

Basic Site Inventory

Summary

Students create a base map of the schoolyard, then conduct a site inventory of the grounds, mapping the physical and human elements. Students then assess the schoolyard for its habitat potential and identify a site for a Schoolyard Habitats project.

Grade level:
5-8; K-4

Time:

3-7 class periods (depending on size of class, team structure, and size of area to be mapped)

Subjects Science:

Math, Geography, Art, Science

Skills:

Research, analysis, observation, description

Learning Objectives:

Students will be able to:

- identify existing natural and artificial characteristics of available land
- create a basic map of the area
- Select an appropriate site for the creation of a habitat area within the land available

Materials:

- field guides

- Paper and pencils
- clipboard(s) (if available)
- compass(es)
- a large poster or interactive creation to show different parts of compass
- Sample site maps or drawings
- worksheets, p 27-33
- overhead projector and transparencies—or—graph paper, poster board or butcher paper (see note at end of activity if a projector is not available)
- different colored overhead transparency markers,—or—crayons, and/or colored pencils
- rulers and markers
- Journals
- thermometers

For younger participants:

(see note at end of activity)

- field guides with large color pictures
- butcher paper or cardboard
- colored clay, construction paper, and/or building blocks
- odds and ends to represent different parts of site
- Scissors, glue

Procedure

1. Go out on the school grounds or site at various times during the day. Have students consider the following questions and make notes in their journals. If they do not yet have journals, they should create simple ones.
 - *How do you feel when you are at the site?*
Comfortable? Exposed?
 - *Where is your favorite place? Why?*
 - *Where is your least favorite place? Why?*
 - *Where are the best views?*
 - *Where is the quietest spot? The noisiest spot?*
2. Tell participants that they will all help to create a base map of their school grounds or site. This map will include many different features of the site. Explain the following process: Students will begin by creating a very simple map together, and will learn how to orient themselves using this map and a compass. The next part can be done in a number of different ways. Depending on the size and level of your group, and time available, you may wish to have all your students do each activity, perhaps one each class period. Alternatively, you may wish to divide your students into small teams, each charged with investigating and mapping a different feature. When all groups have finished conducting their research, they will assemble everything together to create one very detailed map. Show sample maps or drawings to illustrate each feature that a team will map.

K-8 ACTIVITY

- Construct an outline map of the site as a group. The students can help create this map, but you should make sure that it accurately reflects what the site looks like. The outline map should be a fairly simple sketch of the area (see samples).

Identify an appropriate scale. The map should include all borders, such as property lines, sidewalks, roads, etc., and any large permanent features such as buildings (showing exits and entrances), fences, power lines, and ball fields. The outline map can be drawn on a transparency and shown on an overhead projector (if an overhead projector is not available, or if the majority of students are 4th grade or below, see notes at end of this activity).

- If the outline map is on a transparency, create one copy per group on white or solid colored paper and place them each on a separate clipboard. Put an overhead transparency on top of the outline map. Students will map directly on the overhead transparency and not on the base map itself.

- If you are using teams, divide students into small groups. If possible, assign a volunteer or older student to assist each group. Explain to students that each team will be responsible for mapping different features of the site. You will need the following teams:

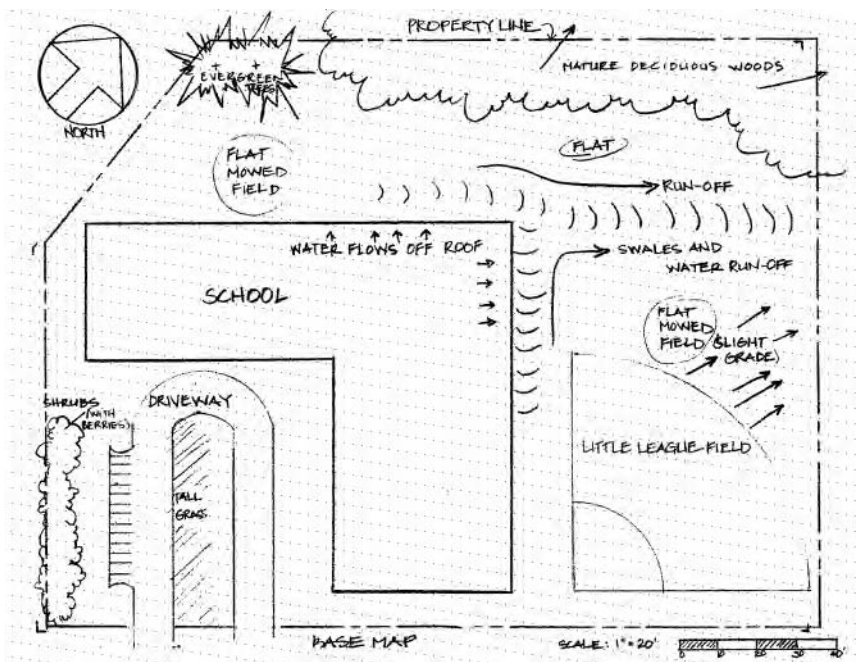
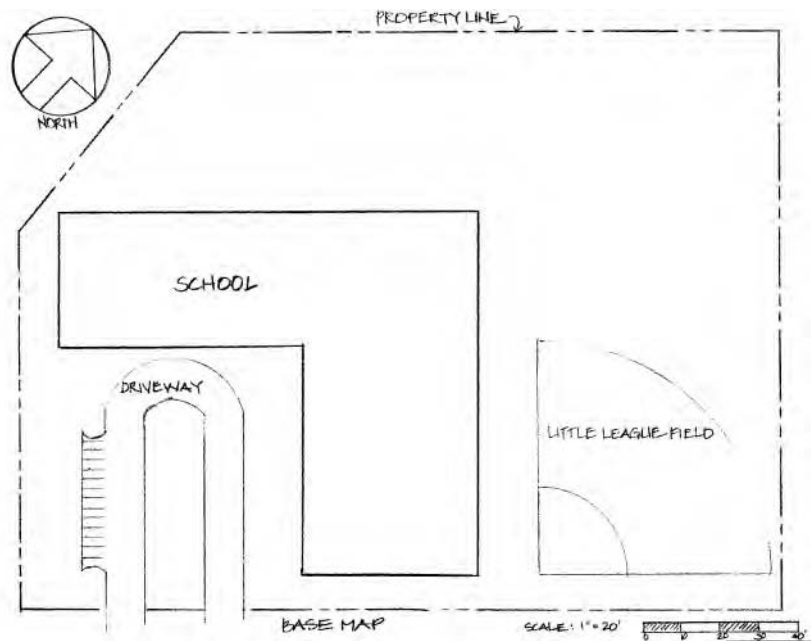
- Traffic Patterns Team: to study foot, auto and bicycle traffic on your site
- Water Flow/Topography Team: to observe contours and slopes of the site
- Existing Vegetation Team
- Soil Team
- Sun/Shade Team

- Adjacent Land Use Team
- History Team

Consider encouraging each team to come up with a name for itself, relating to what it will do.

- Show the outline map to students and explain what they see in detail. Students should be able to identify several landmarks on the map.

- Give each group the appropriate inventory sheet to assist in the investigation. Go through each sheet and explain what each item is and why it may be important. For example, traffic patterns are important because you do not want your habitat site in the middle of a high traffic area. Give each team a different colored overhead



K-8 ACTIVITY

marker to map its assigned feature. Each type of site feature should be drawn in a different color to avoid confusion. Encourage all group members to help draw the site feature on the transparency.

- Hand out clipboards and a compass to each group. Make sure at least one leader or volunteer is familiar with using a

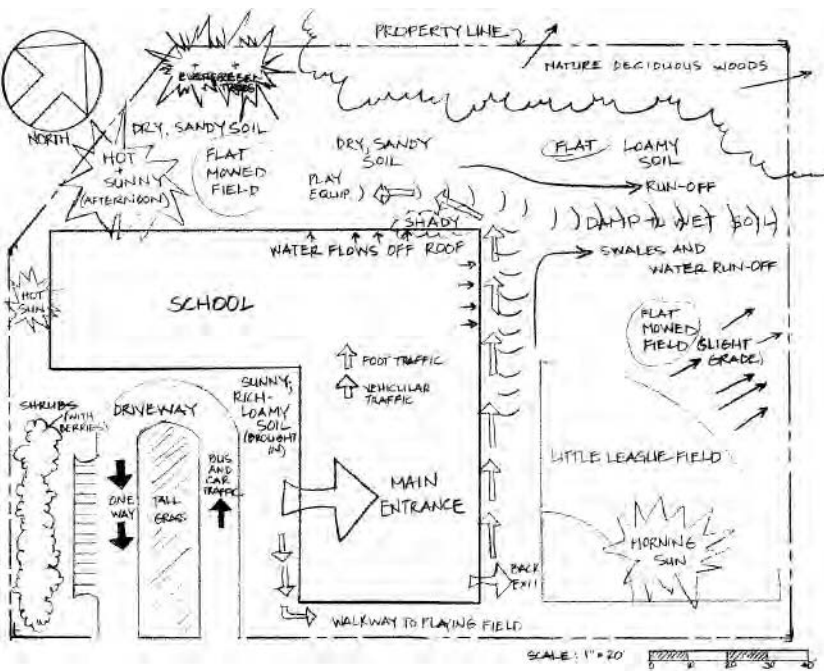
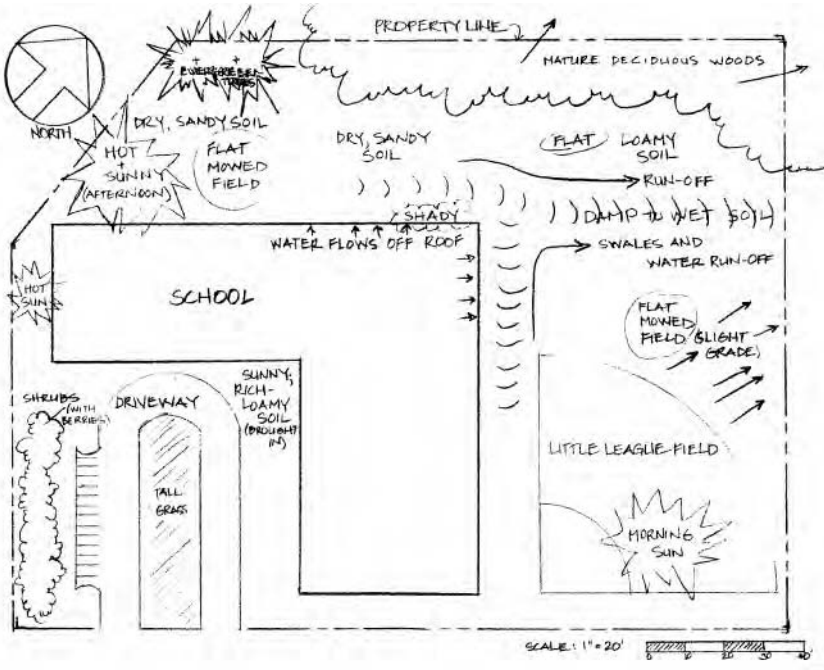
compass before beginning this exercise. Explain to participants that once they are outside, they should try to locate north with the compass, and then find it on the map. If anyone does not know how to use a compass, be sure to explain clearly how it works. Depending on the level of your students, you may want to do a separate compass

activity prior to beginning this activity.

- Once outside, show participants how to use the compasses, and let them try to figure out which part of the map points to the north. Tell them to find a corner of the map, draw a small arrow on it so that the arrow is pointing north, and label the arrow with the letter "N". Check and make sure that the arrows are all pointing the same way, and that each group can name a few of the features on the map before going to the next step. Participants need to know where they are in relation to things on the map so that they draw their feature maps in the same direction.

- Once groups have finished with their site feature maps, bring them back inside and place the base map on the projector. Put each feature map (i.e., traffic pattern, soil) on the projector one by one. Have groups explain what their maps show. If participants are working from a piece of graph paper, have them share and discuss maps with class. Ask students to think about how their findings might affect their habitat decisions.

- After discussing each transparency individually, place all the transparencies on the projector one at a time until they make one very detailed map. Ask students if all the maps together show them a good location for their project. Wrap up by reinforcing the importance of the site map. Ask the participants if they learned anything about the site that they did not notice earlier. What can they do with this information? Explain that they are now ready to move on in selecting and planning a site.





Traffic Pattern Team

K-8 WORKSHEET

Team Name: _____

Look for:

1. Use of the site by people on foot: (i.e., Where do people gather, walk, etc.?) _____

2. Bicycle use: _____

3. Auto use: _____

4. Any pathways or wildlife trails: _____

Did you notice any traffic patterns? _____

How might these traffic patterns affect the location of a potential habitat site?

Were any questions raised by your investigation? How might you try to answer your questions? _____



Topography Team

K-8 WORKSHEET

Team Name: _____

1. Do you observe any hills, valleys or slopes? _____

2. Where does water flow when it rains? _____

3. Are there areas that usually hold puddles? _____

Why? _____

4. On your map, make note of any pipes, storm drains, and sewers.

5. How often does it rain in your area: _____

6. How much rain does your area get per month? _____

7. What questions do you have about the shape of your area and how it will affect your choice of site? _____

How will you answer these questions? _____



Vegetation Team

K-8 WORKSHEET

Team Name: _____

Do a survey of the vegetation at your site. Note each observation on your base map. Do you see:

- 1. Deciduous trees (those that lose their leaves in fall)? Yes No
- 2. Evergreen trees (those that keep their leaves or needles, all year)? Yes No
- 3. Shrubs? Yes No
- 4. Long or short grass? Yes No
- 5. Natural areas? Yes No
- 6. Landscaped areas? Yes No
- 7. List different species of vegetation you see. Are they native to your area? (specific species) _____

- 8. Are there more of one species than another? Why do you think that might be?

- 9. What do you want to know about the vegetation that you've found here? _____





Soil Team

K-8 WORKSHEET

Team Name: _____

Instructions: Gather at least 5 soil samples from different areas of your schoolyard on a day at least 3 days after the last rain. Pick areas that have different kinds of vegetation growing, or different topography—such as a hill, by a stream, under a tree, on the open ground, etc. Compare the color, texture, and moisture content of each sample. The pH measures how acidic the soil is; this determines what kind of plants can grow there. If possible, obtain pH-testing materials for gathering this information.

SAMPLE #	COLOR	TEXTURE (SAND, SILT, CLAY)	MOISTURE	pH

What questions do you have about the soils you found at your site? _____

How might you start to answer them? _____



History/Local People Survey Team

K-8 WORKSHEET

Team Name _____

Instructions:

In your group, generate a list of questions about your site and a list of people you think might be able to help you answer them, or whose opinions you would like to consider. Before the interview, make up an interview sheet, with all your questions written out, and with room for answers. Conduct an interview with each person (at least 3 different people), recording their answers carefully. Be prepared to present your findings to the whole group. Some ideas are below, but add your own—these are only to get you started!

People to interview:

- | | |
|---|---|
| <input type="checkbox"/> Long-time town resident | <input type="checkbox"/> Local business people |
| <input type="checkbox"/> Principal | <input type="checkbox"/> Local nature center director |
| <input type="checkbox"/> Parent who attended your school many years ago | <input type="checkbox"/> Urban forester |
| <input type="checkbox"/> Local farmer | <input type="checkbox"/> Long-time teacher |

Sample questions:

How long has this site been here?

What was here before?

What species of wildlife did you see here many years ago?

What do you think of creating a wildlife habitat here now?

Do you think it would help or hurt the local community?

Do you have any concerns about a habitat site here? What are they?

Can you recommend any resources that might help us with this project?