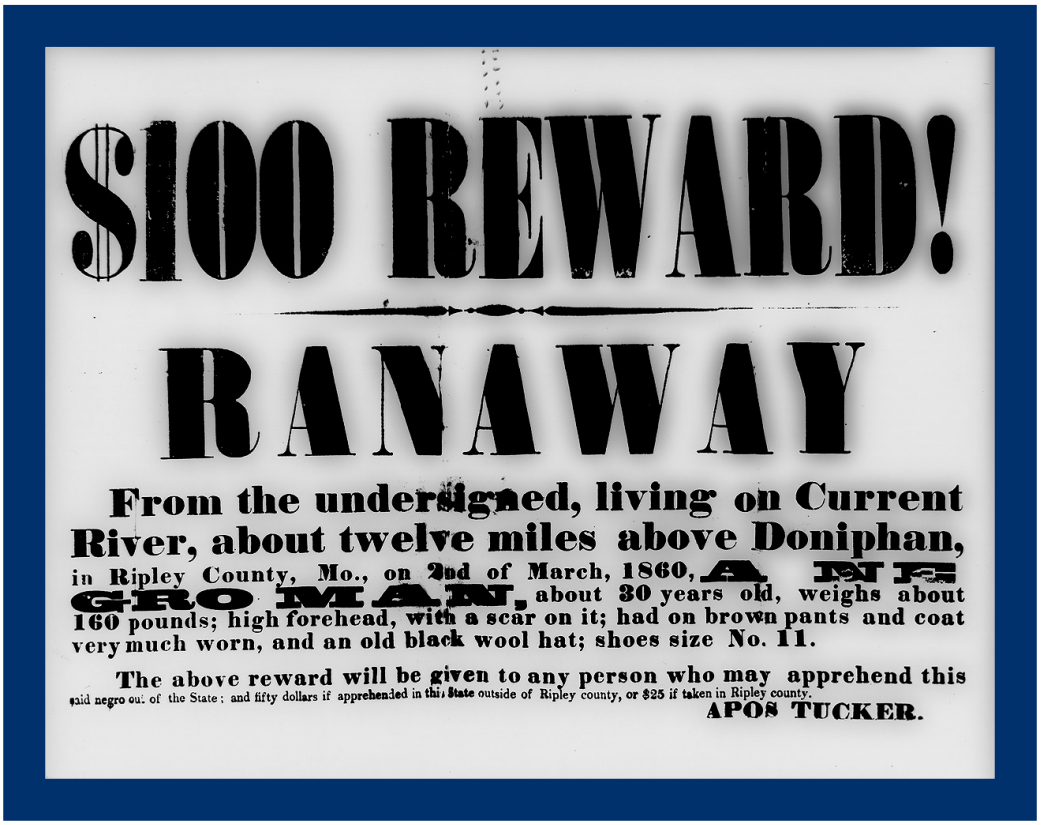


Note. Hergesheimer, E. (1861). *Map showing the distribution of the slave population of the Southern states of the United States. Compiled from the census of 1860* [Map]. Library of Congress. www.loc.gov/item/99447026/

Together, the students read a reward poster (Figure 7) and responded to the following prompts:

- Describe this document.
- What message is being sent?
- How does this poster make you feel?
- Does anything surprise you?
- Who do you think made this, and why?
- What does the creator of the poster hope that people who see the poster will do?

Figure 7. ***Reward Poster***



Note *$100 Reward! Ranaway from [...] Ripley County, Mo., [...] 1860, a Negro Man [...].*(1860). [Broadside]. Library of Congress. www.loc.gov/item/98504563/

This lesson bridged geography and history to create a compelling inquiry, and numerous other instructional strategies emerged from students' wonderings generated during this geographic inquiry. The transportation and delivery of mail in the past was of particular interest, and a new inquiry emerged that focused on movement through transportation of mail. Primary sources continued to be an important part of this learning experience, and they came from a variety of resources, such as the railroad maps that students used to see how this transportation impacted the postal service as well as video and photographs for inquiries

into how mail delivery was shaped by advances in transportation. A favorite extension activity was tracing the travels of Owney, a dog who was a mascot for the U.S. Postal Service. Owney traveled around the United States by mail car and then visited other countries around the world. Using selected articles from Chronicling America, groups of students identified Owney's location and date, and pinned it onto a map.

Communicating Conclusions and Taking Informed Action

Within elementary classrooms, social studies is closely tied to developing connections with the community. Since borders and boundaries are entangled in the process of place-making, concepts of community are subject to re-evaluation and re-definition to ensure greater inclusivity of the histories of all people on the land. Critical geography aligns with the goals of culturally sustaining pedagogies by focusing on inquiries that explore the power dynamics that inform how places are organized (Schmidt, 2011). Lessons that disrupt dominant narratives of place contest whose perspectives are excluded or privileged in the representation of a place. Even young children have the capacity to examine and address complex social and environmental issues they encounter at their local grocery store (Adams, 2015), community cemetery (Groce et al., 2013), and school boiler room (Jorgenson et al., 2018).

When considering spaces and places in the elementary social studies classroom, it is important to build in opportunities for students to explore how their lives are affected by where they live. These experiences demonstrate why geography is important in the lives of our students. As a form of taking action, groups of students may identify a feature of their community's built environment (e.g., a building, street, playground) and research the history of the area and structure. The Library of Congress lesson plan, "Local History: Mapping My Spot," includes activities for students to explore the past, present, and future of their community's environment. Students might use *rephotography* to analyze and document change over time, finding an old image of a place and capturing a contemporary photograph of the same area (Berson & Berson, 2016). These two images are then compared and contrasted for temporal change. Students can also design their own maps for more in-depth exploration of an area. Using free online software and data found within a primary source, students can explore concepts and tools used in creating maps. Students and educators are eligible for free Carto or ArcGIS accounts and can use location data to visualize information in the form of a map. As an example, students can explore Story Maps from the Library of Congress that weave together photographs, newspapers, video, and audio into engaging, interactive multimedia maps. *Freedom*, which highlights the struggle for freedom and justice among Black Americans, and *Behind Barbed Wire*, which explores the stories and experiences of Japanese American families incarcerated during World War II, may be especially relevant for demonstrating how digital artifacts can be used as evidence. Subsequently, students

may create their own story maps that promote reallocation of space and resources within the community. These learning experiences can lead to environmental change projects to influence land use policies and practices as well as conservation efforts, situating the students as caring and active citizens with the skillset to transfer geographic concepts to their own lives.

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