

Navigating by Landmarks

Summary

Students examine and apply the relationship between concrete landmarks, abstract written directions, and graphic representations on maps, and then develop their own landmark map for classroom use.

Time Frame

4 class periods of 30 minutes each

Group Size

Large Groups

Materials

Software

Computers with audio recording capability, word-processing, multimedia-authoring, mapping (e.g., MapMaker Toolkit, Neighborhood Map Machine)

Background for Teachers

In this lesson, students:

Describe their route to school and the landmarks by which they navigate

Write explicit directions (third graders may need to draw maps with simple directions and/or work with adult/peer partners)

Create a multimedia map based on their written descriptions

Compare their own written directions and maps to printed city maps, as well as the MapQuest Web site (see Tools and Resources)

Instructional Procedures

P R E P A R A T I O N

Preview the MapQuest Web site. Create both directions and maps.

Locate local map Web sites, such as the Chamber of Commerce.

Assemble necessary technology tools.

Gather a selection of local and city maps.

P R O C E D U R E

As a class, discuss how finding your way from one place to another is called 'navigating.'

Examples to discuss might include navigating across the ocean using stars, or up to the moon in a spacecraft using instruments. Discuss new navigational technology and its effect on exploration in space. Relate navigation principles to how students navigate when they travel to and from school every day.

Brainstorm and record on chart paper or electronically a list of landmarks students use to guide them to and from school, such as street signs, familiar houses, or stores.

As a homework assignment, invite students to explore their trips to school and make notes about the landmarks they pass. Encourage students to be explicit when describing each landmark, as well as what they do when they get to it (e.g., turn right at the big yellow house with the white picket fence).

As a class, discuss how each student's notes on landmarks will be used to create a written set of directions. The written directions will begin the moment students walk out the door of their homes and end with their arrival at school. (Practice with a set of directions to and from the playground.) When writing directions, students should be explicit about:

What landmarks they see

What action they take when they reach a landmark (such as, turn left just past it)

Where they walk, such as on a sidewalk or across a park

Working individually, students use their written directions to create multimedia maps that include landmarks they have identified. Encourage students to use the drawing software to represent the landmarks as accurately as possible. Students can then add multimedia elements to the map in the form of buttons that correspond to landmarks. Elements might include a photograph showing a landmark in more detail or an audio recording of the name of the landmark and a brief description.

Taking turns with partners, students use the MapQuest Web site to create and print out maps and written directions from their homes to school.

Taking turns with partners, have one student try to follow his or her partner's map while listening to the directions. Then, partners follow each other's written directions using a map created on the MapQuest Web site. Do the same with a printed local map. Finally, students compare the written instructions accompanying the MapQuest map with their own map's instructions.

As a class, discuss comparisons of the map types. Topics for discussion might include:

What is the best map for this purpose?

What other purposes might other maps be better for?

As a culminating activity, students set up their multimedia maps at kiosk stations in a computer lab or as rotating exhibits on a classroom computer. Let students and guests tour and explore the finished products. Consider having students create a scavenger hunt around school based on their maps. This activity will help demonstrate student learning for the guests.

Extension: Using mapping software, have pairs of students design a town. Where is the school? What buildings, parks, and other things might the children in the town use as landmarks on their trips to school?

Extensions

For a group of teachers in San Marcos, California, this project provided a sense of orientation to the community. They found that many of the students were new enough to the area that they did not have much sense of where things were, relative to one another. Since there had recently been a major brush fire in the area that closed off streets, having to give directions for alternate routes to specific locations was fresh in their minds.

Assessment Plan

Assess student multimedia maps using a rubric jointly created by the teacher and the students. Assess student understanding of the relationship between the student-created maps, the printed maps, and the MapQuest maps, either through brief written journal entries or individual student-teacher conferences. Criteria for an informal assessment might include:

Sufficiency of detail

Use of landmarks as opposed to cardinal directions

Different ways to get to the same place

Different scale and perspective

Conceptual understanding

Efficient and effective use of the MapQuest Web site

Degree to which maps are based on landmarks

Use the same criteria above to informally assess group understanding of the relationship among the map types (as expressed in the group discussion). The ongoing informal assessment might lead to another learning activity on cardinal directions and scale maps.

Bibliography

The Utah Education Network received permission from ISTE (The International Society for Technology in Education) to share this lesson.

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