Tom Snyder Productions®

Where Are We?™

Developed by Kim Kastens, Ph.D.

Learn to Read and Interpret Maps!

Gazebo

Hot Do
Stand

Information Booth

N NW NE W E SW SE S

100 FEET

100 METERS

Mac/Win CD-ROM • English and Spanish

Credits

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A Note from the Author

Dear Teacher,

Becoming a skilled map user is a tricky cognitive task. When children look around them, they see a world that is constantly changing: day to night, season to season, and minute to minute. They perceive a landscape of millions of tiny details: blades of grass, cracks in the sidewalk, ripples on a pond. They look horizontally out across the landscape, from a vantage point four feet or so above the ground. Somehow, they need to learn to "translate," in their minds, from the intricate, constantly changing, horizontally viewed world that they see around them, into a schematic, unchanging, vertically viewed map.

Like learning to read books, or learning to read music, learning to read maps is a skill that can be learned and taught. *Where Are We?* is designed to help your students learn map skills by creating opportunities for them to "translate" again and again, back and forth between a map and the terrain represented by the map. Within the safe and convenient environment of *Where Are We?* you can model and they can practice the following skills:

- using visual landmarks to figure out where they are on a map
- planning a route and testing their plan
- using map scale and compass directions to keep track of where they have been
- using a map to record the location of real-world objects
- using a map to store and convey information

As skilled, confident map users, children can go forth into an unfamiliar environment, map in hand, knowing that they can find their way to their destination — and back again. As skilled map users, children can use maps as a language to convey information about place and space. Knowing "Where am I?" in physical space can be the first steps in every child's essential mission of figuring out "Where am I?" within humanity and within nature. Best wishes to you and your students in your adventures with maps.

Sincerely,

What You Get & What You Need

What You Get

- *Where Are We?* CD-ROM
- This Teacher's Guide, which includes a software WalkThrough, comprehensive lesson plans, classroom suggestions, field trip suggestions, and more
- A color poster of the *Where Are We?* map and map key
- Blackline masters of figurines that students can use to navigate the poster map
- Electronic versions of maps and map keys that you can print from the CD-ROM

What You Need

<table>
<tr><th>Computer</th><th>System</th><th>RAM</th><th>Monitor</th><th>CD-Rom</th><th>Printer</th></tr>
<tr><td>Macintosh
(68040 processor) or higher
Recommended: Power PC
10 MB of available hard drive space</td><td>7.1 or later</td><td rowspan="2">16 megs available</td><td rowspan="2">256-color; 640 x 480 monitor resolution or higher</td><td rowspan="2">Double speed or higher</td><td rowspan="2">(Optional)
color inkjet or B&W laserwriter or color laserwriter</td></tr>
<tr><td>IBM-compatible Pentium
100 MHz
Recommended: Pentium
120 MHz or higher
10 MB of available hard drive space</td><td>Windows 95/98 or later</td></tr>
</table>

How to Use This Guide

Where to Start

If you like to start by experimenting with software, there are two places in this guide that would be good for you:

- If you are impatient (and experienced), jump to Quick Install & Easy Start on page 4.
- For a guided tour of the program, turn to the WalkThrough on page 17.

If you prefer to start by thinking about pedagogy and your curriculum, take a look at the following sections:

- Learning Objectives
- Four Software Modes
- Lessons, Assessments, and Field Trips
- Meeting the National Standards

Teaching with *Where Are We?*

When you are ready to plan activities for your class, turn to the Lessons, Assessments, and Field Trips section, starting on page 31, which includes suggestions for how you can elicit discussion of map-using concepts and strategies.

Suggested wording for the teacher's comments is shown in this font.

Possible or desirable student responses are shown in this font.

Before beginning the lessons, reproduce for each student the *Where Are We?* map and map key, and a small figurine to walk around on the poster map (see page 35).

Quick Install & Easy Start

Quick Install

Macintosh

1. Insert the CD-ROM and double-click either the English or Spanish installer. Follow the on-screen instructions.
2. To launch the program, double-click the *Where Are We?* program icon on your hard drive.

Windows

1. Insert the CD-ROM. If your computer is set to autoplay, installation will begin automatically. Follow the on-screen instructions.
2. If your computer is not set to autoplay, double-click My Computer and right-click the *Where Are We?* CD icon. Choose Autoplay from the menu, then left-click.
3. When the installation is completed, the program will launch automatically.

Easy Start

Following is a short tour of the software for people who like to explore on their own. Spoken directions in the software will also help you find your way. For more detailed instructions, please see the WalkThrough on page 17.

1. Click **Begin**. Then click one of the four mode buttons on the main menu.

Exploring the Park

Use the arrows beneath the video to turn left, turn right, or move forward. The red dot and arrow on the map mark your location and view direction as you move and turn.

Are We There Yet?

In this mode, click one of the photographs to choose a destination. After you click **Start** the red dot and arrow show your starting location on the map. Your challenge is to reach your destination, using the **Hint** button as little as possible.

Add to the Map

Your job in this mode is to add new information to the map. Drag symbols from the map key in the lower right corner of the screen onto the map. Symbols will only stick to the map where there is a corresponding object in the real world.

Lost!

In this mode, the computer drops you at an unknown location on the map. Your challenge is to figure out where you are by using clues in the video. When you think you know where you are, click that spot on the map.

Learning Objectives

After Using *Where Are We?* Students Will:

- be able to figure out where they are located on a map by recognizing landmarks and the spatial relationships among landmarks
- be able to plan a route to reach a destination on a map, and then successfully follow that route
- be able to give oral and written directions to another person about how to find a given destination; the directions will be of sufficient quality that the second person will succeed in reaching the destination
- be able to use compass directions to orient themselves
- recognize the conventional symbols used to identify common features on maps
- make immediate correlations between map symbols and the specific, individual, real-world features or objects they represent (not just a generic staircase, for example, but "that specific staircase that I see over there")
- improve their ability to mentally rotate an object and visualize what it would look like from another point of view
- be comfortable switching back and forth between directions measured with respect to the student's body (right, left, and forward) and compass directions
- be better at recognizing and remembering distinctive shapes and geometries
- be able to analyze a complex visual environment, identify temporary elements (such as people) and relatively permanent elements (such as paths), and use this information in working with a map
- be able to correlate different images or visual representations of the same object or feature, even if one representation is schematic and the other is pictorial
- understand that there is a symbolic language of maps which can be used to convey information and begin to convey meaning in this language

Four Software Modes

There are four modes in the *Where Are We?* software. This section summarizes what each mode is designed to teach your students.

In each mode, you'll see a map of a park on the left side of the screen and live-action video filmed within the park on the right. The video shows the landscape students would see if they were really in the park. The software encourages students to "translate" back and forth between the video and the map. Students can move through the park by clicking the Turn Left, Turn Right, and Move Forward arrows at each intersection of a network of paths.

Exploring the Park

In this mode, a red dot and arrow on the map continuously indicate the user's position and view direction, moving and rotating as one steers a route through the environment. Use this mode to familiarize students with the software and for lessons on map scale, compass rose, and planning a route.

Are We There Yet?

In this mode, students pick a destination and then must find their way to the destination based on visual information within the video, keeping track of where they have been and where they are going. The red dot and arrow are available to indicate position and direction only if students click the Hint button. This mode simulates the most common real-world map task: using a map to find one's way from a known starting point to a desired destination. For assessment or discussion, students can print maps showing the route followed from start to destination, with the student's name and number of hints used. Use this mode for lessons on landmarks and keeping track of where you have been.

Add to the Map

In this mode, students find objects in the video that are not on the map (such as lamp posts and fire hydrants), figure out where these objects should be located on the map, and add this information to the map by dragging the appropriate symbols onto the map. Symbols can only be added where the objects actually exist in the real world. This mode introduces students to the concept of a map as a tool for organizing spatial information, as contrasted with a map as a tool for personal navigation. This mode simulates a landscape architect's mapping task and is analogous to field-mapping tasks undertaken by geologists, hydrologists, ecologists, and other field scientists. For assessment or reward, students can print maps showing the symbols they placed along with their names and the number of hints they used.

Lost!

In this mode, students are "dropped" at an unknown location on the map and must figure out where they are from the information in the video. This mode requires students to pull together all of their map skills. It simulates the real-world situation in which people realize they are lost, pull out a map, and try to figure out where they are so they can get to their desired destination. For assessment or reward, students can print Navigator's Certificates which include the time they took to reach their destination and the number of hints they used.

Lessons, Assessments, and Field Trips

Classroom/Computer Lessons

The lesson plans in this guide emphasize teacher modeling and student practicing of successful map-using strategies, both in the classroom/computer lab, and in the field. Following is an overview of the lessons. For the complete versions, please turn to the Lessons section of this guide on page 31.

Exploring Maps

Students examine a variety of paper maps and establish a common understanding of what a map is and what it is used for.

Bird's-Eye View Mapping

Students draw a simple paper map of the objects on their desks and use that map to convey information to a classmate. This lesson introduces the idea of a map as a planview representation, and a map as a tool for conveying information.

Map Symbols

Students use the key on the *Where Are We?* poster map to identify objects on the map and to imagine what would be seen by a person standing at a particular location on the map.

Introducing the Software

Through guided use of Exploring the Park mode, students become comfortable with the software and discover the connection between the map and the video.

Landmarks

Through guided use of Are We There Yet? mode, students discover the characteristics that make specific landmarks useful (permanent, distinctive) or not useful (mobile, changeable, overly common) for personal navigation.

Keeping Track of Where You've Been

Using Are We There Yet? mode, the teacher models and students practice keeping continual track of their position on the map.

Planning a Route

Students plan a route to a destination and anticipate what they will see along that route. Using Exploring the Park mode, they test their predictions and verify their plan.

Map Scale

By contrasting the rate of motion in the video and the rate of advance of the red dot across the map, students gain an intuitive appreciation of the contrast in size (i.e., scale) between the map and the represented landscape. Then they use the map scale to estimate sizes and distances in the *Where Are We?* landscape.

The Compass Rose

In Are We There Yet? mode, students practice using a compass rose to figure out what direction they are facing or moving relative to a map, using the program's Hint button to check their work. This lesson helps the teacher address two common sources of confusion: north as a region versus north as a direction, and right/left versus north/south/east/west.

Putting New Information on the Map

Using Add to the Map mode, students use a map to compile and convey information about the spatial distribution of features (fire hydrants, water fountains, etc.) in the park.

Lost!

In Lost! mode, students use their knowledge of map symbols, landmarks, and compass directions to make observations about the landscape around them. Then they combine multiple observations to infer their location on the map.

Summing Up: Comparing Maps with the Real World

A think/pair/share activity in which students articulate their understanding of the similarities and differences between a map and the space represented by the map.

Assessments

This guide includes suggestions for assessments of students' map skills and understandings:

Mapping the Classroom

A range of practical map skills is exercised in creating a map of a familiar environment, the classroom.

Map Quiz

Students' understanding of map concepts, as well as some concrete map analysis skills, are exercised in this paper and pencil quiz.

Other Assessments

The printouts from the software and the products from the field trip activities can also be used for assessment.

Field Trips

Field trip activities show that using maps is not just a computer game; it's a real-world skill. Working with maps in the field permits teachers to emphasize certain issues of scale and distance that are difficult to convey with the computer. Finally, we have found that students love the field-based activities, and this positive experience can carry over into a lifelong love of maps and mapping. Following is an overview of the field trip activities. For the complete versions, please turn to Field Trips section of the guide on page 93.

Piggybacking Map Skills onto Other Field Trips

Students work with a map of an area that will be visited for some other purpose, and/or a map of the route from the school to the site. They analyze the map before the trip and anticipate what they will see, use a map to navigate at or en route to the site, and use a map to communicate the highlights of their trip to another person.

Long Skinny Map

The class takes a short walk along a straight path, observing the location of objects and their physical relationship to each other. They then create symbols for the objects, with a key, in order to transfer what they see in the real world to paper in a one-dimensional map.

Treasure Hunt

Students are given a paper map with a starting point and a destination marked on it. Their task is to find their way to the destination.

Where Was That Flag?

Students find colored flags placed throughout the field area and place a matching sticker on a paper map at the spot they think corresponds to the real-world position of each flag.

Meeting the National Standards

Where Are We? is targeted at students in grades 2–4. This age range was chosen because research shows that children in this age range are ready to handle spatial concepts of the sort used in maps and mapping. *Geography for Life: The National Geography Standards* emphasizes maps among the skills and knowledge students should acquire before the end of fourth grade. The following table details the alignments between the *Where Are We?* lessons and the *National Geography Standards.*

Alignment of *Where Are We?* Lessons with *Geography for Life: The National Geography Standards*

Geography Standard or Geography Skill	*Where Are We?* Lessons
Standard 1: ...use maps to acquire, process, and report information... The student knows and understands: **1.** The characteristics and purposes of geographic representations — such as maps... **2.** How to display spatial information on maps.... The student is able to: **B.** Show spatial information on geographic representations....	Exploring Maps (p. 38) Bird's-Eye View Mapping (p. 40) Putting New Information on the Map (p. 74) Summing Up: Comparing Maps with the Real World (p. 81) Where Was That Flag? (p. 106)
Standard 2: ...use mental maps... The student is able to: **A.** Use symbols to locate, identify, and mark features...	Map Symbols (p. 43) Putting New Information on the Map (p. 74)
Standard 3: ...analyze the spatial organizations... The student knows and understands: **2.** The spatial concepts of location, distance, direction, scale, movement, and region. The student is able to: **B.** Use the spatial concepts of location, distance, direction, scale, movement and region to describe the spatial organization of places... Measure the distance between two locations.... **D.** Analyze the locations of places....Observe and map the locations of essential services (e.g., street lights...)	The Compass Rose (p. 66) Map Scale (p. 63) Keeping Track of Where You've Been (p. 53) Planning a Route (p. 56) Long Skinny Map (p. 97) Putting New Information on the Map (p. 74)
Skill Set 2: Acquiring Geographic Information **1.** Locate, gather and process information from a variety of primary and secondary sources including maps....Determine the distance and compass direction from one place to another on a map **2.** ...Make records of observations systematically in terms of time and place	The Compass Rose (p. 66) Map Scale (p. 63) Lost! (p. 78) Long Skinny Map (p. 97) Putting New Information on the Map (p. 74)
Skill Set 3: Organizing Geographic Information **1.** Prepare maps to display geographic information...map the location of places...draw sketch maps to illustrate geographic information	Bird's-Eye View Mapping (p. 40) Putting New Information on the Map (p. 74) Long Skinny Map (p. 97) Where Was That Flag? (p. 106) Piggybacking Map Skills onto Other Field Trips (p. 111)
Skill Set 4: Analyzing Geographic Information **1.** Use maps to observe and interpret geographic relationships... Interpret maps to make decisions	Planning a Route (p. 56) Putting New Information on the Map (p. 74) Lost! (p. 78) Treasure Hunt (p. 100)
Skill Set 5: Answering Geographic Questions **2.** Plan how to answer geographic questions...use maps to find the shortest paths....	Planning a Route (p. 56) Piggybacking Map Skills onto Other Field Trips (p. 111)

Family Activities

Encourage your students' families to help them practice using maps in real-world settings. (Be sensitive to the fact that many adults in our society haven't had much experience with maps.) On the following page is a sample letter that you can copy and send home with your students. The letter suggests mapping activities that students can practice on trips or errands with family members.

Dear Family,

Our class is beginning a unit on learning to use maps. We will be using a software program called *Where Are We?,* which is designed to help children make the connection between what they see in the world around them and what they see on the map. Reading maps is a very useful skill in everyday life. It is also very important for concepts that your child will encounter later in geography and science.

Just as families can help their children learn to read books, families also have an important role in teaching children to read maps. Here are some fun ways to help your child become skilled and comfortable with maps:

- Look at a variety of different kinds of maps with your child, for example, road maps, subway maps, atlases, maps in the newspaper, maps of museums, zoos, theme parks, or amusement parks. Talk about what the different kinds of maps are good for.
- When you are planning a trip or an errand, look at the appropriate road, bus, or subway map with your child. Find your starting location on the map and your destination. With your finger, trace the route you will follow. Discuss landmarks you will see along the way. How will you know when you are getting close to your destination? How long will it take to get there?
- When you are out and about with your child, driving or walking, show your child where you are on a map. Point out landmarks, such as buildings or streets, and then show your child how to find the symbols for those same objects on the map. Point out that objects and distances that appear very small on the map are much bigger in the real world.
- Make a simple map with your child, showing something that is important to him or her. For example, you could make a map showing the location of your house to be included with your child's birthday party invitation.
- Let your child see you using maps in your own life.

Thank you for your support. We hope you have a good time sharing maps with your child!

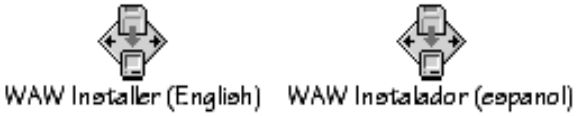
Sincerely,

Installation

Macintosh

Insert the CD-ROM into your drive and double-click the CD icon.

To install the English version, double-click the WAW Installer (English). To install the Spanish version, double-click the WAW Instalador (Español). You can install both versions if you like; simply run both installers.



Follow the installation instructions. If you do not have an appropriate version of QuickTime on your computer, you will be directed to install QuickTime from the CD-ROM.

To launch the program, double-click the *Where Are We?* (or *Dónde Estamos?)* folder on your hard drive and then double-click the program icon.

Windows

Insert the CD-ROM into your drive.

If your computer is set up for autoplay, installation will begin automatically. If autoplay isn't set up, click the My Computer icon. Right-click the *Where Are We?* CD-ROM icon. Select Autoplay. Left-click.

The first dialog box controls which language, English or Spanish, will be installed. To install the English version, click Next to proceed to the next dialog box. To install the Spanish version, click the button next to Español, and then click Next.

Choose the directory into which you would like to install *Where Are We?* and then click OK. Click Next to proceed through the rest of the installation.

When the installation is finished, *Where Are We?* will launch automatically.

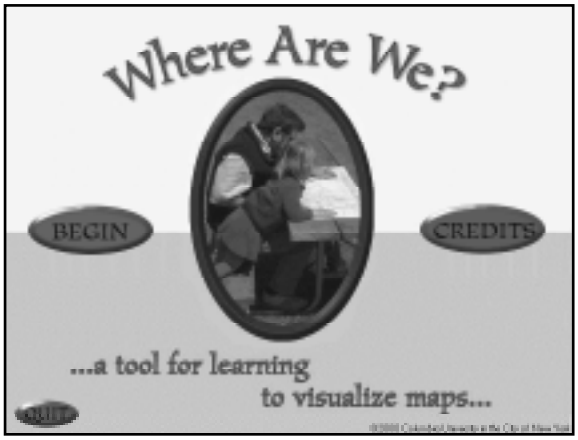
If you do not have an appropriate version of QuickTime on your computer, you will be directed to install QuickTime from the CD.

WalkThrough

This WalkThrough takes you step by step through each of the software's four modes. (*Where Are We?* is easy to explore on your own, too. A narrator explains each screen with easy-to-follow directions.) See the Lessons, Assessments, and Field Trips section to learn how to use the program with your students. To begin the WalkThrough, launch the software and follow along with the directions below.

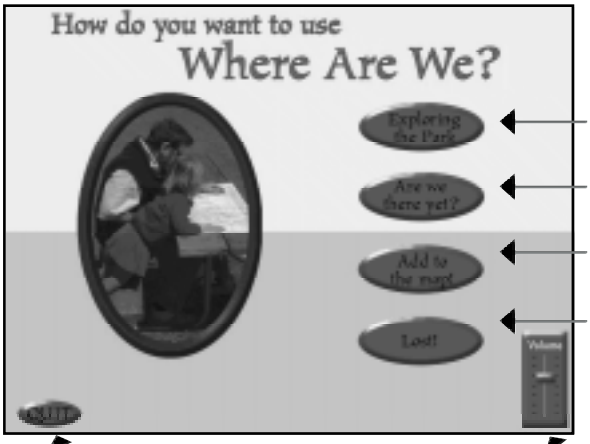
Enter Your Name

1. On the title screen, click **Begin.**



2. Type your name. Later in the program, students will be able to print personalized maps and certificates of accomplishment.

3. Click **OK** or press **Return/Enter.** The main menu screen will appear.



Click here to learn your way around the software and the field area.

If you click here, your challenge will be to find your way to your chosen destination.

If you click here, you can add new information to the map, like a park planner would do.

If you click here, you will be dropped somewhere in the park; your challenge will be to figure out where you are.

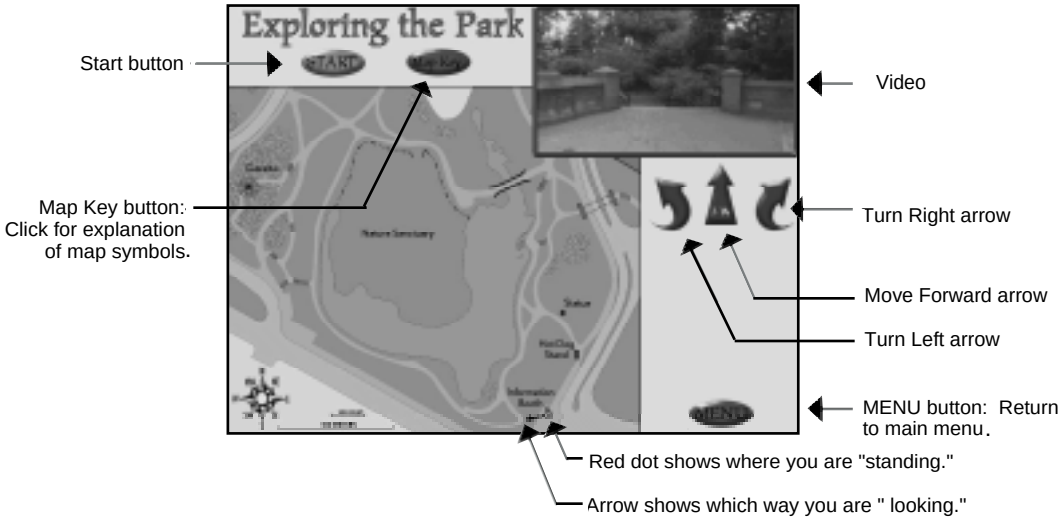
Click here to quit *Where Are We?*

Click here to adjust the volume.

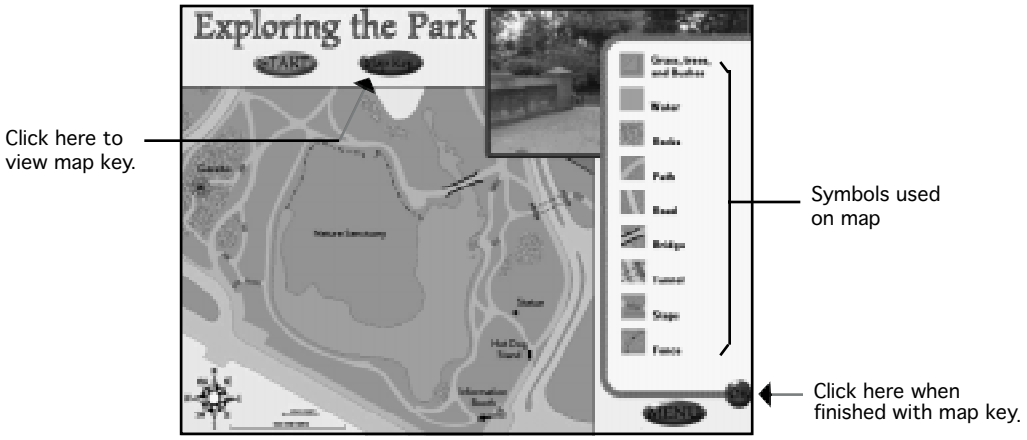
Exploring the Park

1. At the main menu, click **Exploring the Park**. You can click **Start** at any time or wait until the narrator is finished.

After you click **Start**, the video changes to show what you would see if you were standing in the southeast corner of the map looking westward. On the map, a red dot indicates where you are standing. The arrow connected to the red dot shows the direction you are looking.



2. Click **Map Key** to see the symbols used on the map, then click **OK.**



3. Click the **Move Forward** arrow.

The video shows you walking down some steps, while the red dot moves forward, crossing the symbol for stairs. The red dot plays the role of the finger of a parent or other skilled map-using mentor, who traces out the route followed across a map as parent and child drive or hike. The video stops when you reach an intersection or have been going for about 15 seconds along a straight section of path.

You are now at an intersection looking down the left-hand path.

4. Click the **Turn Right** arrow.

   The video turns right. When it stops, you are looking along the right-hand path of the intersection. Notice that the red dot did not move on the map because you haven't moved forward; you have just turned in place. However, the arrow is now pointing northwestward, along the right-hand path.

   Explore the park until you feel comfortable with the navigation buttons and the map symbols. The **Move Forward** arrow turns grey when going forward (off the path or off the edge of the map) is not an option; turn left or right instead.

5. Click **Menu** to return to the main menu.

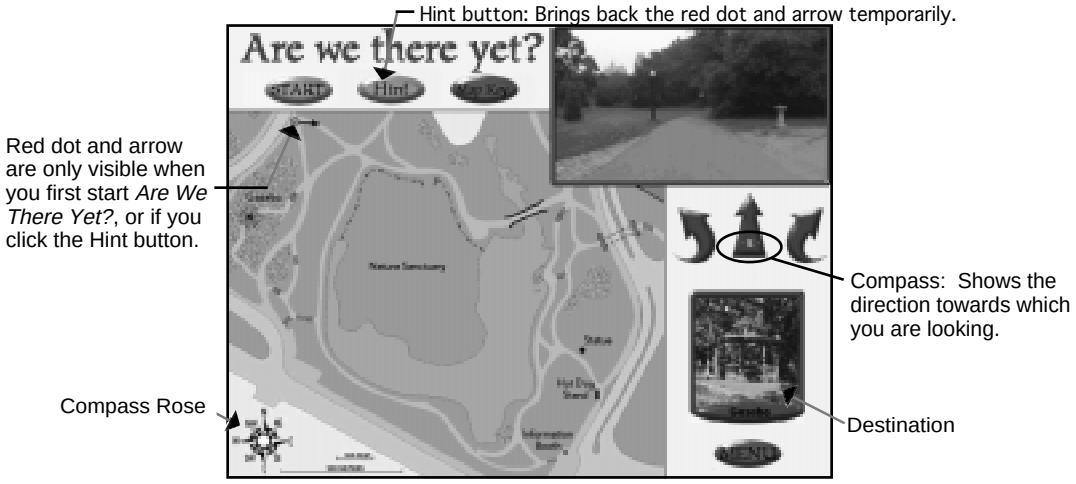
Are We There Yet?

1. At the main menu, click **Are We There Yet? mode.** The screen shows photographs of possible destinations. For the purposes of this WalkThrough, click the gazebo.

2. You can click **Start** at any time or wait until the narrator is finished.

   After you click **Start**, the video changes to show what you would see if you were standing in the northwest corner of the map looking eastward. The red dot and arrow show your starting position. Note your starting position carefully, because in this mode, the red dot and arrow will disappear as soon as you begin to move or turn. The starting position will vary depending on your destination so that students have an opportunity to work in different areas of the map.

   In the lower right-hand corner of the screen, you will see a picture of your destination, in this case the gazebo.



3. Locate the gazebo on the map, near the western edge. Plan a route to get from your starting position to the gazebo.

4. Click the **Turn Right** arrow.

The video shows you turning to the right. Notice that as soon as you start to move or turn, the red dot and arrow disappear. In this mode, it is students' responsibility to keep track of where they are and where they have been.

5. Click the **Turn Left** arrow to return to your original view.

This time, as the video shows you turning, notice the moving compass on the **Move Forward** arrow. When you complete the turn the compass says "E," indicating that you are facing East. Students can use this compass to help navigate.

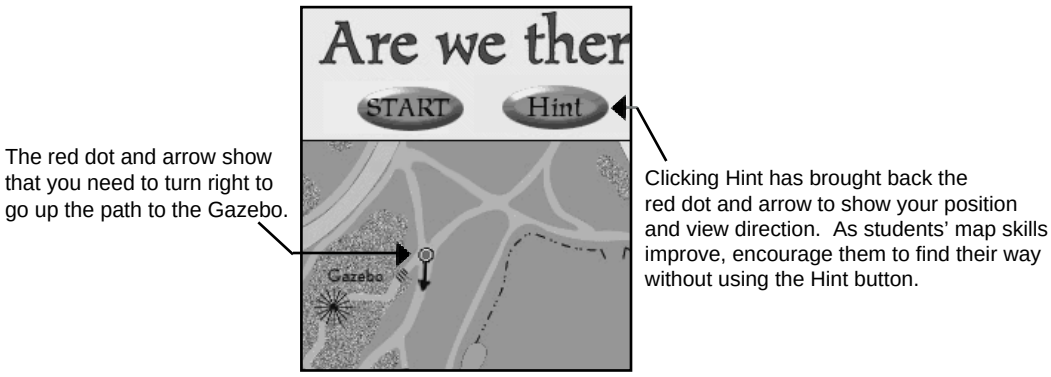
But East is not the most direct route to the gazebo from our starting point.

6. Click the **Turn Right** arrow. Watch the compass swing from E to SE and then a little bit farther, indicating that you are now facing SSE.

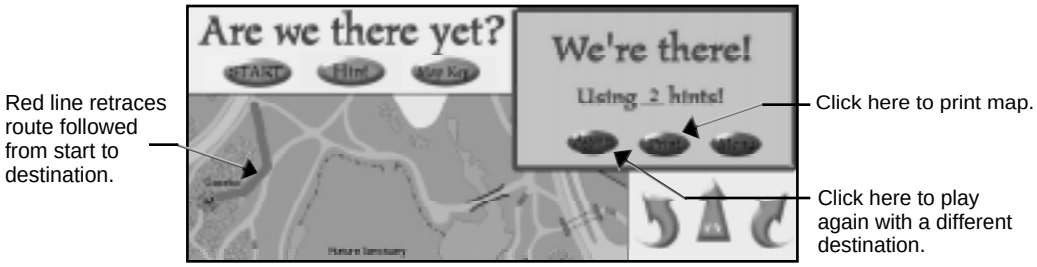
7. Click the **Move Forward** arrow. The video takes you along a shaded path, and the compass shows that you are moving SSEward and then southward.

Are you wondering if you're not where you think you are?

8. Click the **Hint** button. The red dot and arrow reappear to show where you are and in what direction you are looking. The **Hint** button shows that we are getting closer to the gazebo.



9. Click the **Turn Right** arrow to turn towards the large rock outcrop, and then click the **Move Forward** arrow to walk up over the stone steps. You can glimpse the gazebo in the video. Click the **Move Forward** arrow to get closer. After you reach the gazebo, a red line traces the route you followed on the map.



In the upper right-hand corner of the screen you'll see how many hints you used.

10. To print your map, click **Print.** To select another destination, click **Again.** Or click **Menu** to return to the main menu.

Add to the Map

1. On the main menu, click **Add to the Map.**

The screen displays photographs of five kinds of objects that can be found in the park: a lamp post, stop sign, fire hydrant, water fountain, and a wetlands plant called a giant reed. Above and to the right of each photograph is the item's map symbol. Click **OK** to continue.

2. You can click **Start** at any time or wait until the narrator is finished.

After you click **Start**, the video changes to show what you would see if you were standing in the northwest corner of the map, looking southward. The red dot and arrow show your starting position. Note your starting position carefully, because the red dot and arrow will disappear as soon as you start to move or turn.

3. Now look at the video. To the left of the path, a little ways ahead, is a water fountain. Click the **Turn Left** arrow to get a better view of it. As the video rotates, notice that the water fountain sits on a grassy area between two paths. It's quite close to where you are standing, maybe 10 or 20 feet away.

Let's add a symbol to the map to show the location of that water fountain.

4. Click the **water fountain symbol** on the map key. Then hold down the mouse button, and drag the symbol into the green area in the angle between the two paths a little ways south-east of your starting point. When you have the symbol positioned where you want it, release the mouse button to place the water fountain symbol on the map.

If the symbol is correctly positioned, the symbol will stick to the map. If there is no water fountain at this position in the real world, the symbol will fly back to the map key, and you'll have to try again.

If you've lost track of where you are, click **Hint** to get reoriented.

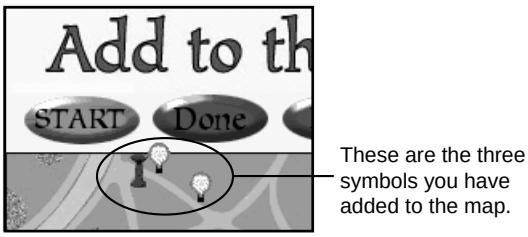
5. Look again at the video. Ahead and to the left of the path is a lamp post. Drag the lamp post symbol onto the map, on the opposite side of the path from the water fountain, and a little bit ahead (i.e., further east).

6. Now click the **Move Forward** arrow.

   You will walk past the lamp post you just placed on the map. Just before the video stops, and just before you reach the next intersection, you will pass another lamp post on your left.

7. Drag and drop another lamp post symbol onto the map.

   You can do this while the video is playing or wait until you reach the intersection. If the lamp post whizzed by too fast for you to get a good sense of its location, click the **Turn Left** arrow twice and you'll be able to look back along the path to get another look.



8. Continue to look around the field area, searching for objects to place on the map. Notice that it's not generally possible to do this by guessing, or by copying from another person's screen, or by remembering where you saw objects on previous visits to the park. A symbol will only stick to the map when: (a) the symbol is placed on the map where the object actually exists in the real park, and (b) the user is "standing" in the video near the location of the object being placed.

9. When you're ready, click **Done** and then click **Yes.** In the upper right-hand corner of the screen, the program indicates how many hints you used.

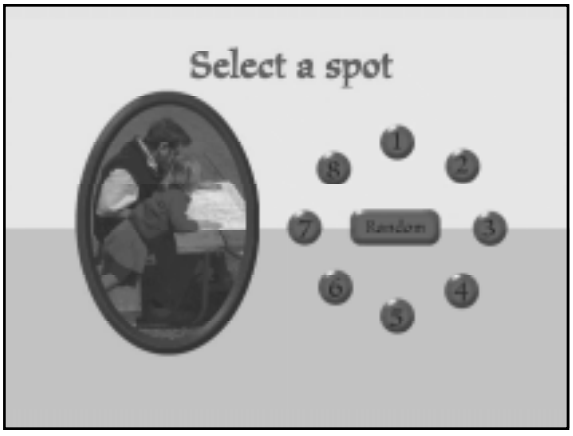
10. Click **Print** to print your map with all its symbols added. Or click **Menu** to return to the main menu.

Lost!

1. On the main menu, click **Lost!** This mode drops you at an unknown location somewhere in the park.

   You can click a number to choose a preselected spot (there is an answer key for these spots on page 79 for the teacher). Lower numbers take you to easier locations than higher numbers. Or you can click Random to be dropped at one of more than 200 possible positions.

2. For the purposes of this WalkThrough, click **4**.

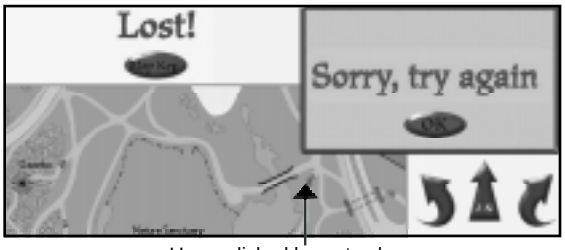


3. You can begin at any time or wait until the narrator finishes.

4. First look at the video. You are standing at the base of a flight of steps, looking up.

5. Click **Map Key** to recall the symbol for steps. The map shows several sets of steps. Click **OK** when you are done with the map key.

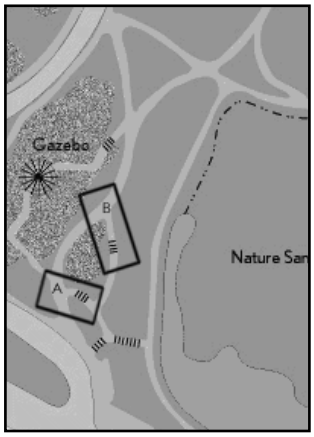
6. Pick one set of steps and click near it to register your guess. Unless you are very lucky, or you relied on additional information, the program will probably tell you "Sorry, try again." Click **OK.**



Users clicked here, to show where they thought they were.

Let's be systematic about this problem and gather some more clues.

7. Click the **Move Forward** arrow. The video will show you walking up the steps and approaching a T intersection. As you travel, the compass swings from "N" for north to "NW" for northwest. Where on the map could you travel north to northwestward up some steps and end up at a T intersection? There are two spots on the map that meet these criteria:



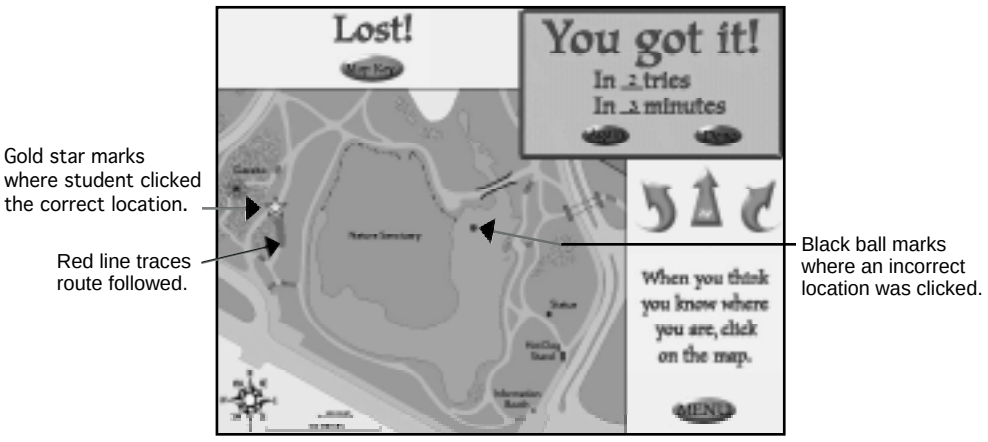
How can you tell which spot is your location?

Let's make a prediction about what we would see at each spot. (Don't click anything yet!) If you went up the stairs to spot A and turned left, you should see the street. But if you went up the stairs to spot B and turned left, you should see rocky outcrops ahead of you on both sides of the path.

8. Click the **Turn Left** arrow. Rocky outcrops!

9. Click **spot B** on the map. You got it!

The program now traces the path you took. This gives students an opportunity to look back at the decision-making process they used to find their location. Where you made an incorrect guess, a black ball appears on the map. The gold star marks your correct guess!

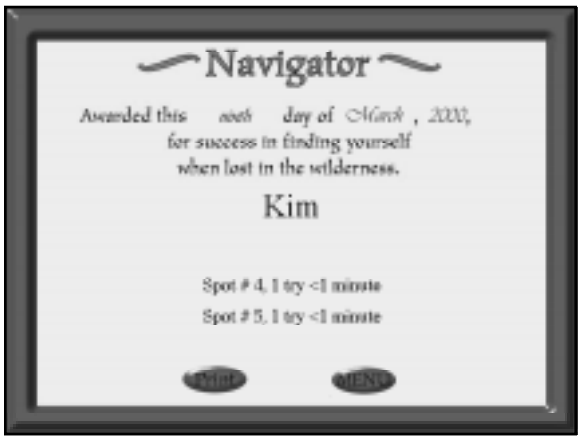


In the upper right-hand corner of the screen, the program indicates how many guesses you made and how long it took you to find your location.

10. To try another challenge, click **Again.** If you are finished, click **Done.**

After you click Done, the program displays a Navigator's Certificate, recording your successes.

11. Click **Print** to print your certificate. Or click **Menu** to return to the main menu.



Quitting

From any of the map pages, click **Menu** to return to the main menu. Then click **Quit.**

On a Macintosh, you can also quit at any time by pressing ⌘-Q.

Technical Tips

Macintosh

Q: My video flashes between color and black and white.

A: This problem occurs occasionally when certain other programs are running at the same time as *Where Are We?* Quit any other applications that may be running.

Q: I was trying to print from my Macintosh. The computer made the kind of sound that it makes when it is having a problem, and no printout came out.

A: The sound that you heard was the system alert, meaning that there is a message for you (such as "out of paper"). Such messages appear in the Finder. To switch to the Finder, try holding down the Command key while you press Tab. This will only work on relatively new Macintoshes. If it doesn't work, you will need to quit *Where Are We?* to see and respond to the printer message.

Q: The videos don't play at all.

A: Make sure the CD-ROM is in the drive. If you have an external CD-ROM drive, check all the wires and connectors.

Q: The videos do not play smoothly.

A: Make sure that your computer is fast enough (at least a 68040 Macintosh) and has enough available memory (16 MB RAM). Quit any other applications that may be running. Reinstall QuickTime from the *Where Are We?* CD-ROM.

Q: In Add to the Map mode, I cannot get the symbols to stick even when I put them in exactly the same spot as they are shown on the answer key.

A: In order for a symbol to stick on the map, two conditions must be met. First, the symbol must be placed at a location on the map where a corresponding real object exists in the real world. Second, the point where you are "standing" must be near the position where the symbol is being placed. This second condition discourages students from guessing (for example, by placing a lamp post at every intersection) and from copying other students' maps. Move to a position near the symbol you are trying to place, and the symbol should stick just fine.

Q: In Lost! mode, the computer doesn't tell me "You got it!" even when I click exactly the same spot as shown on the answer key.

A: The spots shown on the answer key for Lost! mode are the spots where you are dropped when you first see the map immediately after the drum roll. If you move around, by clicking the Move Forward arrow, you will be at a different spot on the map, and you will need to click that new spot in order to trigger the "You got it!" response.

Windows

Q: My video flashes between color and black and white.

A: This problem occurs occasionally when certain other programs are running at the same time as *Where Are We?* Quit any other applications that may be running.

Q: The videos don't play at all.

A: Make sure the CD-ROM is in the drive. If you have an external CD-ROM drive, check all the wires and connectors.

Q: The videos do not play smoothly.

A: Make sure that your computer is fast enough (at least a Pentium 120 Windows) and has enough available memory (16 MB RAM). Quit any other applications that may be running. Reinstall QuickTime from the *Where Are We?* CD-ROM.

Q: In Add to the Map mode, I cannot get the symbols to stick even when I put them in exactly the same spot as they are shown on the answer key.

A: In order for a symbol to stick on the map, two conditions must be met. First, the symbol must be placed at a location on the map where a corresponding real object exists in the real world. Second, the point where you are "standing" must be near the position where the symbol is being placed. This second condition discourages students from guessing (for example, by placing a lamp post at every intersection) and from copying other students' maps. Move to a position near the symbol you are trying to place, and the symbol should stick just fine.

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Technical Troubleshooting

If after reading this guide you are still having technical trouble with *Where Are We?*, please call our Technical Support team at **1-800-342-0236**.

When you call, please have the following information available:

- Software title and version number (*Where Are We?*)
- Your computer platform (e.g., Windows 98, Power Macintosh)
- Your computer model (e.g., G3, Dell Dimension XPS D233)
- Your computer's memory (e.g., 32 megabytes of RAM)
- Your computer's processor and speed (e.g., Pentium processor running at 90 MHz)

If possible, please have the software running on a computer close to the telephone when you call.

Our Technical Support staff is available Monday through Friday, 8 a.m. to 4 p.m. EST. You can also e-mail us at **tech@tomsnyder.com**.

Lessons

Contents

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bird's-eye view
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viewpoint

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strategy
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Lesson 12

(none)

Preparing Student Maps and Figurines

Before beginning the lessons, prepare student copies of the *Where Are We?* map and map key, and a small figurine to walk around on the poster map.

Student Maps

If you have a color printer, you can print page-sized, color copies of the *Where Are We?* map and map key for each student or pair of students. To do this, double-click the Printouts folder on the *Where Are We?* CD-ROM and double-click either the English_Handout.jpg file or the Spanish_Handout.jpg file. These files can be opened and printed with any graphics program or from your Web browser. It's a good idea to laminate these handouts so you can reuse them.

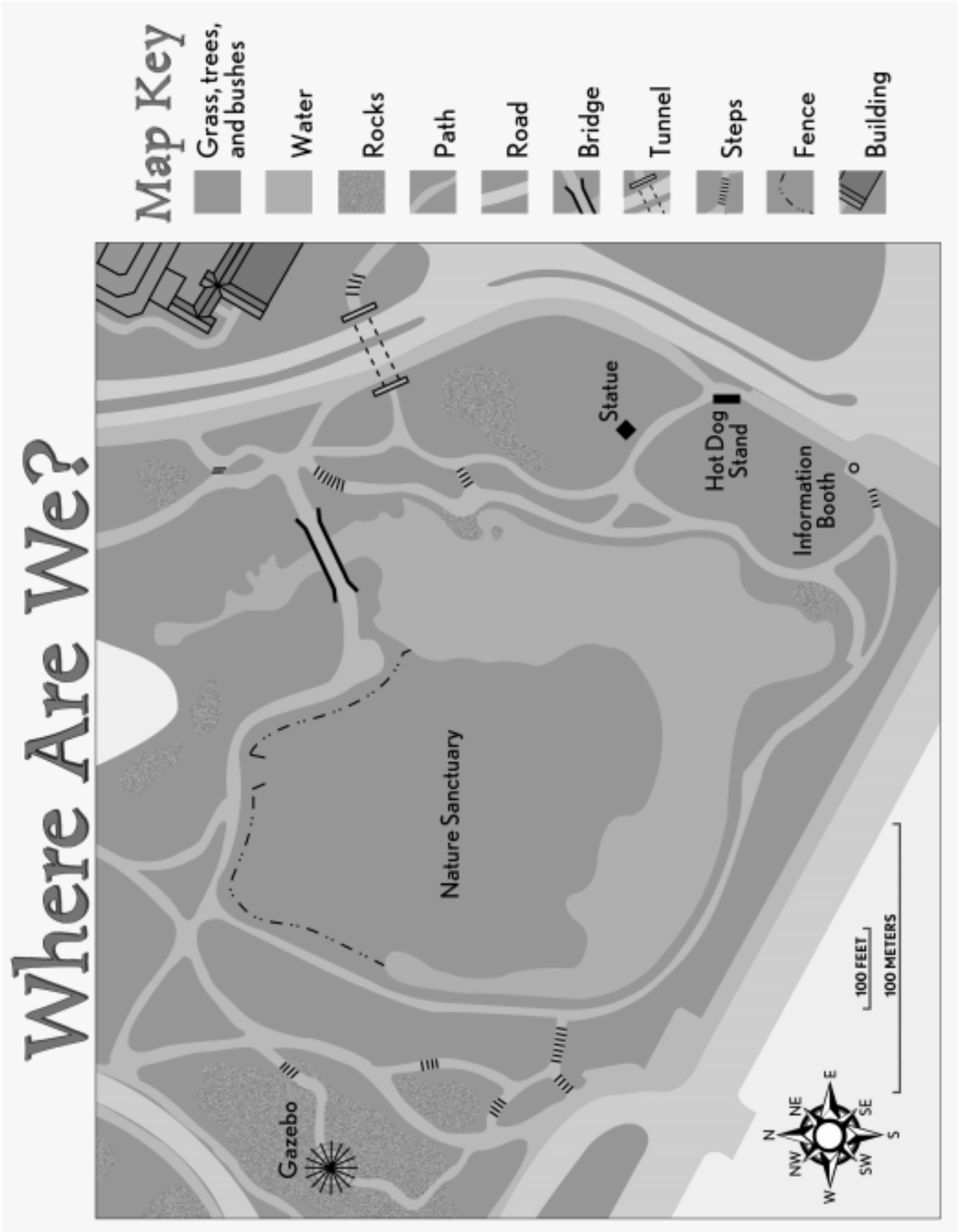
If you do not have a color printer, you can photocopy the student map and map key using the reproducible master on the following page.

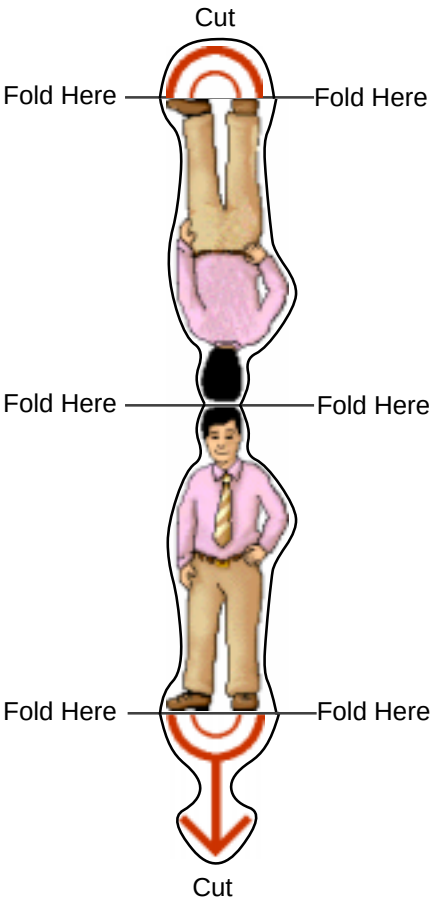
Figurines

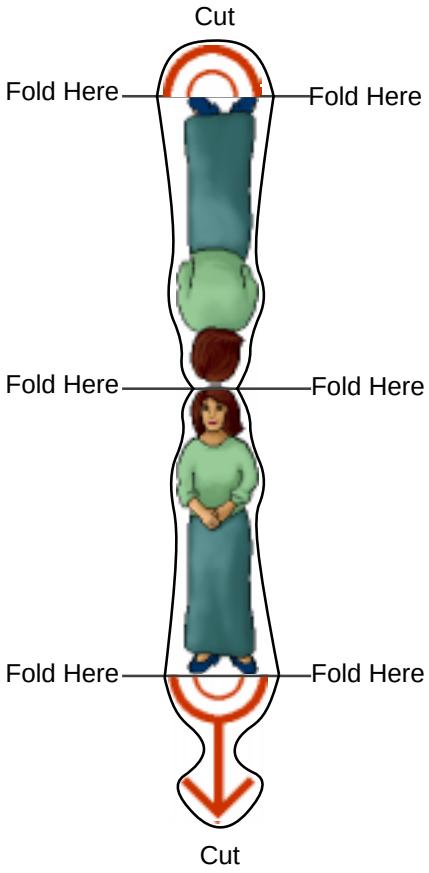
Several of the lessons involve moving a small figurine around on the poster map.

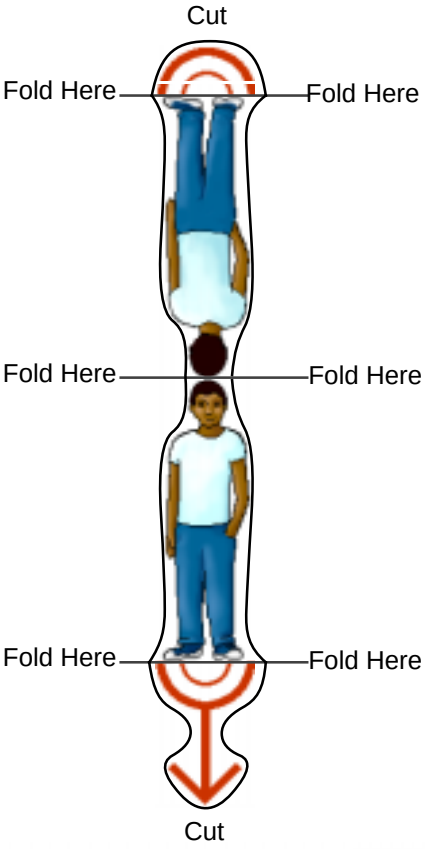
You can use any small plastic figurine, 1" to 2" tall, and add a dot and pointer to its base (representing the position indicator in the software). To do this, make copies of the dot and pointer from the reproducible master on page 37. Have students color the center red, paste it on a light cardboard backing, and cut it out. Then glue it, colored side up, to the figurine's feet.

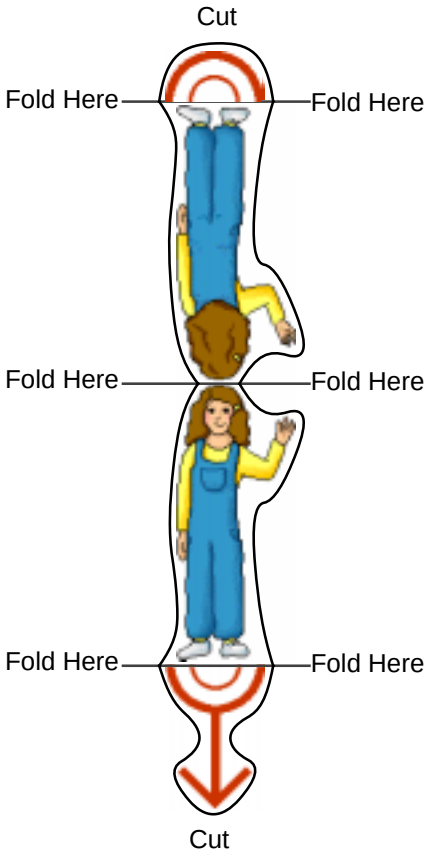
Alternatively, you can make copies of the paper figurines from the reproducible master on page 37. Have students color the people and make the dot red. Cut the figurines out carefully and fold them together.











Lesson 1: Exploring Maps

This activity does not use any software.

Summary

Students examine a variety of paper maps and discuss the uses of maps.

Goals

- To find out what students already know about maps
- To establish a common understanding of what a map is and what it is used for
- To introduce the concept of a map as a simplified picture of a piece of the real world, drawn from bird's-eye view

Desired Student Outcomes — Students Will:

- Show interest in using a map
- Show an understanding of the fact that maps are useful tools in life
- Understand the concepts of "bird's-eye view" and "representation"

Time Required

- One class period

Materials

- A variety of paper maps: for example, community, country, world, local park, national park, theme park, museum, nautical chart, topographic map, map of hiking trails or subway

Vocabulary

- map
- represent, representation
- bird's-eye view
- 2-dimensional

Activities

1. Introduce the activity.

- **Today we will be working with maps. What is a map?**
- **How is it different from a globe?** (It is a 2-dimensional representation of an area.)
- **What do you use it for?**
- **Have you ever used a map? Why? Did anyone help you read it?**
- **Have you ever seen anyone use a map? Who was the person and what information was he or she trying to find?**

2. Students explore a variety of maps.

Divide the class into groups of four, giving each group several different kinds of maps to explore. If students need focusing, you may want to give each group only one map and have them write a list of all they found out about their map.

- **Look at the maps with your group. What can you learn from them? What is your map used for?**

3. One child from each group tells the class about one interesting thing the group noticed or learned. More able students could be encouraged to compare their maps and describe similarities or differences.

4. Wrap up.

Discuss the importance of maps, what information can be obtained from a map, and the value of map-reading skills.

- **Why do you need to know how to read a map?**
- **What kinds of information can you learn from each kind of map that you looked at?**
- **What is the difference between a map and a photograph?** (A map does not show all the details and it's drawn from a bird's-eye view.)
- **What do all the maps you looked at have in common?**

Lesson 2: Bird's-Eye View Mapping

This activity does not use any software.

Summary

- Students draw a simple map of the objects on their desks.

Goal

- To help students begin to make the connection between what they see in the real world and what they see on a map

Desired Student Outcomes — Students Will:

- Make a simple map using a bird's-eye view
- Interpret a simple map
- Understand the value of a map for transferring information
- Demonstrate a beginning understanding of proportion and location of objects

Time Required

- Two class periods

Materials

- Clipboards
- Pieces of paper cut to match the shape of the desk tops or tabletops in the classroom
- A variety of small objects for each student (pencils, erasers, books, glue, etc.)

Vocabulary

- location
- proportion
- viewpoint

Activities

1. Introduce the activity.

- **Today you're going to have the opportunity to do some mapping yourself.**

2. Students make a map of the top of their desks.

Draw two versions of a cup on the blackboard: side view and top view. This will help build an understanding of the difference between the person's-eye view (side view) and the map view or "bird's-eye view" (from above). Ask students to explain the differences. Explain that they will use the bird's-eye view to draw (or "map") the items on their desks.

Pass out 4–12 small objects per table, plus a clipboard and a piece of paper for each student. Have students scatter the objects on their desk tops or tabletops.

Model good mapping strategies by thinking out loud while drawing a simple map of one table on the board. Encourage students to pay attention to location and proportion.

- **Draw a simple picture of the top of your table/desk as seen from above. Pretend that you are a bird, looking down. Draw what the bird would see. We call this a bird's-eye view. Don't draw all the details. Just draw the outline shape of each object.**

Have students stand up to work so they can look down on the tabletop.

More able students could draw another map using symbols instead of pictures for each object. If your students are already familiar with map symbols, have them create a key for their maps now.

3. Class discussion.

When the drawings are complete, discuss the similarities and differences between what students drew and what they really saw, how they decided where to place items on their maps, and how they represented objects in their drawings.

- **Why is the drawing you just made a map? What is the difference between this drawing and the drawings you usually make of objects?** (A map shows a bird's-eye view while most drawings show a side view, a person's-eye view.)
- **Show me, with your hands, how big your desk (or table) really is. Now show me how big your desk is on your map.**

Elicit the idea that on a map, objects are usually shown smaller than they are in real life.

- **How did you decide what to include on your drawing?**
- **Did you have to leave anything out? Did you include every detail of each object? Even the eraser on the pencil, and the words on the label of the tape?**

Elicit the idea that on a map, objects are usually shown with less detail than in real life.

- **How did you decide where to put the objects on your map?**

Elicit the idea that on a map, the objects are located relative to each other in the same pattern as in the real world.

4. Wrap up the first session.

   - **It's time to clean up. Will you be able to put all the objects back on your desk tomorrow in the exact same location? How will you do this?** (Use the maps.)

5. Start the second session by having students read each other's maps, working in pairs.

   - **Yesterday you made maps. Let's see if you can read someone else's map today.**

   Students pile yesterday's mapping objects on their desks in a heap along with their maps. With more able students, have students add objects that are not on the map.

   Students swap places with a partner and use the maps to place the objects where they were yesterday. Partners then check each other's work.

6. Class discussion.

   - **How did you know where to put the objects?**
   - **How did you know if your partner was putting the objects in the right or wrong places?**
   - **Can you think of any way that you could have made your map better?**
   - **In this activity, you used a map to record and store information about how the objects were placed on the desk. Then you used the map to give that information to your partner. Is there any other way you could have given the same information to your partner?** (You could explain in words, "The pencil is in the corner of the desk towards the door.") **Do you think the map was a better or worse way of giving the information to your partner? Why?**

7. Wrap up.

   - **What did you learn?**

   Elicit the idea that a map is a way of recording information about the position or location of things, and a way of communicating that information to another person. It is also a way of recording information to be used at a later time.

   - **Can you think of ways mapping will be useful to you in real life?** (Planning furniture arrangements in a room, as a visual reminder of how to get to a friend's house, planning a garden, etc.)

Lesson 3: Map Symbols

This activity does not use any software.

Summary

Students use the key on the *Where Are We?* poster map to identify objects on the map, and to imagine what is seen by someone standing at a particular location.

Goal

- To help students understand the concept of a symbol, and how to use symbols effectively when making or interpreting a map

Desired Student Outcomes — Students Will:

- Understand the concept of "symbol"
- Use a key to identify symbols on a map
- Become familiar with the symbols used on the *Where Are We?* map
- Make a map key

Time Required

- One class period

Materials

- *Where Are We?* poster map
- *Where Are We?* figurine (see page 37)
- desktop maps students made in Lesson 2
- Symbols sheet (see page 46)

Vocabulary

- symbol
- represents
- map key

Activities

1. Introduce the concept of a symbol.

- **What is a symbol?** (A picture or object that stands for, or represents, something else.)
- **What are symbols used for?**

Discuss road signs, religious symbols, recycling symbols, etc. Show symbols sheet.

- **How do you think people decide on what the symbol should look like? How is this helpful?** (Usually the symbol looks like the real object. Perhaps it's just the outline. When we look at it, we're reminded of the real object. For example, a picture of a child crossing the road is used on a road sign as a symbol for a school crossing.)
- **How are symbols different from the real objects?** (Usually much simpler, less detailed.)
- **Why do you need to know about symbols to read a map?**

Emphasize that you cannot understand a map unless you understand the symbols used.

2. Discuss symbols using the *Where Are We?* poster map.

- **Today we are going to use map symbols to help this little person find his/her way through a park.**

Show students *Where Are We?* figurine and decide on a name.

Display *Where Are We?* poster map.

- **This is a map of a park. Who can show me a symbol on the map that represents stairs in the real park?**

Model the thinking process for younger students.

- **First I looked over here on the side of the map where the different symbols are explained. The part that explains the symbols is called the map key. I found the symbol for stairs, which is a bunch of little black lines parallel to each other, like this. (Point to map key.) Then I looked around on the map until I found that same symbol on the map. I found the stairs symbol here and here and here. (Point to map.)**

Repeat with other symbols.

- **Who can show me a symbol on the map that represents a bridge in the real world? ...rocks? ...water?**

Place the figurine on the poster map.

- **What would this person see from where she or he is standing?** (Possible answer: In front of her she would see a path. On her right there would be some water, like a lake. On her left would be grass or bushes.)

Move the figurine around to different locations on the map, each time asking students what the figurine would see. Repeat until the figurine has seen all the symbols.

- **If you are using the map and you forget what one of the symbols means, what can you do?** (Look at the map key.)

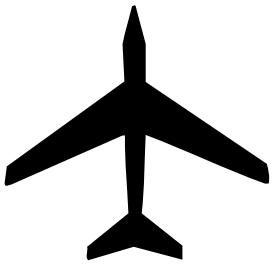
- **If you are trying to find something on the map, what do you do?** (Look at the map key to see what symbol this map is using for that object; then look around on the map until you find that object.)
- **How is making a map different from drawing a pretty picture?** (A map is supposed to be an accurate representation of the real world. You can't just use your imagination. When you make a map, you want to put each symbol on the map in a place that matches the location of a real object in the real world.)
- **Not all maps use the same symbols. For example, we used a black line to represent the road; another map might use a red line as the symbol for a road. How could you make sure that the users of your desk maps could tell what each of your symbols/simple pictures represents?** (Make a key.)

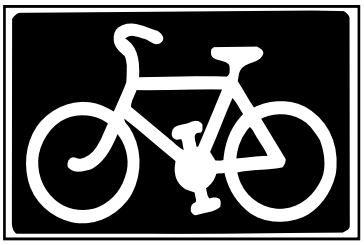
3. Students make keys for their desk maps.

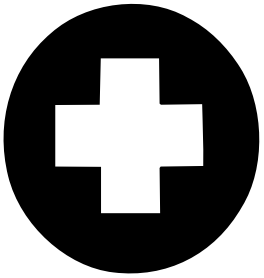
4. Wrap up.

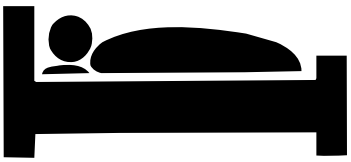
"Read" a few of the map keys aloud to the class.

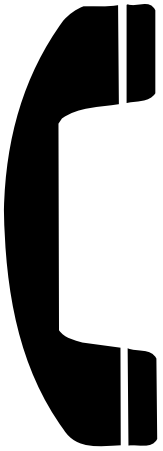
- **By using the key I know what should be there even if the things aren't right in front of me.**
- **How many people feel comfortable using map keys now? You will get to use one when you use the *Where Are We?* software.**

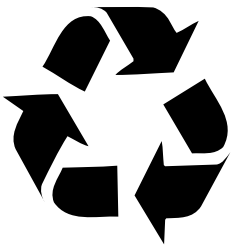












Lesson 4: Introducing the Software

Summary

Students learn how the software works by using Exploring the Park mode.

Goals

- To introduce students to the *Where Are We?* software
- To familiarize students with the *Where Are We?* mapped environment
- To help students discover the correlation between a map and the real world

Desired Student Outcomes — Students Will:

- Use Exploring the Park mode proficiently
- Become enthusiastic about using the *Where Are We?* software
- Understand the correlation between the map and the video of the same area
- Use a map to decide where to explore

Time Required

- One class period

Materials

- *Where Are We?* CD-ROM(s)
- *Where Are We?* poster map
- *Where Are We?* figurine
- large-screen computer monitor or computer projector
- computers

Vocabulary

- location
- direction
- rotate
- left, right
- route
- mode

At the Monitor

1. Launch the software and sign in. Listen to the introduction.

- **Today we'll use Exploring the Park mode so you can look around the park.**

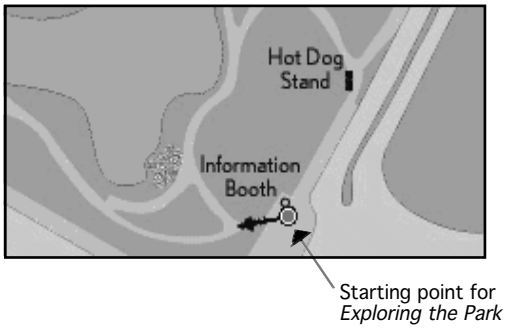
Open Exploring the Park mode. Listen to the directions on the computer. Answer any questions students may have.

Less experienced students may need a review of the directions (see steps 2 and 3) before working at their own computers.

2. Call attention to the major features visible on the screen.

- **The red dot on the computer map shows where you're standing.**
- **The arrow on the computer map shows the direction you're facing.**

Ask for a volunteer to place the *Where Are We?* figurine on the poster map at the same location as the red dot on the computer map, facing the figure in the same direction as the arrow. See the starting point below.



- **What would the figurine see if s/he were a real person standing at that location in the real world?** (Steps in front of her, road to the left, information booth to the right.)
- (Pointing to the video picture…) **What is this?** (It's a picture that shows what you would see if you were standing at the position of the red dot, looking in the direction of the arrow.)

3. Demonstrate using the navigation arrows.

- **This button is the forward arrow.**

Click once and then wait and watch.

- **What happened?** (The view on the video changed, like you were walking through the park.)
- **Did anything else happen?** (The red dot moved across the map. The red dot shows where you are on the map, so when you move, the red dot moves.)
- **This is the left arrow to turn left.**
- **What happened?** (The view in the video changed, like you were turning to the left. Also, the arrow on the red dot turned to a new direction.)

Repeat for the right arrow.

At the Computer

- **Hint: The arrows will work only when they are blue. If the arrow is gray, choose a different one. Wait until the video stops to turn or move forward.**
- (If there are two students per computer...) **How could you and your partner share the mouse and the decision making so it's fair?**
- **Go to your computer, read the computer map to decide what you'd like to see, and then go exploring. Bye!**

Students, alone or in pairs, "go for a walk" at their computers.

1. *Optional:* On Your Mark...!

More able students may want a more challenging activity. Those who would like to race each other to a destination should click "Return To Main Menu," and then reenter Exploring the Park mode. The red dot and arrow will now be back at the starting point.

- **You will be racing to the bridge. Don't begin until I say, "Go!" You have 10 seconds to plan your route with your partner.**
- (Wait 10 seconds.) **Raise your hand when you get to the bridge. On your mark, get set, go!**

Ask winners to explain their route and their strategy.

- **Did anyone follow a different route to the bridge?**

Have these students describe their alternative routes, or point them out on the large screen or poster.

- **There is more than one way to get where you want to go in this world. Students followed different routes, but they all got to the bridge.**

2. Wrap up.

- **How did you decide where to go?**
- **What did you see? Did it look the way you expected it to from the map symbols?**
- **What did you learn from this activity?**

Emphasize the correlation between map and real world, what one sees on a map is just a simplified version of the real world.

Lesson 5: Landmarks

Summary

This lesson introduces the value of landmarks in map reading and navigation, through guided use of Are We There Yet? mode.

Goals

- To teach students to identify and use reliable landmarks in mapping and navigating
- To introduce Are We There Yet? mode

Desired Student Outcomes — Students Will:

- Understand the value of landmarks in personal navigation
- Understand the characteristics that make specific landmarks useful or not useful for personal navigation
- Identify potentially useful landmarks in a landscape through which the student is traveling
- Use landmarks to figure out where you are on a map

Time Required

- One class period

Materials

- *Where Are We?* CD-ROM(s)
- large-screen monitor or projector
- computers

Vocabulary

- landmark
- permanent
- temporary
- destination

Before Using the Computer

1. Introduce the concept of a landmark.

- **Today we're going to talk about landmarks and then use the *Where Are We?* program.**
- **What's a landmark?** (Something you can see that helps you know where you are.)
- **What are some landmarks that you use to know where to turn as you come to school?**

Write down students' answers on the board or a large sheet of paper.

- **Think of a place you travel to often, maybe a relative's house or the grocery store. What are some landmarks that you use to know how to get there?**

Write answers on the board.

- **All of these landmarks are useful for finding your way. What do all of them have in common?**

Write down students' answers. Some possibilities: good landmarks don't change from day to day; are easy to remember; look different from the other things around them.

- **What is something that you might see on your way to school that would not be a good landmark?**

Discuss what are not good landmarks and why. Examples: things that move, such as people, cars, and animals; things that are very common such as garbage cans; things that change, such as the bright red flowers that bloom only in spring.

At the Monitor

1. Launch *Where Are We?*, sign in, and then click the Are We There Yet? mode. Listen to the narrator's instructions.

- **Today you have the chance to find your way using landmarks and map symbols.**
- **How is this mode different from Exploring the Park?** (There is no red dot.) **How will you know where you are?** (Look for a good landmark in the video, and then look for its symbol on the map.)
- **The starting point is different for each destination.**

Model how to use the landmarks and map symbols to figure out where you are.

Remind students about the Hint button. Clicking this button will put the red dot and arrow (showing students' current location and view direction) back on the map temporarily. The Hint button is a useful aid for beginners, but as students' skills develop, encourage them to use other strategies. Remind them that in the real world, paper maps don't have hint buttons.

At the Computer

1. Partners work at their computers. Allow at least 20 minutes for computer work. Circulate among them, helping and discussing.

- **Where do you think you are? How do you know? How did you get there?**
- **Do you see a landmark in the video? Where is it on the map?**

2. Wrap up.

- **How did it go?**
- **Were you able to find your destination? Were you able to get there without using the Hint button?**
- **How did you know where you were?**
- **Did anyone get lost? How did you find your way again?**
- **Did anyone find any good landmarks? What were they?**
- **What did you learn from this activity?** (*Good landmarks are noticeable, are easy to remember, and don't change over time.*)

Emphasize that landmarks can be used to find one's location or follow a map.

Lesson 6: Keeping Track of Where You've Been

Summary

Students keep track of their route in Are We There Yet? mode and practice returning to their starting point.

Goal

- To teach students to keep track of their route so they know where they are and that they can find their way back to the starting point

Desired Student Outcomes — Students Will:

- Trace on a map the route taken to arrive at a place
- Use information about the route to figure out current position
- Retrace the same route for the return trip

Time Required

- One class period

Materials

- *Where Are We?* CD-ROM(s)
- washable markers, crayons, or grease pencils
- *Where Are We?* poster map (laminated)
- *Where Are We?* student maps (laminated)
- computer monitor

Vocabulary

- track
- position
- navigate

Before Using the Computer

1. Introduce the importance of keeping track of where you've been.

   - **Have you ever been lost? Why couldn't you find your way back?**
   - **How could you avoid getting lost?**
   - **Today you get to try to keep track of your route so you can figure out where you are and how to find your way back to your starting point.**

   Remind students of Hansel and Gretel. They could not retrace their steps. They had not kept track of their route on a map.

At the Monitor

1. Demonstrate keeping track of a route. Use the poster map, or hand out individual maps and markers to students.

   Launch *Where Are We?,* sign in, and click the Are We There Yet? mode. Have students pick a destination — the shortest route is to the gazebo.

   - **Remember that in Are We There Yet? mode there is no red dot to tell us where we are. Today we're not going to use the Hint button since there's no hint button on a paper map. Instead, we're going to keep track of our progress on the map to figure out where we have gone and how we would get back to the starting point by the same route.**

   Have a volunteer look at the starting point on the computer, then put a dot at the same location on the poster map. Note that the starting point in Are We There Yet? mode will depend on which destination students choose. The starting points for Are We There Yet? mode are shown below:

Ask students which way you should turn or move. After each move, have a volunteer mark the new position on the poster map.

After a few moves, have students switch to student maps and mark the route with marker.

After a few more moves, have students put away the markers and use a finger to track the route on the map.

- **Your finger will be like the moving red dot, back when we were using Exploring the Park mode. Your finger will keep track of where you are at all times.**

When you arrive at your destination, ask students how they could get back to the starting point following the same route. As a volunteer explains the directions, students follow along with a finger on the map. Emphasize that landmarks will be on their opposite side on the return trip, and that they will be in the opposite order. What they saw last on their trip, they will see first on their return trip.

- **How will you know if you are doing it right? You must plan, predict what you'll see along the way, and then check to see if you're on the right route.**

2. Wrap up.

- **What did you learn?**

Emphasize that a map can be used to keep track of where you've come from so you can figure out where you are and find your way back.

- **How could this skill save your life one day?**

Lesson 7: Planning a Route

Summary

Students plan a route to a destination and anticipate what they should see along that route. Using Exploring the Park mode, students test their predictions and verify their plan.

Goal

- To teach students to use a map to plan a route and stay on course by predicting what they will see and checking their predictions

Desired Student Outcomes — Students Will:

- Use a map to plan a route to a destination
- Anticipate landmarks that will be seen along a planned route
- Use landmarks to check progress and adjust as necessary
- Realize there can be more than one way to reach a destination

Time Required

- One class period

Materials

- *Where Are We?* CD-ROM(s)
- laminated *Where Are We?* student handouts (two for each group of students)
- laminated *Where Are We?* poster map
- washable markers, crayons, or grease pencils
- Planning and Predicting Worksheet on page 62 (two for each student)
- *Where Are We?* figurine (see page 37)
- computer monitor
- large tablet paper, poster paper, or chalkboard

Vocabulary

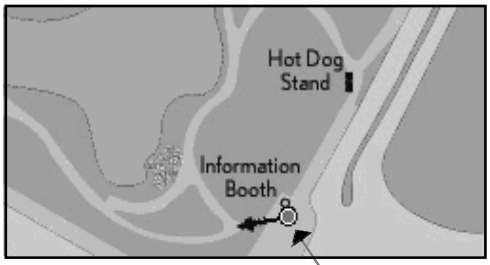
- observe/observation
- predict/prediction
- plan
- intersection
- fork in the road

Before Using the Computer

1. Demonstrate planning a route on the poster map.

- **Today you get to practice your map skills by PLANNING a trip using your map, PREDICTING what you will see along the way, and then CHECKING to see if you're right.**

Put the figurine on the starting point shown below. Face the figurine in the direction the arrow is pointing, as shown below.



This is the same starting point students will be using in Exploring the Park mode.

Choose a destination, for example, the statue. With students calling out suggestions, draw a line on the map to trace the route you want to follow.

- **This line on the map represents our plan of how the figurine is going to get to her destination. The figurine needs to follow our plan and decide if the plan is working.**

2. Demonstrate predicting what you will see.

Write on the tablet paper or chalkboard, "Instructions" and "What should you see?" (See the sample on page 61.)

There are several routes to the statue. The dialog that starts below fits one possible route, but it will need to be modified if student suggestions steer you on a different route.

For younger students, move the figurine across the poster map throughout the following dialog.

- **Look at the starting point on the paper map. What do you think you would see if you were standing right here?** (Stairs going down, road to the left, information booth to the right.)
- **Let's start following our plan to get to the statue. What should we do first?** (Go down steps.)

Write down the instructions on the board in the "Instructions" column.

- **What will we see at the bottom of the steps?** (Grass and bushes; a fork in the road.)

Write correct answers in the "What should you see?" column.

- **What should we do then?** (Take the right fork.)
- **What will we see?** (A large rock straight ahead.)
- **The next step?** (Bear right at the intersection and continue to the next fork.)
- **What will we see?** (The lake on the left; a fork straight ahead.)
- **Suppose you were to see the lake on your right? What would that mean?** (We turned the wrong way. We should turn around and get back on our route.)
- **What are your next instructions?** (Take the right fork.)
- **What will you see?** (Three paths going off in different directions.)
- **Next instructions?** (Take the far right path.)
- **What will you see?** (Statue on left!)

As in real life, some places do not have discernible landmarks. A single entry in the table may cover a fairly long segment of the path until there is something noteworthy. Students do not need to fill in all of the boxes on the chart.

At the Monitor

Add the two right columns to your table written on the tablet paper or chalkboard, "What do you really see?" and "Are you going where you think you are going?"

1. Model how to follow the directions given by the class and how to fill in the answers in the two columns on the right. The answers may seem obvious, but it forces students to check their predictions.

   Start Exploring the Park mode. The opening shot consists of stairs.

   - **Let's look around by turning right and left. What do you see? Does it match what we predicted we would see?** (Road on the left, information booth on the right.)
   - **Now let's go down the stairs.**

   Click the forward arrow and wait for video to stop.

   - **What do you see ahead of you? Does it match what we expected to see?** (Trees, grass, fork in road.)

   Lead students through the first several steps of the plan. At each step, check to see if what you actually see matches your prediction of what you thought you would see when you were making the plan.

   - **By checking the predictions we made before our walk, we can see if everything is going according to plan. Are we seeing what we expected to see?**

2. Turn the wrong way. Model appropriate thinking for when the prediction and actual view don't match.

   - **Maybe we turned the wrong way. Let's go back and try again.**
   - **Maybe we just can't see the stairs because they are off the bottom of the picture; let's move forward and see what happens.**

- **The map doesn't show everything in the real world, so there will be things that we can't see on the map that we can see in the real world.**

Continue, with help from students, until you reach your destination.

3. Discuss alternative strategies.

- **Could we have planned a different route to the same destination?**

With students calling out suggestions, travel the alternate route on the map.

- **What might be better or worse about this route compared with the first route we planned?** (Could be longer, could be prettier, could let us stop for a hot dog at the hot dog stand.)

Emphasize that there's often more than one way to get where you want to go.

For younger students end the lesson here. For more able students, continue with steps 4 and/or 5.

4. Students plan a route to another destination.

Hand out copies of the student maps plus the Planning and Predicting Worksheet.

Students work in pairs to plan a route to their own destinations. The starting point, however, must always be in the southeast corner of the map. They mark their route with marker on their *Where Are We?* map, and fill in the first two columns on a Planning and Predicting Worksheet. It's important that they indicate if the landmark will be on their right or left. Encourage them to use the words "intersection" and "fork in the road."

5. Check students' predictions.

A volunteer shows his map, with route marked on it, to the rest of the class, without letting the teacher see it. He then reads the instructions, step by step, to the teacher for her to follow on the video in Exploring the Park. All students notify the teacher if she starts to go in the wrong direction so she can correct the moves, and the volunteer can correct his directions if necessary.

After the destination has been reached and the volunteer has received a round of applause, have students study their own instructions and make changes if necessary.

Repeat with another volunteer, but this time have a student follow the instructions.

Note: Although the worksheet may be incomprehensible to anyone but the students who wrote it, in this activity the process (developing the skills of planning, predicting, checking) is more important than the product.

6. Wrap up.

- **What did you learn from this activity?**

Emphasize that we should plan, predict, and check when following instructions or using a map to make sure we are on the right course. There may be more than one way to get where we want to go.

- How would this strategy help you when following directions?
- How would this strategy help you when giving directions to someone else?

There are numerous routes that can be taken to each destination. Below is an example of one route.

PLANNING and PREDICTING – SAMPLE ANSWERS

Name:_____ **Date:**_____ **Destination:** **statue**

Using the map		**At the computer**	
Instructions	What should you see?	What do you really see?	Are you going where you think you're going?
go down the stairs	Grass and bushes, fork in the road	same	yes
take the right fork	A large rock straight ahead	same	yes
turn right and continue to fork	lake on the left, fork straight ahead	same	yes
take the right fork	Grass, 3 paths	same	yes
take far right path	Statue on left!	same	yes

PLANNING and PREDICTING WORKSHEET

Using the map		**At the computer**	
Instructions	What should you see?	What do you really see?	Are you going where you think you're going?

Lesson 8: Map Scale

For this lesson, you will need to know a place at school that is 100 feet or 100 meters long.

Summary

By contrasting the distance traveled in the *Where Are We?* video with the distance the dot advances across the map, students see the difference in size (scale) between the map and the represented landscape. They use the map scale to estimate sizes and distances in the *Where Are We?* scene and on other maps.

Goals

- To help students understand how a map drawn on a piece of paper can represent a much larger area
- To teach students to use a map scale to estimate real-world sizes and distances

Desired Student Outcomes — Students Will:

- Understand that a map takes a large area of the earth and shrinks it down to a small area on paper
- Identify the map scale on a map
- Use a map scale to estimate the real size of objects
- Use a map scale to estimate the distance between points in the real world

Time Required

- One class period

Materials

- *Where Are We?* CD-ROM(s)
- a variety of large-scale and small-scale maps
- computer monitor
- stop watch

Vocabulary

- scale
- model
- estimate
- 3-dimensional

Before Using the Computer

1. Generate a discussion about models.

Ask students to think of models they use everyday, such as toy cars and trucks, dolls, small plastic animals.

- **All of these things you mentioned are models, objects that are smaller than the real things so we can use them in ways we can't use the real things. You can't bring a real truck inside this classroom, but certainly you can bring a toy car, or a model, into the room. We don't have a *Where Are We?* map big enough for a real person to walk on, so we have our small model person to walk on it for us.**
- **A map is a 2-dimensional model of a part of the world. Sometimes it shows a town, a state, a whole country, or sometimes even the whole world. A globe is a 3-dimensional model of the whole world. A map is 2-dimensional.**
- **Today we're going to see how you can figure out a real size or distance from looking at a map.**

At the Monitor

1. Contrast map distance with real-world distance.

Launch *Where Are We?*, sign in, and click the Exploring the Park mode. Click the forward arrow a few times.

- **Notice that the red dot is moving across the map as we "walk" along in the video.**
- **It seems as if we're walking quite a long way in the video, but the red dot hasn't moved very far. We walk and walk, but we only cover a tiny distance on the map. Why?**

Elicit the idea that a big distance in the real world corresponds to a small distance on the map; the map has taken a big area of the real world and shrunk it to a small area on paper.

2. Introduce map scale.

Point out the scale on the bottom of the map, indicating 100 feet and 100 meters. This lesson discusses feet, but you may want to use the metric measure instead.

- **This is the map scale. What does it show you?** (It shows you the size of things on the map. It also shows the distance between places on the map. This line represents a distance of 100 feet on the map.)
- **Does this length represent 100 feet everywhere on the map?** (Yes.)
- **100 feet is the length of our_____** (name an area at school that is about 100 feet long).

3. Measure distance by using the map scale.

- **Watch. When we stop, tell me how far you think we have walked.**

Click the forward arrow. Wait for the video to stop.

- **How far do you think we have traveled from our starting point?**

Model how to use the map scale to measure distance traveled. Put your finger(s) against the map scale.

- **I can use my finger(s) to figure out the distance. How many fingers do I need to show 100 feet?**
- **If I put my finger(s) on the map, who can figure out how far we would have walked in real life?**

Click the forward arrow again. Wait for the video to stop. Ask a student to come up to the computer and estimate the distance traveled from the starting point.

4. Measure the size of an object on the map.

- **In real life, if you swam straight across the lake from the western shore to the eastern shore, approximately how far did you swim? Could you really swim this far?**

5. Encourage students to develop a sense of time and distance.

- **How long does it take to walk 100 feet in the computer video?**

Use the map scale to measure 100 feet on the map from your current location. Use a stop watch to time the walk.

Repeat the activity with 500 feet, 900 feet. If time allows, repeat this activity, but in the real world instead of on the computer.

6. Compare scales of various maps.

- **Is the scale the same on all maps? How do you know?** (No. Look at the scales.)

Look at several paper maps together. Examine the scale and compare the distances on the maps.

More able students can work in small groups, each group with a different map, to solve a problem using the map scale. For example, "How far is it from this point to that point? Could you walk that distance? How long do you think it would take to drive that distance?" After about 10 minutes, one member from each group tells and shows the class what the group discovered, explaining how the group decided on the distance.

7. Wrap up.

- **What have you learned?** (A map takes a big piece of the real world and shrinks it to fit on paper. A big distance in the real world equals a small distance on a map. You can use a map scale to find the real distance.)

Lesson 9: The Compass Rose

Summary

Students use a compass rose in the classroom and on the computer map to figure out the direction someone is facing or moving.

Goals

- To teach students to use a compass rose in conjunction with a compass
- To have students differentiate between North as a region and north as a direction
- To show students when to use north/south/east/west rather than right/left

Desired Student Outcomes — Students Will:

- Identify a compass rose and its purpose
- Use a compass rose to determine a direction on the map
- Appreciate the usefulness of a compass rose
- Understand what a compass is used for in mapping and navigation
- Look forward to learning how to use a compass

Time Required

- Two to three class periods

Materials

- *Where Are We?* CD-ROM(s)
- *Where Are We?* figurine
- *Where Are We?* poster map
- *Where Are We?* student map
- compass
- computer monitor
- computers
- masking tape
- Location Cards (on page 73); photocopy enough for half the class
- north, south, east, west signs (made by teacher)
- large paper compass rose (made by teacher)

Vocabulary

- compass
- compass rose
- north, south, east, west
- cardinal directions
- intermediate directions
- relate

Before Using the Computer

1. Introduce cardinal directions.

- **Today we're going to talk about the cardinal directions, "north, south, east, and west." What do you know about them?**
- **Which direction is north? How do you know?**

Elicit that you need a compass, which has a needle that always points north, or you need to look at the sun's path and remember that it rises in the east and sets in the west, or you can use a street map of your neighborhood with a compass rose on it. If you use the direction of the sunset and sunrise, you might want to discuss that although it appears that the sun is moving, it is really due to the rotation of the earth.

Ask a child to place the large paper compass rose on the floor matching its N with the real north. Place a compass on top of the compass rose to check that the norths are aligned.

Tell them it's a compass rose. Ask everyone to face north, then south, etc.

Ask students where you should put the "north," "south," "east," and "west" signs. Put these up on the appropriate walls of the classroom. More able students may want to add signs to show the intermediate directions of northeast, etc. If you are using a compass in the classroom, remember that it is affected by metal objects.

2. Show students the poster map and discuss the compass rose.

- **Where is the compass rose on this map?**
- **When do you use a compass rose?**
- **How is it different from a compass?** (A compass rose shows the directions on the map; a compass shows directions in the real world.)

Place a figurine on the poster map. Show the figurine walking on a path (near the top of the map) in a northerly direction.

- **If this were you, in which direction would you be walking?**

Repeat, moving the figurine in a northerly direction along a path near the bottom of the map. After you are confident that they understand that the figurine is still walking north, even though it is in the southern region of the map, try some of the other directions. You may want to include some of the intermediate compass directions such as "southeast." (If students are confused, see "A Common Misconception: North as a Region Versus North as a Direction," page 70.)

Hand the figurine to a student:

- **Put the figurine on the map and have it walk northwest.**

Repeat several times with other compass directions. (If students are confusing east/west directions with right/left directions, see "A Common Misconception: Right/Left Versus North/South/East/West," on pages 71–72.)

3. Students give directions using north/south/east/west.

Divide students into pairs. Give partner A a location card and tell her or him not to show it to partner B. Give each student a *Where Are We?* map. Partner A uses compass directions to direct partner B to the location on the card. Partner B lets his or her fingers do the walking on the paper map. Partner A should immediately notify partner B if he or she starts to go wrong while trying to follow the directions.

4. Wrap up.

- **How did it go? Were you able to follow the compass directions?**

Second Session

At the Monitor

1. Launch *Where Are We?*, sign in, and click Are We There Yet? mode. Point out the compass rose in the lower portion of the map, and the compass on the forward arrow.

- **What's the difference between the compass rose and the compass?** (The compass rose never changes. It shows all the directions that exist. It is part of a map. The compass shows you the direction you are facing at this moment. The compass turns when you turn.)
- **How can you use the compass and the compass rose to help you find your way?** (When you turn left or right, the compass changes to tell you the new direction you are now facing. Match the direction with the compass rose to check your direction on the map.)

Place your finger on the map to show the starting position and direction.

- **My finger on the map is like the red dot and arrow; my finger is showing where we are located and what direction we are facing.**
- **Now let's move to a new position.**

Click the Move Forward arrow. The red dot and arrow disappear.

What direction are we looking now? (Students look at the compass on the forward arrow.)

- **Now look at the compass rose to figure out what direction that is on the map. Who can show us on the map where we are and which direction we are facing?** (Volunteer places a finger on the map to show current location and facing direction. Ask volunteer to explain.)
- **Let's see if you're correct...**

Click Hint. The red dot and arrow should be at the same place and pointing in the same direction as the student's finger. Repeat this activity as time allows.

At the Computer

1. Give directions for student activity at computers.

- Now walk around in the video. After each move, look at the compass to see which way you are facing. Find that direction on the compass rose. Put your finger on the map to show where you think you are. Point the direction you think you are facing. Use the Hint button to see if you're right.

2. Wrap up.

- How did you do? What made you successful?

Extension

- Draw a picture of your house. Draw the sun rising in the correct location. Which side of your house has the sun shining on it first? Draw a compass rose. Does the east point to the rising sun?

A Common Misconception: North as a Region Versus North as a Direction

The Problem

Students often have trouble understanding that north, south, east, and west refer to a direction in which a person or thing faces, points, or moves, and that the same words can also refer to a place, location, or region. For example, we say "North America," or the "East Side" of our city. We also say, "The river flows north," or, "the car is driving east."

Typical Symptoms

- When asked to place a figurine on the map facing northeast, the student places the figurine in the upper right corner of the map facing any arbitrary direction.
- The student notices the *Where Are We?* compass saying "N," puts her hand on the upper half of the map, and says, "We must be up here someplace."

Teaching Strategies

1. In the classroom, with the cardinal directions on the appropriate walls, play "Simon Says."

- Simon says, "Face west."
- Simon says, "Walk 3 steps east."
- Simon says, "Walk to the north end of the room."
- "Face north."

Be sure to intersperse instructions in which the compass word describes a direction to move or face with instructions in which the compass word refers to a region or quadrant of the room.

2. When working with a figurine on the poster map, place the figurine in the northern section of the map. Orient the pointer toward the south. Ask students:

- **In which region of the map is the person?** (North.) **Which direction is she facing?** (South.)

Repeat with other combinations of direction and region.

3. When demonstrating any of the modes of *Where Are We?*, or when working with individual students having the symptoms of this misconception, ask:

- **What direction are we facing?**
- **What direction are we moving?**
- **What quadrant (or region) of the map are we located in?**

A Common Misconception: Right/Left Versus North/South/East/West

The Problem

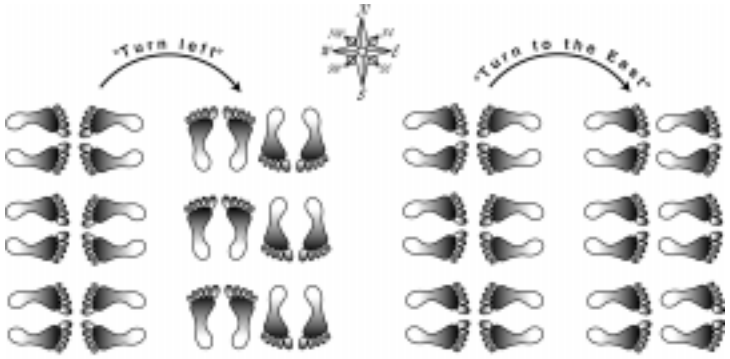
Students get confused between relative directions (right and left) and compass directions (north, south, east, west), or they use one kind of direction when the other would be more appropriate.

Typical Symptoms

- Students think of the "turn right" button as the "east" button.
- Students can find their way when they are moving northward (when right equals east, and left equals west), but they become confused when moving southward, eastward, or westward.

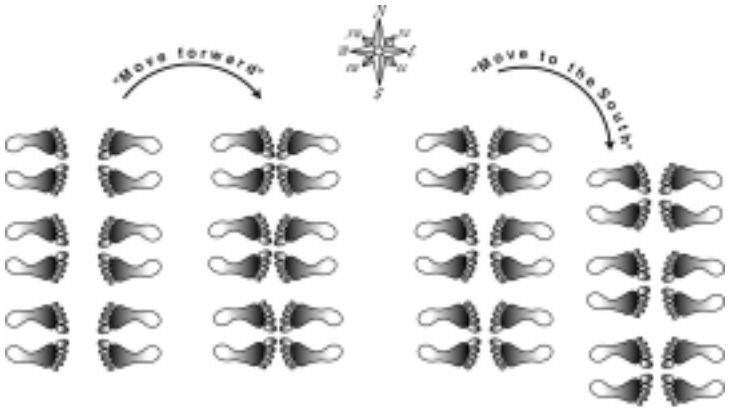
Teaching Strategies

1. In the classroom, with the cardinal direction signs on the appropriate walls, have students stand up in two lines that face each other. Ask all students to turn to the left. Each line will be facing a different direction (see diagram). Ask students to face each other again. Next, instruct students to stand so they are facing east. All students will be facing the same direction (see below).



- **What happened when everyone turned left?** (Ended up facing different directions.)
- **What happened when everyone turned to the east?** (All ended up facing the same direction.)

Ask students to face each other again. Instruct students to move forward. They will be closer together (see below). Now tell students to move south. Both lines should move in the same direction (see below).



- **What happened when everyone moved forward?** (Moved in different directions.)
- **What happened when everyone moved south?** (All moved in the same direction.)
- **Can you think of any reason why you might want to use "north" or "east" rather than "left" or "right" directions sometimes?** (When a compass direction was given, everyone moved or turned in the same direction. If you don't know which way the person is facing to start with, you can make sure he or she will move or turn in the appropriate direction if you use compass directions.)
- **Can you think of any circumstances when you might prefer to use "left" or "right" rather than "north" or "south" directions?** (If the person doesn't have a map or any other way of orienting himself/herself relative to the compass.)

2. When demonstrating any of the *Where Are We?* modes, or when talking with individual students who demonstrate this misunderstanding, ask:

- **What direction am I facing?** (East.)
- **What should I do if I want to face south?** (Turn right.)
- **Now what should I do if I want to face west?** (Turn right again.)
- **What should I do if I want to face south again?** (Turn left.)
- **What direction will I be facing if I turn right?** (West.)

Location Cards

Start: Gazebo

End: Bridge

Start: Statue

End: Gazebo

Start: Nature Sanctuary Entrance

End: Tunnel

Start: Bridge

End: Hot Dog Stand

Start: Bridge

End: Information Booth

Start: Information Booth

End: Nature Sanctuary Entrance

Start: Information Booth

End: Gazebo

Start: Gazebo

End: Statue

Lesson 10: Putting New Information on the Map

Summary

Students find some features that are in the video but missing from the map, figure out where they should be located on the map, and add the appropriate symbols. This lesson models the use of maps by geologists, ecologists, architects, town planners, and many others who use maps as tools for organizing spatial information.

Introductory Note

The preceding lessons have dealt primarily with maps as a tool for navigation. Maps have another, fundamentally different use. Maps can serve as a tool for organizing and displaying information about how objects, attributes, or phenomena are distributed in the real world.

Here are some examples of information that one might want to organize spatially: the location of fire hydrants, a species of plant, a kind of climate, or occurrences of a specific disease. Organizing information spatially, and displaying the information on a map, can help to reveal patterns and trends that may help the map user figure out how the objects got to be where they are. Organizing information spatially and displaying it on a map can also help the map user to visualize and plan future modifications to the environment.

This lesson deals with maps as a tool for organizing spatial information.

Goals

- To have students use a map as a tool for organizing, displaying, and transferring information about the spatial distribution of objects or phenomena (By "spatial distribution" we mean how the objects are located relative to each other on the surface of the earth, for example, are they close together, spread apart, in a line, in a circle, and so on.)
- To introduce Add to the Map mode

Desired Student Outcomes — Students Will:

- Combine previously practiced map skills (keeping track of where you've been, anticipating where you are going) to plan a route to cover as much of the park as possible
- Combine previously practiced map skills (landmarks, compass directions, inference from multiple observations) to figure out where objects in the real world should be located on the map
- Appreciate that it can be useful to organize certain kinds of information on a map

Time Required

- One class period

Materials

- *Where Are We?* CD-ROM(s)
- chart paper/poster paper
- answer key showing correct locations of features added to the map (see p. 77)
- computer printer, preferably color
- computer monitor
- computers
- paper maps of your town or community (optional)

Vocabulary

- correspond

Before Using the Computer

1. Explain the concept of a map as a tool for organizing knowledge.

- **We have been using maps to help you figure out where you are, where you've been, and where you're going.**
- **A map can also be used as a tool for organizing information about where objects are located. That's why there are many different kinds of maps, even of the same town.**

Summarize some advantages of using a map to organize spatial information by discussing and creating a poster.

- **A map can help you keep track of where objects are located, more objects than you could remember in your head. Think how useful it is to the school bus driver at the beginning of the year, before he's memorized his route and everyone's stop. What does the telephone company need to remember? What kind of maps does it have?** (Maps showing locations of telephone lines.)
- **A map can give information from one person to another, easily and clearly. Remember when you mapped your desk top? You gave your map to your partner, and the map carried information about how the desktop objects had been arranged. What information does the fire company give to its firemen in a map?** (The location of the fire hydrants.)
- **A map can help you see patterns that you wouldn't have seen otherwise. The doctor plots the homes of disease victims on a map to see if there are groups of victims who may all live close to a polluted area. Someone who studies earthquakes could use a map to show where the most intense damage occurs during earthquakes.**

2. If possible, show paper maps of your community.

- **What can you learn from each map?**

At the Monitor

- **Today you get to do some mapping. You can put new information on the map in Add to the Map mode.**

1. Launch *Where Are We?*, sign in, and click the Add to the Map mode. Listen to the directions.
2. Summarize the lesson.
   - **Your job today is to walk through the park and find the objects from the key that should be on the map. Each time you see one of these objects in the video, figure out where it should be located on the map. Then drag the symbol to the map.**
   - **You can only put symbols on the map where there's a real object in the real world. And you can only place symbols that you see in the video; otherwise they won't stick.**
3. Less experienced students will benefit from a demonstration by the teacher and class using Add to the Map mode.
   - **Tell me when you can see a lamp post or one of the other objects we're supposed to add to the map. Is it shown on the map?** (No.)
   - **Where should we put its symbol to show its correct location?**

At the Computer

1. Students work individually or in pairs at computers.

   Students navigate through the park, locating objects to add to the map. The symbols will stick to the map only when the student is at that location in the video.

Optional Mapping Scenario

- **The Park Police have received reports about vandalism at night. They believe that adding more lighting to the park will cut down on the vandalism. Your mission is to record on the map the existing lamp posts along the paths. Then look at your map and suggest where the park should put new lamp posts by drawing the symbols on the printed map. Write a paragraph explaining why the park should add these new lamp posts.**

2. Print students' completed maps.

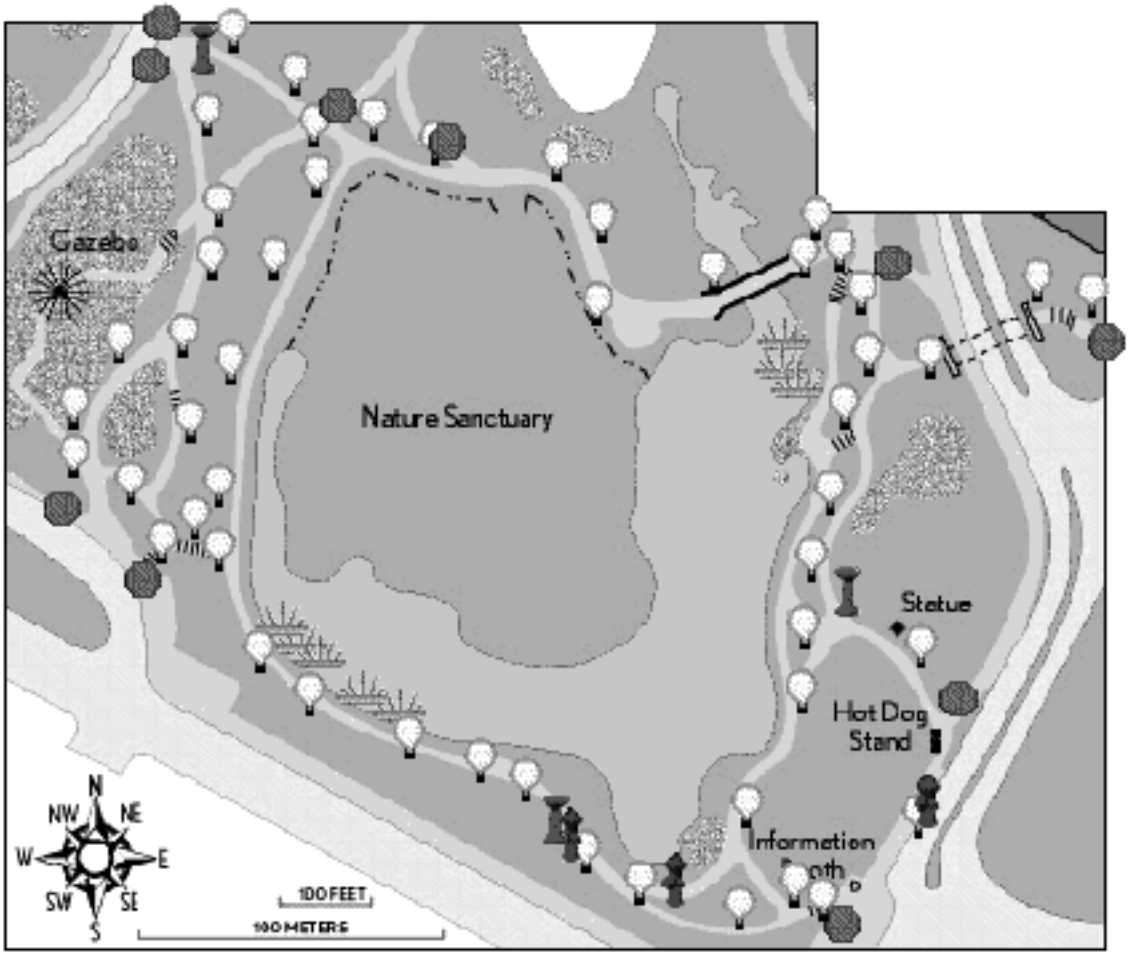
   When time runs out or students are satisfied with their maps, have them click Done, then Yes, then Print to print their maps. A printed map will include the student's name and the number of hints she or he used.

   Since this activity combines the use of many previously practiced map skills, it could be a culminating assessment.

   Use the map on the following page.

3. Wrap up.
   - **What did you learn?**

   Emphasize that putting information on a map can be a good way to organize or display information. It is an efficient and effective way to give information to someone else. It helps you see patterns.


Gazebo
Nature Sanctuary
Statue
Hot Dog Stand
Information
N
NW
NE
W
E
SW
SE
S
100 FEET
100 METERS

Lesson 11: Lost!

Summary

Using map symbols, landmarks, and compass directions, students make observations about the landscape around them in order to infer their location on the map. This lesson simulates the situation where walkers or motorists realize they are lost, pull the map out of a backpack or glove compartment, and use visual clues in the surrounding terrain to figure out where they are on the map.

Goals

- To have students combine all the map skills they've learned to solve a realistic problem
- To teach students to combine observations to infer location

Desired Student Outcomes — Students Will:

- Make observations about their position on the computer map by using their knowledge about map symbols, landmarks, and compass directions
- Combine several observations in a logical manner to make an inference about their location on the map
- Distinguish between observations (information that you receive through any of your five senses) and inferences (information you obtain by understanding and using those observations in some kind of a logical or systematic manner)

Time Required

- One class period

Materials

- *Where Are We?* CD-ROM(s)
- computer monitor
- computers
- poster paper
- computer printer (optional)

Vocabulary

- strategy
- infer/inference

Before Using the Computer

1. Describe "observation" and "inference" for students.

- **You will need to do two steps to be able to find yourself in Lost! mode.**

1) You'll need to use all the map skills you've learned.

2) You'll need to INFER.

- **First, what is an observation?** (Information we learn through our five senses.)
- **When you infer, you think about your observations in a logical way. We do this every day. Every morning when I come to school, I OBSERVE cars in the parking lot and lights on in the building, so I INFER that there is school today and that the building is unlocked.**

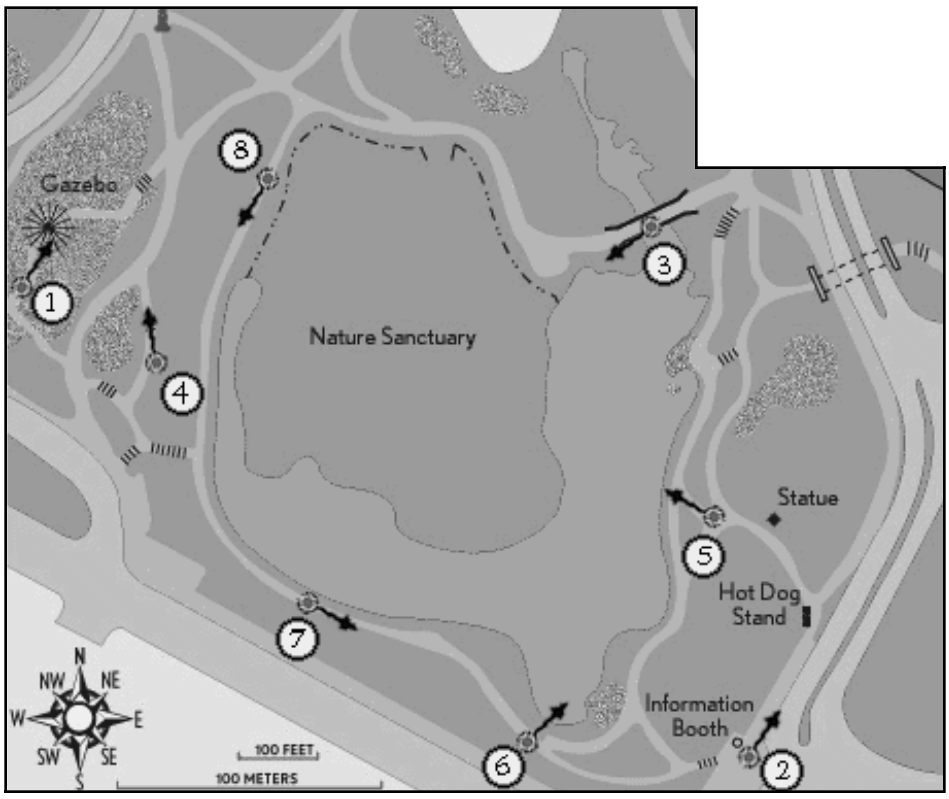
2. Ask a student to state an observation, then have other students make inferences based on that observation (e.g., The principal is smiling...s/he is happy to see the students; there's a scoop of ice cream on the floor and a child is looking at it and crying…she dropped her ice cream).

- **In Lost! mode you don't know where you are. You have to find yourself!**

At the Monitor

1. Launch *Where Are We?*, sign in, and click the Lost! mode. Listen to the narrator's instructions.

2. Less experienced students may need a demonstration. The following map shows starting locations for Lost! mode.



- **I'll choose button #5.**
- **We are somewhere in the park, but we don't know where! There is no red dot on the map. What should we do first?** (Look for landmarks. Look at compass directions.)
- **Notice the fork in the road and that the lake is straight ahead. Where could we be?**
- **Let's think this through. The lake is ahead AND the compass indicates that we are looking northwest. Now where could we be?**
- **Do we need any more clues to INFER our location? Should we make predictions and walk forward to check?**

Walk forward to the lake. Turn right and walk forward again. Have students guess the location after looking at the video and compass. Click the cursor on that spot. If it's not correct, look around for more clues and try again.

At the Computer

1. Set standards for independent work by making a poster with students' suggestions.

   - **If LOST…*Observe*!**

   a) Look for landmarks.

   b) Use a compass and a compass rose.

   c) Predict and check.

   d) INFER where you are.

2. Students use Lost! mode in pairs.

   For students who have difficulty combining compass information and landmarks, discussing observations with a partner may be useful. Students who are clicking randomly on the map need help developing more methodical strategies for collecting observations and combining them to make inferences.

3. Record students' accomplishment.

   After students have had some experience with Lost! mode, you may want to use this mode as an assessment. Have students work individually and then print the Navigator's Certificate.

4. Wrap up.

   - **What did you learn from this activity?**

   Emphasize that we can use observations in the real world to infer our location on a map.

   - **What observations did you find most useful?**
   - **What strategies did you use?**
   - **What strategies would you use if you were really lost somewhere like a forest, a department store, or a zoo?**

Lesson 12: Summing Up: Comparing Maps with the Real World

This activity does not use any software.

Summary

Students demonstrate their understanding of the similarities and differences between a map and the real world by completing a table.

Goal

- To solidify understanding of the similarities and differences between a map and the real world

Desired Student Outcomes — Students Will:

- Complete a table comparing maps with the real world
- Discuss and justify answers written in a table to prove understanding

Vocabulary

- no new vocabulary

Time Required

- One class period

Materials

- copies of "Comparing Maps with the Real World" (see p. 83) — 1 for each student plus 1 for each pair of students

Activities

1. Think, Pair, Share

Students work individually filling in the table, summarizing the differences between maps and the real world. After about 10 minutes, have them get together with a partner to compare answers. The partners work together to fill out another copy of the table, combining their best answers and using their best thinking. Then discuss answers as a whole class.

Possible answers:

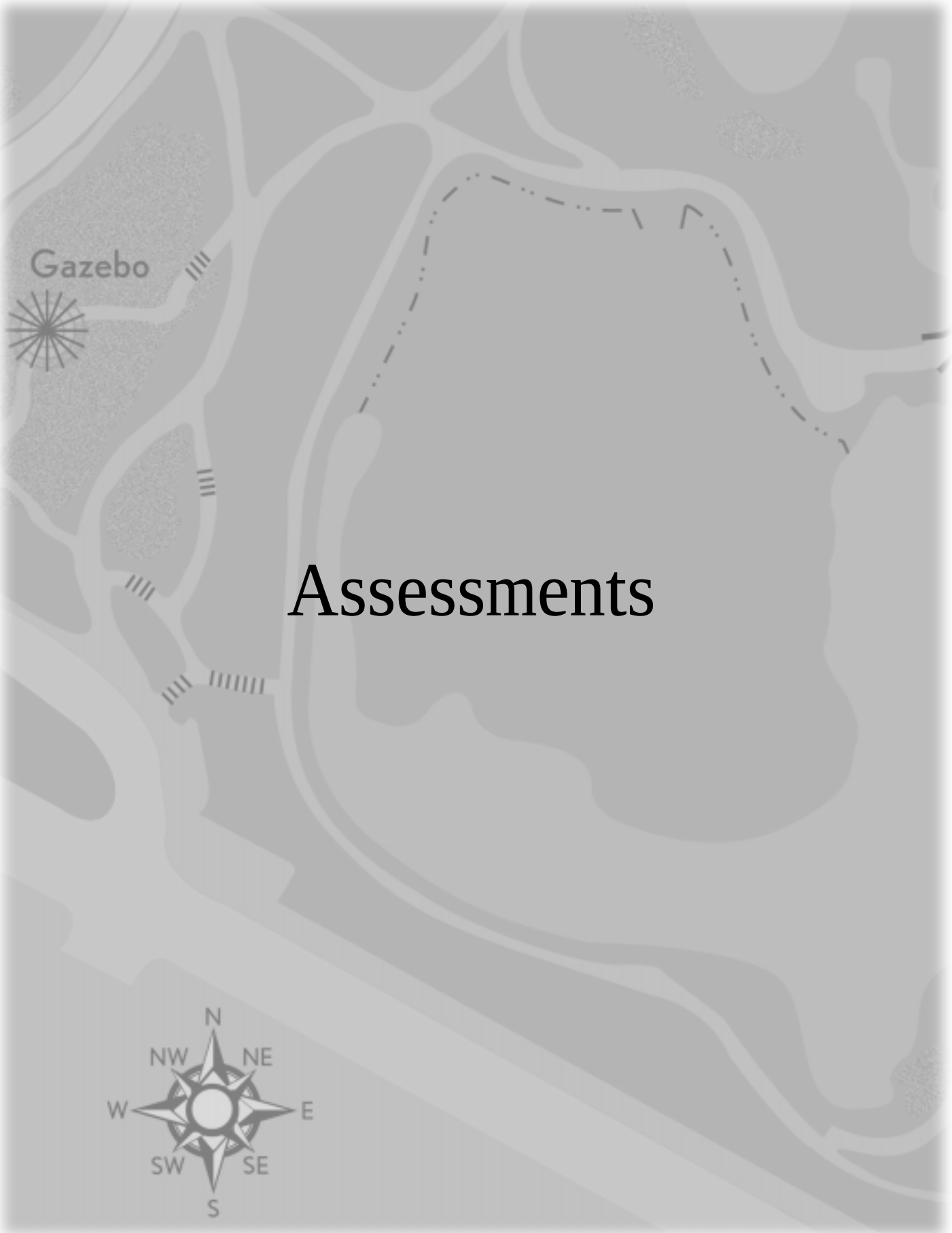
Real World	Map
In the real world, many objects are large, bigger than a human being.	On a map, all objects are shrunk down to little symbols, smaller than a piece of paper.
In the real world, people see objects from a side view ("person's-eye view").	On a map, objects are drawn as though looking down from above ("bird's-eye view").
In the real world, there are many details.	On a map, many details are left out.
In the real world, a person is surrounded by the environment.	A person is not surrounded by a map.
In the real world, places change (from season to season, from day to night, from week to week).	On a map, objects don't change over time.

Name: _____

Comparing Maps with the Real World

Fill in the blanks to summarize some of the major differences between a map and the portion of the real world represented by that map.

Real World	Map
In the real world, many objects are large, bigger than a human being.	
In the real world, people see objects from a side view ("person's-eye view").	
	On a map, many details are left out.
In the real world, a person is surrounded by the environment.	
	On a map, objects don't change over time.



Assessments

Contents

Assessments

Mapping the Classroom

Summary

The teacher can assess students' mapping skills by having them make a map of the classroom.

Materials

- blank paper, or paper showing the classroom walls and a few objects in the room (e.g., teacher's desk and a door), for each student
- clipboards
- pencils and erasers
- Optional: signs saying north, south, east, west, taped to the appropriate walls of the classroom

Assessments

1. Set expectations and talk about what students need to do.

- **Today I want you to show me your mapping skills by drawing a map of the classroom. This is a quiz, so please do your own work and don't look at anyone else's.**
- **What are the important objects you'll need to include on your map?** (Desks, teacher's desk, sink, etc.)
- **What kinds of things will you leave out?** (Unimportant items such as floor tiles, books, etc.)
- **How will you draw the important objects since this is a map you're making, not a picture?** (From a bird's-eye view, not from a side view; as symbols, not as pictures.)
- **How can you draw objects such as a window, door, chalkboard from a bird's-eye view?** (As a thick line, using a different thickness for each.)
- **What else does a map need?** (Key, compass rose, and map scale.)

2. **Write on the chalkboard.**

- Mapping quiz
- bird's-eye view
- symbols
- important objects
- key
- compass rose

Scoring

Use the following rubric to assign a score. For younger students you may prefer to omit compass rose and/or map scale for the scoring.

Description	Points
Map includes: the important items with almost all of them in correct locations; symbols used or objects drawn from bird's-eye view; a readable key with most or all objects included; an accurate compass rose and map scale.	**4**
Map includes: the important objects with many of them in correct locations; symbols used or objects drawn from bird's-eye view; a readable key with most or all objects included; an accurate or mostly accurate compass rose.	**3**
Map includes: the important objects with some of them in correct locations; symbols used or objects drawn from side view or bird's-eye view; the key contains at least some of the objects; there may or may not be an accurate compass rose.	**2**
Map includes: too few objects to assess accurately and/or few of them are in the correct location.	**1**

Map Quiz

Name_____ Date_____

1. The needle on a compass always points...

north south east west

2. When facing north, west is...

to your right to your left straight ahead in back of you

3. Why do people use maps? Write two different reasons.

1)_____

2)_____

4. When looking at a map, if you forget what a symbol means, what should you do?

_____

5. How is making a map different from drawing a picture?

_____

_____

6. Name one good landmark you could use in your community. _____

7. Describe what makes a good landmark._____

_____

8. Why is it important to keep track of where you've been? _____

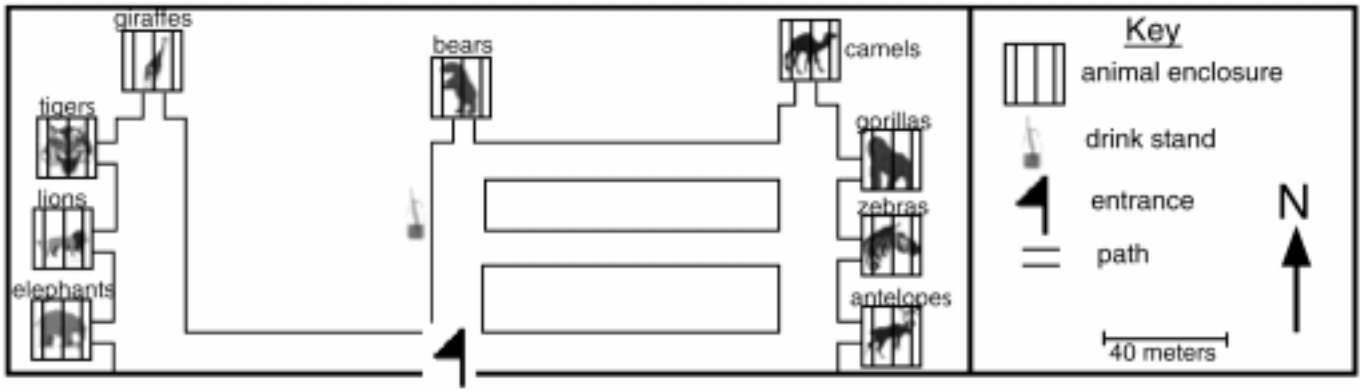
_____

_____

9. When using a map to plan your route, why is it important to predict what you'll see and then check your predictions?

_____

_____



Use the map to help you answer the following questions:

10. Walk in the entrance.

Continue straight ahead, past the drink stand, to the bears.
Turn right and go to the gorillas.
Then turn left and go to the end.
What animal do you see?_____

11. Draw a line on the map showing your route.

12. Finish these directions for a friend to take the shortest route from the tigers to the antelopes.
When you leave the tigers, turn...

_____

_____

13. When you come back the same way (from the antelope to the tigers), what animals do you see first? _____ Are they on your left or right? _____

14. About how many meters is it from the entrance to the bears? _____

15. What do you see when you are at the bears' cage and face south? _____

16. What direction are you going when you walk from the gorillas to the bears?

north south east west

17. The zoo wants to put a water fountain at four intersections. (An intersection is where two or more paths meet.)

1) Create a symbol and add it to the key.

2) Show all the new water fountains on the map.

Other Assessment Opportunities

Are We There Yet? Mode

Assign the same destinations for all students in Are We There Yet? mode. Students work individually. Explain that they will earn 4 points for each destination reached. One point will be subtracted for each hint. Students should print their maps when they are done. These maps will provide you with the number of destinations reached and hints given.

Add to the Map Mode

Direct students to add as many symbols to the map as they can in Add to the Map mode. Students work individually. Explain that they will earn 1 point for each symbol placed on the map. Two points will be subtracted for each hint. Tell them not to go up to the gazebo as there are no objects along that path. After 15 minutes, have students print their maps for scoring.

Lost! Mode

Direct students to begin with Lost! spot #1 and then go up through the numbered spots, finding themselves as many times as they can. Allow 15 or 20 minutes for the activity. When time is up, have students print and hand in their Navigator's Certificates. Give students 3 points for each time they found themselves, and subtract 1 point for each extra try they used in the process.

Where Was That Flag? Field Trip

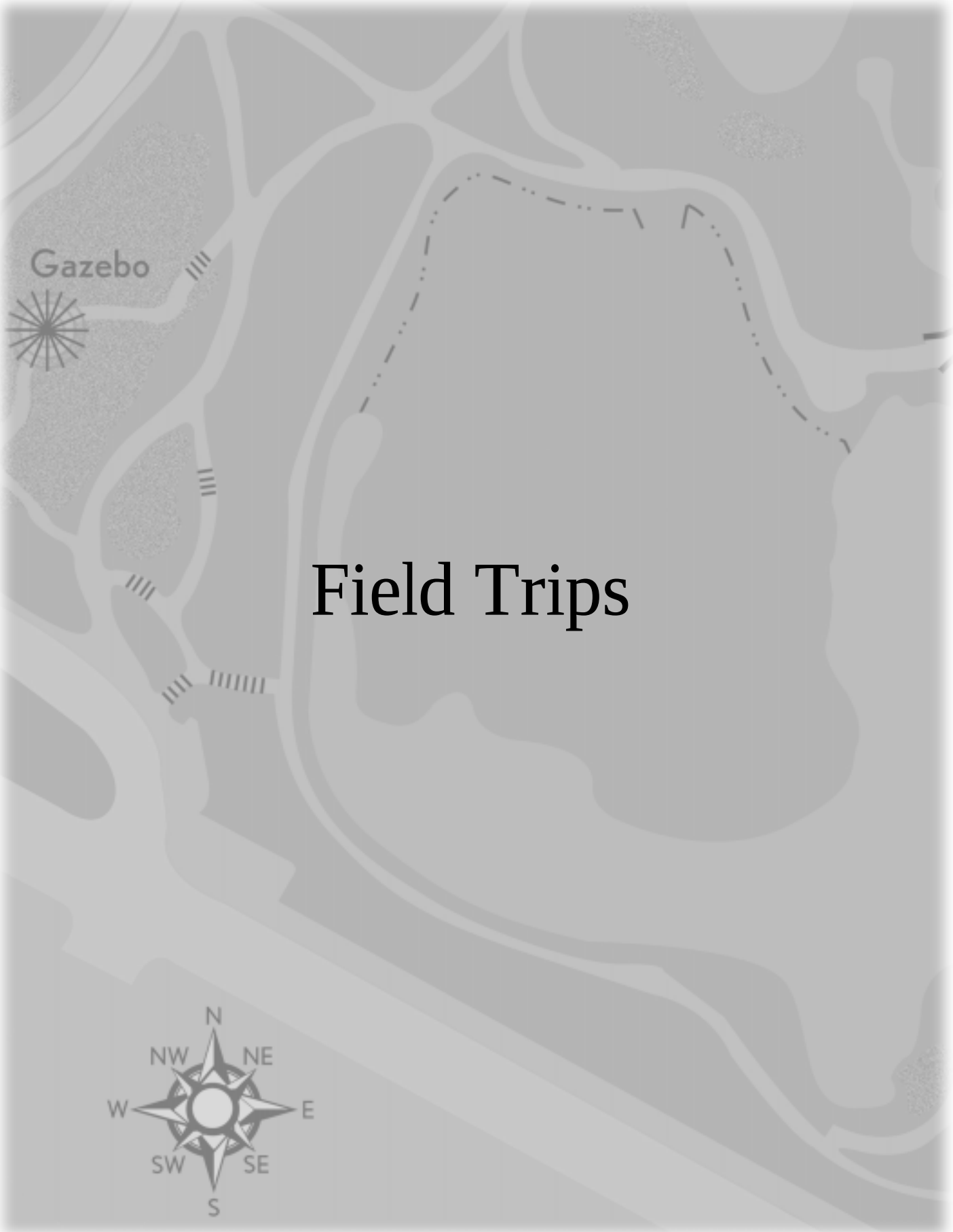
Students complete the activity individually. Their map skills are assessed by the number of stickers placed on or very close to the correct locations. Below is a suggested scoring rubric.

4 – All stickers placed on or very near the correct locations

3 – Most stickers placed on or very near the correct locations

2 – At least half the stickers placed on or very near the correct locations

1 – Less than half the stickers placed on or very near the correct locations



Field Trips

Contents

Field Trips

Date

Dear Parents/Guardians,

As part of their study of map reading and mapping, students will be going on a field trip to _____ on _____ . (The rain date is _____ .)
We will leave school at _____ and will return at _____ .

This field trip will let students practice what they have been learning about maps. Students have learned that maps can be used to show information; they can be used to help you figure out where you are; and they can be used to help you find your way.

In our unit on mapping, we have used a software program called *Where Are We?* which allowed students to use a map on the computer and see a video of the same area at the same time. The software and lessons helped students learn to:

- make the connection between maps and the real world
- read map symbols
- use landmarks to identify location on a map
- use a compass rose
- give and follow directions
- understand the correlation between time and distance
- begin to understand that the distance on a map is different from the distance in the real world

They are looking forward to using their skills out in the real world!

Best wishes,

_____cut_____cut_____

My son/daughter, _____ , has permission to go on the class field trip to _____ on _____ .

_____

Parent signature Date

Medications that need to be taken on the trip: _____

Long Skinny Map

Summary

Students take a short walk along a straight path and draw a map of what they see. This trip is a great activity to do with students anytime after Lesson 1 in this guide.

Goals

- To enable students to demonstrate their understanding of maps and how they relate to the real world by creating a map from the real world
- To teach students to observe, understand, and record the spatial relations of objects

Desired Student Outcomes — Students Will:

- Transfer what they see in the real world to paper (to a 2-dimensional map)
- Create symbols for real-world objects and make a key with the symbols
- Observe where objects are located and their physical relationship to each other, and record this on paper

Time Required

- Two class periods

Materials

- drawing paper, legal-size paper, or strips of butcher paper
- clipboards
- pencils
- permission slips (if needed)

Vocabulary

- accurate
- representation
- record

Preparing for the Field Trip

1. Choose a site to map that matches students' abilities. The route should be a straight line, without corners or major curves, such as a row of houses or shops, or even a corridor in your school.
2. Prepare school and families. Pick a date and a rain date. Coordinate with students' other teachers, if necessary. Send home permission slips and arrange for chaperones.
3. Make sure you have a piece of paper for each student (or pair of students if you want them to work collaboratively).
4. Decide whether students will label the buildings.

In the Classroom

1. Explain to students where they are going and why.

   - **We're going to go on a walk. How can you record the buildings/objects we see so you'll have a permanent record of them?** (*Draw a map.*) **We will start at one end and walk to the other, making a map as we go. Your map should match the real world. This will be our record of what is really there, so it is important to be accurate.**

   More able students could be asked to draw map symbols and a key rather than sketches; put more detail on their maps (such as indicating the location of streets, lamp posts, public telephones, etc.); map both sides of the street/path rather than just one; or add a compass rose after figuring out north.

On the Walk

1. Students draw simple sketches (and labels), or symbols for the major features along their route. They may need help with the spatial relations, e.g., making sure that the candy shop is to the left of the bank and to the right of the stream.

   If students are mapping a school corridor, they could include water fountains, fire extinguishers, restroom doors, classroom doors, etc.

Back in the Classroom

1. Wrap up.

   Students compare maps for accuracy and discuss the mapping process.

   - **Were you successful? Were you able to capture the real world on paper?**
   - **What's the difficult part about making a map?**
   - **What's the fun part about mapping?**
   - **What did you learn?**

   Emphasize that mapping requires careful observation and accurate work to show where features are located in relation to each other.

Extensions

1. **Dear Pen Pal**

   Students send their maps to their pen pals to show them this special area near/in their school. If students know before the mapping exercise that their maps are being made to communicate information to their pen pals, students may be more motivated to be accurate.

2. **On Display**

   Students use their maps to make one larger version on a big piece of paper to display in the hallway. Symbols for major features can be drawn or cut from construction paper and glued into place. Remember to make a key and a compass rose.

3. **As If I Were There**

   Invite an adult who was not on the walk to "read" the class map to the students. Looking at the map and the map key, the guest starts at one end of the map, and describes what she or he would see walking along the path. ("I would see the post office, and then I would see a telephone booth...") This conversation emphasizes the role of the map as a conveyor of information. This adult, who wasn't even on the walk, can tell us exactly what we saw!

Treasure Hunt

Summary

This culminating activity takes students to an unfamiliar location to use their map-reading skills in the real world. Students are given a paper map with a starting point and a destination marked on it. Their task is to find their way to the destination. This field trip is analogous to Are We There Yet? mode in the software.

Goals

- To provide students with the opportunity to use their map-reading skills in the real world.
- To assess how well students make the connection between what they see on a map and what they see in the real world.

Desired Student Outcomes—Students Will:

- Understand the relationship between symbols drawn on a map and objects in the real world
- Use landmarks in the real world to find one's location on a map
- Use a map to plan a route to a specific location, and then find that location in the real world
- Use a map to keep track of one's location
- Demonstrate confidence in reading a map

Time Required

- Two class periods

Materials

- a map of the area for each student or pair of students, with a starting point and destination marked on it
- a clipboard for each map
- pencils
- permission slips (see page 96 for a reproducible one)
- treasure marker notices (see the example on page 105)
- small, sealable plastic bags
- string, wire, or tie wraps for attaching treasure markers
- a pair of scissors for each chaperone to remove markers after students have found them
- a "treasure" for each child (perhaps gold- or silver-wrapped candy, special stickers, or a small compass)
- if students are drawing sketches (see 4 in "At the Field Trip Site") they will each need a clipboard, drawing paper, and possibly colored pencils or crayons.

Vocabulary

- site
- boundaries
- marker
- route
- destination

Preparing for the Field Trip

1. Choose a site.

Choose a site that matches students' abilities. An area without enough paths to choose from will be boring for students. An area that's too big or has too many choices will overwhelm them. Possible field trip locations include: park, zoo, nature center, museum, college campus. You will probably need permission from the proprietor to set up the destination markers.

Choose a site that has a map available for your use. Most establishments will gladly mail you a class set, or at least one for photocopying.

2. Visit the site.

Choose a starting point. If students will be arriving by bus, the starting point should be near a spot where the bus can safely drop off students. There should be an open space for students to gather for discussion at the beginning and end of the activity.

Determine where each treasure marker will be placed. Make a separate marker for each group of students. Decide how these markers will be affixed (e.g., tied to a tree, attached to a spike, put in the ground). Plan to keep them at a child's-eye view or lower.

On a master copy of the map, indicate each marker location; number each of these locations; and mark students' starting point. Each student or group will have the same starting point but a different marker location as their destination. This master map will serve both as a guide for the person setting up the markers and as an answer key.

Decide on boundaries for the activity. Mark the boundaries on the master map.

3. Prepare school and families.

Pick a date and a rain date. Arrange buses. Coordinate with students' other teachers.

Send home permission slips for the field trip. Arrange for chaperones. Ideally, there will be one chaperone per pair or threesome of students if the treasure hunt will be over a large area.

4. Prepare student maps.

Each student or group will need a map that shows the location of their treasure marker with its assigned number and the starting point.

5. Prepare treasure markers and notices.

There should be one treasure marker for each student or group (see page 105). String, wire, or a tie wrap can be used to attach the marker to a tree trunk, fence, or lamppost.

6. Place treasure markers.

Before students arrive at the field trip site, have an adult who feels confident reading maps place the markers and notices around the site area using the master map.

In the Classroom

1. Study the field trip map.

Distribute the maps and clipboards to students and have them write their names on the maps. Remind them that maps can be used as a way of organizing information.

- **What can you tell me about our field trip site from reading this map?**

2. Explain the challenge.

Draw students' attention to the starting point and the treasure marker number written on each map.

- **When we get to our field trip site, you will get to go on a treasure hunt. The map shows your starting point. Everyone will be starting at the same starting point.**
- **The number on your map shows the location of your treasure marker. Your job is to find your way from the starting point to your destination, using the map. You'll draw your route on your map. At your destination, there will be a numbered marker. Each group is trying to find their way to a different marker so be careful that you don't mistake someone else's marker for yours. Read your map carefully. When you find your marker, you each win a treasure.**

3. Discuss plans and strategies.

- **How will you go about finding your marker?** (Look at the map to see the starting point and match it to the real world; use the map symbols; look for landmarks; analyze the location of the marker; decide on the best route to take to get from the starting point to the marker.)

Allow time for students to discuss with their partners.

- **Raise your hand if your partner had a good idea to help find the marker.**

Volunteers share ideas with the whole class to spread enthusiasm, model good strategies for others to adopt, and expose misconceptions that can be corrected before the field trip.

At the Field Trip Site

1. Explain the procedure.

Distribute maps, clipboards, and pencils.

Demonstrate how rotating the map can be a useful strategy to help match the map to the real world.

- **Turn the map so it faces the same way you are. If the river is on your right in the real world, turn the map so the river is on the right of your location on the map.**

Review the instructions for students and adults.

- **Your goal is to get from the starting point to your destination, your numbered treasure marker. The starting point and marker location are both shown on the map.**

- **When you get to the treasure marker you'll see this.** (Show students a sample marker.) **If you're sure it's yours, see if the number matches the number on your map. If it is, you've won! If not, put it back. Analyze your map and try again. Don't tell anyone the number you saw.**
- **Remember to draw your route on the map.**
- **After you have found your marker, return to the starting point for your "treasure."**

Explain to the adults that they should not give students any hints until the last 10 minutes of the hunt. At this point, adults should give students hints as needed, to help them find their destination. Make sure that adults understand that all students must find their marker by the end of the hunt.

Explain the boundaries and any restrictions on where students may go (only on paths, etc.).

Tell them how much time they will have.

2. Hunt for the treasure.

One by one, call students, or groups of students, and match them with their chaperone. Clarify any questions. Student groups should be launched a minute or so apart.

Teacher should remain near starting point to cope with any emergency, and take charge of students as they return. Be prepared with games or activities for students to play while waiting for their classmates. Students may also want to switch maps and go on another hunt just for fun.

3. Wrap up when all students have returned.

If students are not drawing sketches (activity #4) ask chaperones to collect treasure markers during this discussion.

Students share examples of good strategies they used to find the location of their marker.

- **Does this place look the way you expected it to after reading the map back in the classroom? Explain.**
- **What landmarks did you use to figure out where you were?**
- **How did you know where to go?**
- **Did anyone get lost? How did you figure out where you were?**
- **Do you like reading maps?**
- **Do you think you could use a map to help your family find a destination?**

Summarize for students how they were able to use a map to learn information about what they would see before they arrived. Then they used the map to find their location, the location of a marker, and the best route to get there.

- **How would you use the map if I told you I don't know the way back to the bus/the exit?** (*Find where you are on the map. Find the bus parking area/the exit on the map. Plan your route to get from here to there.*) **You use the same skills as you did for the treasure hunt.**

4. Sketch.

If time permits, students return to the area where they found their treasure and sketch what they see at that location.

Back in the Classroom

1. Dear Mom and Dad

Students write to their parents about the field trip, what strategies they used, and what they learned. Encourage them to include an illustration or a map. Volunteers may want to read their letter aloud to the class.

2. Up Close

If students drew sketches, use their pictures to create a bulletin board. Post the map of the field trip site. Post the pictures around the perimeter of the bulletin board. Attach ribbon or string from each point on the map that had a marker to the drawings that match.

Notice for Treasure Hunt and Where Was That Flag? activities

PLEASE DO NOT REMOVE

This marker placed with permission of:

Organization: _____

Name or proprietor: _____

Title: _____

Date: _____

Treasure Marker for Treasure Hunt

TREASURE MARKER

#_____

Congratulations! You have found your

treasure marker if your map has a

#_____on it!

1. Complete information on the notice.
2. Photocopy the notice and treasure marker for the number of markers needed.
3. Assign each marker a number. Write the number in both locations on the marker and on the map.
4. Staple the marker onto the back of the notice so students cannot see the number in passing.
5. Put them in small, sealable plastic bags.

Where Was That Flag?

Summary

This culminating assessment activity takes students to an unfamiliar location to use their map-reading knowledge in the real world. Students find colored flags placed throughout a specified area, and they place a matching colored sticker on a paper map at the location they think corresponds to the real-world position of each flag. This field trip is analogous to Add to the Map mode in the *Where Are We?* software.

Goals

- To provide students with the opportunity to use their map-reading skills in the real world
- To assess how well students make the connection between what they see in the real world and what they see on a map

Desired Student Outcomes — Students Will:

- Understand the relationship between symbols drawn on a map and objects in the real world
- Use landmarks in the real world to find one's location on a map
- Accurately place stickers on a map to mark the location of objects in the real world
- Demonstrate confidence reading a map

Time Required

- Two class periods

Materials

- a map of the field trip area for each child or group of students
- a clipboard for each map
- 4–8 colored flags (pieces of material)
- 4–8 colored stickers for each map (the color or design to match the flags)
- permission slips (see the reproducible one on page 96)
- notices (see example on page 105)
- if students are drawing sketches (see activity #4 in "At the Field Trip Site") they will each need a clipboard, drawing paper, a pencil, and possibly colored pencils or crayons

Vocabulary

- boundaries
- markers

Preparing for the Field Trip

1. Choose a site.

Choose a site that matches students' abilities. An area without enough paths to choose from will be boring for students. An area that's too big or has too many choices will overwhelm them. Possible field trip locations include: park, zoo, nature center, museum, college campus. You'll probably need permission from the proprietor to set up the flags or markers.

Choose a site that has a map available for your use. Most establishments will gladly mail you a class set, or at least one for photocopying.

2. Visit the site.

Choose a starting point. If students will be arriving by bus, the starting point should be near a spot where the bus can safely drop off students. There should be an open space for students to gather for discussion at the beginning and ending of the activity.

Determine where each flag should be placed. Decide how the flags will be affixed (e.g., tied to a tree, attached to a spike in the ground).

Indicate each flag location on a master copy of the map. Also, mark students' starting point on the master map. Everyone will have the same starting point. This master map will serve as a guide for the person who sets up the flags, as well as an answer key.

Decide on boundaries for the activity. Mark the boundaries on the master map.

3. Prepare school and families.

Pick a date and a rain date. Arrange buses. Coordinate with students' other teachers.

Send home permission slips for the field trip. Arrange for chaperones. You will need enough chaperones to ensure that students can be seen at all times.

4. Decide if each student will have his or her own map and set of stickers (if this activity is to be used as an assessment), or if partners will be working together.

5. Prepare materials.

Make flags. Buy colored stickers to match the flag colors. Prepare notices. Photocopy and attach one notice to each flag.

Prepare paper maps of site for students.

6. Place flags.

On the day of the trip, before students arrive at the field trip site, have one of the adults, who feels confident reading maps, place the flags around the site using the master map.

In the Classroom

1. Study the field trip map.

Distribute the maps and clipboards to students and have them write their names on the maps. Remind them that maps can be used as a way of organizing information.

- **What can you tell me about our field trip site from reading this map?**

If the field trip is being used for assessment, students can write their responses instead of sharing them with the class.

2. Explain the challenge.

- **When we get to our field trip location, you will get this map and colored stickers. You will be hunting for flags that match the color of the stickers. When you find a flag, put its matching sticker on the map to show me exactly where you found it. Be careful where you place each sticker. Be exact.**

If students are to work individually, tell them not to talk to other students or compare maps during the assessment.

3. Discuss plans and strategies.

- **How will you know where you are on the map?** (Look at the starting point and find its location on the map; keep track of where you've been; look around you for landmarks that would be on a map; use the map symbols; analyze the map; match what you see in the real world with what you see on the map.)

Allow time for students to discuss the task with their partners.

- **Raise your hand if your partner had a good idea to help find the flag.**

Volunteers share ideas with the class to spread enthusiasm, model good strategies for others to adopt, and expose misconceptions that can be corrected before the field trip. Collect maps.

At the Field Trip Site

1. Explain the procedure.

Distribute maps, clipboards, and stickers.

Review the instructions for students and adults.

- **You are about to go hunting for flags that match the color of these stickers. When you find one, put its matching sticker on the map to show me exactly where you found it. Be careful when you place the sticker. Be exact.**

If students are working individually, remind them not to talk to other students or compare maps during the assessment.

Demonstrate how rotating the map can be a useful strategy to help match the map to the real world.

- **Turn the map so it faces the same way you are facing. If the river is on your right in the real world, turn the map so the river is on the right on the map.**

Tell them how much time they will have and where to meet when they have found all of the flags (and used all of their stickers), or when they have run out of time.

Explain the boundaries and any restrictions on where students may go (only on paths, etc.). Station the chaperones along the boundary of the field trip area.

If this activity is being used for assessment, remind the adult chaperones not to help the students.

2. Students hunt for flags and place stickers on maps.

The teacher should remain near the starting point to handle any emergency, and to take charge of students as they return. Be prepared with games or activities for students to play while waiting for their classmates.

As students return, have an adult collect the maps and check that each map has the full number of stickers. Have extra stickers on hand for students who lose a sticker.

3. Wrap up when all students have returned.

If students are not drawing sketches (activity #4), ask chaperones to collect flags during this discussion.

Students share examples of good strategies they used to find their location on the map.

- **Does this place look the way you expected it to after reading the map back in the classroom? Explain.**
- **How did you figure out where you were on the map?**
- **Were you able to keep track of where you had been?**
- **How did you know where to go?**
- **Do you like reading maps?**

Summarize for students how they were able to use a map to learn about what they would see before they arrived. Then they used a map to find their location and the flags.

- **How would you use the map if I told you I don't know the way back to the bus/the exit?** (Find where you are on the map. Find the bus parking area/the exit on the map. Plan your route to get from here to there.)

4. Sketch.

If time permits, students return to one of the areas that had a flag and sketch what they see at that location. Chaperones may now remove the flags.

Back in the Classroom

1. Dear Mom and Dad

Students write to their parents telling them about the field trip, what strategies they used and what they learned. Encourage them to include an illustration or a map. Volunteers may want to read their letters aloud.

2. Up Close

If students drew sketches, use their pictures to create a bulletin board. Post a map of the field trip site. Post the pictures around the perimeter of the bulletin board. Attach ribbon or yarn from each point on the map that had a flag to the drawing that matches.

3. We're Lost!

Students role-play the following scenario:

You and your parents are in the car. They took a wrong turn and now they are lost. What can you do to help?

If students role-play asking for directions, that's great, but then follow up with part two.

This time you can't find anyone to give you directions. What will you do?

When students role-play reading a map, encourage them to talk aloud. For example:

Looking at the street names, we know we're at the corner of Pine Street and Union Street. Here are those streets on the map, so we must be here. We want to go to Cottage Lane, so we'll go along Pine Street, turn left on Harbor Street, and then right on Cottage Lane.

Piggybacking Map Skills onto Other Field Trips

Summary

Map activities can enhance any field trip, whatever the curricular emphasis, to plan the trip, to keep a record of the trip, or to convey information about the trip to others.

Goals

- To have students practice using maps for real-world tasks in a real-world setting
- To use maps as a tool for saving and communicating information about a real-world setting

Time Required

- One or two class periods, in addition to already scheduled field trip

Materials

- map of the field trip area for each child or group
- (optional) enlarged map or overhead transparency, showing the route from the school to the field trip destination
- highlighter or overhead marker
- clipboards
- pencils

Sites That Lend Themselves to Mapping

- zoo
- museum
- botanical garden
- nature preserve
- theme park
- state, national, or local park
- historical battlefield
- university or other school campus
- forest with different landforms and plants

Preparing for the Field Trip

Obtain a map of the field trip site, and, if appropriate, a map showing the route between the school and the destination. Use an enlarged copy, or an overhead transparency, of each map to show students where they are going and what they will see.

As a class, look at the map of the route to the destination. With help from students, highlight the best route from school to the destination.

- What will we see along the way?
- How will we know we are getting close?
- How long will it take to get there?

During the Trip

1. Photo Diary

Each student takes a map, clipboard, and pencil to track her/his route. The teacher takes photographs at special locations, while students mark each location with an "X" on their maps. Discuss locations back in the classroom and create a bulletin board with a map and the photos.

2. Where Was It?

Students personalize maps of the field trip location by drawing pictures, writing a few notes, putting smiley faces, or adding star stickers to favorite spots. These can be kept as a permanent record for the student, as well as a tool for communicating information for others.

- In a zoo, students draw a smiley face at the location of each of their favorite animals.
- On a nature walk, students place a colorful sticker at the position where a bird, wild animal, or specific plant type was observed. This information can be used to look for patterns about what kind of environment each animal, bird, or plant favors.
- In a nature preserve, students choose a favorite animal, from a list of animals that inhabit the area. Throughout the field trip, students look for ideal settings for their animal to live in, and mark their locations on the map. After the trip, students draw a picture of one perfect habitat they saw, and explain why they chose that site for their animal.
- If students are keeping a notebook, annotations on the map can be keyed to notes in the notebook with letters or numbers: location (A), marked on map, corresponds with observations in the notebook about what was seen at location (A).
- In an art museum, ask students to mark on a map the location of their favorite painting or sculpture. They then choose one to sketch and write a description of why it's a favorite.

After the Trip

1. Add Photographs to the Map

Post an enlarged map of the area visited. Attach photographs to the bulletin board with string or yarn, matching photo to location on the map. Use this map as a record of the trip, or as a guide for a future class about what to expect on a similar outing.

2. Be the Tour Guide

You hear that a family from England is coming to visit the area. Prepare a tourist guide for them to the zoo (or art museum, natural history museum, botanical garden, park, etc.). Your guide should include a map so they can locate each feature that you find interesting, in addition to written details so they know what to look for.

3. Journal

Students document their trip by writing about it in their journals. Maps, sketches, pictures, and brochures attached to the pages will make it a fun and interesting activity.

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