

What are Maps for?

Chicago River Classroom Activity

Summary

Students will explore a city map, answering and developing questions. Students will apply observation, reasoning and math skills.

This lesson can be used as a pre-lesson before a Chicago River field trip exploration.

Background

The type of map most familiar to many of us is a street map that we would use to navigate from one place to another. But maps can convey many kinds of information and can be used for a wide variety of purposes. For instance, there are maps that tell us about the land. Land use maps tell us how far the city extends, whether there are farms and where natural areas are. They are often used for regional planning. Soil maps tell us what kind of soil lies beneath our feet. They are often consulted when buying property to let you know what kind of development would be appropriate there. Historic maps tell us about ancient civilizations or the perspective of more modern societies. For instance, modern tourist maps of the City of Chicago often are missing all of the south side. What does this tell us about Chicago and the image the city is trying to portray? Maps can also be used to display data, such as the data collected by the US census.

During the Chicago River program, students will be creating maps. This lesson serves to introduce students to the basics of maps.

Procedure

- ◆ Ask students if they or any member of their family has ever used a map. What did they use it for? Write student answers on the board.

Grade Level: 5th – 6th

Duration: One class period

Objectives:

1. Students will learn how to use a map's key and scale.
2. Students will understand how maps represent the world around them.

Materials:

For each group of 3 students:

- ◆ Map of your city or town
- ◆ Ruler
- ◆ Piece of string
- ◆ *Student Map Worksheet*, a sample is included at the end of the lesson, feel free to modify it to meet the needs of your class and students

Standards:

11.A.2b, 17.A.3b

NGSS:

3-5-ETS1-3

- ◆ Pass out the map, ruler and string to each group, along with the *Student Map Worksheet*. A sample student sheet is included in this packet. However, feel free to change the questions to match your students' ability and the information on your map. In addition, you may want to familiarize the class with maps as a group before beginning the activity.
- ◆ Point out, or have students find, different things on the map (the key, the title, the scale, a particular street or a park). You may also want to point out the school's location if you think it will be too hard for your students to locate.
- ◆ Go over the worksheet and give groups time to answer the questions.
- ◆ Before the end of class return the students' attention back to the list they made at the beginning of the class. After spending some time with maps, is there anything else they think maps are used for?

Reflection and Assessment

Have students write a story that describes how a map could help them solve a problem.

Extensions

1. Ask students to make up their own question – one per group – that can be answered using ONLY the map. Have students write their question on the black board. Then, have all the groups answer the other students' questions.
2. Bring a variety of maps to class – maps of parks, a map of the world, a copy of an old map, a land use map. Set the maps around the class and have students, in groups, rotate through all the maps. As they look at the maps, have the students think about the following questions: How are the maps similar? How are the maps different? What would you use each of the maps for? You may want to have these questions written next to each map and have students record their thoughts in a journal.

Map Resources

<http://www.nationalatlas.gov/>

A wide variety of online maps. You can create your own, choosing what you would like displayed on your map. You can also view a variety of animated maps, including one documenting the invasion of Zebra Mussels.

<http://images.library.uiuc.edu/projects/maps/>

A wide variety of historic maps from North America, the Midwest and Illinois. Some maps allow you to navigate around them, others have page size maps you can print.

<http://www.trails.com/>

Type in anywhere in the United States and see a topographic map of that area.

<http://www.terraserver.com/>

Type any place in the United States into the search tab for an aerial photo of that area.

<http://www.isgs.uiuc.edu/nsdihome/>

Order topographic maps for anywhere in Illinois.

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Student Map Worksheet

- 1) Locate the scale on the map.

How many miles are in an inch? _____

How many kilometers are in a centimeter? _____

- 2) Locate the map's key. Write down one of the symbol's used in the map along with what it symbolizes.

Locate this symbol somewhere on the map.

- 3) Locate your school on the map.

(Hint: your school's address is _____, which means that it is _____ North/South and _____ West/East. Look carefully and you will notice numbers telling you how far east or west, or north or south different streets are. Use these numbers and your school's street address to locate your school.)

- 4) Using the scale on the map, figure out how long it would take to walk from your school to the Chicago River. Remember, you must walk along city streets and you want to take the shortest route. As an estimate, assume that you walk 3 miles an hour.

- 5) On your walk to the river, would you pass any city parks?
If so, name them:

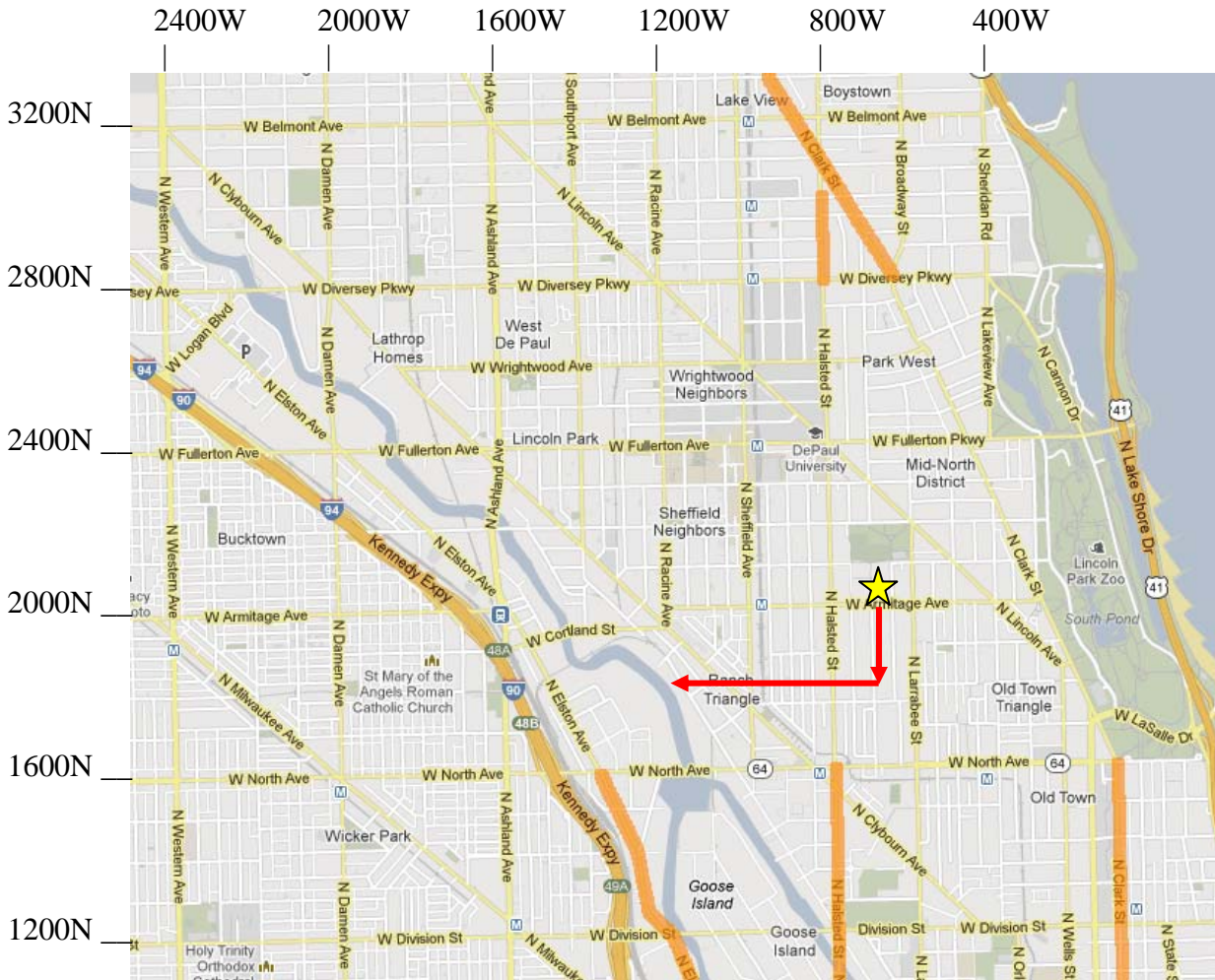
What are Maps for? Sample Student Map



Lincoln Park, Chicago
 Lincoln Park High School
 Address: 2001 N. Orchard St, Chicago, IL
 (2000 North, 600W)

Scale

1 inch = 1.75 miles = 9,240 feet
 1 cm = 1.11 kilometers = 1,109 meters



Distance to the River = 1.51 inches x 1.75 miles/inch
 = 2.64 miles from School