Street Maps and Route Planning

Background Information

A **street map** of a city or town shows its streets and often the locations of its schools, parks, recreation facilities, places of worship, hospitals, and police and fire stations. Being able to read a street map is a valuable life skill. Whether following directions to a friend's house or calculating the shortest route across town, a street map can help. Happily, streets maps contain all of the common elements of maps, such as a north arrow or compass rose, a key or legend, an index, and a grid. In fact, the only way street maps vary substantially from most other types of maps is in their emphasis on the streets. And that emphasis provides the challenge, because cities of any significant size are dense, complex mazes. Often it can be difficult to find a particular street on a map, never mind in the city itself.

To find a particular street on a map begins with knowing the correct spelling of the street, looking up the street name in the map's index, reading the street's grid coordinates (often given as a combination of a number and a letter), then finding the coordinates on the street map. The street can then be located inside the grid square where the vertical and horizontal spaces intersect.

Street maps come in several forms. The term usually brings to mind a folding map, which is useful for seeing an entire city on one map. But large folding maps can be awkward, so a more practical option is a **road atlas**, a book containing street maps printed on individual pages — essentially an atlas for a city. Depending on how much area the road atlas covers, a single page may show a whole city or just a small portion of it. If only a portion of a city is shown, page numbers on the border of the map will indicate the page where the adjoining map can be found. The road atlas' index will provide page numbers as well as the grid coordinates.

It is useful to consult a street map when planning a route, whether walking, cycling, driving, or public transportation. Route planning requires thinking about several factors. For example, when planning a driving route, someone might consider the following questions:

- How wide are the roads — one, two, three, or even six lanes?
- Which is the most direct route and is it desirable — or does the most direct route go through the most congested areas?
- What is the likelihood of unpredictable events — construction, accidents, jaywalkers?
- What time of day will the trip be made — rush hour or 3 a.m.?
- What is important — speed, a pleasant drive, safety, the amount of gasoline used?

ACTIVITY 2

Planning and Following a Route

Purpose

To discover how to plan a route between two places and then travel the route correctly.

Material

Appropriate street maps for the trip.

Scrap paper, rulers, and calculator.

Whiteboard and markers.

Cultural Geography journals and pencils.

Presentation

- Most Montessori teachers introduce these concepts in Year 5.
- Announce to the students that they will have an opportunity to plan a driving route from one place to another and then travel that route to see if they have planned the route correctly. (If the class has a field trip scheduled, invite the students to use its starting point and destination for this exercise. If there is no field trip planned, work with the students to determine a starting point and destination for this activity.)
- Using the appropriate street map, invite the students to plan the route together, reminding them to consider issues such as gasoline consumption, traffic flow, and possible delays. Invite the students to measure the various options and the distance to be traveled and then to determine the most efficient route given all considerations.
- Invite the students to use the scrap paper to create a rough draft of a travel guide for the trip. Explain that this travel guide should include complete directions for the driver, such as the distance to the next turn, what streets or landmarks to watch for as each turn is approached, and which direction to turn. This must be done for the trips to and from the destination. The travel guide can also include landmarks to watch for and planned stops along the way for rest or to see points of interest.
- Explain that the travel guide should also include spaces for tracking the distance traveled as taken from the automobile's trip meter, including the starting reading, the reading at the destination, and the final reading upon arriving back at the starting point.

- Once the rough draft of the travel guide is completed, ask students to prepare a final draft, then to write out the final draft on the whiteboard.
- Ask the students to use their journals to write out the final draft of the travel guide for the planned route.

Extensions

- Travel the route using the travel guide, and record in journals each stage of the trip as it is completed. Note any problems that occur.
- Review the record of the trip. Write a summary paragraph describing what worked well, what did not, and how the problem areas might be improved.
- Use the figures from the vehicle's trip meter to calculate how far the vehicle actually traveled during the different stages of the trip. Compare the distance actually traveled with predictions from measuring the map, and if there is a difference, discuss why.
- Plan a walking or cycling route for the class, then follow the route.